

Professional regulation in healthcare: Exploring trends, predictors, and the disciplinary action
process for health professionals in Canada

by

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This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Statement of Contributions

Ai-Leng Foong-Reichert was the sole author for Chapters 1 and 7, which were written under the supervision of Dr. Kelly Grindrod and Dr. Sherilyn Houle and were not written for publication.

This thesis consists in part of five manuscripts written for publication. Exceptions to sole authorship of material are as follows:

Research presented in Chapter 2:

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This research was conducted at the University of Waterloo by Ai-Leng Foong-Reichert under the supervision of Dr. Kelly Grindrod and Dr. Sherilyn Houle. Ai-Leng Foong-Reichert conceived the research question with assistance from Dr. Grindrod and Dr. Houle. Caitlin Carter and Ai-Leng Foong-Reichert created the search strategy. Ariane Fung and Ai-Leng Foong Reichert conducted the abstract and full-text screening, as well as the data extraction. Ai-Leng Foong-Reichert conducted the data analysis and drafted the manuscript. All authors reviewed various drafts and approved the final manuscript.

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Abstract

Background: Health professionals in Canada are governed by provincial regulatory bodies, whose mandate is to protect the public. Regulatory bodies license and register professionals, and handle complaints and disciplinary action processes when warranted. In recent years, jurisdictions internationally and in Canada have been undergoing regulatory reform. More research is needed on current processes to inform future improvements.

Objectives: The overall goal of this thesis was to describe the disciplinary action process for health professionals in Canada.

Methods: This thesis is comprised of five studies. The first study was a scoping review to describe the research on disciplinary action outcomes for health professionals, and to describe the research on characteristics or predictors of health professionals subject to disciplinary action. The next three studies reviewed disciplinary action outcomes for Canadian pharmacists, dentists, and nurse practitioners, respectively. Characteristics of professionals subject to disciplinary action were also studied. The fifth study sought to compare and contrast disciplinary action processes across professions and jurisdictions in Canada and to describe regulatory body perspectives of the disciplinary action process.

Results: The scoping review found that most research focuses on physicians, originates from the USA, and has been conducted from 2010 – 2020. A variety of demographic factors and predictors of disciplinary action have been studied, including gender, age, years in practice, practice specialty, license type/profession, previous disciplinary action, board certification, and performance on licensing examinations. The reviews of pharmacist, dentist, and nurse practitioner disciplinary found differences in reasons for disciplinary action between professions. All professions had low rates of disciplinary action, with nurse practitioners being the lowest. In the final study, interviews with regulatory bodies identified possible explanations for the differences observed in the reviews of disciplinary action.

Conclusion: This thesis has generated new knowledge about disciplinary action for Canadian health professionals. This research will guide regulators and other stakeholders in improving health regulation and ensuring protection of the public.

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Dedication

For my parents,

Dr. Wai-Choong and Soo-Kwan Foong –

Thank you for everything.

I love you.

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List of Abbreviations

ADR	Alternative dispute resolution
APN	Advanced practice nurse
CINAHL	Cumulative Index to Nursing and Allied Health Literature
EAR	Expedited or alternative resolution
HPRB	Health professional regulatory body
MeSH	Medical Subject Headings
NP	Nurse Practitioner
PRISMA	Preferred Reporting Items for Systematic reviews and Meta-Analyses
USA	United States of America
UK	United Kingdom

Chapter 1

Introduction

1.1 Protection of the public

Health professional regulation systems ensure that health professionals provide safe and quality care, and that the public is protected from unsafe or unethical practices.^{1,2} Health professional complaints and disciplinary action systems provide the public and other health professionals with a method of ensuring that their complaints and concerns are heard and addressed. Complaints and disciplinary action systems ensure that health professionals that are misbehaving or are incompetent receive the appropriate penalty or support, with the goal of rehabilitating them to safe practice or removing them from practice to preserve protection of the public.

However, it is crucial that the public and health professionals maintain trust and confidence in the regulatory system. In recent years, there has been an erosion of trust in current regulatory models and regulators have been under increased scrutiny by the public.³ As a result, various jurisdictions have undergone regulatory reform to improve regulatory practices and increase accountability within the system, such as in the United Kingdom and Australia, where recent reforms have moved these countries away from traditional self-regulation and towards systems with greater oversight, efficiency, and standardization.³ In addition, British Columbia became the first Canadian province to implement significant regulatory reforms that amalgamated some regulatory bodies and introduced greater oversight and more efficient and transparent practices.^{4,5}

Research on regulatory and disciplinary action processes is important now more than ever to understand current practices, identify areas for improvement, and enable comparisons across professions and jurisdictions, all with the goal of best protecting the public.

1.2 Models of health professional regulation

There are many different models of health professional regulation, which have historically been influenced by factors including sociopolitical history, legal tradition, and colonialism.⁶ For example, English-speaking countries have traditionally adopted self-regulation after the British model.⁶ In recent years, many countries have undergone regulatory reform

around areas such as: increased public representation on boards or committees, increased oversight of regulatory bodies, and replacing elected board members with appointed board members.^{3,6}

Reasons for regulatory reform are varied. In the United Kingdom, change resulted from loss of trust in the regulator due to significant patient safety concerns, where the breaking point was the discovery of Harold Shipman, a general practitioner who killed over two hundred patients over his 30-year career.⁷ In Australia, health care scandals played a minor role in reform, but the impetus for reform was improved cost-effectiveness and efficiency, and improved coordination across the country.⁸ Regulatory reforms in British Columbia came under scrutiny due to governance issues within the College of Dental Surgeons of British Columbia, resulting in the Minister of Health commissioning an inquiry into the College and into the provincial Health Professions Act. This report, conducted by Harry Cayton of the Professional Standards Authority in the United Kingdom, contained recommendations for the dental regulator but also for regulatory reforms to modernize health regulation in British Columbia. In Ontario, regulatory reforms have occurred slowly over the years, which has introduced more government oversight and transparency requirements.⁸ While Ontario still uses a self-regulatory framework, the powers held by professions are more limited than in traditional self-regulation.

1.2.1 Models of regulation

Health professional regulatory bodies (HPRBs) assume multiple functions.⁶ First, they set entry-to-practice requirements for those that wish to practice that health profession, and license health professionals that have met those requirements. HPRBs also set standards of practice for licensed professionals to follow and participate in setting accreditation standards for educational institutions that train future health professionals. HPRBs also maintain a register of all licensed health professionals, receive complaints and conduct investigations and disciplinary action procedures, and ensure continued competence of practicing professionals through a quality assurance program.

There are various models of regulation. Self-regulation is a system in which the government has given regulatory authority to members of the profession itself.⁶ Health professional regulation in Canada and the USA follow self-regulation, although additional layers of oversight have been added make the current model different than traditional self-regulation.³

In contrast to self-regulation, direct government regulation is a model where all regulatory functions are administered by the government. Co-regulation is a blended model of self-regulation and direct government regulation, where both the government and the profession work together to administer certain aspects of regulation. While Australia and the United Kingdom were traditionally self-regulating jurisdictions, both systems have undergone regulatory reform. Since 2010, Australia now has a system of co-regulation, where the government and professional regulatory bodies share responsibility. Beginning in 2002, the United Kingdom implemented a system of statutory regulation (also called independent statutory regulation or agency regulation) where an agency is established by law to regulate professions.^{2,6} The “councils” (e.g., General Medical Council, General Pharmaceutical Council) are the regulatory bodies established by law that regulate the professions and report directly to Parliament. In addition, the United Kingdom also has a meta-regulator called the Professional Standards Authority for Health and Social Care that oversees the various “councils”. Lastly, voluntary regulation occurs when members of a health profession voluntarily register with an association or agency and agree to abide by certain regulatory practices, but there is no legislation governing that profession.^{6,9} An example of a profession with voluntary regulation in Canada is manual osteopathy.

The health professions that are regulated and the model of regulation used can vary across countries and jurisdictions. Regulation may also be non-statutory, as in the case of voluntary regulation. There may even be no regulation for certain health occupations in some cases, except for generic rules that are applicable to all occupations within a country. Depending on the type of health occupation and the country, regulation may differ across sub-national jurisdictions and regulatory functions may also be separated across different authorities.

Within the regulatory model, there are also various approaches that address what a health professional can do. For example, one approach focuses on the individual by assessing individual competencies that each clinician should meet. Another focuses on the profession, by defining the scope of practice - the general authorities that a profession has. A last approach involves defining controlled acts, which are certain activities that are restricted to specific registered health professionals.

1.3 Health professional regulation in Canada

Health professional regulation in Canada emerged in the 1800s and served a few functions to protect professionals' interest and the public interest.³ Science-based professionals such as physicians, surgeons, pharmacists, and dentists sought regulation to legitimize their professions over alternative-to-science practitioners such as homeopaths, naturopaths, and chiropractors. Status as a self-regulating profession brought with it certain requirements, such as entry-to-practice standards to be able to practice in the profession and standards of practice for current practitioners to ensure competence. This protected professionals' interest by limiting access to the profession and therefore limiting competition, but it also protected the public interest by ensuring that professionals were properly trained and capable of providing safe and quality care. According to Mahat et al., the definition of regulating in the public interest has evolved to also include improved efficiency and cost-effectiveness within the system, fewer entry-to-practice barriers, fewer barriers to professional mobility, and ensuring that regulation is proportionate to risk.⁶

Canadian health professionals are regulated at the provincial or territorial level, where each province has unique legislation that governs how health professionals are regulated. This is in contrast to health care delivery, which is administered provincially/territorially but has some shared responsibilities with the federal government. Specifically, the federal government establishes requirements for the health care system through the Canada Health Act, provides provinces and territories with some funding for health care delivery, regulates drugs and medical devices, and provides health care to First Nations people, Inuit, federal inmates, refugees, members of the Canadian Armed Forces, and some veterans.¹⁰

Health professionals in Canada are typically self-regulated, except in Quebec where there is a system of co-regulation. The specific occupations that are regulated vary by jurisdiction, where some occupations may be regulated in one province/territory but unregulated in another. Scopes of practice also vary, where members of the same profession might practice a wider or narrower scope of practice depending on the legislation at their place of practice. In Canada, health professional regulatory bodies are often called "colleges". Depending on the province or territory, a profession might have a profession-specific regulatory body (e.g., Ontario College of Pharmacists), or one regulatory body might govern two or more different health professionals.

However, health regulation in Canada has its challenges. Researchers argue that provincial regulation is disadvantageous, creating barriers and inconsistencies across the country.^{3,11} First, provincial licensure prevents mobility of health professionals across the country, which is especially important in border communities or when finding health professionals to service remote communities in another province. Second, provincial licensure creates barriers to the mobility of international graduates who undergo a lengthy registration process. Third, provincial regulation means that some professionals are regulated in one jurisdiction but unregulated in another, such as naturopaths¹² and massage therapists.¹³ Fourth, different approaches to regulation are used – Quebec has a system of co-regulation, while other provinces are self-regulating.³ In addition, some provinces/territories have overarching legislation that outlines restricted activities or controlled acts that can be performed by certain regulated health professions, while others have only profession-specific legislation. Adams points out that while entry-to-practice and educational requirements are typically standardized nationally in Canada, regulatory model and approach have not historically been harmonized nationally.³ Leslie et al. argue that a pan-Canadian approach to regulation would increase public safety, improve efficiency and cost-efficiency, streamline workforce planning, and improve workforce mobility.¹¹

1.4 The disciplinary action process in Canada

All health professional regulatory bodies in Canada have a system to handle complaints where members of the public, other health professionals, and employers are able to lodge a complaint against a health professional. These complaints typically centre around clinical care, unprofessional conduct, customer service, privacy or confidentiality breaches, sexual abuse, or fraud. Complaints are typically processed by a lower-level complaints committee, where complaints without merit are dismissed. Complaints with merit, involving serious misconduct or involving health professionals with repeated misconduct, are referred to a higher-level disciplinary action committee where they are investigated and addressed. Procedurally, disciplinary action hearings operate similarly to a court case. A guilty finding results in sanctioning of the health professional. Certain penalties can also be applied, depending on the jurisdiction's legislation.

The complaints and disciplinary action system is important to ensure protection of the public. It provides a way for health professionals to be held accountable for their actions, to be rehabilitated for practice, and to be punished if warranted. Research into disciplinary outcomes and best practices for the disciplinary system are vital to ensuring that the public maintains their trust and confidence in the complaints and disciplinary action system.

1.5 Statement of problem

Research on disciplinary action outcomes and regulatory body disciplinary processes is important to characterize current practices, identify areas for improvement, better support those who are subject to disciplinary action, and to prevent actions by health professionals that may result in discipline. Such research has implications for regulators, educators, clinicians, and the public. However, in Canada, a comprehensive review of disciplinary outcomes across multiple health professions has not been conducted and little is known about regulatory body practices related to the investigation of complaints and discipline.

1.6 Thesis objectives

This thesis aimed to describe the disciplinary action process for health professionals in Canada through three objectives. The first objective was to conduct a scoping review to describe research on the outcomes of the regulatory body disciplinary action process for health professionals, and to describe research on the characteristics of health professionals that have been subject to disciplinary action. The second objective was to characterize outcomes of the disciplinary action process for pharmacists, dentists, and nurse practitioners in Canada by determining the reasons for disciplinary action and penalties applied. Characteristics of professionals subject to disciplinary action were also studied. The third objective was to compare and contrast the disciplinary action process across professions and provinces/territories and to describe regulatory body perspectives on the disciplinary action process.

1.7 Thesis research questions

1. What research has been done to characterize the outcomes of disciplinary action or fitness-to-practice cases for regulated health professionals?

2. What are the reasons that lead health professionals in Canada to be subject to disciplinary action, and what types of penalties are applied?
3. Are certain demographic factors associated with a health professional being subjected to disciplinary action?
4. How are disciplinary action processes between provinces/territories and between professions similar or different?
5. How do regulatory bodies perceive their disciplinary action process?

1.8 Thesis outline

This thesis is composed of seven chapters. Chapters 2, 3, 4, 5, and 6 are articles that have been published in peer-reviewed journals.

Chapter 2: Characteristics, predictors, and reasons for regulatory body disciplinary action in health care: A scoping review

The results from this chapter answer research question 1, and provide a foundation for Chapters 3, 4, and 5.

Chapter 3: Pharmacist disciplinary action: What do pharmacists get in trouble for?

Chapter 4: Dentist disciplinary action: What do dentists get in trouble for?

Chapter 5: A review of regulatory body nurse practitioner disciplinary action cases in Canada

These three chapters answer research questions 2 and 3.

Chapter 6: Regulatory body perspectives on complaints and disciplinary action processes for health professionals

This chapter answers research questions 4 and 5, and complements the findings in Chapters 3, 4, and 5.

Chapter 7: Discussion and Conclusion

This chapter summarizes the main findings, limitations, implications, and future directions of the research presented in Chapters 2-6.

Chapter 2

Characteristics, Predictors and Reasons for Regulatory Body Disciplinary Action in Health Care: A Scoping Review

This chapter is published as follows:

Foong-Reichert A, Fung A, Carter CA, Grindrod KA, Houle SKD. Characteristics, predictors, and reasons for regulatory body disciplinary action in health care: A scoping review. *J Med Regul.* 2021; 107(4):17-31. <https://doi.org/10.30770/2572-1852-107.4.17>

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2.1 Abstract

What research has been done to characterize the outcomes of disciplinary action or fitness-to-practice cases for regulated health professionals?

To answer this research question, relevant publications were identified in PubMed, Ovid EMBASE, CINAHL via EBSCOhost, and Scopus. Included papers focused on reviews of regulatory body disciplinary action for regulated health professionals.

Of 108 papers that were included, 84 studied reasons for discipline, 68 studied penalties applied, and 89 studied characteristics/predictors of discipline. Most were observational studies that used administrative data such as regulatory body discipline cases. Studies were published between 1990–2020, with two-thirds published from 2010–2020. Most research has focused on physicians (64%), nurses (10%), multiple health professionals (8.3%), dentists (6.5%) and pharmacists (5.5%). Most research has originated from the United States (53%), United Kingdom (16%), Australia (9.2%), and Canada (6.5%). Characteristics that were reviewed included: gender, age, years in practice, practice specialty, license type/profession, previous disciplinary action, board certification, and performance on licensing examinations.

As most research has focused on physicians and has originated from the United States, more research on other professions and jurisdictions is needed. Lack of standardization in disciplinary processes and definitions used to categorize reasons for discipline is a barrier to comparison across jurisdictions and professions. Future research on characteristics and predictors should be used to improve equity, support practitioners, and decrease disciplinary action.

2.2 Introduction

In order to protect the public and ensure safe and quality care, health professionals are usually regulated by the government or through self-regulation, where the government has given the profession the responsibility to regulate themselves.^{1,2} Forms of regulation vary across jurisdictions, but typically regulatory bodies register and license health professionals and set standards of practice.²⁻⁴ Regulatory bodies also handle complaints and concerns about clinical incompetence or professionalism, where the highest level of sanctioning at the regulatory body level is through the disciplinary action process. While administrative databases of disciplinary

action cases provide a wealth of information, it is unclear what research has been conducted about disciplinary action cases.

This review was conducted to describe and characterize research on regulatory body disciplinary action for health professionals, specifically reasons for disciplinary action, penalties applied, and characteristics of health professionals subject to disciplinary action. Our original research question was: What research has been done on disciplinary action or fitness-to-practice proceedings for regulated health professionals? However, we found that a large number of publications that met our inclusion criteria focused on socio-legal aspects of health professional regulation, such as policy and disciplinary action processes or critiques of fitness-to-practice processes.⁵⁻¹¹ Thus, we narrowed our research question to: What research has been done to characterize the outcomes of disciplinary action or fitness-to-practice cases for regulated health professionals?

2.3 Methods

The framework proposed by Arksey and O'Malley was used for this scoping review.¹² A systematic review searches the literature for the research on a specific, well-defined question, typically including only studies with a specific research design or quality. In contrast, a scoping review uses a broader lens to identify research that has been conducted in a particular area, which can be valuable to identify gaps in literature, to assess the value of conducting a full systematic review, and to summarize research across multiple types of study designs. Original research papers or review articles in English were included if they focused on reviews of regulatory body disciplinary action cases for health professionals to determine reasons for disciplinary action, penalties applied, predictors of disciplinary action or characteristics of professionals that are subject to disciplinary action. Qualitative research and publications related to socio-legal analyses such as the implications of policy on the disciplinary action process were excluded. Papers were excluded if they focused on disciplinary action for unregulated health professionals (e.g., personal support workers) or veterinarians, if the disciplinary action was not administered by the regulatory body (e.g., organizational disciplinary action or legal malpractice cases), or if the publication was a report of a regulatory body disciplinary case. Papers concerning regulatory body practices related to maintenance of competence or quality assurance were excluded in order to focus on research related to disciplinary action.

Relevant articles were identified in PubMed (1950– present), Ovid EMBASE (1980– present), CINAHL via EBSCOhost (1982–present) and Scopus (1966– present). These databases were chosen to capture relevant articles in medicine and allied health. Search strategies were drafted by an experienced librarian and a researcher, and the final searches were conducted on June 5, 2020. The search strategies were comprised of subject headings (MeSH) and keywords related to “healthcare professionals” and “disciplinary action.” Search terms were gathered by reviewing the vocabulary of select relevant articles, as well as database thesauri. As an example, the final PubMed search strategy is included in Appendix 2A.

Database results were imported directly into Covidence (Veritas Health Innovation, Melbourne, Australia). Duplicates were identified and removed by the software, and one researcher reviewed the duplicates for accuracy. Articles were also manually screened for duplicates. Screening was conducted independently by two researchers and occurred in two stages — title and abstract, and full-text. At each stage, disagreements were resolved by discussion and agreement was calculated using Cohen’s Kappa.

A data extraction form using Google Forms was drafted (Appendix 2B). To refine the data extraction form, two researchers independently extracted data from 20 full-text articles, with discussion and refinement occurring after 10 cases and again after 20 cases. Data extraction for the remaining cases was conducted independently, with comparison and consensus occurring at the end. Data was organized using Microsoft Excel (Version 16.43). We grouped studies by type of health professional, and summarized the reasons for discipline, characteristics of those disciplined, and study design.

2.4 Results

A total of 4,153 studies were obtained after searching the databases. After removing duplicates, 3,188 articles were screened at the title and abstract stage and 312 articles were screened at the full-text stage. We included 108 studies in the final extraction and analysis (Figure A-2.1).¹³⁻¹²⁰ Using Cohen’s Kappa, inter-rater reliability for the title and abstract screening was calculated to be 0.564, indicating moderate agreement, and for the full-text screening stage was calculated to be 0.757, indicating substantial agreement.¹²¹

Characteristics and key findings of each study are described in Appendix 2C. Studies were published between 1990 to 2020, with 67% of studies (72/108) published from 2010 to

2020 (Figure B-2.2). Most available research has been conducted in the USA (n=57, 53%), followed by the United Kingdom (n=17, 16%), Australia (n=10, 9.3%), Canada (n=7, 6.5%), and Denmark (n=4, 3.7%). Most publications focused on medicine (n=69, 64%), followed by nursing (n=11, 10%), multiple health professions (n=9, 8.3%), dentistry (n=7, 6.5%), and pharmacy (n=6, 5.6%). Some papers included multiple health professionals regulated under the same body, such as physicians and osteopaths under the same board of medicine; these cases were counted as one profession.

Studies examined any or all of the following: reasons for disciplinary action (84/108 studies, 78%), characteristics and predictors of those subject to discipline (90/108, 83%), penalties applied (68/108, 63%), and rates of disciplinary action (41/108, 38%). Most studies (n=94, 87%) were observational studies which were largely retrospective cohort studies using administrative data such as regulatory body disciplinary action cases or federal databases of disciplinary action cases. An additional six (5.5%) publications were observational research combined with another type of research, such as qualitative, a review, a questionnaire, or analysis. Other study types included reviews (n=4, 3.7%), qualitative research (n=3, 2.8%), and surveys (n=3, 2.8%), which were typically older studies likely conducted before disciplinary action cases were available online.

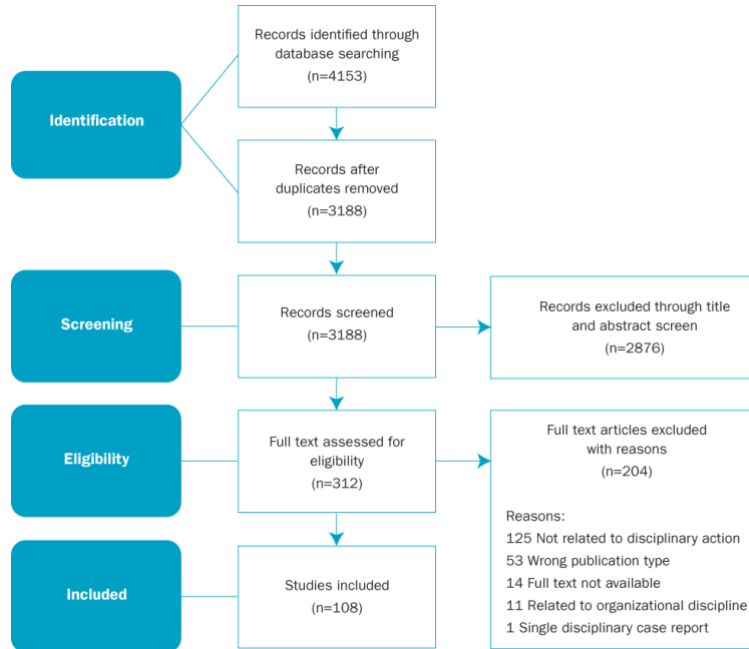


Figure A-2.1. PRISMA flow diagram of included studies

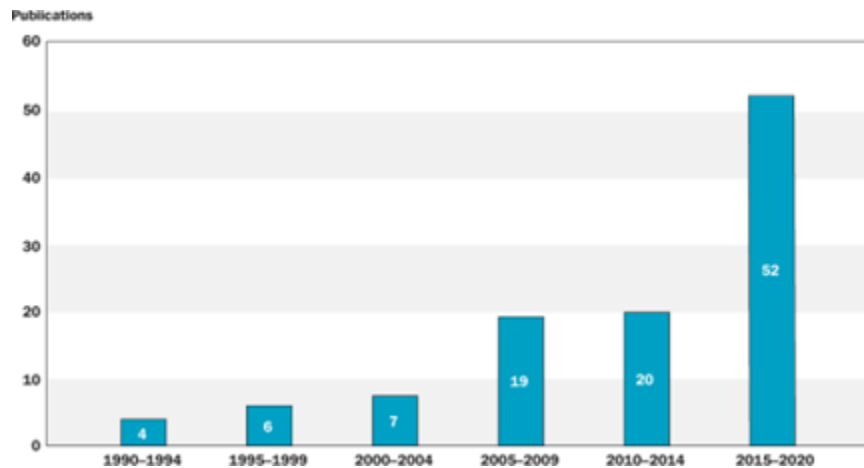


Figure B-2.2. Publications on disciplinary action outcomes over time (N=108)

2.4.1 Common reasons for disciplinary action

Reasons for disciplinary action were considered in 84 of the 108 studies (78%). Most studies reviewed all possible reasons for discipline in a profession or in multiple professions, while some studies investigated one or a few specific types of violations, such as improper

prescribing of narcotics, diversion, or impairment,^{31,32,53,63,64,77,78,113} online professionalism,^{49,84} or sexual misconduct or boundary violations.^{13,14,37-39,58,63,76,95,103}

Papers categorized reasons for discipline differently and often in broad categories, with little to no standardization in the definition of these categories. This limited the ability to determine the most to least common reasons. However, commonly cited reasons for discipline included clinical incompetence or standard of care issues, fraudulent financial practices, sexual misconduct, criminal conviction, alcohol or drug use/health impairment and unethical prescribing. Of the 84 studies looking at reasons for discipline, 52 (62%) focused on medicine and osteopathy, 11 (13%) on nursing, 6 (7.1%) on various health professions, 7 (8.3%) on dentistry, 4 (4.8%) pharmacy, and 1 (1.2%) each for psychology, social work, chiropractic medicine, and optometry/opticianry.

2.4.2 Penalties

Of 108 studies, 68 (63%) studied the types of penalties administered by the disciplinary body. Most papers that studied penalties analyzed one or more reasons for discipline and/or characteristics and predictors of disciplinary action. Some studies looked at factors related to the type of penalty administered, such as whether certain characteristics or predictors were associated with a higher risk of receiving a certain type of penalty,^{16,17,28,41,44,54,56, 62,67,73-75,79,80,89,93,94,98,101-103} whether the type of violation affected the penalty,^{28,34,39,70,71,80,100,119} or whether the presence of certain aggravating or mitigating factors affected the penalty.^{42,43,45,46,103} Two studies assessed effectiveness of penalties on rates of reoffending.^{27,65} Most papers studied penalties as a whole, commenting on the most and least commonly applied penalties in the sample,^{13-19,24, 28,29,31,32,34,36,37,40,41,47- 50,57,61-63,65,69,70,72,74,76-78,80,82,84,88, 93,98,101-103,106,108,112,113,118,119} while some papers looked specifically at one type of penalty and the types of cases that led to such a penalty, such as license revocation,^{19,26,34} or remediation.¹¹⁸

The types of possible penalties were similar across studies, and included formal reprimands, fines, paying the costs of the investigation, publication of the case details or outcome, conditions or limitations applied to the health professional's license to practice, temporary license suspension, and license revocation (i.e., permanent loss of a license to practice, also referred to as license cancellation or erasure).

2.4.3 Characteristics and predictors of disciplinary action

Of 108 studies, 90 (83%) described one or more characteristics or predictors of disciplinary action. Characteristics and predictors researched included gender, age, years in practice, practice specialty, country of entry-to-practice education, board certification and maintenance of certification, performance on the licensing exam, license type (e.g., advanced practice nurse/nurse practitioner, registered nurse, licensed practical nurse), whether or not they had previous or repeated disciplinary action, and other (e.g., source of complaint, race/ethnicity). Overall, gender, practice specialty, years in practice, and license type were the most commonly studied. Characteristics and predictors are described below.

2.4.3.1 Gender

Fifty-nine of 108 publications (55%) considered gender as a risk factor for disciplinary action. Across professions, 41 publications found that male gender increased risk of disciplinary action.^{14,15,17-19,24,25,27-29,33,36,38,48,54,56,61,62,66,69,74,75,79,80,88, 91,93,94,98,102,106-112,116,118-120} Twelve studies reported that most cases in the study were against males, but did not compare the proportion of males disciplined to the proportion of males in the general workforce for that profession.^{16,34,39,41,57,76-78,89,95,113} Five studies found no difference between male and female gender as a risk factor for discipline.^{22,26,87,101,103} Some studies from nursing found that more women were disciplined overall,⁵⁸ but that more men were disciplined when compared to the proportion of males in the workforce.^{48,54,88} One study in the United Kingdom found that more cases relating to social media involved female dentists than male dentists,⁸⁴ and another study found that while women were less likely to be disciplined overall, women were more likely to be disciplined severely.⁸⁰

2.4.3.2 Age

Twenty-nine of 108 studies (27%) considered age as a predictor of discipline. For physicians, disciplinary risk increased with age, with highest risk between ages 40-59.^{13,19,33,37,38,67,69,77,78,89,91,102,106} Two studies on multiple professionals found risk increased with age, with those aged 56-65 having the highest risk,^{94,98} and one study on pharmacists found no difference with age.⁹⁰ Regarding age at initial registration, one study found a higher risk of discipline for those who were 30 or older when they finished their training,⁷⁵ but another study found lower risk of discipline for clinical concerns for those who were older at registration.¹⁰⁷

Higher risk of a complaint with older age at registration but lower risk for a disciplinary critique was identified in one study.²⁰ Another study found older doctors to be more likely to have a lack of insight into the problem and less likely to change their practice.⁶⁵

In nursing, five studies found that disciplined nurses have an average age ranging from 43-51.5 years,^{48,54,58,61,118} and one review article identified a range of 20-76 years.⁸⁸ Associations with younger age were found in some nursing studies, where one study found the average age of discipline to be 37 years, which was lower than the average age (43 years) of the nursing population in that study.²⁷ Another study found nurses who recidivated to be three years younger than those who did not and were more likely to recidivate if less than 40 years.¹¹⁸ Certain violations were found to be more common in those of a younger age, such as more cases of chemical dependence in those aged 25-37,¹¹¹ and more cases of sexual misconduct in those aged 25-54.¹⁴

2.4.3.3 Years in practice

Twenty-nine of 108 papers (27%) considered years in practice as a predictor of discipline. Research on years in practice is conflicting. For physicians, 10 studies^{22,24,25,26,56,62,80,109,112,116} and one review article⁹¹ reported increased risk of disciplinary action with more years in practice or reported a higher proportion of physicians disciplined if they had more years in practice. In contrast, one study found disciplined physicians were significantly more likely to be practicing fewer than 20 years at time of discipline.²⁸ Ten studies reported an average number of years in practice before a disciplinary case for various specialties or for physicians in general, ranging from 11 years to 33 years.^{15-17,20,29,34,36,74,85,113}

Nurses appear to be disciplined sooner after graduation than physicians. One study reported an average of 12 years in practice before first discipline,⁶¹ another study reported that 60% of nurses were disciplined within the first 10 years of practice,¹¹¹ and a review article also found an average of 12–14 years before first discipline.⁸⁸ One study reported that nurses usually had more than six years' experience but had also recently changed employment or practice area within a year of the incident leading to disciplinary action.⁴⁸

2.4.3.4 Practice specialty

Forty-two of 108 papers (39%) included practice specialty as a risk for disciplinary action. Across 22 studies on physicians, the specialties of family medicine, psychiatry, obstetrics/gynecology, general practice, surgery, and anesthesiology were found to have a higher risk of discipline.^{15,17,25,26,28,34,36-38,50,56,57,63,76-78, 80,86,87,91,95,113} Lower risk was found with radiology,⁶⁹ pediatrics,⁶⁹ internal medicine,⁶² and cardiology,⁶² and one study found no association with specialty.¹⁹

Two studies found that anesthesiologists were less likely to be disciplined than other specialties,^{16,24} but one study found anesthesiologists at high risk for addiction,⁶⁴ and another found them more likely to be disciplined for alcohol and drug offenses.²⁵

Risk has also been studied for subspecialties. Of physical medicine and rehabilitation physicians, the highest disciplinary risk was seen in those who had a subspecialty in pain.⁶⁶ Among internal medicine physicians, highest risk was seen among general internal medicine, then cardiology, and less risk with rheumatology, endocrinology, respirology, gastroenterology, hematology, and medical oncology.⁷⁴

Among nurses, those in medical-surgical nursing were disciplined the most, with other higher risk specialties including geriatrics and long-term care, anesthesia, critical care, and emergency.^{48,111} Another study found long-term care nurses to be disciplined disproportionately more compared to the number of long-term care nurses in the general population.¹¹⁸

2.4.3.5 Board certification

Seventeen of 108 papers (16%) focused on board certification. All 17 papers considered physicians and found that certification decreased risk of disciplinary action compared to non-board-certified physicians. Specialties studied included anesthesiology,¹²⁰ emergency medicine,⁸³ family medicine,⁸⁹ general surgery,⁵⁹ internal medicine,^{73,75,85} orthopedics,⁶⁸ physical medicine and rehabilitation,^{66,67} psychiatry⁹¹ and physicians in general.^{28,33,62,69,80} Studies also found that those who passed the certification exam on the first attempt had lower risk of discipline than those who required multiple attempts.^{59,66,75,83,85} Risk was also lower for those whose certification never lapsed, while those who let their certification expire before recertifying had a higher risk of discipline.^{67,75,83,89} Those who had been in practice for a longer duration since completing their mandatory specialist training also had a higher risk of discipline.²⁰ Scores on

certification exams were associated with discipline risk, with lower scores having a higher risk of future disciplinary action.^{66,67,75,85} Board-certified physicians also were less likely to receive a severe penalty and more likely to receive a less severe penalty.^{33,67,73,75,89} One study found that higher scores on the board certification exam reduced the likelihood of disciplinary action for both domestic and international graduates, but that it was more protective against disciplinary action for domestic graduates than for international graduates.⁸⁵

2.4.3.6 Performance on licensing exam

Performance on licensing examinations was considered in six of 108 publications (5.6%). Four studies^{29,87,93,112} and a review article³³ found that higher licensing examination scores or mandatory post-graduate examination scores were associated with a lower risk of future discipline for physicians and osteopaths. In nursing, one publication studying characteristics of nurses disciplined for chemical dependency found that 2/35 nurses failed the licensing exam on the first attempt, but no further conclusion was made by the authors.¹¹¹

2.4.3.7 International entry-to-practice education

Twenty-six of 108 papers (24%) considered international entry-to-practice education. Research on whether being an international graduate increases risk of future disciplinary action is conflicting. Nine studies^{15,16,24,35,62,66,69,109,112} and two review articles^{33,91} found that international graduates were at higher risk of disciplinary action than domestic graduates, and one found an increased odds ratio for discipline with overseas training but it was not statistically significant.⁹⁰ Another study found that international graduates were more likely to receive high impact decisions in every stage of the disciplinary process and were more likely to be suspended or have their license revoked.⁵⁶

However, six studies^{25,26,28,83,89,119} found that international graduates were not at higher risk of disciplinary action, and one study found that notifications against internationally-trained psychologists were more likely to result in further investigation but not more likely to have disciplinary outcomes or conditions applied.¹⁰² One study found no association between place of education and risk of a complaint.²⁰ A few studies collected information on international medical graduates but did not compare discipline rates or risk to domestic graduates.^{17,57,74,107}

2.4.3.8 License type/profession

License type within a profession (e.g., registered practical nurse, registered nurse, or nurse practitioner) was studied in 31 of 108 papers (29%). License type was associated with discipline, where those with less education were more likely to be disciplined. Among nurses, six papers found that licensed practical nurses or licensed vocational nurses were at highest risk of discipline compared to the general nurse population, followed by associate degree or diploma nurses, and then nurses who had earned a bachelor's degree.^{14,27,48,58,61,118} Advanced practice registered nurses were the least likely to be disciplined, but among this group, nurse practitioners were at highest risk for discipline and certified registered nurse anesthetists were at lower risk.⁵⁵ Studies that did not compare rates of discipline to the general nurse population found that most cases concerned registered nurses,^{54,88,111} which makes sense given the proportion of registered nurses in the nurse workforce. An exception to this was a study in dentists, which found that dentists had the highest rate of complaints compared to allied dental professionals and to other health professions.¹⁰⁶

Compared to allopathic physicians, osteopaths had a higher risk of discipline,²⁵ non-significant higher risk of revocation,²⁶ and higher risk of discipline for sexual misconduct.^{37,95} Among pharmacists, one study found that pharmacy technicians were more likely to divert medications than pharmacists; the authors attributed this to the relative investment in the profession, with technicians having less educational and financial investment than pharmacists and therefore were more likely to divert overall.³²

Three papers compared discipline rates between professions: One found that most cases involved doctors, nurses, and pharmacists;¹⁰¹ one found that chiropractors had a higher rate of complaints than osteopaths and physiotherapists;⁹⁴ and one compared the rate of discipline based on the number of practitioners for each profession, finding that dentists had the highest rate, followed by doctors, while nurses and midwives had the lowest rate.⁹⁸ One study looking at consensual sexual misconduct cases found that nurses had the most cases, followed by doctors, then psychologists, which mirrored the general health practitioner workforce.¹⁰³ Another study on sexual misconduct found that osteopaths and podiatrists had higher risk than allopathic physicians.³⁹

2.4.3.9 Previous disciplinary action

Across professions, 25 of 108 publications considered previous disciplinary action or multiple violations as a risk factor for future discipline. Seven studies found that most discipline cases involved multiple violations or repeated charges.^{24,33,40,66,80,87,92} Previously disciplined physicians were more likely to be subject to future discipline than physicians who have never been disciplined,⁴⁷ and one study found higher risk of license revocation with two or more previous actions compared to one previous action.²⁶ Seven papers reported on the rate of discipline for physicians in general or certain specialties who had been previously disciplined, ranging from 8% of physicians to 45.5%.^{15-17,28,57,89,113} In two pharmacist studies, 18% and 20% of pharmacists were disciplined more than once,^{90,108} and five studies of nurses reported rates ranging from 6.6% to 39% with an average of 23%.^{27,54,58,61,118} In a study reviewing multiple health professionals, 8.7% of guilty findings involved previously disciplined practitioners.¹⁰¹

Factors associated with recidivism for nurses included previous criminal conviction, multiple violations, younger age, male gender, and being a licensed practical nurse.¹¹⁸ One study found that the most common reason for recidivism among nurses was alcohol and drug problems, and that there was a higher recidivism rate if there were less conditions placed on the license or if suspension was not given as a penalty.²⁷ For physicians, risk factors for repeated discipline include noncompliance with conditions on license,¹⁹ younger age,^{53,63} longer time since offense,⁶³ lack of insight⁶³ and being disciplined for drug abuse.⁵³ One study found that most repeat offenders were male, independent practitioners, and practiced in the specialties of family medicine, psychiatry, surgery, and obstetrics/ gynecology.⁵⁷ Decreased risk was found with a one-off, isolated incident and feeling of remorse by the clinician.⁶³

2.4.4 Rate of disciplinary action

Forty-one of 108 studies (38%) reported on rate of complaints or disciplinary action. Discipline rates overall across professions were low. Metrics used to report rates differed and included a percentage of practitioners,^{15,16,28,29,44,61,62,67,75,80,83,85,86,89,92,93, 102,108,117,120} number of cases per 1,000 or 10,000 practitioners,^{19,30,36,40,41,52,98} number of cases per 1,000 practitioner-years,^{35,74,119} or cases per practitioner per year.¹⁷ Studies found that less than 1% of osteopaths were disciplined,⁹³ less than 2% of psychologists,¹⁰² 0.001% to 1.8% of pharmacists,^{44,108} and 0.19% of nurses.⁶¹ Some studies found variation across jurisdictions within the same country,

such as U.S. dentists (ranging from 0.35 cases per 1,000 dentists to 19.20 cases per 1,000 dentists),³⁰ and U.S. physicians (ranging from 1.74 to 10.27 cases per 1,000 physicians).⁵²

For physicians, 28 studies reported discipline rates. Discipline rates overall were low. Of those reporting discipline as a percentage of physicians over time, rates ranged from 0.06% to 7% of physicians per year, with an average of 2.24%.^{15-17,20,28,29,62,67,75,80,83, 85,86,89,117,120} One study reviewing multiple health professionals from Australia found an overall rate of 6.3 notifications per 1,000 practitioners per year, but varied between professions with dentists having the highest rate of notifications (20.7 notifications per 1,000 practitioners per year), followed by doctors at 14.5, pharmacists at 6.8, and nurses and midwives with the lowest rate at 2.0.⁹⁸

Studies across professions reported an increase in discipline cases over time,^{27,36,61,79,99,101} but one study in dentistry reported no difference in percentage of sexual misconduct complaints over the five-year study period.³⁹ Possible reasons for increases in discipline rate include an increase in the health practitioner workforce over time,¹⁰¹ change in disciplinary action structure,¹⁰¹ targeting of certain violations,^{19,79} change in board composition,¹⁹ and changes in laws resulting in more cases being heard by disciplinary boards.⁹⁹

2.5 Discussion

This scoping review describes the research that has been done to characterize the outcomes of disciplinary action or fitness-to-practice cases for regulated health professionals. Many studies have focused on reasons for discipline and various characteristics and predictors associated with discipline. Overall, included publications highlighted that the following characteristics were associated with discipline: male gender, older age, more years in practice, certain physician specialties, license type, previous disciplinary action, lack of board-certification, and poor performance on licensing examinations. However, research for these characteristics was not always in agreement. Most research has focused on physicians and originates from the United States. As most research has been done in the last 10 years, this review has highlighted the increased interest in this research area. However, variation in discipline processes and a lack of standardized definitions continue to make comparisons difficult.

This review adds to the literature on regulatory body disciplinary action because it includes multiple professions and jurisdictions, and broadly looks at reasons for discipline as

well as characteristics and predictors of discipline. While Papinaho et al.'s integrative review identified studies from four countries, it focused on nurse disciplinary action only.⁸⁸ Unwin et al.'s systematic review focused on how medico-legal action differs with gender,¹¹⁰ and Reich and Maldonado reviewed malpractice and regulatory body discipline for psychiatrists only.⁹¹ Other publications have reviewed disciplinary action for multiple health professions but focus on one jurisdiction.^{98,114} In contrast, our review takes the broadest lens looking at multiple factors and professions across multiple jurisdictions.

Creation of a profile of characteristics such as gender, age, or ethnicity to identify those who are at risk of being subject to discipline is tempting, but discipline is rare. Most practitioners that fit these characteristics do not go on to offend, and such a checklist could drive discrimination and may in fact be more reflective of systemic bias.³³ Aside from characteristics and predictors related to health professionals themselves, discipline is also influenced by each jurisdiction's disciplinary action process, health care system, educational model, licensing requirements, quality assurance requirements, and culture. Interplay between these predictors and societal factors needs to be understood in order to address these risk factors and to interpret the usefulness of research on predictors of disciplinary action.

For example, many researchers have concluded that men are more likely to be disciplined than women, although the reasons behind this are not clear. In their systematic review and meta-analysis, Unwin et al. determined that this difference was not due to more males in the physician workforce. Possible reasons for the difference include differences in how genders are treated by the public or the regulator, or differences in work patterns, as female doctors are more likely to work part-time and see less patients than men, which could decrease overall patient encounters and the risk of disciplinary action.^{109,110} Some researchers attribute the difference in risk across genders to communication differences,^{74,109} where females spend more time with each patient and are more engaged with patients in conversation, decision-making, and partnershipbuilding.¹⁰⁹ Future research could investigate the possible reasons behind the difference in risk for discipline across genders, such as greater emphasis on communication in undergraduate training.

One particular area of controversy is whether international education increases the risk of disciplinary action. Of the 25 studies that identified this, all were conducted in Western countries and typically compared domestic graduates to international graduates as a group. In a few

studies, a small number of countries were grouped together and compared to international graduates, such as the European Union or Canada and the United States. One study profiled risk according to country of qualifying education, highlighting that countries with higher risk than domestic Australian graduates were from non-Western countries.³⁵ Another study found that both doctors qualifying within the European Union and outside the European Union were more likely to receive a high-impact disciplinary decision than domestic United Kingdom graduates.⁵⁶ These studies are an opportunity to highlight systemic racism and the barriers that minorities and immigrants experience. Differences in discipline rates could be due to cultural differences, English not as a first language, differences in health systems, and communication skills — for example, the ability to explain clinical decision making, deescalate a situation, or apologize to a patient.^{35,56}

It is possible that a systemic bias is at the root of the increased rates of international graduates in certain countries on the patient/client side who report to the regulator, or on the side of the disciplinary committee who may use international training as a predictor to prompt closer scrutiny of a practitioner. A 2019 study on organizational discipline processes in the National Health Service organization found that Black, Asian, and minority ethnic staff were overrepresented in disciplinary action.¹²² This was attributed to a number of factors, including a closed organizational culture that was not easily challenged, lack of cultural competence in senior staff, unfair decision making, lack of support for those undergoing disciplinary action, lack of standardized application of disciplinary processes, and disciplining staff that had attitudes or behaviors that deviated from the norm even if there was not a performance issue.¹²² This study highlights that many factors aside from personal characteristics affect disciplinary action. With the significant focus on systemic racism throughout multiple institutions in society, this is perhaps an inflection point where data collected on international graduates or race may need to be revisited for use to support equity rather than to identify individuals for discipline.

The final consideration for this paper is that there is little research on the effectiveness of penalties for preventing reoffending. As a comparator, research in quality assurance and maintenance of competence programs has shown that programs involving peer-assessment and practice-based assessment are most effective in ensuring competence with less clear evidence for commonly used strategies such as continuing education credits/professional development requirements or learning portfolios.¹²³ A similar lens should be applied to discipline, where the

goal of evaluation is to determine if disciplinary measures are actually effective in preventing reoffending. Little evidence exists for the efficacy of disciplinary penalties. Kiel argues that the use of conditions on a practitioner's license is not effective in protecting the public,⁶⁵ and while one study in nursing found that more conditions placed on a license and the use of suspension was associated with lower reoffending rates, this study was from 1999 and used a sample from one U.S. state.²⁷ Further comparison of disciplinary action penalties with quality assurance programs could be useful, recognizing that many factors such as funding and resources as well as regulatory body culture affect disciplinary action rates.^{21,52}

A few limitations should be considered. First, each jurisdiction has a different system to handle complaints and disciplinary action. Some regulators distinguish between the complaints process and the higher-level disciplinary action process that handles serious cases or cases where the parties cannot come to an agreement. However, other jurisdictions might not make this same distinction and studies from such jurisdictions might report complaints only. Papers on complaints data were excluded if it was determined that those jurisdictions had a separate process for higher-level disciplinary action cases. Papers that reported on both complaints and discipline processes were included in order to extract data on disciplinary action only. A few papers that reported complaints data only were included if it was decided that the essence of the process was analogous to disciplinary action, and that the difference was due to that jurisdiction's system of handling such cases. Inclusion of studies focusing on complaints might overestimate the risk of demographic factors or reasons for discipline as some complaints are dismissed, and some complaints are resolved through mediation and might not result in a penalty. This highlights the difficulty in collecting data across different jurisdictions. Second, some full-text publications were not available due to limited library operations as a result of the COVID-19 pandemic and were excluded.

2.6 Conclusion

In this scoping review, we identified that a significant body of research has characterized the reasons for discipline, penalties, and characteristics and predictors of health practitioners subject to disciplinary action. Areas for future research are numerous. As most of the available literature has been conducted in the United States and has focused on physicians, more research from other jurisdictions and other professions is needed. While various characteristics and

predictors of disciplinary action have been studied, an area for future research is how this information can be used to develop strategies to decrease disciplinary action and support health practitioners. This review also identified that many studies have assessed the types of penalties administered, but more research is needed about the efficacy of penalties in reducing the rate of reoffending and ensuring competence. This research is important for state boards, other regulators, and independent disciplinary councils who conduct disciplinary investigations. This research is highly relevant to the United States, where interstate medical licensure compacts have grown significantly in recent years.¹²⁴ Such compacts create a prime opportunity for comparison and for standardization of state board practices in a few areas, including the reporting of disciplinary action cases, the register of professionals, types of violations that are disciplined, and types of penalties that are applied.

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Chapter 3

Pharmacist Disciplinary Action: What Do Pharmacists Get in Trouble for?

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3.1 Abstract

Objective: This study aims to determine the reasons for disciplinary action and resultant consequences for Canadian pharmacists and any associations with demographic factors.

Methods: Regulatory body disciplinary action cases from 10 Canadian provinces were coded. Demographic information was coded.

Results: There were 665 pharmacist cases from nine provinces between January 2010 and December 2020. The rate of disciplinary action was low (1.37 cases/1,000 practitioners/year). Professional misconduct was the most common category of violation. Male pharmacists were overrepresented in disciplinary action cases. Most cases involved community pharmacists.

Conclusion: This study is the first, to our knowledge, in Canada to analyze the demographic factors of pharmacists subjected to disciplinary action. It updates a previous review of pharmacist disciplinary action (Foong et al. 2018).

3.2 Introduction

Regulatory body complaints and disciplinary action processes exist to protect the public. In Canada, most complaints are resolved at a lower level committee, and serious cases of professional misconduct or clinical incompetence are heard by a higher level disciplinary committee. Such processes provide the public with a channel to voice their concerns and are crucial to protect the public from practitioners providing unsafe care or those who are conducting themselves unethically.

In an effort to increase accountability and transparency to better protect the public, recent changes have been recommended to improve regulation in some provinces. For example, British Columbia plans to make significant changes to health professional regulation, including a reduction in the number of regulators, the creation of an oversight body and the creation of a new disciplinary process that is separate from the regulatory body (Steering Committee on Modernization of Health Professional Regulation 2020). In addition, Quebec, Ontario and Alberta have enacted legislations in recent years implementing mandatory penalties for health

professionals found guilty of sexual abuse, and the physician regulator in Saskatchewan has adopted a similar approach (*An Act to Protect Patients* 2018; College of Physicians and Surgeons of Saskatchewan 2020; Inquiries Division 2018; Owens 2018; *Protecting Patients Act* 2017). However, the impact of different legislations and regulatory policies across Canada is not known, and the impact of these specific policy changes on disciplinary outcomes remains to be seen.

Previous work reviewed disciplinary action cases for Canadian pharmacists from 2010 to 2017 and found that most violations involved unprofessional conduct or dishonest business practices, and that disciplinary action for an isolated, clinical incident was uncommon (Foong et al. 2018). Reviews of Canadian physician disciplinary action cases have also been conducted, which found that sexual misconduct was the most frequent violation, followed by standard of care issues and unprofessional conduct (Alam et al. 2011). The objective of this study was to characterize disciplinary action cases for pharmacists by identifying the reasons for being disciplined, penalties applied and any associations with demographic factors. This study updates our previous review of pharmacist disciplinary action, seeks to identify changes in disciplinary outcomes in recent years and analyzes demographic factors, which the previous study did not conduct (Foong et al. 2018).

3.3 Methods

3.3.1 Inclusion and exclusion criteria

Regulatory body disciplinary action cases for pharmacists from 10 Canadian provinces published between January 2010 and December 2020 were included. Cases from the three Canadian territories were excluded because pharmacists are typically regulated by a branch of the government rather than an independent regulatory body (National Association of Pharmacy Regulatory Authorities n.d.). Disciplinary cases from most provinces were publicly available and accessed from regulatory body websites or online from the Canadian Legal Information Institute. Ethics approval was not required for publicly available cases. For cases that were not publicly available, ethics approval was obtained from the University of Waterloo Research Ethics Board (REB #43844) and/or the researchers entered into a research agreement with the regulator.

Only cases that described both a violation and a penalty were included; disciplinary cases that involved an appeal, a request for reinstatement or a request to remove conditions on a

licence were excluded. Cases were also excluded if either the initial hearing or the penalty decision was before 2010 or after 2020, if the case involved pharmacy students or if the case involved a pharmacy and not a pharmacist. Cases that described a violation and a penalty for multiple pharmacists found guilty of the same violation were counted as separate cases under each health professional. For pharmacists who held active licences in more than one province and were disciplined for the same violation in these provinces, the case was counted only in the province that conducted the original investigation.

Of note, in our previous review of pharmacist disciplinary action, the sample included 74 cases from British Columbia, which included lower level complaints, as well as higher level disciplinary cases, while in this study, we included only the disciplinary cases, which totalled three cases (Foong et al. 2018).

3.3.2 Case coding

Violations, penalties and demographic factors of the pharmacists subjected to disciplinary action were coded for each case. Violations were coded into three categories that were adapted from our previous pharmacist review (Foong et al. 2018): (1) professional misconduct, (2) clinical incompetence and (3) dishonest business practices. Professional misconduct was defined as violating the standards of practice or legislation governing pharmacy practice but did not include clinical incompetence. Clinical incompetence included any violation involving clinical performance or treatment. Dishonest business practices included any violation with financial gain as a motive, such as inappropriate advertising or fraudulent billing. Codes within each category were adapted from codes from our previous research (Foong et al. 2018). Information on the following demographic factors were coded from the case or obtained online from the regulatory body's online register of professionals: age, gender, practice setting, practice specialty, number of years in practice, country of education and previous disciplinary action. Due to limited demographic information available, not all demographic factors were analyzed further.

The author AFR inductively coded a selection of cases, adding and revising codes. AFR and another researcher, Ariane Fung (AF), then independently coded 50 cases. Discrepancies were solved by discussion, and the coding framework was adjusted as necessary. The final coding framework was used by AFR and AF to independently code the data using Microsoft Excel. Due to unavailability of a research assistant, the first 51% of the cases were coded

independently by both AFR and AF, and the remaining cases were coded by AFR alone. Cases from Quebec were read in English using Google Translate.

The rate of disciplinary action was calculated using pharmacist workforce data from the Canadian Institute for Health Information (CIHI 2011, 2021). Since pharmacist workforce data for Quebec in 2010 were not available, the overall rate was calculated from 2011 to 2020. Pearson’s correlation coefficient was calculated in Microsoft Excel to determine any association between the rate of disciplinary action over time and the rate of disciplinary action and certain penalties. We hypothesized that provinces with lower rates of disciplinary action would reserve only the most serious cases for disciplinary action and would, therefore, be more likely to use severe penalties such as licence revocation and licence suspension. Similarly, we hypothesized that provinces with higher rates of disciplinary action hear less serious cases at the disciplinary level and would be more likely to use less severe penalties such as fines or professional development.

3.4 Results

A total of 665 pharmacist cases from nine provinces were included in this study. Cases from Prince Edward Island were not available, and a research agreement or freedom of information request was needed to access cases from British Columbia and New Brunswick. The distribution of cases and occurrence of each category of disciplinary action by province is illustrated in Figure C-3.1.

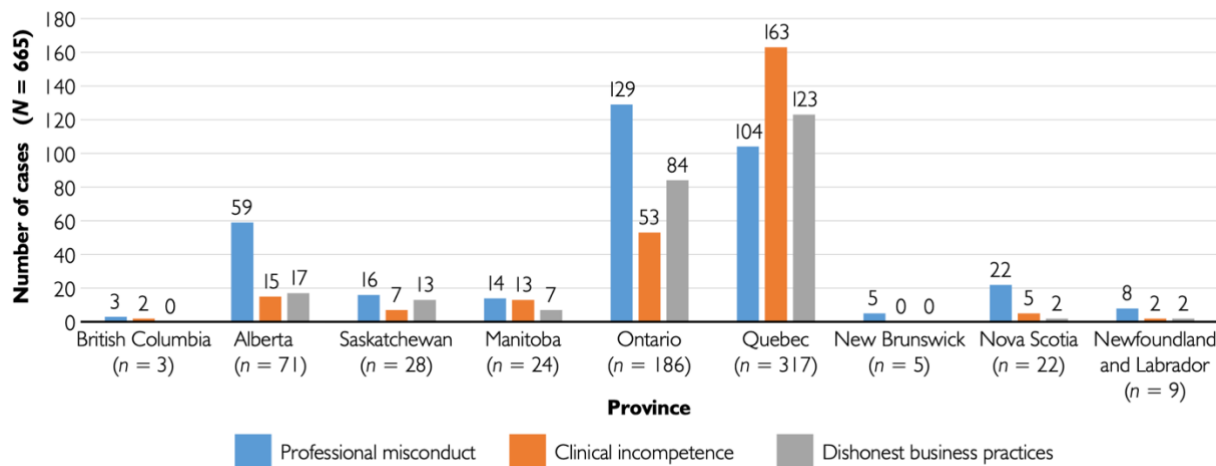


Figure C-3.1. Disciplinary action cases against pharmacists according to province

3.4.1 Reasons for disciplinary action

Overall, the most common category of disciplinary action was professional misconduct (54%), followed by clinical incompetence (39%) and dishonest business practices (37%) (as many cases involved multiple violations that often fell into more than one category of disciplinary action, the percentages exceed a sum of 100%). Quebec differed from the other provinces, in that clinical incompetence was the most common category. Quebec also had many more cases than the other provinces, comprising 48% of the sample. When the other nine provinces were analyzed separately from Quebec, professional misconduct remained as the most common category (72%), followed by dishonest business practices (36%) and clinical incompetence that was the least common (28%). The most common categories and reasons for disciplinary action are listed in Table A-3.1.

Table A-3.1. Most common categories and reasons for disciplinary action against Canadian pharmacists

Province	Most common category	Most common reasons for discipline (<i>n</i> of cases, %)
Overall (9 provinces; <i>N</i> =665)	<ol style="list-style-type: none"> Professional misconduct (54%) Clinical incompetence (39%) Dishonest business practices (37%) 	<ul style="list-style-type: none"> Fraudulent billing (134, 20%) False/misleading documentation (93, 14%) Failure to follow college requirements for practice site (91, 14%) Failure to cooperate with investigation (80, 12%) Medication: Wrong dose dispensed (62, 9%) Accepting rebates from drug companies (59, 9%) Inappropriate prescribing/dispensing of non-narcotics with intent (59, 9%) Medication: Wrong drug dispensed (53, 8%)
British Columbia (<i>n</i> = 3)	<ol style="list-style-type: none"> Clinical incompetence (100%) Professional misconduct (67%) 	<ul style="list-style-type: none"> Failure to follow college requirements for practice site (2, 67%) Dispensing expired/previously dispensed medications (2, 67%) Sexual abuse (1, 33%) Breached condition on licence (1, 33%)

		<ul style="list-style-type: none"> Stealing non-controlled medications (1, 33%) Inappropriate dispensing of controlled drug with intent (1, 33%) Lying (1, 33%) Disciplinary case in another jurisdiction (1, 33%) Practised outside scope (1, 33%) Breach of infection control procedures (1, 33%) Compounding (1, 33%)
Alberta (<i>n</i> = 71)	<ol style="list-style-type: none"> Professional misconduct (80%) Dishonest business practices (25%) Clinical incompetence (18%) 	<ul style="list-style-type: none"> Failure to follow college requirements for practice site (17, 24%) Failure to cooperate with investigations/communications (16, 23%) Stealing controlled medications (14, 20%) Misrepresentation of information on college applications/renewals (13, 18%) Fraudulent billing (12, 17%)
Saskatchewan (<i>n</i> = 28)	<ol style="list-style-type: none"> Professional misconduct (57%) Dishonest business practices (46%) Clinical incompetence (18%) 	<ul style="list-style-type: none"> Fraudulent billing (11, 39%) Failure to follow college requirements for practice site (7, 25%) Inappropriate dispensing of non-controlled drugs with intent (4, 14%) False or misleading documentation (4, 14%) Inadequate supervision of staff (4, 14%)
Manitoba (<i>n</i> = 24)	<ol style="list-style-type: none"> Professional misconduct (63%) Clinical incompetence (50%) Dishonest business practices (29%) 	<ul style="list-style-type: none"> Failure to follow college requirements for practice site (8, 33%) Failure to monitor/follow-up with patient or prescriber (7, 29%) False or misleading documentation (6, 25%) Failure to counsel on a medication (4, 17%) Inappropriate dispensing of controlled drugs without intent (4, 17%) Unlicensed business practices (4, 17%)
Ontario (<i>n</i> = 186)	<ol style="list-style-type: none"> Professional misconduct (70%) Dishonest business practices (46%) 	<ul style="list-style-type: none"> Fraudulent billing (65, 35%) False or misleading documentation (33, 18%) Inadequate documentation (29, 16%)

	3. Clinical incompetence (24%)	<ul style="list-style-type: none"> Failure to follow college requirements for practice site (29, 16%) Inappropriate dispensing of controlled drugs with intent (27, 15%)
Quebec (n = 317)	<ol style="list-style-type: none"> Clinical incompetence (50%) Dishonest business practices (39%) Professional misconduct (35%) 	<ul style="list-style-type: none"> Medication: wrong dose dispensed (56, 18%) Accepting rebates/kickbacks from drug companies (53, 17%) Medication: wrong drug dispensed (47, 15%) Fraudulent billing (40, 13%) Failure to cooperate with college (40, 13%)
New Brunswick (n = 5)	1. Professional misconduct (100%)	<ul style="list-style-type: none"> Stealing controlled medications (2, 40%) Stealing non-controlled medications (1, 20%) Failure to maintain privacy/confidentiality (1, 20%) False or misleading documentation (1, 20%) Failure to cooperate with college (1, 20%)
Nova Scotia (n = 22)	<ol style="list-style-type: none"> Professional misconduct (100%) Clinical incompetence (23%) Dishonest business practices (9%) 	<ul style="list-style-type: none"> Stealing controlled medications (10, 45%) Fitness to practice/health impairment (8, 36%) False or misleading documentation (7, 32%) Failure to cooperate with college (7, 32%)
Newfoundland and Labrador (n = 9)	<ol style="list-style-type: none"> Professional misconduct (80%) Dishonest business practices (30%) Clinical incompetence (10%) 	<ul style="list-style-type: none"> Failure to cooperate with college (2, 22%) False or misleading documentation (2, 22%) Fraudulent billing (2, 22%)

Green indicates clinical incompetence. Blue indicates professional misconduct. Orange indicates dishonest business practices.

As some cases involved more than one category of discipline or more than one violation, percentages do not sum up to 100%.

3.4.2 Isolated incidents

Overall, 129 cases involved isolated, one-time incidents that resulted in disciplinary action. Of these, 109 were clinical incidents, 100 of which were from Quebec. Of the 109 cases,

the most common reasons for disciplinary action were dispensing the wrong dose of a medication (40), dispensing the wrong drug (34) and inappropriate dispensing of non-controlled drugs (17). Fines and/or costs of the investigation were the most common penalties and were used in 98 cases. The next most common penalties were reprimands (17) and professional development (14).

3.4.3 Rate of disciplinary action

The rate of disciplinary action was low: 1.37 cases/1,000 practitioners/year. Disciplinary rate varied by province, with Quebec having the highest rate and British Columbia having the lowest rate – a 57-fold variation. Ontario and Alberta had the highest correlation between year and rate of disciplinary action, demonstrating a moderate correlation between rate of disciplinary action and time. Manitoba, New Brunswick, Nova Scotia and Newfoundland and Labrador showed no or very weak correlation. Rate of disciplinary action and correlation coefficients are outlined in Table B-3.2.

Table B-3.2 Rate of disciplinary action and Pearson’s correlation coefficient values

Province	Pharmacists (cases/1000 practitioners/year)	r value
British Columbia	0.06	-0.33
Alberta	1.25	0.60
Saskatchewan	1.67	0.40
Manitoba	1.47	-0.07
Ontario	1.16	0.66
Quebec	3.42	-0.41
New Brunswick	0.53	-0.0047
Nova Scotia	1.52	0.26
Newfoundland and Labrador	1.28	0.014
Overall	1.37	0.021

$r < 0.3$: no correlation/very weak; $0.3 < r < 0.5$: weak correlation; $0.5 < r < 0.7$: moderate correlation; $r > 0.7$: strong correlation

3.4.4 Source of complaint

Information on the source that/who lodged the complaint with the regulatory body and triggered the investigation was not reported in 40% (265/665) of the cases. After “unknown,” the most common sources were the regulatory body (108 cases, 16%), healthcare providers (92 cases, 14%) and the patient or the patient’s family/agent (72 cases, 11%). Other sources included the police, government sources (e.g., publicly funded insurance) and self-reporting. Cases in which the regulatory body identified the violation often involved cases of previous disciplinary action where the practitioner was being monitored or violations that were detected on pharmacy practice site visits.

3.4.5 Sexual misconduct cases

Sexual misconduct was not a common reason for disciplinary action. Sexual abuse was the reason for disciplinary action in 19 cases (2.9%), and sexual harassment was the reason in 10 cases (1.5%). Cases originated from British Columbia, Alberta, Ontario and Quebec. Pearson’s correlation coefficient (r) for sexual misconduct cases was 0.50, indicating a moderate correlation between sexual misconduct cases over time. However, only Ontario had a moderate correlation ($r = 0.57$), with the other provinces having no/very weak correlation, suggesting that the Ontario cases were responsible for the trend in increased sexual misconduct cases.

We were unable to assess whether harsher penalties were administered as a result of the new legislation since most sexual misconduct cases involved violations that were committed before the legislation change. Only one case from Ontario fell under the updated legislation; this case ended in licence revocation.

3.4.6 Penalties

Across provinces, the types of penalties used were similar, but provinces varied in the frequency with which types of penalties were used (Table C-3.3). Most cases used multiple types of penalties. Penalties included fines and/or payment of costs of the investigation, apology, publication, reprimand, conditions placed on a licence to practice, professional development,

attending counselling/ ongoing fitness to practice assessments, suspension (temporary loss of a licence) and licence revocation (permanent loss of a licence).

Rate and licence revocation had a moderate negative correlation ($r = -0.56$), where provinces with lower rates were more likely to use licence revocation as a penalty. There was a strong, negative relationship ($r = -0.78$) between professional development and rate of disciplinary action, where provinces with lower rates of disciplinary action were more likely to use professional development as a penalty. We excluded British Columbia from the professional development and conditions on licence calculations, since British Columbia had three cases in total, all of which involved licence revocation, so it is understandable that other penalties would be less likely to be used. There was also a strong, negative relationship ($r = -0.90$) between rate of disciplinary action and conditions placed on a licence to practice, where provinces with lower rates of disciplinary action were more likely to place conditions on the pharmacist's licence to practice. No significant correlation was found between rate of disciplinary action and fines ($r = 0.39$), rate of disciplinary action and costs of the investigation ($r = -0.36$) or rate of disciplinary action and suspension ($r = -0.36$).

Table C-3.3 Most common penalties for Canadian pharmacists

Province	Penalties
Overall (9 provinces; $N = 665$)	<ol style="list-style-type: none"> 1. Fines/costs of the investigation (641, 96%) <ul style="list-style-type: none"> • Fines: 62% of the cases (\$250–\$142,000, median \$5,000) • Costs: 77% of the cases (\$250–\$200,000, median \$7,500) 2. Suspension (293, 44%) <ul style="list-style-type: none"> • Ranging from two weeks to 10 years, median five months 3. Reprimand (269, 40%) 4. Professional development (214, 32%) <ul style="list-style-type: none"> • Taking a course (170); audit/practice inspection (50); retaking the jurisprudence exam (38); doing an internship or having a preceptor (32) 5. Conditions placed on licence to practice (174, 26%) <ul style="list-style-type: none"> • Notify employers or patients of discipline history (89); not be a pharmacy manager (81); not be an owner of a pharmacy (78) 6. Publication (118, 18%) 7. Licence revocation (41, 6%)

	8. Ongoing fitness to practice assessments/counselling (38, 6%) 9. Resigned licence (10, 1.5%)
British Columbia (<i>n</i> = 3)	1. Licence revocation (3, 100%) 2. Fines/costs of the investigation (2, 67%) <ul style="list-style-type: none"> • Costs: 67% of the cases (\$115,000, \$993790.83) 3. Conditions placed on licence to practice (1, 33%) <ul style="list-style-type: none"> • Not own one's own pharmacy; not be a pharmacy manager
Alberta (<i>n</i> = 71)	1. Fines/costs of the investigation (71, 100%) <ul style="list-style-type: none"> • Fines: 73% of the cases (\$1,000–\$50,000, median \$5,000) • Costs: 97% of the cases (\$1,900–\$120,000, median \$10,000) 2. Conditions placed on licence to practice (44, 62%) <ul style="list-style-type: none"> • Must notify employers/patients of discipline history (32); not own one's own pharmacy (28) 3. Suspension (41, 58%) <ul style="list-style-type: none"> • Ranging from one month to three years, median four months 4. Reprimand (28, 39%) 5. Professional development (26, 37%) <ul style="list-style-type: none"> • Retaking the jurisprudence exam (15); taking the ethics course (9) 6. Publication (14, 20%) 7. Fitness to practice assessments/counselling (9, 13%) 8. Licence revocation (9, 13%)
Saskatchewan (<i>n</i> = 28)	1. Fines/costs of the investigation (28, 100%) <ul style="list-style-type: none"> • Fines: 36% of the cases (\$2,000–\$6,000, median \$3,500) • Costs: 100% of the cases (\$2,500–\$45,994.49, median \$12,000) 2. Publication (27, 96%) 3. Reprimand (17, 61%) 4. Suspension (9, 32%) <ul style="list-style-type: none"> • Ranging from two weeks to nine months, median one month 5. Professional development (8, 29%) <ul style="list-style-type: none"> • Take a course (7); audit/practice inspection (4) 6. Conditions on licence to practice (7, 25%) <ul style="list-style-type: none"> • Must notify employers/patients of discipline history (4) 7. Fitness to practice assessments/counselling (3, 11%)

Manitoba (<i>n</i> = 24)	<ol style="list-style-type: none"> 1. Fines/costs of the investigation (24, 100%) <ul style="list-style-type: none"> • Fines: 21% of the cases (\$250–\$25,000, median \$2,000) • Costs: 100% of the cases (\$250–\$50,000, median \$5,000) 2. Conditions placed on licence to practice (7, 29%) <ul style="list-style-type: none"> • Not be a pharmacy manager (6); not be a preceptor (4) 3. Professional development (4, 17%) <ul style="list-style-type: none"> • Taking a course (2); completing an internship/having a practice monitor (2) 4. Reprimand (4, 17%) 5. Fitness to practice assessments/counselling (4, 17%) 6. Suspension (2, 8%) <ul style="list-style-type: none"> • In both cases, length was 12 months 7. Licence revocation (1, 4%) 8. Publication (1, 4%)
Ontario (<i>n</i> = 186)	<ol style="list-style-type: none"> 1. Reprimand (181, 97%) 2. Fines/costs of the investigation (178, 96%) <ul style="list-style-type: none"> • Fines: 4% of the cases (\$348.30–\$70,000, median \$10,000) • Costs: 95% of the cases (\$1,000–\$200,000, median \$6,000) 3. Suspension (152, 82%) <ul style="list-style-type: none"> • Ranging from one month to 30 months, median four months 4. Professional development (146, 78%) <ul style="list-style-type: none"> • Taking a course (137); audits/practice inspection (26); retaking the jurisprudence exam (17) 5. Conditions placed on licence to practice (92, 49%) <ul style="list-style-type: none"> • Not be a pharmacy manager (74); not own one's own pharmacy (44); must notify employers/patients of discipline history (41) 6. Licence revocation (23, 12%) 7. Fitness to practice assessments/counselling (7, 4%) 8. Resigned licence (6, 3%)
Quebec (<i>n</i> = 317)	<ol style="list-style-type: none"> 1. Fines/costs of the investigation (306, 97%) <ul style="list-style-type: none"> • Fines: 90% of the cases (\$1,000–\$142,000, median \$5,000) • Costs: 57% of the cases (amount not typically specified) 2. Suspension (68, 21%) <ul style="list-style-type: none"> • Ranging from one month to six years, median one year 3. Publication (49, 15%)

	<p>4. Conditions placed on licence to practice (5, 2%)</p> <ul style="list-style-type: none"> • Not own one's own pharmacy (3); not order narcotics (2) <p>5. Professional development (4, 1%)</p> <p>6. Licence revocation (2, 0.6%)</p> <p>7. Resigned licence (1, 0.3%)</p>
<p>New Brunswick (<i>n</i> = 5)</p>	<p>Fines/costs of the investigation (5, 100%)</p> <ul style="list-style-type: none"> • Fines: 100% of the cases (\$2,000–\$3,000, median 2,000) • Costs: 100% of the cases (\$2,500–\$16,000, median \$5,000) <p>Professional development (5, 100%)</p> <ul style="list-style-type: none"> • Taking a course (4); completing an internship/having a practice monitor (2); audits/practice inspections (1) <p>Publication (5, 100%)</p> <p>Conditions placed on licence to practice (4, 80%)</p> <ul style="list-style-type: none"> • Not be a preceptor (3); not be a pharmacy manager (3); not own one's own pharmacy (2); keep detailed records (2) <p>Reprimand (4, 80%) Suspension (2, 40%)</p> <ul style="list-style-type: none"> • One year, three years <p>Fitness to practice assessments/counselling (2)</p>
<p>Nova Scotia (<i>n</i> = 22)</p>	<p>1. Fines/costs of the investigation (20, 91%)</p> <ul style="list-style-type: none"> • Fines: 86% of the cases (\$500–\$10,000, median \$2,500) • Costs: 91% of the cases (\$2,500–\$100,000, median \$7,500) <p>2. Publication (20, 91%)</p> <p>3. Reprimand (17, 77%)</p> <p>4. Suspension (16, 73%)</p> <ul style="list-style-type: none"> • Ranging from one month to two years, median six months <p>5. Professional development (15, 68%)</p> <ul style="list-style-type: none"> • Audits/practice inspections (12); take a course (10) <p>6. Conditions placed on licence to practice (10, 45%)</p> <ul style="list-style-type: none"> • Must notify employers/patients of discipline history (8); not practice alone (7); not order narcotics (6) <p>7. Fitness to practice assessments/counselling (9, 41%)</p> <p>8. Licence revocation (3, 14%)</p> <p>9. Apology (2, 9%)</p>

<p>Newfoundland and Labrador (<i>n</i> = 9)</p>	<ol style="list-style-type: none"> 1. Fines/costs of the investigation (7, 78%) <ul style="list-style-type: none"> • Fines: 33% (\$500, \$3,000, \$5,000) • Costs: 78% (amount specified in only three cases, ranging from \$5,000 to \$30,000) 2. Professional development (6, 67%) <ul style="list-style-type: none"> • Complete an internship/have a practice monitor (4); audits/practice inspections (3) 3. Conditions placed on licence to practice (4, 44%) <ul style="list-style-type: none"> • Limit to number of patients seen (3); not practice alone (2); must notify employers/patients of discipline history (1); not dispense controlled drugs (1) 4. Reprimand (4, 44%) 5. Suspension (3, 30%) <ul style="list-style-type: none"> • Length of suspension provided in only one case (five months) 6. Resigned licence to practice (3, 33%) 7. Publication (2, 22%)
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3.4.7 Characteristics of those disciplined

3.4.7.1 Gender

Information on gender was available for 659 of the 665 cases. Male pharmacists were disciplined in 467 of the 659 cases (71%), while females were disciplined in 192 of the 659 (29%) cases. Male pharmacists are overrepresented in disciplinary action cases as they make up only 40% of the Canadian pharmacist workforce (CIHI 2021).

3.4.7.2 Practice setting

Community pharmacists were involved in 652 of the 665 (98%) cases. Three cases involved hospital pharmacists, one case involved a pharmacist practising in both hospital and community and nine cases involved other/unknown practice settings.

3.4.7.3 Years in practice

To estimate the number of years that a pharmacist has been practising, we used two metrics. First, we used “number of years licensed,” which captures the number of years that the professional has been licensed with that particular regulatory body but does not capture past

registrations in other jurisdictions. Information on number of years licensed was available for 504 of 665 (76%) pharmacist cases, with a median of 18 years (range: 1–58).

The second metric used was “number of years since graduation,” which assumes that professionals practised continuously since graduation from their entry-to-practice pharmacy education. This information was available for 215 of 665 (32%) cases, with a median of 26 years.

3.4.7.4 Previous disciplinary action

Previous disciplinary action for pharmacists was a factor in 66 (10%) cases. This does not include cases in which pharmacists had a previous finding at a lower level committee. Of these 66 cases, 59 received a suspension or licence revocation or resigned their licence. Licence revocations were overrepresented, compared with the overall sample, where 17 out of 41 (41%) cases involving previous disciplinary action resulted in revocation. An additional three cases involved resignation of the pharmacist’s licence to practice, where the pharmacist agreed to not seek licensure again.

The most common violations among those with previous disciplinary action were breaching a condition on one’s licence to practice (24/66, 36%), failing to follow college requirements for practice site (15/66, 23%), failing to co-operate with college investigation (13/66, 20%) and fraudulent billing (11/66, 17%).

3.5 Discussion

This review of pharmacist disciplinary action found that professional misconduct was the most common category for disciplinary action across nine Canadian provinces and that the rate of disciplinary action was low and consistent over the study period. This review is the first, to our knowledge, in Canada to describe the demographic factors associated with disciplinary action for pharmacists, and it updates a previous review of pharmacist disciplinary action (Foong et al. 2018).

Reviews of pharmacist disciplinary action have found that fraudulent billing practices (Foong et al. 2018) and medication-related offences (Walton et al. 2019) were the most common reasons for disciplinary action, while studies of physicians have shown that sexual misconduct was the most common reason (Alam et al. 2011). However, many differences between

professions such as practice setting, scope of practice and regulatory practices/regulatory legislation could influence disciplinary outcomes.

Regarding demographics, our study agrees with other research in pharmacy and other health professions, which report that men are overrepresented in disciplinary action cases compared with the general workforce (Foong-Reichert et al. 2021; Spittal et al. 2016; Tullett et al. 2003; Unwin et al. 2015). Our research also agrees with the research by Tullett et al. (2003) concerning UK pharmacists, where most cases involved community pharmacists and multiple reasons for disciplinary action. While our finding that more years since graduation was associated with disciplinary action agrees with the research from other professions (Foong-Reichert et al. 2021), Walton et al. (2019) found that age was not associated with an increased risk of disciplinary action in pharmacists.

3.5.1 Rate of disciplinary action

Since a disciplinary action is typically reserved for only the most serious cases, it was not surprising that the rate of disciplinary action overall was low, which agrees with research from other professions. Our research adds to the literature by demonstrating that the rate of disciplinary action overall has remained steady. Some provinces did see an increase in disciplinary action cases, which have also been reported on regulators' annual reports (Alberta College of Pharmacy 2022; Ontario College of Pharmacists 2018, 2021). However, as not all provinces had an increase in disciplinary action, it is possible that more complaints are being lodged with regulators, but that these are being resolved before the case progresses to the higher level disciplinary committee. Reasons behind why more complaints are being lodged are unknown.

We noted a marked variation in disciplinary action rates across provinces that is not due to workforce changes. Variation in disciplinary action rates across jurisdictions has been previously described in dentistry and medicine (Damiano et al. 1993; Harris and Byhoff 2017; Munk 2016), with researchers speculating the possible reasons for these variations. These include different thresholds for deciding what types of cases should be resolved at a lower level committee versus what types of cases should be escalated to a higher level committee (Harris and Byhoff 2017). Different college agendas also influence the types of disciplinary cases that are heard, such as in our previous work (Foong et al. 2018) where Quebec disciplined many

pharmacists for accepting kickbacks from pharmaceutical companies, or where many New Brunswick pharmacists were disciplined for practising outside their scope of practice by administering injections (Foong et al. 2018). Different compositions of members on the panels and committees that decide how a case should be processed might also influence outcomes, especially as more public members are being included in the decision- making process.

3.5.2 Rate of disciplinary action and penalties

We found that only professional development and conditions on licence had a strong correlation with the rate of disciplinary action, where provinces with lower rates of disciplinary action were more likely to use these penalties. The reasons behind this finding are unknown. Professional development involves not only clinical skill development but also attending ethics courses or business courses or retaking a jurisprudence exam. While Quebec had many clinical cases, only 1% of the cases used professional development as a penalty. In many cases, regulatory legislation dictates the possible penalties that can be used so it is possible that intra-provincial factors, such as legislation or case precedent, affect which penalties are used.

3.5.3 Other trends

It is too early to determine whether there has been an increase in sexual misconduct cases or harsher penalties after the passage of new legislation. This could be due to a few reasons. First, it can take months or years before a decision and penalty are determined, meaning that the impact of the legislation change is yet to be seen. Second, the legislation that is applied to a case is the legislation that was in place at the time of the offence, and most of the cases heard after the legislative change were for offences committed before the change. Third, sexual misconduct cases in pharmacists are low overall, especially when compared with other professions, such as medicine (Alam et al. 2011), so it is possible that the sample size is too small to draw conclusions.

3.5.4 Transparency

Although we were able to include nine out of 10 provinces in this study, transparency in disciplinary action against pharmacists in Canada continues to be a more significant problem than for other health professions. At the time of this study, disciplinary cases from the 10

provincial physician regulatory bodies in Canada were publicly available online. Regarding online registers of professionals, all provinces have an online database where a health professional may be searched. However, each province includes varying levels of information on these registers, ranging from the simplest that might include whether the professional's licence is active or suspended and their place of practice to others that might include educational institution attended, previous disciplinary action or extra services that the pharmacist can provide, such as injection administration. It remains to be seen whether the lack of transparency in access to disciplinary cases and in online registers of pharmacists is due to a lack of legislation encouraging transparent publishing practices or due to a lack of compliance with the existing legislation. If it is the former, then changes in provincial legislation governing health professionals could mandate increased transparency and more detailed online registers.

3.6 Limitations

A few limitations impacted this study. First, the drawing of associations between demographic factors and disciplinary action was limited due to inconsistent reporting of demographic information on online college registers or in case documents. Second, this study included regulatory body disciplinary action cases but was unable to capture the differences in complaints and disciplinary processes among colleges in Canada as most complaints' data are not publicly available. Since each college could have a different process for deciding how to move complaints through these two levels, it is possible that two colleges might process similar cases differently, resulting in more disciplinary cases in one province compared with another. As mentioned in the Methods section, this study included only higher level disciplinary cases from British Columbia, while our previous pharmacist review included cases from the lower level committee as well; this accounts for some differences in results compared with those from the previous review (Foong et al. 2018).

3.7 Conclusion

While this study identified that the rate of disciplinary action is low across Canada and confirmed the most common reasons for disciplinary action for Canadian pharmacists, the influence of legislation and regulation policy on the regulatory body complaints and disciplinary action processes is unknown. Areas for future research are numerous. More research on the types

of penalties assigned in a disciplinary case, as well as whether these penalties are effective, is needed. Future research could investigate the factors driving the variation in disciplinary processes and outcomes and the influence of policy and legislation on disciplinary outcomes. In addition, access to data from lower level complaint committees would expand our knowledge of how the lower level processes and higher level disciplinary processes work together. Characterizing and understanding current disciplinary practices is necessary in order to evaluate and improve regulatory practices and protection of the public.

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Chapter 4

Dentist Disciplinary Action: What Do Dentists Get in Trouble for?

This chapter is published as follows:

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4.1 Abstract

Objective: This study aims to determine the reasons for disciplinary action, the consequences and any associations with demographic factors for Canadian dentists.

Methods: Publicly available regulatory body disciplinary action cases from 10 Canadian provinces were coded. Demographic factors were also coded.

Results: There were 344 dentist cases from five provinces between January 2010 and December 2020. The rate of disciplinary action was low (1.38 cases/1,000 practitioners/year). Clinical incompetence was the most common category of disciplinary action, followed by professional misconduct and dishonest business practices. Male dentists were overrepresented in the disciplinary action cases compared to the rest of the workforce.

Conclusion: This study is the first, to our knowledge, to describe the outcomes of regulatory body disciplinary action for Canadian dentists.

4.2 Introduction

In Canada, health professional regulatory bodies handle disciplinary action processes when practitioners are clinically incompetent or act unprofessionally. In recent years, the Canadian media has put pressure on physicians and physician regulators to increase transparency at work. In 2016, the Canadian Broadcasting Corporation published a series on physician disciplinary action, highlighting the lack of transparency in disciplinary action reporting, which often leads to physicians being given a “second chance” to practise after committing serious patient violations (Kubinec 2016). In 2018, the *Toronto Star* criticized regulators for allowing physicians who were disciplined in the US for serious clinical incompetence or sexual abuse to practise in Canada without a public record of past disciplinary concerns (Zlomislic et al. 2018). Characterizing the current disciplinary action processes is an important step toward transparency, but it also offers the opportunity to guide improvements to policy and disciplinary processes.

Research focusing on dentist disciplinary action is scant. A scoping review of health professional disciplinary action identified only seven papers that focused specifically on dentist disciplinary action; none of which was from Canada (Foong-Reichert et al. 2021a). Some of

these publications focused on a single type of complaint (e.g., complaints about local anaesthetic use [Scofield et al. 2005], social media use [Neville 2017] or inappropriate delegation of controlled acts to dental assistants [Feine 1991]) but did not capture overall reasons for disciplinary action. Other papers were published over two decades ago and did not reflect recent changes to disciplinary processes (Damiano et al. 1993; Feine 1991).

Research from Australia has found that compared with other professions, dentists are at the highest risk of a complaint (Spittal et al. 2016; Thomas et al. 2018), with another study finding that both dentists and physicians had the highest rates of complaints (Walton et al. 2020). Australian researchers agreed that the most common reasons for complaints against dentists are issues related to clinical incompetence, such as clinical performance and treatment (Thomas et al. 2018; Walton et al. 2020), but a US review of 21 state dental boards found that most cases involved emotional intelligence concerns, defined as violations of moral turpitude, followed by clinical incompetence concerns (Munk 2016). In Canada, reviews of pharmacist and physician disciplinary activity have been conducted (Alam et al. 2011; Foong et al. 2018), but a similar review has not been conducted for dentists. In order to broaden our understanding of the disciplinary practices of health professional regulators in Canada, this study analyzed disciplinary action cases in order to determine the reasons for disciplinary action, the resultant consequences and any differences based on demographic factors for dentists in Canada.

4.3 Methods

4.3.1 Inclusion and exclusion criteria

In Canada, health professions are regulated at the provincial level (Government of Canada 2019). In this study, regulatory body disciplinary action cases for dentists from 10 Canadian provinces were included. The three Canadian territories were excluded as they do not have profession-specific regulatory bodies but are often regulated by a branch of the government such as the Department of Health (Canadian Dental Association 2024).

Publicly available disciplinary action cases were obtained from regulatory body websites or online from the Canadian Legal Information Institute. Ethics approval was not required as the cases were publicly available. Cases were included if they described both a violation and a penalty and if they were heard from January 2010 to December 2020. Cases were excluded if they involved students, if the initial hearing was before 2010 but subsequent hearings or penalty

decisions were after 2010 or if the hearing involved an appeal, a request for reinstatement or a motion to remove conditions on a licence. In cases where the healthcare professional was regulated and disciplined for the same violation in more than one province, the case was counted only in the province that conducted the full investigation. Instances where a disciplinary hearing involved the same violations and penalties for more than one healthcare professional were counted as separate cases in order to capture the total number of professionals who were disciplined.

4.3.2 Case coding

Codes from our previous research on pharmacist disciplinary action (Foong et al. 2018) were revised to ensure applicability to dentists. Using this preliminary set of codes, AFR coded a selection of cases in an inductive approach, adding and refining codes as needed. AFR and research assistant Ariane Fung independently coded 50 cases to further refine codes. The finalized codes were used by AFR and research assistant Karolina Suszek to independently code the data in a deductive approach using Microsoft Excel. Differences in coding were resolved through discussion.

For each case, violations, demographic factors of the professionals and penalties were recorded. Violations were coded according to three categories, adapted from the categories used in our previous review of pharmacist disciplinary action (Foong et al. 2018): (1) professional misconduct, (2) clinical incompetence and (3) dishonest business practices. Professional misconduct was defined as a violation of the professional standards of practice or legislations governing practice, excluding clinical incompetence, such as improper use of health information, sexual abuse, failure to obtain informed consent or intentionally stealing narcotics/drug trafficking. Clinical incompetence involved any violations involving clinical skills and incompetent practice. Dishonest business practices involved violations with financial gain as a motive, such as fraudulent billing.

Demographic factors (age, gender, practice setting, practice specialty, number of years in practice, country of education and previous disciplinary action) were also extracted from the case and/or from each regulatory body's online register of professionals. Analysis of some demographic factors was limited due to the lack of publicly available information. For this

reason, age, practice setting and country of entry-to-practice education were not examined further.

The rate of disciplinary action was calculated using the average total number of practising clinicians from 2010 to 2020 from the Canadian Institute for Health Information (CIHI 2021, 2022). The number of practising clinicians was calculated using the provinces that were included in the sample.

4.4 Results

Overall, 344 dentist cases from five Canadian provinces were included in this study: British Columbia, Alberta, Saskatchewan, Ontario and Quebec. Distribution by province is illustrated in Figure D. Despite multiple e-mails to each regulatory body, we were unable to obtain disciplinary cases from the remaining five dental regulators. In addition, information available on regulatory bodies’ online registers of professionals was not consistent, which limited the information that could be collected on demographic factors.

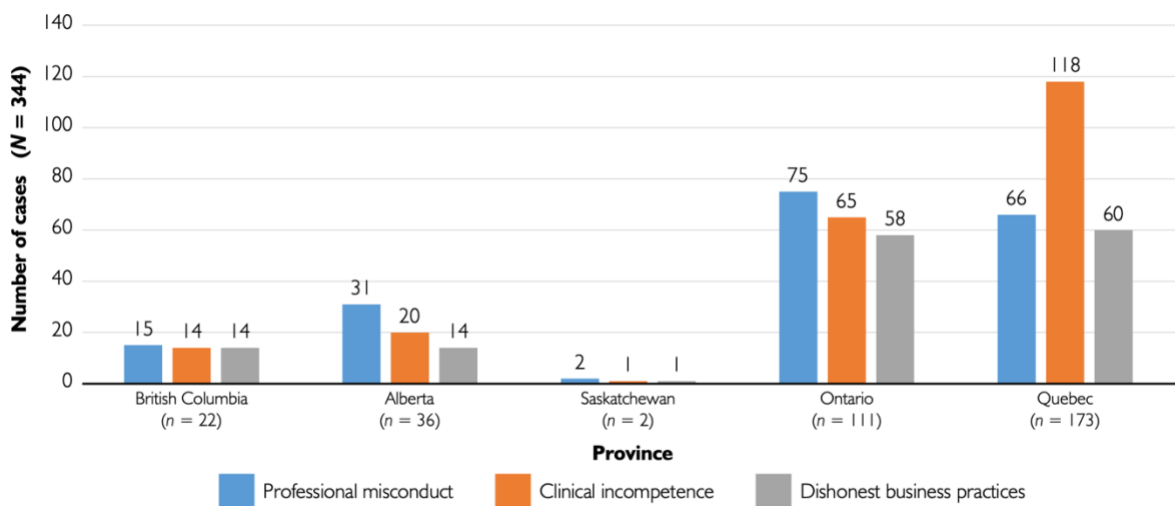


Figure D-4.1. Disciplinary action cases against dentists according to province

4.4.1 Rate of disciplinary action

Overall, the rate of disciplinary action for dentists was low: 1.38 cases/1,000 practitioners/year. This rate varied by province, with an eightfold variation between

Saskatchewan with the lowest rate and Quebec with the highest rate. The rate of disciplinary action for each province is listed in Table D-4.1.

Table D-4.1. Rate of disciplinary action against dentists by province, reported as number of cases per 1,000 practitioners per year

Province	Dentist cases/1,000 practitioners/year
British Columbia	0.55
Alberta	1.22
Saskatchewan	0.35
Manitoba	-
Ontario	0.96
Quebec	2.94
New Brunswick	-
Nova Scotia	-
Newfoundland and Labrador	-
Prince Edward Island	-
Overall	1.38

4.4.2 Source of complaint

Information on the source of the complaint was not included in the disciplinary case report in 51% of the cases (174/344). For cases where a source was indicated, the most common sources were the patient or the patient’s family/agent (109/344 cases, 32%), the regulatory body (32/344 cases, 9%) and third-party insurance companies (11/344 cases, 3%).

4.4.3 Reasons for disciplinary action

Reasons for disciplinary action were divided into three categories: professional misconduct, clinical incompetence and dishonest business practices. Many cases involved multiple violations and two or more categories of disciplinary action, meaning that the overall

percentages sum up to more than 100%. As seen in Table E-4.2, clinical incompetence was the most common category overall (64%), followed by professional misconduct (55%) and dishonest business practices (43%). However, just over 50% (173/344) of the cases in this study were from Quebec, where 68% of the cases involved clinical incompetence. When the cases from British Columbia, Alberta, Saskatchewan and Ontario are analyzed separately from the cases from Quebec, professional misconduct becomes the most frequent category of disciplinary action, with 71% of the cases involving professional misconduct, 59% involving clinical incompetence and 51% involving dishonest business practices. Twenty-five cases involved a one-time incident that resulted in disciplinary action, and 15 of these cases involved clinical violations.

Table E-4.2. Most common categories and reasons for disciplinary action against Canadian dentists

Province	Most common category	Most common reasons for discipline (<i>n</i> of cases, % of cases)
Overall (5 provinces; <i>N</i> = 344)	<ol style="list-style-type: none"> 1. Clinical incompetence (64%) 2. Professional misconduct (55%) 3. Dishonest business practices (43%) 	<ul style="list-style-type: none"> • Inadequate documentation (134, 39%) • Inadequate testing/history taking/examination (110, 32%) • Inadequate/inappropriate treatment (109, 32%) • Substandard technique or conditions (101, 29%) • Failure to obtain/document informed consent (94, 27%) • Fraudulent billing (77, 22%)
British Columbia (<i>n</i> = 22)	<ol style="list-style-type: none"> 1. Professional misconduct (68%) 2. Clinical incompetence (64%) 3. Dishonest business practices (64%) 	<ul style="list-style-type: none"> • Fraudulent billing (11, 50%) • Substandard technique or conditions (9, 41%) • Inadequate/inappropriate treatment (8, 36%) • Misdiagnosis/delayed diagnosis (7, 32%) • Breached a condition on licence (7, 32%) • Inadequate documentation (6, 27%)
Alberta (<i>n</i> = 36)	<ol style="list-style-type: none"> 1. Professional misconduct (86%) 2. Clinical incompetence (56%) 3. Dishonest business practices (39%) 	<ul style="list-style-type: none"> • Failure to obtain/document informed consent (15, 42%) • Inadequate documentation (14, 39%) • Inadequate/inappropriate treatment (8, 22%) • Inadequate testing/history taking/examination (8, 22%) • Inappropriate advertising (8, 22%) • Lying/misrepresentation (8, 22%)
Saskatchewan (<i>n</i> = 2)	<ol style="list-style-type: none"> 1. Professional misconduct (100%) 	<ul style="list-style-type: none"> • Failure to obtain/document informed consent (1, 50%) • Inadequate documentation (1, 50%)

	<ol style="list-style-type: none"> 2. Clinical incompetence (50%) 3. Dishonest business practices (50%) 	<ul style="list-style-type: none"> • False documentation (1, 50%) • Failure to cooperate with the college (1, 50%) • Inadequate/inappropriate treatment (1, 50%) • Substandard technique or conditions (1, 50%) • Failure to refer (1, 50%) • Inappropriate or excessive fees (1, 50%)
Ontario (n = 111)	<ol style="list-style-type: none"> 1. Professional misconduct (68%) 2. Clinical incompetence (59%) 3. Dishonest business practices (52%) 	<ul style="list-style-type: none"> • Inadequate documentation (51, 46%) • Fraudulent billing (44, 40%) • Inappropriate or excessive fees (30, 27%) • Inadequate/inappropriate treatment (29, 26%) • Failure to obtain/document informed consent (26, 23%) • Inadequate testing/history taking/examination (25, 23%)
Quebec (n = 173)	<ol style="list-style-type: none"> 1. Clinical incompetence (68%) 2. Professional misconduct (38%) 3. Dishonest business practices (35%) 	<ul style="list-style-type: none"> • Inadequate testing/history taking/examination (73, 42%) • Substandard technique/conditions (65, 36%) • Inadequate documentation (63, 36%) • Inadequate/inappropriate treatment (63, 36%) • Failure to obtain/document informed consent (48, 28%) • Inappropriate advertising (39, 23%)

4.4.4 Penalties

Types of penalties were similar across provinces and included reprimand, publication of the case details, fines, payment of the costs of the investigation, conditions placed on the licence to practice, professional development, ongoing fitness to practice assessments or counselling, temporary licence suspension and permanent revocation of a licence. The frequency of use of certain penalties varied across provinces. Penalties are outlined in Table F-4.3.

Table F-4.3. Most common penalties for Canadian dentists

Province	Penalty
Overall (5 provinces; N = 344)	<ol style="list-style-type: none"> 1. Costs of the investigation (326, 95%) <ul style="list-style-type: none"> • \$500–\$67,1357, median \$5,000 2. Fines (180, 52%) <ul style="list-style-type: none"> • \$1,000–\$50,000, median \$6,000

	<ol style="list-style-type: none"> 3. Professional development (175, 51%) <ul style="list-style-type: none"> • Take a course (140), audits/practice inspections (99), internship or have a preceptor (51) 4. Reprimand (164, 48%) 5. Suspension (155, 45%) <ul style="list-style-type: none"> • Ranging from one week to 32 months, median three months 6. Publication (126, 37%) 7. Conditions on licence (51, 15%) <ul style="list-style-type: none"> • Not perform a certain procedure (26), not practice alone (7), not prescribe/dispense narcotics/ controlled drugs (4), notify employers or patients of discipline history (4) 8. Licence revocation (29, 8.4%) 9. Ongoing fitness to practice assessments/counselling (9, 2.6%)
British Columbia (<i>n</i> = 22)	<ol style="list-style-type: none"> 1. Professional development (18, 81%) <ul style="list-style-type: none"> • Take a course (16), audits or practice inspections (13), complete an internship or have a preceptor (8) 2. Costs of the investigation (14, 64%) <ul style="list-style-type: none"> • \$1,000–\$95,000, median \$4,500 3. Fines (13, 59%) <ul style="list-style-type: none"> • \$2,000–\$50,000, median \$15,000 4. Reprimand (13, 59%) 5. Suspension (11, 50%) <ul style="list-style-type: none"> • Ranging from one month to 32 months, median six months 6. Licence revocation (4, 18%) 7. Conditions on licence (6, 27%) 8. Not practice alone (4), have a chaperone present, not perform a certain procedure, notify employers/ patients of discipline history, limit to number of patients seen (1) 9. Ongoing fitness to practice assessments/counselling (5, 23%) 10. Publication (2, 9%)
Alberta (<i>n</i> = 36)	<ol style="list-style-type: none"> 1. Costs of the investigation (36, 100%) <ul style="list-style-type: none"> • \$3,000–\$671,357.21, median \$24,099.94 2. Suspension (29, 81%) <ul style="list-style-type: none"> • Ranging from one week to 12 months, median one month

	<ol style="list-style-type: none"> 3. Fines (13, 36%) <ul style="list-style-type: none"> • \$1,000–\$30,000, median \$10,000 4. Licence revocation (4, 11%) 5. Professional development (28, 78%) <ul style="list-style-type: none"> • Take a course (27) 6. Reprimand (7, 19%) 7. Conditions on licence (1, 3%) 8. Publication (1, 3%)
Saskatchewan (<i>n</i> = 2)	<ol style="list-style-type: none"> 1. Costs of the investigation (2, 100%) <ul style="list-style-type: none"> • Two cases: \$66,325.73 and \$140,301.09 2. Publication (2, 100%) 3. Suspension (1, 50%) 4. Fine (1, 50%) <ul style="list-style-type: none"> • One case: \$5,000 5. Licence revocation (1, 50%) 6. Apology (1, 50%)
Ontario (<i>n</i> = 111)	<ol style="list-style-type: none"> 1. Reprimand (105, 95%) 2. Professional development (92, 83%) <ul style="list-style-type: none"> • Take a course (83), audits or practice inspections (81), complete an internship or have a preceptor (17) 3. Costs of the investigation (100, 90%) <ul style="list-style-type: none"> • \$500–\$318,297.87, median \$5,000 4. Suspension (79, 71%) 5. Publication (76, 68%) 6. Conditions on licence (25, 23%) <ul style="list-style-type: none"> • Not perform a certain procedure (7), not prescribe/dispense narcotics or controlled drugs (4), notify employers/patients of discipline history (3) 7. Licence revocation (15, 14%) 8. Fitness to practice/counselling (6, 5%)
Quebec (<i>n</i> = 173)	<ol style="list-style-type: none"> 1. Costs of the investigation (172, 99%) <ul style="list-style-type: none"> • Value typically not declared 2. Fines (153, 88%) <ul style="list-style-type: none"> • \$1,000–\$38,500, median \$5,500 3. Publication (46, 27%)

	<ol style="list-style-type: none"> 4. Reprimand (39, 23%) 5. Professional development (37, 21%) <ul style="list-style-type: none"> • Complete and internship or have a preceptor (26), take a course (14) 6. Suspension (35, 20%) <ul style="list-style-type: none"> • Ranging from one week to 30 months, median two months 7. Conditions on licence (19, 11%) <ul style="list-style-type: none"> • Not perform a certain procedure (18), not practice alone (1) 8. Licence revocation (5, 3%)
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4.4.5 Characteristics of those disciplined

4.4.5.1 GENDER

Information on gender was available in 99% (342/344) of the cases. Male dentists were disciplined in 79% (272/344) of the cases. Female dentists were disciplined in 20% (70/344) of the cases, and gender was unknown in two cases. In comparison, male dentists comprise 52% of the general dentist population in these five provinces combined (CIHI 2022).

4.4.5.2 PRACTICE SPECIALTY/PRACTICE SETTING

Practice specialty for dentists was known in only 194 of 344 (56%) cases. The most common specialty was general dentistry (163), followed by orthodontics/dentofacial orthopaedics (10), oral and maxillofacial surgery (10), paediatrics (5), periodontics (2), prosthodontics (2) and endodontics (1), and one case with both prosthodontic and periodontic specialties.

4.4.5.3 YEARS IN PRACTICE

We used both “years licensed” and “years since graduation” to estimate the professional’s years of experience, where “years licensed” is the number of years the professional has been licensed with that particular regulatory body but does not capture previous periods of licensure in other jurisdictions. Information on years licensed was available for 97 of 171 (57%) dentists, with a median of 24 years (range: 2–52).

Information on years since graduation was available for 100% of the cases involving Ontario dentists and 64% (14/22) of the cases involving British Columbia dentists. The mean and

median years since graduation was 25 years for Ontario dentists. For British Columbia dentists, the mean years since graduation was 24 years and the median was 25.5 years.

4.4.6 Previous disciplinary action

Among dentists, 32 (9%) cases involved previous disciplinary action. Of the cases where a defendant had been disciplined previously, all repeat offenders were required to pay the costs of the investigation, 23 (72%) had their licence suspended for a median length of six months, 5 (16%) had their licence revoked, 5 (16%) were required to pay a fine, 21 (66%) were required to complete professional development training and 22 (69%) had their offence(s) published on the regulatory college's website or newsletter. Men were involved in 91% of the cases where there was a repeat offence, while women were involved in 9% of the cases with a repeat offence. Most cases where there was a repeat offence involved multiple violations. The most common reasons for repeated disciplinary action were inadequate documentation (11), fraudulent billing (11), breaching a condition on the licence (8), substandard technique or conditions (9), inadequate/inappropriate treatment (8) and failing to cooperate with college investigations/communications (7).

4.5 Discussion

This review of regulatory body disciplinary action cases found that disciplinary action impacts only a small number of dentists in five Canadian provinces. Clinical incompetence was the most common category of discipline for dentists overall, but professional misconduct was the most common category for dentists from British Columbia, Alberta, Saskatchewan and Ontario. This study is the first to describe the outcomes of regulatory body disciplinary action for Canadian dentists.

In contrast to our findings, Walton et al. (2020) and Thomas et al. (2018) found that most dentist cases involved performance or clinical incompetence concerns. However, this difference in findings could be due to these researchers analyzing complaint cases, while we looked only at the higher-level disciplinary cases. Previous research on Canadian physicians found that sexual misconduct was the most common reason for disciplinary action (Alam et al. 2011). However, this was not a common reason for disciplinary action against dentists. In previous work on pharmacists, professional misconduct was the most common category overall, similar to that

reported for dentists, but fraudulent billing was found to be the most common reason for disciplinary action, which was not found to be a common reason for dental disciplinary action (Foong et al. 2018).

Our research agrees with research from other professions, which report that the dentists disciplinary rate is low overall (Foong-Reichert et al. 2021a). This is an expected finding since disciplinary action is typically reserved for serious cases or repeated violations. Our research also agrees with previous work stating that there is a variation in disciplinary cases and rates across provinces (Damiano et al. 1993; Harris and Byhoff 2017; Munk 2016). However, this variation in disciplinary rates and outcomes across Canada despite the same goal of public protection begs this question: Why are there differences? Researchers hypothesize that differences in medical board composition in different jurisdictions and differences in thresholds for disciplinary action could result in different decisions being made at each step of the disciplinary process (Harris and Byhoff 2017). As regulators increasingly include public members on disciplinary panels, it is possible that different disciplinary decisions could be made in the future. Differences in time and resources might also influence which cases are pursued through the disciplinary process and which cases might be resolved at a lower level or dismissed (Damiano et al. 1993; Harris and Byhoff 2017). Researchers also suggest that differences in education could lead to differences in clinical competence (Damiano et al. 1993) or emotional intelligence (Munk 2016); such differences could produce variations in reasons for disciplinary action between states or provinces, assuming that most graduates remained in the jurisdiction in which they were educated.

Since legislation governing health professionals outlines the disciplinary process, differences in legislation between provinces or within a province could also influence disciplinary outcomes. Depending on the province, such legislation can encompass multiple regulated health professions or there can be different legislations for each profession resulting in differences between professions within a province. Legislations outlining mandatory penalties for certain offences also affect disciplinary outcomes compared with provinces without mandatory penalties – for example, Alberta, Ontario and Quebec have legislations about how cases of sexual misconduct should be handled, with minimum punishments outlined in law (*An Act to Protect Patients* 2018; Inquiries Division 2018; Owens 2018; *Protecting Patients Act* 2017). Similar to legislative differences, internal regulatory body policies could affect

disciplinary action or transparency as could differences in case precedents within a province that might perpetuate certain practices. More research into the influence of legislation, policy and processes across provinces or within provinces on disciplinary outcomes is needed.

4.5.1 Demographic factors

4.5.1.2 Gender

Our finding that male dentists were overrepresented in disciplinary action cases is similar to previous research on dentists (Walton et al. 2020) and research on physicians (Alam et al. 2011; Unwin et al. 2015).

4.5.1.3 Practice specialty

This study is the first to report associations with dental specialty, to our knowledge, as existing research has analyzed only the risk of disciplinary action according to the licence type (e.g., dentists, dental prosthetists, dental hygienists and dental therapists; Thomas et al. 2018). Most dentists subjected to disciplinary action were general dentists, which likely reflects the proportion of general dentists in the workforce. This could be similar to research showing that most pharmacists disciplined are community pharmacists versus hospital pharmacists (Foong et al. 2018) and similar to research showing that family medicine is one of the highest risk physician specialties (Alam et al. 2011).

4.5.1.4 Years in practice

Years in practice, years since graduation and age are different ways of attempting to capture a similar measure. Other studies on dentists have reported age in cases of disciplinary action (Foong-Reichert et al. 2021a; Thomas et al. 2018; Walton et al. 2020), but not years in practice, finding that older practitioners had a higher risk of facing disciplinary action than younger practitioners. This finding could be due to a higher cumulative risk over time as someone who is older has had more patient encounters than someone who is younger.

4.5.1.5 Previous disciplinary action

Our findings on previous disciplinary action agree with the literature, in that those who have been subjected to disciplinary action in the past tend to be dealt harsher penalties if disciplined again. Dentists in our study who had been previously disciplined were more likely to

be punished with a suspension or licence revocation than those who had not been disciplined before. Research on physicians has shown that men are more likely to be repeat offenders and that breaching a condition on a licence was a common reason for being disciplined, which is consistent with our findings. While we found that 9% of the cases involved previous disciplinary action, it is possible that this number is underestimated as not all regulatory body registers of professionals have a full disciplinary action history available online and not all disciplinary case transcripts included this information. This value of 9% is similar to that reported for other professions, although it is likely on the lower end of the range (Foong-Reichert et al. 2021a).

4.5.2 Transparency

Although the aim of this study was to characterize disciplinary cases, an unexpected but highly important finding was the significant difficulty we had in obtaining cases from half of the Canadian dental regulators. This is not the same as with physician regulators or pharmacist regulators, where previous Canadian reviews of disciplinary action have been conducted using publicly available data from all 10 provinces for physicians (Alam et al. 2011) and nine provinces for pharmacists (Foong et al. 2018). For regulators and policy makers, findings from this study suggest that transparency is limited. Implementation of transparent practices could better protect the public and keep regulators accountable. Of note, there has been some attention to the need for more transparency in nursing as highlighted in the public inquiry into the Ontario healthcare serial killer Elizabeth Wettlaufer (Foong-Reichert et al. 2021b). The Wettlaufer case identified a lack of transparency as a contributing factor in the failure to detect her criminality earlier. However, little has been written about the need for transparency in dentistry. The impact of transparency in hiring practices should not be underestimated, and regulatory body records of complaints and disciplinary action are key tools for employers to use. Health professional regulators, especially dental regulators, should ensure that complaints and disciplinary action information is publicly available and that a comprehensive register of health professionals is maintained online. In Canada, the more comprehensive registers include details, such as academic training, practice specialty and disciplinary history, while the simplest registers include only the professional's place of practice and status of their licence (e.g., active, non-practising or suspended). Such registers give the appearance of being transparent while not actually providing the public with useful information, such as history of past complaints or disciplinary action. The

information that must be published on online registers is often dictated by provincial health professional regulations, meaning that changes may be required in legislation in order for regulators to change their practices.

4.6 Limitations

In addition to the limitations associated with the lack of transparency of some regulatory colleges, the ability of this study to determine associations with demographic factors was limited due to inconsistent and low reporting of demographic factors by regulatory bodies. Also, this study does not take into account variations in regulatory body disciplinary processes that might affect the types of cases that are disciplined. For example, some regulatory bodies have a lower level complaint committee that handles most complaints, while cases with certain criteria (e.g., repeated violations, sexual abuse) are handled by a higher level disciplinary committee. In addition, different regulatory bodies might have different thresholds for processing complaints at the lower level, meaning that one regulator might resolve a case at the lower level but another might refer it to the higher level disciplinary committee, leading to a higher number of disciplinary cases at the latter college.

4.7 Conclusion

This study is the first, to our knowledge, to describe regulatory body disciplinary action outcomes for Canadian dentists. However, gaps in the reporting of disciplinary cases and practitioner characteristics limit the conclusions that can be drawn for Canadian dentists. While this study and others have identified associations with certain demographic factors or characteristics, future studies could focus on a professional's motives or psychosocial factors that might be relevant to why a professional might misbehave and be subjected to disciplinary action. In addition, future research using data about complaints could complement our findings on disciplinary action. Such research, together with existing research, could demystify the disciplinary action process, improving the clarity of the process for both professionals and the public.

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Chapter 5

A review of regulatory body nurse practitioner disciplinary action cases in Canada

This chapter was submitted for publication on Feb 28, 2024.

5.1 Abstract

Context: Nurse practitioners are the fastest growing type of nursing professional in Canada, yet little research exists on nurse practitioner disciplinary outcomes.

Aims: To characterize the outcomes of disciplinary action for nurse practitioners in Canada by determining the reasons for disciplinary action, penalties issued, and any associations between disciplinary action and demographic characteristics.

Methods: Publicly available regulatory body disciplinary action cases concerning nurse practitioners from January 2010 to December 2020 were included. Cases from 10 provinces and 3 Canadian territories were included. Reason for discipline, penalties applied, and demographic factors were coded independently by two researchers.

Results: There were 10 nurse practitioner disciplinary cases from 6 provinces and 1 territory. Cases from Alberta, Saskatchewan, New Brunswick, Quebec, Northwest Territories, and Nunavut were not included. Rate of disciplinary action was low (0.18 cases/1,000 practitioners/year). Professional misconduct was the most common reason for discipline (80%), followed by clinical incompetence (70%), and dishonest business practices (20%). Median number of years licensed as a nurse practitioner before discipline was 8.5.

Conclusion: This is the first study in Canada to analyze disciplinary outcomes for nurse practitioners. Characterization of disciplinary outcomes is important to develop strategies and educational initiatives to prevent future discipline and support return to practice for those who have been disciplined.

5.2 Introduction

In Canada, nurse practitioners (NPs) are the fastest growing type of nursing professional, with the number of NPs increasing by 11% annually in 2022 (Canadian Institute for Health Information, 2023). NPs are one of two recognized advanced practice nurse (APN) designations in Canada, the other being the clinical nurse specialist (Canadian Nurses Association, n.d.). While both designations require a masters or doctoral degree and both can be employed in a variety of roles, clinical nurse specialists typically focus on leadership, research, education, or professional development, while NPs typically provide direct patient care.

Despite the important and increasing role that NPs play in the Canadian health care system, there is scant research on regulatory body disciplinary action for NPs in Canada, and for nursing professionals as a whole. The first Canadian study on nurse disciplinary action was published in this journal in 2019 (Kunyk and Deschenes). It described disciplinary outcomes for nurses for a 10-year period from one western Canadian province, finding that the rate of disciplinary action was low, and most were disciplined for negligence/professional incompetence or unprofessional conduct. This study, however, did not analyze outcomes for different nursing professionals but reported disciplinary outcomes for all nurses (which included registered nurses, nurse practitioners, graduate nurses, and graduate nurse practitioners).

Internationally, research on nursing disciplinary action is also limited. A scoping review about regulatory body disciplinary action for health professionals identified 11 papers (10% of all included papers) on nursing disciplinary action (Foong-Reichert et al., 2021). Ten of these papers focused on US disciplinary action, and one paper reviewed disciplinary action across multiple countries. Only one study focused on advanced practice nurses (Hudspeth, 2007). Published in 2007, it surveyed nursing regulatory bodies in the US to determine how many disciplinary actions were taken against APNs, which included NPs, certified registered nurse anesthetists, certified nurse midwives, and clinical nurse specialists. Disciplinary rate overall was low (0.54% of the APN sample). The most common reason for discipline was patient abuse and safety issues (30% of cases), followed by unprofessional conduct (28% of cases).

Previous work has reviewed pharmacist and dentist disciplinary action in Canada, finding that disciplinary action overall is uncommon and that penalties overall are similar across jurisdictions and professions but vary depending on the type of violation (Foong-Reichert et al., 2023a; Foong-Reichert et al., 2023b). The most common reasons for disciplinary action varied

by profession, where pharmacists were most likely to be disciplined for professional misconduct, and dentists were most likely to be disciplined for clinical incompetence.

Nurse practitioners have a unique role and distinct scope of practice compared to other professions and to other nursing professionals. Reviews of disciplinary action for nursing professionals that encompass multiple provinces have not been conducted. The objective of this study was to characterize the outcomes of disciplinary action for NPs in Canada by determining the reasons for disciplinary action, penalties issued, and any associations between disciplinary action and demographic characteristics.

5.3 Methods

Regulatory bodies in Canada typically have a lower-level committee that handles complaints (often called a Complaints Committee or Inquiry Committee) and a higher-level committee (often called a Disciplinary Action Committee, Conduct Committee, or Professional Conduct Committee) that handles serious or repeated violations. This paper focused on higher-level disciplinary action cases. Publicly available disciplinary action cases concerning NPs were obtained from 10 provinces through regulatory body websites or online from the Canadian Legal Information Institute. If cases were not available online, regulators were emailed directly using contact information found online. Cases were included if they described both a reason for disciplinary action and a penalty that was applied, and if both the initial hearing and final penalty decision were between January 2010 to December 2020. Cases were not included if they involved an appeal, request for reinstatement, or request to remove conditions from a license.

Codes used in this study were based on the coding structure used in our previous work on pharmacists (Foong et al, 2018) but were revised to ensure that they were applicable to multiple health professions. AFR coded a selection of cases in an inductive approach, refining codes as needed. The final set of codes used in this study were also used in our reviews of pharmacist and dentist disciplinary action (Foong-Reichert et al., 2023a; Foong-Reichert et al., 2023b). Cases were coded independently by AFR and AF and were compared for agreement. Any disagreements in coding were resolved through discussion.

For each case, the reason(s) for disciplinary action, penalties applied, and demographic characteristics were coded. Reasons for disciplinary action were coded into one of three categories: 1) Professional misconduct, 2) Clinical incompetence, and/or 3) Dishonest business

practices. Demographic characteristics were obtained from the case report and/or from the regulatory body's online register. Demographic factors include age, gender, practice setting, practice specialty, number of years in practice, country of education, and previous disciplinary action. In cases where the clinician had qualifying education in two countries (e.g., international country and domestic), the country of education was counted as domestic. The rate of disciplinary action was calculated using workforce data from 2010 to 2020 from the Canadian Institute for Health Information (Canadian Institute for Health Information, 2021). Specifically, we used the average total number of practicing clinicians from the provinces included for the calculation.

Ethics approval was not required for this study since cases were publicly available online.

5.4 Results

A total of 10 disciplinary action cases were included in this study, comprised of 6 cases from Ontario and 2 each from Manitoba and Newfoundland and Labrador. There were no disciplinary action cases from British Columbia, Nova Scotia, Prince Edward Island and Yukon during the study period.

Cases from Quebec were excluded because we were unable to determine the type of nursing professional being disciplined. Cases from Alberta, Saskatchewan, New Brunswick, Northwest Territories and Nunavut were excluded as these provinces/territories publish only recent disciplinary decisions online. Despite multiple requests requesting access to NP cases, we were unable to obtain cases for the entire study period.

Of note, British Columbia and Nova Scotia also publish lower-level committee decisions and consent agreements online. During the study period, British Columbia had five cases involving NPs and Nova Scotia had one case. Lower-level complaints cases were not publicly available online for other provinces.

5.4.1 Rate of disciplinary action

The overall rate of NP disciplinary action was low, at 0.18 cases/1,000 practitioners/year. Rates by province were 0.15 for Ontario, 0.78 for Manitoba, and 0.95 for Newfoundland and Labrador.

5.4.2 Source of complaint

Most case reports (8/10, 80%) did not describe the source of the complaint that triggered the investigation or notified the regulatory body of an issue. In the remaining two cases, the incidents were reported to the regulator by employers/management.

5.4.3 Reason(s) for discipline

Reason(s) for disciplinary action were divided into three categories: clinical incompetence (8/10, 80%), professional misconduct (7/10, 70%), and dishonest business practices (2/10, 20%), with specific reasons within each category outlined in Table G-5.1. Note that multiple reasons could apply to a given category for each case.

Table G-5.1. Most common reasons for disciplinary action for each profession. Cases could involve more than one reason for discipline.

Category	Number of cases (n=10)	Reason(s) for discipline (n of cases)
Professional misconduct	8	<ul style="list-style-type: none"> • False/misleading documentation (4) • Failure to cooperate with the college – did not complete Quality Assurance assessment when required (2) • Inadequate documentation (2) • Failure to maintain privacy/confidentiality (1) • Sexual misconduct (1) • Misrepresentation of self (1) • Other: napped while on duty (1)
Clinical incompetence	7	<ul style="list-style-type: none"> • Practicing outside scope of practice – prescribing (5) • Inadequate history taking or examination (3)

Dishonest business practices	2	<ul style="list-style-type: none"> • Fraudulent billing – billed services that were provided by an NP as if they had been provided by a physician (1) • Misappropriating business funds (1)
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5.4.4 Penalties

Penalties used included: professional development (7 cases, 70%), suspension (7 cases, 70%), reprimands (6 cases, 60%), conditions on license (4, 40%), paying costs of the investigation (4, 40%), license revocation (2, 20%), publication (1, 10%), and fines (1, 10%; cost of the fine was \$5000).

Suspension: Average length of suspension was 3.6 months, ranging from 1 to 9 months.

Professional development: Included taking a course, being subject to practice audits, meeting with a practice advisor, working under supervision of a preceptor, or completing an assignment or report.

Conditions on license: Included the requirement to notify patients or employers of their discipline history, and to not practice alone.

Types of penalties used were mostly similar across provinces, although some differences existed. Both cases from Manitoba and both cases from Newfoundland and Labrador required the NP to pay costs of the investigation; those who were disciplined in Ontario did not have to pay costs of the investigation. Only Ontario applied conditions on the NP’s license. Only one case from Manitoba involved a fine; this case involved only dishonest business practice violations.

All cases except one involved either a license revocation or a suspension. The one case that did not involve a revocation or suspension involved fraudulent billing and was the NP’s first disciplinary hearing.

5.4.5 Characteristics of those disciplined

Gender

Cases involved men in 50% (5/10) of cases, while women accounted for 40% (4/10) of cases, and gender was unknown in one case. For comparison, men made up 8% of the general NP population in Canada during this time period.¹¹

Years licensed and years since graduation

Two measures were used to estimate an NP's total years of practice experience: 1) Years licensed, which is the number of years the NP has been licensed by that particular regulatory body (but does not capture previous periods of licensure with other regulators), and 2) Years since graduation, which attempts to estimate total years of practice in any jurisdiction, assuming the NP started working the same year that they graduated.

Information on years licensed was available for 7/10 (70%) cases, with a median of 8.5 years (range 3-16). For years since graduation, only Ontario reported this information, with a median of 9 years.

Previous disciplinary action

One case (10%) involved previous disciplinary action. This case was from Manitoba, where both cases from Manitoba (n=2) concerned the same NP.

Practice setting

Practice setting was not considered as it was unclear from most cases.

Country of entry-to-practice education

Information on country of entry-to-practice education was not available.

5.5 Discussion

This research sought to characterize disciplinary outcomes and demographic factors of NPs subject to discipline in order to inform strategies and educational opportunities to prevent future discipline and to better support those that are disciplined. Professional misconduct was the most common reason for discipline, and disciplinary action is rare (0.18 cases/1,000 practitioners/year overall). This study also found that male NPs are disproportionately

disciplined compared to the gender demographic of the NP workforce. This is the first study to describe the outcomes of NP disciplinary action in Canada.

Lack of transparency in the publication of disciplinary action history is clear, as we were unable to obtain cases from three provinces. Requirements for the publication of disciplinary cases is typically outlined in the provincial legislation that governs that health profession. Regulators in provinces where legislation on transparency is conservative should question whether the public is protected if they are unaware of the disciplinary history of their health providers.

Reasons for discipline for NPs are different than other professions. For pharmacists in Canada, the most common category of discipline was professional misconduct, but the most common individual reason for discipline was fraudulent billing (Foong-Reichert et al., 2023a) Dentists were disciplined most often for clinical concerns (Foong-Reichert et al., 2023b). For Canadian physicians, sexual misconduct was the most common reason, followed by failing to meet a standard of care (Alam et al., 2011). However, it is difficult to compare disciplinary action across professions as each has a unique role, practice setting, business structure, and billing model. In addition, complaints and disciplinary action processes may vary between regulatory bodies, as these processes are outlined in provincial legislation. Regulators may also have different ways of handling a case, including different committees, thresholds for passing a case on to the next level, tools available to resolve a case, or penalties that they are permitted to use. These factors influence the number and types of cases that reach the disciplinary action level, as well as influence the outcome of the case at that level.

Kunyk and Deschenes' (2019) review of Canadian nursing professionals disciplinary action found that negligence (36% of cases) was the most common reason for discipline, followed by unprofessional ethics/misconduct (27% of cases), while we found that professional misconduct was slightly more frequent than clinical incompetence among NPs. However, comparisons between studies are difficult because each study uses different categories of violations. For example, Kunyk and Deschenes (2019) had separate categories for boundary violations (6.3% of cases), consent/health information/confidentiality issues (9.4% of cases), drug/alcohol related (15.5%; these do not include cases related to fitness to practice or incapacity), and unlicensed activities (19.5% of cases). In our study, we would have categorized all these under "professional misconduct".

The low rate of disciplinary action observed for NPs is not surprising, as disciplinary action is typically reserved for serious or repeated violations, but is markedly lower than for pharmacists or dentists (0.18 cases/1,000 practitioners/year vs. 1.37 and 1.38 cases, respectively). It is possible that rates for NPs are lower than for pharmacists and dentists because nurses often belong to a union or work in a hospital, meaning that organizational discipline processes might resolve or manage professionalism or clinical incompetence issues without it being reported to the regulator (Fung et al., 2021).

The finding that men are disproportionately represented among NP disciplinary action cases is consistent with research from other health professions (Unwin, Foong-Reichert et al., 2021) and with other reviews of Canadian disciplinary action (Alam et al., 2011; Foong-Reichert et al., 2023a; Foong-Reichert et al., 2023b).

Research has shown that APNs such as NPs are less likely to be subject to disciplinary action compared to practical nurses or registered nurses (Chappell et al., 1999; Jones et al., 2008; Kenward, 2008; Vander Woude, 1993; Zhong et al., 2009). Research from pharmacy also demonstrates this trend, with pharmacy technicians more likely to be disciplined for medication diversion than pharmacists (Foong-Reichert et al., 2021; Draime et al., 2018). However, research from dentistry finds the opposite, with dentists more likely to be subject to disciplinary action than allied dental professionals (Foong-Reichert et al., 2021; Thomas et al., 2018). Furthermore, Hudson and Droppers found that the type of nursing professional affected the type of violation, as practical nurses were more likely to be disciplined for providing inadequate clinical care, while APNs were more likely to be disciplined for failing to maintain proper records. We are unable to directly compare our findings related to years in practice to other research, as previous research has looked at total years in practice or age of the nurse (Chappell et al., 1999; Papinaho et al., 2019), while our study specifically considered years in practice as an NP.

5.5.1 Limitations

A few limitations should be considered when interpreting our findings. First, a main limitation to this research is lack of transparency in disciplinary outcomes which resulted in the inability to access cases from three provinces. Alberta, Saskatchewan, and New Brunswick do not make all disciplinary action cases publicly available online, and publication of cases from only the last few years does not provide the public with enough information on the health

professionals that are caring for them. In addition, online registers of professionals on regulatory body websites have limited information. For example, some regulators will publish restrictions, conditions, or suspensions on a nurse's profile only the limitation is active; once the penalty has been lifted, there will not be a record of previous discipline on their profile when that nurse is searched. Second, this study was limited in its ability to draw associations between demographic factors and disciplinary action due to low reporting of demographic factors either on the public register or within the case report. Finally, since this study is missing data from four provinces and two territories, rates are not generalizable across the country. Future research that includes all provinces would be valuable to better understand the rate of disciplinary action for all Canadian NPs.

5.6 Conclusion

While this study was the first to describe disciplinary outcomes for Canadian NPs, there are still many unknowns about nurse disciplinary action. Inclusion of cases from all provinces and territories would provide a better picture of disciplinary outcomes across Canada. To best serve their mandate of protection of the public, regulators are encouraged to increase public accessibility of discipline cases for all health professionals. Other factors that might contribute to a complaint or disciplinary action cases should also be studied, including practice setting, stress, workload and staffing issues, and organizational discipline processes.

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Chapter 6

Regulatory body perspectives on complaints and disciplinary action processes for health professionals

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6.1 Abstract

Background: Previous Canadian reviews of physician, pharmacist, and dentist disciplinary action have noted differences in discipline outcomes across professions and provinces. The objective of this study was to compare and contrast the disciplinary action process across provinces and professions, and to describe the perspectives of health professional regulatory bodies on the disciplinary action process.

Methods: Participation from medicine, pharmacy, nursing, and dentistry registrars or complaints directors from 10 Canadian provinces was sought. One-on-one, semi-structured interviews were conducted by telephone or video call.

Results: Nineteen interviews with regulators were conducted – eight pharmacy, five nursing, five medicine, and one dentistry. Complaints and discipline processes followed a similar overall pathway with some differences. Differences in process were largely due to differences in health regulation legislation and were noted across professions, across provinces, and within a province. Participants tended to be more aligned with regulators within their province rather than regulators of the same profession across the country.

Conclusion: To our knowledge, this paper is the first to describe Canadian health professional regulatory body perspectives on the complaints and discipline process. More research is needed to better understand the factors that affect discipline outcomes and to ultimately improve complaints and discipline processes.

6.2 Introduction

Reviews of regulatory body disciplinary action have been conducted for Canadian physicians, pharmacists, and dentists, exploring the reasons for disciplinary action, penalties, and demographic factors associated with health professionals subjected to discipline. Differences in disciplinary outcomes have been identified between jurisdictions and professions.¹⁻⁴ In Canada, physicians were most likely to be disciplined for sexual misconduct and clinical care concerns and dentists were most likely to be disciplined for clinical care.^{1,2} In contrast, Canadian

pharmacists were most likely to be disciplined for professional misconduct violations, such as unethical or unprofessional conduct.^{3,4} Even within a profession, rates of disciplinary action, penalties used, and types of violations vary from province to province.¹⁻⁴ However, why such differences exist is unclear, especially since the mandate of health professional regulatory bodies is the same – protection of the public. Hypotheses as to the reason behind these differences include variations in disciplinary processes and regulatory legislation in each jurisdiction, changes in the composition of the disciplinary committee as committee members serve terms that last a certain amount of time, and differences in scope of practice and practice setting among professions.⁵⁻⁸

The objective of this study was to compare and contrast the disciplinary action process across provinces and professions, and to describe the perspectives of health professional regulatory bodies on the disciplinary action process. This study will provide additional context to our previous work which reviewed disciplinary action cases for pharmacists and dentists in Canada and could help to explain any trends or differences observed.²⁻⁴

6.3 Methods

Ethics approval was obtained through a University of Waterloo Research Ethics Board (REB # 43680). Medicine, pharmacy, nursing and dentistry regulatory bodies (often called “colleges” in Canada) from 10 Canadian provinces were contacted by email to request their participation. If specific contact information was available on regulatory body websites, emails were addressed to the registrar or complaints director. If specific contact information was not available, the general information email address or the online contact form on the regulator’s website was used. A follow-up email was sent at least four weeks after the first email if a response had not been received. A \$50 honorarium was offered in appreciation of participants’ time.

One-on-one, semi-structured interviews were conducted by telephone or on Microsoft Teams. Written or verbal consent was obtained from each participant before the interview started. A lead researcher (AFR) and research assistant (RH) inductively coded two transcripts on NVivo 12 (released in 2018, QSR software) and met to compare codes and create a coding framework. The coding framework was applied to a third transcript and was approved and both

researchers independently coded the remaining transcripts. Any discrepancies about the codes were resolved through discussion.

Data were analyzed according to the Framework Method, which was chosen based on its suitability for analyzing qualitative data involving multiple health professions.⁹ The steps in the Framework Method are as follows: transcription, familiarization with the interview, coding, developing a working analytical framework, applying the analytical framework, charting data into the framework matrix, and interpreting the data.

6.3.1 Interview Guide

Interview questions were based on topics that arose from previous reviews of pharmacist and dentist disciplinary action.^{2,4} The interview guide (Appendix 6) included four main topics. The first topic was on structure of the disciplinary action process, where participants described the steps taken from a complaint being received to its resolution. The second topic was on the goal of disciplinary action and participants’ perspectives on current processes. The third topic was on the role of discipline and penalties on behaviour change. The fourth and final topic was on participants’ perceptions of the regulatory body by health professionals and the public.

6.4 Results

Medicine, pharmacy, nursing, and dentistry regulatory bodies from all 10 Canadian province were contacted. Overall, 19 interviews were conducted – eight pharmacy regulators, five nursing regulators, five medicine regulators, and one dentistry regulator. Interviews ranged from 38 minutes to 80 minutes, lasting an average of 52 minutes. Table H-6.1 highlights the main sources of variation across provinces and professions.

Table H-6.1 Main sources of variation across provinces and professions and implications for regulatory reform

Source of variation	Reason for variation	Implications for regulatory reform
Differences in legislation	Legislation governing the profession outlines the structure and operation of the process. In	Legislation could be coordinated across professions within a province. Legislative

	<p>some provinces, professions are governed by the same legislation, while in other provinces, professions are governed by separate legislation.</p>	<p>change will require a coordinated effort by multiple professions and government.</p>
<p>Differences between professions</p>	<p>Differences in practice setting or business models between professions result in different types of cases. Differences in how certain types of violations are handled also contributes to variation in discipline processes (e.g., fraudulent billing by physicians is handled by the government in some provinces and by the regulator in other provinces).</p>	<p>Coordinating higher-level disciplinary processes across multiple professions in a province could decrease variation in disciplinary outcomes. However, reasons for disciplinary action will continue to differ between professions due to differences in practice setting and scope of practice. Comparison of disciplinary outcomes between professions is not a straightforward comparison.</p>
<p>Size of regulatory body</p>	<p>Small regulatory bodies have fewer resources to allot to the discipline process. Small regulators also have fewer disciplinary cases, and therefore fewer opportunities to refine their processes.</p>	<p>A coordinated body that handles discipline cases for multiple professions within a province could provide more standardized disciplinary processes.</p>

Culture or approach to discipline	Some regulatory bodies might take a more punitive approach to discipline compared to regulatory bodies who have adopted a just culture/systems approach to discipline. This would result in differences in the types of cases that progress to the higher-level discipline committee and the types of penalties applied.	As more regulatory bodies shift to a just culture approach, types of violations that are disciplined and the types of penalties applied might change.

6.4.1 Complaints and discipline process

Complaints and discipline processes varied according to the legislation in each province that governs health professions and outlines such processes. For example, some provinces have legislation that encompasses multiple regulated health professions, while other provinces have profession-specific legislation. Despite these legislative differences, participants described processes that followed a similar overall pathway which is outlined in Figure E-6.1.

Some colleges had well-developed “alternative to discipline processes”, called expedited or alternative resolution (EAR) or alternative dispute resolution (ADR) that allowed a complaint to be resolved outside of the complaints and discipline process if all parties consent to the process; such processes are similar to informal resolution at a lower-level committee through a consent order. Some participants expressed a desire to have these tools available to them, and participants who did have these processes credited them with improvements in timely resolution of cases.

So I think one strength is being able to use [expedited or alternative resolution] or resolution agreements so that you can have, ultimately, timely access to justice...It opens up the queue, if you will, for the ones that need to go to an investigation or to a hearing when you're resolving the ones that can be resolved in a different way.... We've moved

down from what used to be sometimes over a year to resolve a complaint, to now we can often resolve them within or under 60 days. (Participant 4)

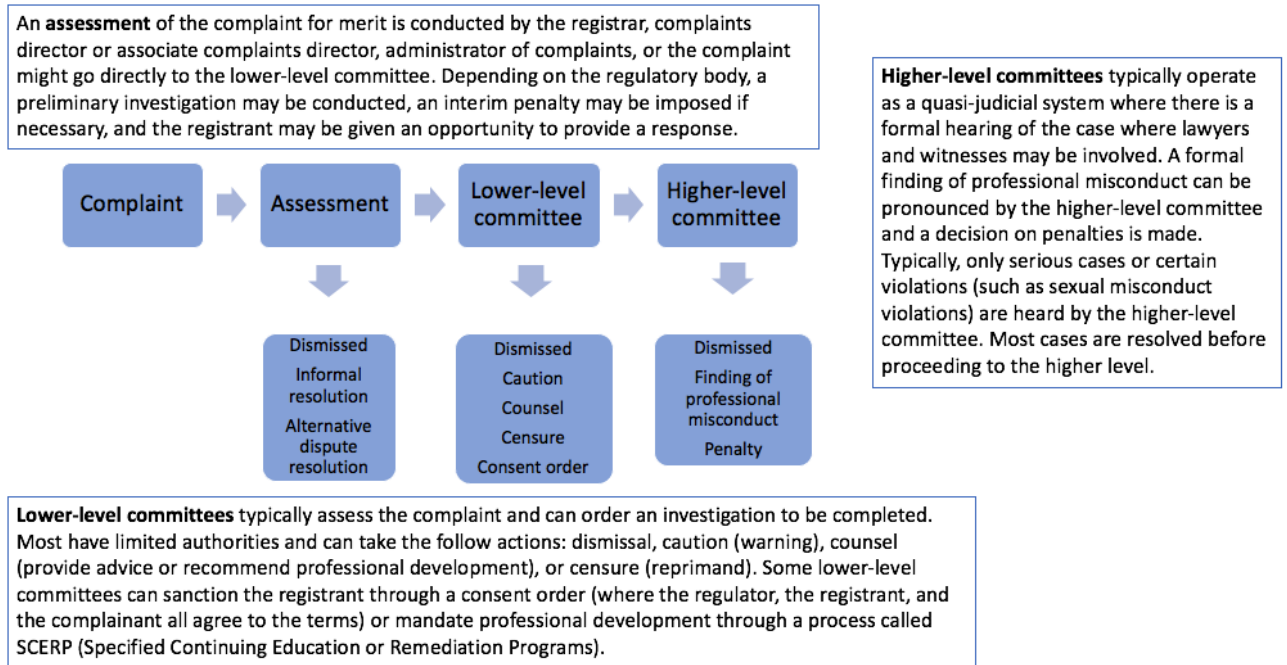


Figure E-6.1. Typical processes used in handling a complaint

6.4.2 Interim Restrictions

Most participants described a process in place for imposing an interim restriction or interim suspension while an investigation was ongoing in order to protect the public. Different pathways exist for the interim restriction to come into effect – through an undertaking by consent with the registrant, initiation by the lower-level committee, through the registrar, or by recommendation to the lower-level committee by the registrar or complaints director. Some participants were satisfied with the authorities they had available to them, while others sought change, such as the authority to issue a variety of interim restrictions, rather than only interim suspensions. Another participant described how their college is seeking legislative change to enable the registrar to impose an interim penalty:

It takes a lot of time to get to the stage in the process where an interim restriction or suspension can be done by the [lower-level committee]... There have been times in the past, before I was working here, I understand, where they basically had to jump the line and call the [lower-level committee] in to get to that point because there was a risk [to] public safety. (Participant 11)

6.4.3 Fitness-to-practice/incapacity process

At most colleges, fitness-to-practice processes that handle cases of mental health, substance use, or incapacity are not separate from the complaints and disciplinary action process. Some participants were content with this because they felt that they had the ability to handle a fitness-to-practice complaint differently than a competence or professional misconduct concern. Other participants expressed that they would prefer a separate fitness-to-practice arm:

So how do you deal with a physician who has an addiction, who has a mental health issue, has some other health issue that's affecting the way they practice medicine? Well, we're left with discipline and competency, which are pretty rough tools. They're really not intended for physicians who need help with a health issue. So we hope that we will get a legislative change that will allow us to try to more effectively deal with health-related concerns, and improve our ability to try to ensure that those physicians are receiving the care that they need. (Participant 13)

6.4.4 Deciding how to process a case or issue a penalty

Some colleges had a decision-tree or algorithm that outlined how a certain type of case should be processed or that outlined the types of penalties that would be administered. Other colleges did not have such a resource, but participants expressed their desire to develop one to decrease subjectivity.

Participants described that the type of violation influenced the penalty applied, where violations involving intent or criminal activity (e.g., fraud, sexual misconduct, or personal health information violations) were more likely to attract severe penalties and minor clinical concerns were more likely to attract professional development or restrictions on one's license.

I think you'll find that if there is a clinician that has been to discipline a few times and is really demonstrating that they have got poor clinical skills, you're very often going to see suspensions in addition to terms, conditions and limitations either again to try and remediate or at that point to restrict because maybe remediation has already been attempted and the dentist has not improved. Where you've got a history of a dentist progressing through discipline, like a couple of times or more, then you're going to see an escalation in the penalties. When it comes to sexual abuse, there's a zero-tolerance policy for sexual abuse of patients. (Participant 12)

Participants described how they consult other regulators across the country within the same profession to help determine an appropriate penalty for a similar case. They also described the challenges they face when deciding on a penalty.

I think in some ways we feel hamstrung by our hearing tribunals and how they're being wedded to precedent and therefore not considering a wider range of penalties and including more severe penalties for unprofessional conduct. But I don't know if this would be any different than any other college, that they are not comfortable with pushing the envelope on penalty. (Participant 18)

I think where our frustration lies is that the [lower-level complaints committee] is simply relying on decisions that they've historically made. And, as I said, that maybe those decisions that were made 10 years ago do not really fit, or demonstrate right-touch regulation, or professional accountability for that conduct in today's world. (Participant 6)

6.4.5 Influence of legislation

The influence of legislation on outlining processes was clear.

Before [an act that consolidated multiple professions] came in 2014, the college's complaint and discipline process was less defined... We were kind of on our own. We had to develop our own process, which I will say probably wasn't as well developed as other

colleges...So, at the time, we looked at that and said, "This is wonderful." It really gives us a very defined framework. (Participant 7)

This participant further described how they continue to be pleased with the structured process provided by the act, but acknowledged that there are elements of the legislation that they find limiting, and aspects of the legislation that they have worked with the government to amend since 2014.

Another participant mentioned how their legislation provided many different tools that can be used to address a complaint and to avoid going to discipline.

I think our legislation does a good job of recognizing that the specifics of all complaints are not the same, and thus you shouldn't be using necessarily the same tool to address all of them. And again, previously, under our old act, the one tool was investigation. And so when a complaint came in, if it was deemed that it met the criteria for a complaint, the only option was to either dismiss it or send it for investigation. And at the end of the investigation, the only options were to dismiss it or send it forward to hearing. And so again, under our legislation, there's about seven or eight different options that we have once a complaint is established. (Participant 15)

Similarly, participants also mentioned that prescribed timelines for processing cases was a strength.

I think one of the concerns that I had when I came to the college was that things were not done in a timely manner, which is not very fair, but [the Act] put timelines to that. So all I have to do is enforce those and it's not difficult. (Participant 5)

6.4.6 Effectiveness

Participants expressed uncertainty when asked if they perceived their processes to be effective.

Well, that's, in a way, an impossible question to answer. That's like asking if our jail sentences are effective. (Participant 10)

I think it's always a work in progress, is what I'm going to say. I know we have so much more room to improve. We are always looking to how other regulators are functioning and what they're doing, and especially really big regulators. And we really like to look at how their processes are and what they've developed and used. (Participant 6)

Participants identified four ways that they assess effectiveness: recidivism rate, number of cases appealed to the health professions review board in their province or the number of complaints lodged with the provincial ombudsman, surveys to gauge registrant and complainant satisfaction with the process, and key performance indicators outlined by government in some provinces that must be reported on by all health colleges, such as timeliness, fairness, objectivity, and transparency.

6.4.7 Differences between professions

Participants described differences between professions and practice setting, leading to differences in discipline outcomes. A few participants highlighted that professions that are more “hands on, clothes off” (Participant 17) are more likely to be involved with sexual misconduct allegations, such as massage therapy, medicine, nursing, and physiotherapy.

One participant described how nurses are increasingly being self-employed outside of a hospital.

Normally, what we would do is, we would say to the employer, "Here's your opportunity to monitor this individual. Make sure that they complete the learning," et cetera. And an employer will obviously be very motivated as well to make sure that that nurse is competent. But if that nurse is working in a sole practice or a practice where they are not being supervised, then we may have to put in lots more monitoring structures and reporting structures to make sure that they are in fact following the requirements of the college. (Participant 16)

Another participant described that practice setting affects the violations seen and penalties applied:

I think nursing colleges adopt a bit more of a remediative approach in terms of coursework, performance plans, in contrast to fines or suspensions. But I think that's a function of the nature of the profession. What I mean by that is nurses, as a type of health professional, are far more likely to be employees of a greater employer...And so, with that comes more commonly complaints about skills, about communication or a dynamic in the workplace, as opposed to business practices. And so, other colleges, like dentists or even physicians who also have a function of running a business, and also have regulators interested in regulating that aspect, you're going to see, I think more commonly, more punitive measures like suspensions or fines, because those are arguably more appropriate when the misconduct goes to the business practice. (Participant 4)

Comments from a pharmacy regulator suggest that the business aspect also affects pharmacists:

I do think that the commercial interface with pharmacy and as well as the diversity and the difference between big corporate pharmacy and little guy pharmacy... and the little guys definitely, well, they're all very business oriented. And that becomes a tension and a driving force for what things people will do. And people do bad things if they figure that they might lose their business and their livelihood, because they can't make a commercial goal of it. (Participant 17)

Participants described how it is difficult to prove clinical incompetency at the higher-level discipline committee:

When this fault concerns the clinical expertise, it must be shown that there is a standard that applies to it, and that the physician has deviated significantly from it. The burden to prove an expertise misconduct is then difficult to achieve. (Participant 19)

6.4.8 Differences within and between provinces

As mentioned above, some provinces have legislation that governs all regulated health professionals while some provinces have specific acts for each profession. Even in provinces with overarching legislation, differences in process still occur:

The legislation is just like the Constitution for us. It's the broad strokes of what we do. And we could probably do a kind of a whole different process and still be within the legislation as generally described. (Participant 2)

Differences within a province were also attributed to size of the college.

The main difference is essentially what we have is a couple of really big colleges and a whole bunch of really little colleges. And so it's a question of resources. And so I think some of the smaller colleges, it's a strain for them to have very robust systems because it takes a lot of resources and money. (Participant 10)

Some provinces also handle certain violations in different ways. For example, cases of physicians who fraudulently bill the provincial insurance plan are handled by the government in British Columbia and Alberta, but such cases are handled by the regulator in other provinces or for other professions.

A few participants mentioned formal networks within a province, such as an umbrella organization of health regulators that meets throughout the year to present a unified voice to government and promote standardization across health regulation. Others discussed informal networks where a regulator might reach out to others for consultation, or how smaller regulators often reach out to larger regulators. Most participants mentioned that they are more aligned with regulators within their own province compared to regulators of the same profession across the country.

In terms of how we interpret various things in the process and the approach we take to certain things, I do lean heavily on my counterparts in the province, I would say more so than across the country. When I'm going across the country, the collaboration we do there

is more so about precedent, whereas in terms of process and approaches and, I guess, the culture, I would think I feel more affiliated with my provincial health regulatory counterparts. (Participant 11)

6.4.9 Challenges of being a small college

Being a small college presented unique challenges. First, participants from smaller colleges expressed that it takes more time to develop robust processes, since fewer cases are processed. Second, smaller colleges typically have fewer staff and resources.

Resources are a big issue. The smaller colleges need to depend more on vendors, on persons external to the college to deliver some aspects of their services when they get really busy. There's sometimes more of reliance on external legal counsel because they can't have an in-house lawyer handling things like discipline and so on. Smaller colleges sometimes can have difficulty with timelines because they're, again, they just don't have as many people to be handling their cases, particularly with complex and challenging ones that they may not be as familiar with. (Participant 12)

Third, having fewer staff also meant that there is less separation between functions of the discipline process.

The hard part for the tiny colleges, in all honesty, is that they struggle, for example, with who's giving instructions to counsel on a discipline matter, and who's doing the hearings office, where often they're the same people and that's very difficult. Because in the ideal world, you probably should be fairly separate, but there's simply not resourced for that, to really separate out the function to that degree. (Participant 3)

6.4.10 Changes to discipline processes

Participants described many changes to discipline that have occurred over past years, such as: improved transparency in publication and in discipline processes, disassociation from the advocacy function to solely a regulatory function, creation of decision-making frameworks, improvements to timely resolution of cases, and implementation of new committees and authorities such as informal dispute resolution processes, fitness-to-practice processes, or interim

restrictions. One participant whose college had recently amalgamated with others described how their discipline processes had been intentionally thought out.

Sometimes organizations have systems and those systems have been around for quite a while and they may be perfectly fine, but no one necessarily remembers why they became the way they are...I guess you could say [our systems] are very conscious...They're certainly intentional because they're new. (Participant 10)

Participants also described changes in their culture or approach to discipline. One participant described how while their college would previously take a punitive approach by sending a pharmacist who made a dispensing error to discipline, such a case would be addressed with a remedial approach today. Another participant described taking a team approach to a pharmacy error, since community pharmacists and pharmacy technicians often work in a team environment. These changes also reflect the shift to just culture that was discussed by other participants.

6.4.11 Goal of complaints and disciplinary action processes

Participants communicated that the overall mandate for the complaints and discipline process was protection of the public, and described four main goals that fall under the mandate (Figure F-6.2). The following quotes illustrate some of these goals:

I think the best way to describe it is that ultimately our goal is to fulfill the mandate, the statutory mandate, which is protection of the public. So everything focuses on protection of the public. And that means resolving complaints through both remediative and punitive measures to ultimately deter future misconduct and help remediate current practices. (Participant 4)

The goal, I would say, at a high level, is to hold pharmacy professionals accountable for any actions that would be in conflict with any of our foundational standards or code of ethics that would result in potentially placing the public or a patient at risk...We're at a crucial time where there's probably more scrutiny on the complaints process and self-

regulatory colleges than in the past. It's important to maintain the trust in that process where the outcome is based on a fair determination from that public protection standpoint. (Participant 14)

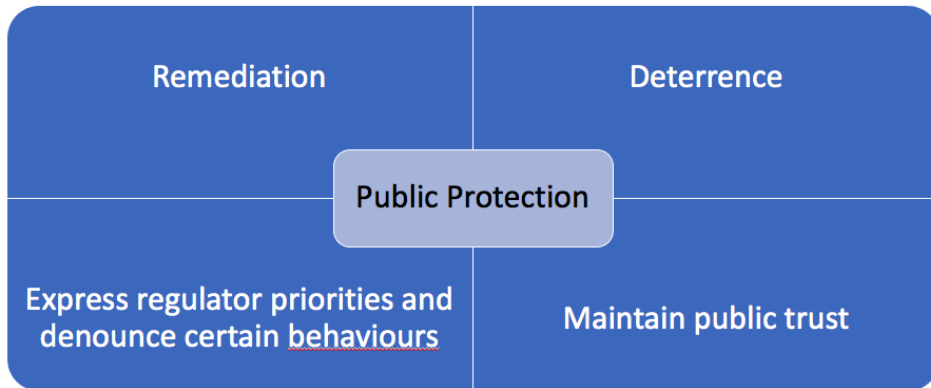


Figure F-6.2. Goals of the complaints and disciplinary action processes

6.4.12 Transparency

Participants spoke about the importance of transparency in the complaints and discipline process, where the complainant and the health professional are informed about the process. For example, one participant described how the public member that complained would be sent a copy of the health professional's response to the complaint. Others mentioned how complainants were given more voice in the process, and how pharmacists were able to provide a response to the college soon after the complaint was lodged.

Participants also spoke of the importance of transparency related to publication of the outcomes of the complaints and discipline processes, viewing publication as a key way to hold professionals accountable, for professionals to learn from each other, and to inform the public about their practitioners.

You can't regulate under a rock, you have to regulate in the public interest. And the public interest is that they're informed. (Participant 5)

Participants also described improved transparency over the years, with more cases and more detail being published. Some regulators have created internal policies to ensure more transparency than what is mandated in legislation. In contrast, some participants described that non-publication of the case can be negotiated as part of the terms of the consent agreement. Most colleges described publication of only the higher-level disciplinary cases, and not lower-level complaints cases, which limit comparisons across provinces.

I think it's hard to know exactly what is going on because, for example, many dispositions from our [lower-level committee] are not made public. So, I assume that I am unable to see all that is transpiring in other provinces. We can only access what's available publicly, and sometimes that's just a small picture of what's happening.
(Participant 1)

6.4.13 Public perception

Most participants described a lack of awareness on behalf of the public about the regulatory body.

I suspect the average patient, unless they're actually engaged in a complaint process with the college, is probably completely unaware of the college. And they probably confuse the college with the advocacy group, and that is an important task for us. (Participant 8)

Participants described a mismatch between the public's expectations of disciplinary outcomes and the actual outcome. To mitigate this, some participants established realistic expectations with the complainant when they lodged the complaint. One participant described frustration, feeling someone would be displeased regardless of the outcome.

If you dismiss the complaint, the complainant often says, "Well, what do you expect? You're just a bunch of people protecting doctors." If you discipline the physician, the physician's response often is, "Well, what do you expect? You just took the patient's word and treated me unfairly, and I didn't get a just result." (Participant 13)

Participants described strategies to increase awareness, such as increasing their social media presence, updating regulatory body websites, involvement in community events, and seeking public input on regulatory matters.

6.4.14 Registrants' perception

Participants described a spectrum of attitudes toward the regulator, ranging from those that are pro-regulation and involved in the college, to those that do not pay much attention to the regulator, to those that have negative perceptions, such as being “terrified of any interaction with their regulator” (Participant 3) and having a “lack of respect for the regulator” (Participant 7).

We will always have that segment of registrants that think we just make them pay registration fees each year in order to be able to practice. Some see us as police department of the profession that gives them citations and penalties when rules are not followed. For registrants that don't understand professional regulation or the role of the college we are perceived as a series of hoops and hurdles. (Participant 9)

Some expressed that registrants' negative perceptions did not matter to them, since regulatory bodies exist for the public. In contrast, others felt that good relationships with the profession were important to establish the regulatory as a legitimate body and in order for self-regulation to function properly.

Participants expressed that registrants, similar to the public, confuse the role of the advocacy body with the role of the regulator. Participants are aiming to better educate registrants on the complaints and disciplinary processes through professional development strategies.

6.5 Discussion

Complaints and disciplinary action processes across Canada for medicine, pharmacy, nursing, and dentistry regulatory bodies follow a similar structure with variations that are largely due to differences in legislation. Participants tended to be more aligned with other regulators within their province rather than regulators of the same profession across Canada. This paper provides context to our previous work by explaining some differences in discipline outcomes

across provinces and professions. This paper is, to our knowledge, the first to describe Canadian health professional regulatory body perspectives on the complaints and disciplinary action processes.

Scant research has been conducted on the effectiveness of different regulatory models,¹⁰ and different disciplinary processes in Canada have not been compared. Our research highlights differences in processes between provinces and professions, but it is unknown whether these variations are consequential or if they are simply different ways of achieving a similar outcome. In 2020, British Columbia proposed an overhaul of health professions regulation, including a reduction in the number of health regulators and the creation of an independent disciplinary panel that makes decisions regarding all health professions, as well as increased standardization in health professions regulation in the province. Such changes aim to improve efficiency, effectiveness, and cost-savings. Our research shows that participants desire more standardization in the form of decision-making frameworks or algorithms as well as changes to the types of penalties administered. In addition, there is redundancy in the system as each college (except in Quebec) conducts their own complaints and discipline investigations and hearings. Further work in Canada is needed to evaluate different models of health regulation and disciplinary action, and to examine the cost-effectiveness of new processes such as those that have been proposed in British Columbia.¹¹

6.5.1 Differences in disciplinary outcomes due to:

a) Differences in profession

Previous Canadian research found that fraudulent billing accounted for 10% of physician violations, but 20% and 22% of violations for pharmacists and dentists, respectively.^{1,2,4} As this study highlighted, these differences could be because some physician regulators do not handle cases that involve fraudulent billing of provincial health insurance, leading to underreporting of fraudulent billing cases compared to jurisdictions where such cases are handled by the regulatory body. While participants highlighted that pharmacists have a business conflict of interest, physicians also have a significant business conflict. Most pharmacists are employees of a pharmacy, and medications and services that are billed to insurance companies or the provincial health plan are paid to the pharmacy store. In contrast, physicians are often sole proprietors or incorporations, and the physician is paid by the provincial health plan. It is possible that the

increased incidence of fraudulent billing in pharmacy is not because pharmacists have a business conflict and other professions do not, but because it is more straightforward to pursue financial fraud in pharmacies where pharmacists sell a product that is easy to track, while physicians and dentists sell a service.

b) Differences in legislation

Our results highlight that differences in disciplinary practices originate from the practices outlined in the governing legislation. To reduce variation, more similar legislation would be required. Our previous review of pharmacist disciplinary action found that Quebec, similar to other provinces, used fines and suspensions as common penalties for disciplinary action, but rarely used professional development and conditions or restrictions on one's license to practice.⁴ According to our interviews, this could be because under Quebec legislation, the higher-level disciplinary committee has the authority to use only fines, suspensions, and reprimands.

Our results established that legislation influences complaints and discipline processes, which affects publication of complaints and discipline cases and affects discipline outcomes. For example, provinces that triage complaints into a separate fitness-to-practice arm divert these cases from the complaints and discipline stream, leading to differences in outcomes. This is because fewer fitness-to-practice cases would be heard by the lower- and higher-level committees, and fewer penalties would involve drug testing or ongoing fitness-to-practice monitoring. Provinces that funnel clinical complaints into a quality assurance arm might also see fewer clinical cases at the lower-level committee. Similarly, jurisdictions with robust alternative to discipline processes or the authority to arrange a consent order at the lower level might have fewer cases that progress to discipline than jurisdictions with limited authorities at the lower level.

c) Differences in regulatory body size

Lastly, our results show that regulatory bodies believe regulatory body size influence disciplinary processes. Specifically, small regulators have fewer resources, staff, and time to devote to complaints and disciplinary processes, which could result in more cases being handled through informal resolution, fewer disciplinary hearings, and greater potential bias due to less separation between the college and the investigation arm. For example, Canada's third smallest

province, Nova Scotia, recently approved a new regulatory act that replaces 21 acts with a single act.¹² This change specifically aimed to increase efficiencies and standardize practices.¹³ An explicit example of the efficiencies is how the legislation will allow regulators to convene a joint panel from a pool of potential members in place of a regulatory body's statutory committee (e.g., complaints committee, conduct committee), where a joint panel consists of at least one member of the same health profession as the professional it concerns, other regulated health professionals, and public members. This will provide organizations with access to shared resources, which could be particularly beneficial for small regulators.

6.5.2 Limitations

A few limitations should be considered. First, lack of dentistry participants limits the generalizability of this research to Canadian dental regulators. Second, a larger sample size would have been preferred. Some regulatory bodies declined interviews due to the COVID-19 pandemic and associated challenges related to workload and staffing.

6.6 Conclusion

Complaints and discipline processes vary across provinces, within provinces, and across professions in Canada. As this study demonstrated, regulation in Canada is dynamic, with regulators improving processes and looking for ways to better protect the public. While this study identified that legislation and policy play an important role in discipline processes, more research is needed to better understand how such policies influence discipline processes and outcomes, to describe factors that influence differences in discipline outcomes between professions, and to better understand the relationship between complaints cases and discipline cases. In addition, studies that assess registrant and public perceptions of the college are needed to create strategies to address negative perceptions and increase awareness of the college. Such research will ultimately lead to changes to better protect the public and improve health professional regulation in Canada.

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Chapter 7

Discussion and Conclusion

7.1 Overview

This thesis aimed to describe disciplinary outcomes and the disciplinary action process for health professionals in Canada. Each chapter in this thesis sought to describe aspects of disciplinary action and health regulation not previously reported in the literature.

In **Chapter 2**, a scoping review was conducted to establish what research has already been conducted on disciplinary action for health professionals, specifically, reasons for discipline, penalties, and characteristics of those disciplined or other potential predictors of disciplinary action. This study is important for a few reasons. First, this review is the first to comprehensively summarize available research on this topic including multiple professions and multiple jurisdictions. Most existing research focused on one jurisdiction or one profession, or focused on one type of violation, penalty, or characteristic/predictor. Second, this review is important because it identified that this is a growing research area, as most papers were published after 2010. It also identified that most research has been conducted in the USA and has focused on physicians, highlighting the need for research on other professions and from other countries to better understand the potential impacts of differing scope of practice, healthcare systems, and regulatory models on disciplinary outcomes and processes.

After gaining a better understanding of the current research on disciplinary action, the research in **Chapters 3, 4 and 5**, was conducted to describe Canadian disciplinary action outcomes for pharmacists, dentists, and nurse practitioners, respectively. These studies were conducted simultaneously as one larger project. However, given the large amount of data involved, separate papers were published to allow for a better description of the results and implications of the research on each specific profession.

Chapter 3 focused on pharmacist disciplinary action. This study is important for three reasons. First, this study is the most comprehensive review of pharmacist disciplinary action in Canada and is the first to describe demographic factors of pharmacist subject to discipline. Second, this study updates previous work on pharmacist disciplinary action in Canada by expanding the timeframe by three years and by removing cases that were previously coded that

were lower-level complaints cases rather than higher-level disciplinary cases. Third, this study identifies that pharmacists in most provinces except Quebec are most often disciplined for violations of professional misconduct or dishonest business practices, rather than clinical incompetence. This demonstrates that pharmacists are typically disciplined for intentional, unprofessional, and/or unethical reasons, rather than clinical mistakes, with fraudulent billing being the most common reason for discipline. These results serve as a warning to pharmacists motivated by greed and those that are intentionally breaking the profession's code of ethics. In contrast, pharmacists in Canada should not be concerned about being disciplined for an isolated clinical error or incident, and should feel encouraged to continue practicing to their full scope of practice without the fear of being disciplined, which is a known barrier to adoption of full scope.

Chapter 4 studied dentist disciplinary action. This study is important for three reasons. First, it is the first study to describe disciplinary outcomes for dentists in Canada, and one of only a few papers internationally. Second, it is the first paper to describe the types of dental specialties that are most likely to be subject to disciplinary action. Third, it highlights interprovincial differences in disciplinary outcomes, most notably that dentists in Canada overall are most likely to be disciplined for professional misconduct, but that dentists in Quebec are most likely to be disciplined for clinical incompetence.

Chapter 5 studied nurse practitioner disciplinary action. Like Chapter 4, this study is the first to characterize disciplinary outcomes for nurse practitioners in Canada and highlights that the disciplinary action rate for nurse practitioners is low, even lower than the rates for pharmacists, dentists and physicians, identifying a topic for future research into the potential factors that contribute to this finding.

Together, this research enables comparisons between pharmacists, dentists, and nurse practitioners in Canada – in all three studies, the same code book is used, the method of calculating rate of disciplinary action is the same, and cases were coded by the same researcher(s). While reviews of disciplinary action for Canadian physicians and nurses exist, it is difficult to compare studies that use different ways of categorizing reasons for discipline and calculating rate of disciplinary action. These reports also highlight challenges with transparency in the publication of disciplinary cases and public access to disciplinary cases in Canada, which is a barrier to enacting a regulator's primary role which is protection of the public.

Chapters 3, 4, and 5 identified differences in disciplinary outcomes between professions and between provinces, such as in the rate of disciplinary action, reasons for discipline, and types of penalties. It was hypothesized that these differences in disciplinary outcomes might have resulted from differences in culture or context at the jurisdiction and profession levels, as well as differences in complaints and discipline processes. As such, **Chapter 6** was conducted to better understand regulatory body complaints and disciplinary action processes. This study found that most regulators had similar overall processes for handling complaints, but that certain regulators had additional committees (e.g., fitness-to-practice/incapacity committee, clinical conduct/quality assurance committee), different actions available at each stage, and different methods for handling a complaint outside of the typical lower-level complaints committee and higher-level discipline committee (e.g., alternative to discipline process (ADR), expedited or alternative resolution process (EAR)). In addition, regulatory practices tended to be more similar within a province than between provinces due to similarities in legislation. This study is important for three reasons. First, it provides some possible explanations for the differences in disciplinary outcomes that we observed in **Chapters 3, 4, and 5**. Specifically, regulators that have a clinical conduct/quality assurance arm might see fewer clinical cases that progress to the disciplinary action level. Similarly, provinces in which the government handles cases of fraudulent billing to the provincial health plan have no such cases at the disciplinary action level. Also, as disciplinary processes and penalties are often prescribed in legislation, provinces with legislation governing multiple health professions might have more similarities in disciplinary outcomes. Procedure may also play a role, since provinces with ADR or EAR processes might have fewer cases that make it to disciplinary action as more cases are resolved outside of the complaints and discipline process. Second, this study identified that regulators are looking to share information and learn from each other, particularly smaller regulators that could benefit from policies and resources developed by larger regulators. Third, this research identifies that regulators could benefit from improving both public and registrant perceptions of the regulatory body, which are important in maintaining confidence in the regulator.

7.2 Challenges unique to reviews of disciplinary action

Research based on reviews of disciplinary action cases faces a number of unique challenges including data access challenges and lack of standardization.

7.2.1 Data Access

A main limitation that affected transferability/generalizability of this research was the inability to access cases for the entire study period from every province and profession. While some regulators publish all cases (e.g., the British Columbia College of Pharmacy publishes all lower-level and higher-level cases since 1998¹⁴), some regulators do not make cases available online or publish only recent cases. Some regulators publish a summary of the case in a newsletter, but these summaries vary in the level of detail provided which can limit usefulness. Non-publication of a case, in some jurisdictions, can be negotiated as part of a case settlement or union involvement can result in negotiation of non-publication of the course. In addition, the regulator typically reserves the right not to publish a case, such as in cases of sexual misconduct.

7.2.2 Lack of Standardization in Disciplinary Processes

Most reviews of complaints or disciplinary action focus on one jurisdiction and often use jurisdiction-specific definitions to categorize reasons for discipline—jurisdictions typically differ in their definition of professional misconduct or unethical conduct, resulting in different categories of reasons for discipline within the study. Different regulators might also use different terms or categories for similar offenses. As a result, it is difficult to compare results from one study to another unless more detail about all the reasons for discipline that fell into each category is published. Similarly, when regulators publish only a summary of the disciplinary action case without providing more detail, it can be difficult to determine the reason for disciplinary action.

A second limitation is that disciplinary processes and how a complaint is handled differ between regulatory bodies. Many jurisdictions have a lower-level complaints committee that is the first step in the process. Such committees assess all cases and either come to a decision or escalate the case to the higher-level disciplinary action committee. However, some international jurisdictions appear to only have one level of committee that handles all cases. Since Chapter 2 aimed to only study higher-level disciplinary outcomes, it was difficult to determine whether some papers should be included. Differences in disciplinary processes also mean that cases that make it to the disciplinary action level in one jurisdiction might be different than those that make it to the disciplinary action level in another.

7.3 Strengths and limitations

In addition to the limitations described in the previous chapters and above in section 7.2, another limitation was conducting this research during the COVID-19 pandemic. In Chapter 2, some libraries had limited operations and staffing at the beginning of the pandemic; as a result, some papers were unavailable for inclusion in the scoping review. In Chapters 3, 4, and 5, some regulatory bodies were unable to provide us with access to disciplinary cases because of the increased workload and/or decreased staffing as a result of the pandemic. In Chapter 6, some regulators declined to participate in interviews for the same reason.

While this research is valuable work that enhances our knowledge of health regulation in Canada, another limitation was that this research is largely descriptive. As such, it was able to identify some associations between certain demographic characteristics and the rate of being subject to discipline, but further methods of predicting future risk of discipline were not conducted. In addition, the likelihood of a certain offense resulting in a certain type of penalty was not analyzed.

This thesis has a number of strengths, in addition to those previously described. First, it provides a model and a codebook for research on disciplinary outcomes that can be applied to future research. Using similar methods enables meaningful comparisons across professions and jurisdictions. Second, this study used a sequential mixed methods approach where quantitative reviews of disciplinary action were followed by interviews with regulatory bodies. This provided richer data as well as the opportunity to explain some of the differences observed. In order to ensure trustworthiness in the qualitative work, certain measures were taken. To ensure credibility, an established framework for qualitative research in multi-disciplinary health research was used,¹⁵ quotes and their context were sent to participants for member checking, participants from multiple provinces and professions were included, and early familiarity with disciplinary processes and documents was brought about through the scoping review of disciplinary action. To ensure transferability to other contexts, information was provided in the published articles on the number of participants involved, restrictions on the type of participant, data collection method, and number and length of interviews. However, in order to preserve confidentiality, the type and location of each participating regulatory body could not be published. In order to ensure dependability, detail on the research design and implementation and how participants were contacted was also included. Confirmability was established by

triangulating quantitative findings with qualitative findings. Authenticity was established through member checking, ongoing informed consent, and ensuring the same methods were used for each interview and its analysis; all of these strategies sought to ensure fairness.

7.4 Implications and Future Research

This thesis demonstrates that Canadian regulatory body disciplinary action has yet to be fully characterized, and that regulators desire ongoing improvements to the complaints and disciplinary action processes, knowledge sharing across regulators, and improved perception of the regulatory body by the public and registrants. Further research that characterizes the complaints and disciplinary action processes and describes characteristics and predictors of disciplinary action for other health professions will be important in understanding the current landscape in Canada, in preventing future actions that may lead to discipline, and in supporting those that are disciplined.

While characteristics and predictors of disciplinary action have been studied, what actually contributes to these associations have not been investigated in as much detail. For gender, it has been hypothesized that communication differences between genders could account for the difference in discipline outcomes. In addition, workforce differences have been suggested as a factor, as more women work part-time than men, meaning that men have a higher cumulative risk of disciplinary action.¹⁶ For country of education, the impact of the type of equivalency program that was completed in the new country has not been studied. For example, in Ontario, the licensing process for internationally trained pharmacists requires pharmacists to pass the national licensing board exam. Those that pass on the first attempt can proceed with the licensing process, which includes some practice-based assessment before full licensure. Those that do not pass on the first attempt are required to complete an international pharmacy graduate program. Other provinces and countries have similar processes for registering internationally trained clinicians. It remains to be seen whether those passing on the first attempt have lower risk of disciplinary action compared to those that must complete further equivalency training. There is often more nuanced detail that informs the characteristic or predictor, and research on these details will help regulators and educators use information on characteristics and predictors in a meaningful way.

Review of characteristics and predictors of discipline for professionals subject to disciplinary action is useful to identify areas that regulatory bodies and post-secondary institutions can target for education, or that regulatory bodies can use to provide further support and monitoring. However, regulators and educators should avoid using such information in a way that contributes to bias or systemic discrimination. Specifically, international education status must be used carefully in a way that supports practitioners that were not trained in Canada or the US, and in a way that contributes to the development of equivalency programs and assessments that do not unfairly disadvantage internationally trained practitioners. This is especially relevant as Canada is experiencing a shortage of health professionals, specifically family doctors and nurses, and provinces are undergoing efforts to recruit more internationally trained clinicians to fill this gap.

This thesis confirmed that regulators have similar complaints and disciplinary processes overall, with some differences. However, it is unknown whether these differences result in meaningful differences in disciplinary outcomes. This research also identified that regulators want to ensure that they are assigning appropriate penalties in a disciplinary action case. In addition, disciplinary processes in most provinces (except Quebec and British Columbia) are siloed, with each profession handling their own disciplinary hearings. In contrast, Quebec and British Columbia each have a provincial disciplinary council that hears disciplinary cases for all regulated health professions in an effort to increase standardization, efficiency, and cost-effectiveness. Future research could seek to improve current disciplinary processes by analyzing how these differences (e.g., alternative to discipline processes, decision-making frameworks for processing a case and assigning penalties, provincial disciplinary councils) affect disciplinary outcomes and how they improve protection of the public. Future research could also investigate health professionals' perspectives of the complaints and disciplinary action system to better understand the impact on professionals and their practices.

7.5 Conclusion

This research on Canadian disciplinary action processes is timely because of the increased scrutiny of self-regulated professions around the world. As other countries have reformed health regulation to include better independent oversight and more coordination between jurisdictions, the province of British Columbia has also begun to implement regulatory

reform. The research presented in this thesis builds our understanding of how health professionals are disciplined in Canada, with findings that are important for regulators, educators, clinicians, and the public. Ultimately, this thesis will guide further research on the disciplinary action system to result in improvements and advances that will help regulators best fulfill their mandate of protection of the public.

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Appendices

Appendix 2A: PubMed Search Strategy

PubMed Search Strategy (Literature Search performed June 5, 2020):

(pharmacists[mesh] OR pharmacist* OR physicians[mesh] OR physician* OR doctor* OR nurses[mesh] OR nurs* OR “nurse practitioners” [mesh] OR “nurse practition*” OR dentists[mesh] OR dentist* OR “allied health personnel”[mesh] OR “allied health personnel” OR “pharmacy technician*” OR anesthetists[mesh] OR anesthetist* OR anaesthetist* OR chiropract* OR “massage therap*” OR midwif* OR midwife* OR naturopath* OR osteopath* OR audiologists[mesh] OR audiologist* OR dental staff[mesh] OR “dental staff” OR nutritionists[mesh] OR nutritionist* OR dietician* OR dietitian* OR “speech language path*” OR chiropod* OR podiatr* OR homeopath* OR kinesiolog* OR “laboratory technician*” OR “radiation technolog*” OR optician* OR psycholog* OR psychotherap* OR “respiratory therap*” OR acupunctur* OR sonograph* OR “emergency medical technicians”[mesh] OR “emergency medical technician*” OR paramedic* OR “occupational therapists”[mesh] OR “occupational therapist*” OR optometrists[mesh] OR optometrist* OR “physical therapists”[mesh] OR “physical therapist*” OR physiotherap* OR “health personnel”[mesh] OR “health personnel” OR “healthcare provider*” OR “health care provider*” OR “health care personnel” OR “healthcare personnel” OR “health care professional*” OR “healthcare professional*” OR “regulated health profession*”) AND (“disciplinary action*” OR “disciplinary procedure*” OR “disciplinary proceeding*” OR “employee discipline”[mesh] OR “employee discipline” OR “fitness to practice” OR “fitness to practise”)

Appendix 2B: Data Extraction Form Sample

Author/Year	
Title	
Country of sample	
Study design	
Study objective	
Sample	
Source of data	
Sample size	
Timeframe	
Inclusion criteria	
Exclusion criteria	
Comparator group	
Group differences	
Other key findings	
Key findings: Reasons for disciplinary action	
	Key findings on sexual misconduct
	Key findings on clinical care concerns
	Key findings on unprofessional conduct
	Key findings on substance use
	Other key findings on reasons for disciplinary action
Characteristics/predictors of disciplinary action	
	Key findings on gender
	Key findings on age
	Key findings on years in practice
	Key findings on international graduates
	Key findings on board certifications
	Key findings on licensing exam performance
	Key findings on license type
	Key findings on specialty
	Key findings on previous or repeated disciplinary action
	Key findings on other characteristics/predictors
Key findings on rate of disciplinary action	
Method limitations	

Appendix 2C: Characteristics and Results of Included Studies

First Author	Year	Countries included	Profession (Specialty)	Objective	Sample/Source	Key Findings
AbuDagga ¹³	2016	USA	Physicians Osteopaths	Examine physician sexual-misconduct, types of disciplinary actions, characteristics of physicians, number and age of physicians reported	Physician licensure, clinical privileges, and malpractice-payment reports from January 1, 2003- June 30, 2016	<ul style="list-style-type: none"> - Cases related to sexual misconduct made up 2.9% of all physician licensure reports - Licence suspension and license revocation were the most common serious licensure actions and both were more common in sexual misconduct cases than other offenses - Physicians aged 40-59 were more likely to offend compared to the general physician population
AbuDagga ¹⁴	2019	USA	Nursing	Examine nurse sexual-misconduct and compare to other offenses, types of disciplinary actions and characteristics of nurses disciplined	Nurse licensure and malpractice-payment reports from January 1, 2003- June 30, 2016	<ul style="list-style-type: none"> - Sexual misconduct-related licensure reports made up 0.5% of all nurse licensure reports - License revocation was the most common penalty (26.9% vs 10.6% in other offenses), - 63.2% of reports involved male nurses

						<ul style="list-style-type: none"> - Compared to the general nurse population, nurses aged 25-44 and licensed practical nurses and licensed vocational nurses were more likely to offend
Alam ¹⁵	2011	Canada	Physicians	Determine the characteristics of physicians disciplined in Canada	Canadian regulatory body disciplinary cases for physicians from 2000 - 2009	<ul style="list-style-type: none"> - Proportion of physicians disciplined per year ranged from 0.06% to 0.11% - Sexual misconduct was the most frequent violation (20% of cases), second was standard of care issues (19%), and third was unprofessional conduct (16%) - 92% of disciplined physicians were male vs 68% males in general physician population - Higher proportion of international graduates disciplined compared to general physician population - Most common specialties disciplined were family medicine, psychiatry, and surgery
Alam ¹⁷	2012	Canada	Physicians (Psychiatry)	Compare the characteristics of	Canadian regulatory body disciplinary	<ul style="list-style-type: none"> - Psychiatrists more likely to be disciplined for sexual misconduct

				psychiatrists disciplined in Canada, nature of their offenses and penalties to Canadian physicians disciplined for other offenses	cases for physicians from 2000 - 2009	than other physicians (42.7% of psychiatrist violations are sexual misconduct-related compared to 26% of non-psychiatrist violations) - Psychiatrists made up 14% of disciplinary cases, approximately double their proportion in the general physician population - Four times more likely to surrender license and three times more likely to have license revoked compared to non-psychiatrists
Alam ¹⁶	2013	Canada	Physicians (Anesthesiology)	Examine disciplinary findings to identify characteristics for discipline and types of penalties compared to disciplinary action against other Canadian physicians	Canadian regulatory body disciplinary cases for physicians from January 1, 2000 – December 31, 2011	- Anesthesiologists make up 2% of physicians disciplined but 4% of the physician workforce - Not more likely to be disciplined for substance abuse compared to other physicians - Most common reasons for discipline were standard of care issues, inappropriate prescribing, and fraud

						<ul style="list-style-type: none"> - Lower rates of sexual misconduct and unprofessional behaviour than other physicians - All 11 cases involved males, and 7 cases involved international graduates
Banks ¹⁸	2020	UK	Social work	To explore the extent and nature of fitness to practice referrals to the regulatory body, why and how referrals arise, and if they are justified	Health and Care Professions Council fitness to practice case files for social workers from 2014 - 2016	<ul style="list-style-type: none"> - Most cases related to misconduct or misconduct with lack of competence. Within this category, many cases related to disputes with family members over place of residence and contact with children (1/3 of sample overall) - Those employed in children and family services formed most referrals (69%), while these social workers make up only 1/3 of general social worker population - Males overrepresented in cases
Barre ¹⁹	2020	USA	Physicians	Describe the characteristics of disciplined physicians, and describe preventive	Rhode Island Department of Health physician loss of	<ul style="list-style-type: none"> - Reasons for loss of license included improper controlled substance prescribing (30/82 cases), physician impairment (18 cases), and

				measures available to at-risk physicians to mitigate their risk	licensure cases from 2009 - 2019	<p>noncompliance with existing orders (11 cases)</p> <ul style="list-style-type: none"> -Of the 66 physicians involved in 82 cases, 21 physicians were reinstated after remediation - Odds ratio for discipline if male was 4.69 - Disciplined physicians older than control group (59 years vs 55, OR 1.24) - No association with specialty - Loss of licensure rate varied from 0.7/1000 physicians to 4.5/1000 physicians
Characteristics of complaints	2013	Denmark	Physicians (General practitioners)	This study aimed to analyse what characteristics (complaint motives, patients, and general practitioners) were associated with being disciplined in connection with complaint cases against general practitioners.	Complaint cases from the Danish Patient Complaints Board concerning general practitioners completed in 2007 in Denmark	<ul style="list-style-type: none"> - Odds of discipline were halved when the complaint was motivated by feeling devalued or request for explanation. When those complaining wanted placement of responsibility on the practitioner or requested review of competence, the odds of discipline doubled - Gender not found to be statistically significant

						<ul style="list-style-type: none"> - Odds of complaints doubled with more years in practise - Complaining patients were more likely to be female. Serious urgent illness was involved in 16% of cases, death of patient in 11% of cases, and cancer diagnoses in 8% of cases
Birkeland ²³	2013	Denmark	Physicians (General practitioners)	Using decisions against Danish general practitioners, the objective of this study was to investigate what process factors are statistically associated with decisions on discipline as seen from the sides of both the complainant party and the defendant (general practitioner) party.	Complaint decisions against general practitioners in 2007 from the Danish Patient Complaints Board	<ul style="list-style-type: none"> - Odds of a case resulting in disciplinary action decreased when there more were general practitioners involved in the case - Longer case management duration (longer time to resolution) was associated with increased odds of the case resulting in disciplinary action - No association was found with the following factors: complainant lawyer involvement, length of the health care event resulting in a complaint, length of time between the event and filing a complaint, or involvement of an expert witness

Birkeland ²⁰	2018	Denmark	Physicians (General practitioners)	To investigate the association between general practitioners' risk of becoming involved in a malpractice lawsuit and their educational background	Complaint cases in 2007 against general practitioners and demographic information were obtained from the Danish National Board of Health registries, and medical school information was obtained from the Danish Medical Association	<ul style="list-style-type: none"> - Greater age at graduation was associated with increased odds of a complaint, but decreased odds of the complaint resulting in a critique - Of the physicians who had a complaint against them, the mean number of years in practice was 11 - No association was found between place of education and complaints - Longer time since completing specialty training was associated with increased risk of complaints
Birkeland ²¹	2019	Denmark	Physicians (General practitioners)	To investigate the association between malpractice litigation figures and characteristics of general practice location in terms of rurality, number of patients listed with the GP, as well as levels of local unemployment,	Complaint cases and disciplinary board actions against Danish GPs from the National Disciplinary Complaints Board (NDCB)	<ul style="list-style-type: none"> - Malpractice complaints against general practitioners were not associated with the area's level of education, unemployment rate, or the municipality's level of health care spending - Location in rural versus urban setting did not influence the rate of malpractice complaints against general practitioners

				education, income tax and healthcare expenditure levels in a Danish national sample of general practices		<ul style="list-style-type: none"> - Greater patient list size of a physician was associated with increased odds of a complaint but not increased odds of the case having an outcome. - Fewer malpractice complaints were found in areas with higher income tax figures, but if litigation occurred then the odds of it ending in a disciplinary critique increased significantly
Campbell ²⁴	2013	UK	Physicians (Anesthesiology)	<ol style="list-style-type: none"> 1. Analyse fitness to practise allegations made against anesthesiologists in 2009 to describe patterns of referral and identify common factors 2. To develop a robust methodology for analyzing the database 	General Medical Council fitness to practice cases for anesthesiologists in 2009	<ul style="list-style-type: none"> - Anesthesiologists were less likely to be referred for discipline than almost all other specialties and the general physician population, and less likely to be referred by an individual member of the public compared to the general physician population - Disproportionately more men, overseas-trained doctors, and doctors qualified for more than 20 years were disciplined than in the general physician population

						<ul style="list-style-type: none"> - Health issues and issues relating to conduct or criminality were more often in 'Stream 1' which required immediate investigation - Clinical care concerns and allegations of relationships with patients were more often in 'Stream 2' which were less serious but concerning if there was a pattern of repeated behaviour - Cases reaching fitness to practice are usually referred by a person acting in public capacity, have multiple allegations, and are related to health issues, conduct, or criminality
Cardarelli ²⁵	2004	USA	Physicians Osteopaths	To identify predictors of physician and osteopathic physician disciplinary action	Texas Medical Board disciplinary action cases for physicians from 1989 - 1998	<ul style="list-style-type: none"> - Female physicians less likely to be disciplined than males overall and for each type of violation (OR 0.26) - Osteopaths more likely to be disciplined than MD graduates (OR 1.83), especially for negligence/incompetence and prescribing

						<ul style="list-style-type: none"> - More years in practice positive predictor of disciplinary action overall and for each type of violation (OR 1.21 overall) - International medical graduates were less likely to be disciplined than US MD graduates (OR 0.76) - Compared to family medicine, general practitioners were the most likely to be disciplined overall and for each violation (OR 4.50; next highest was psychiatry OR 1.05). Anesthesiologists less likely to be disciplined for negligence/incompetence and prescribing, but more likely to be disciplined for alcohol/drug use
Cardarelli ²⁶	2006	USA	Physician Osteopaths	To evaluate factors potentially associated with license revocation by a state medical board when taking disciplinary action against a physician	Texas Medical Board disciplinary action cases for physicians from 1989 - 1998	<ul style="list-style-type: none"> - More years in practice and having two or more previous disciplinary actions was positively associated with license revocation - Compared to family medicine, psychiatry, anesthesiology, and

						<p>general practice had significantly higher risk of revocation</p> <ul style="list-style-type: none"> - Nonsignificant findings that men had higher risk of discipline, international MD graduates had lower risk of discipline, and osteopaths had higher risk of revocation than MD graduates
Chappell ²⁷	1999	USA	Nurses	<p>Research questions:</p> <ol style="list-style-type: none"> 1. Was there a difference between the demographic profiles of nurses who violated the law and all other nurses in the Commonwealth? 2. How did the ratio of number of KBN disciplinary actions and decisions to the number of licensed nurses change from 1989 to 1995? 3. Was there an association between the 	<p>Nurses' disciplinary records and demographic information from the Kentucky Board of Nursing from 1989 - 1995</p>	<ul style="list-style-type: none"> - Higher recidivism if less restrictions were applied as a penalty. Recidivism rate was 8% when suspension applied, but was 16% if only limitations on license applied - 8.8% of men had a violation versus 2.6% of females (men make up 14.8% of nursing population and women make up 85.2%) - Violators were younger on average – 37 years compared to 43 years for non-violators - Nurses with more education had less violations – licensed practical nurses had highest rates, associate

				<p>type of nurse violations resulting in the initial disciplinary action/decision and the recidivism rate?</p> <p>4. Was there an association between the type of initial disciplinary action/decision and the recidivism rate?</p> <p>5. Was there a difference in the rate of recidivism among nurses/violators with court convictions before licensure compared to those who did not have court convictions before licensure, but violated the law post licensure?</p> <p>6. Was there a relationship between the number or type of court convictions and</p>		<p>degree nurses/diploma graduates had less, and those with bachelor degree or higher had the least</p> <p>- Of those who had previous court convictions before licensure with the Board, 3.5% had violations after licensure, but of those who didn't have previous violations, 8.1% violated after licensure</p>
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				disciplinary decisions made by the Board of Nursing?		
Clay ²⁸	2003	USA	Physicians Osteopaths	To assess characteristics of, offences committed by, and resulting disciplinary actions taken against a consecutive series of disciplined physicians in Ohio and comparing them to non-disciplined controls	State Medical Board of Ohio discipline reports for osteopathic and allopathic physicians disciplined in Ohio from Jan 1997 – June 1999	-- When reasons for discipline were grouped by category, 25% due to health-related offenses, 21% due to drug or prescribing related crimes, 15% due to previous state actions by another board, and 12% due to personal and professional conduct issues, 9% due to fraud or other crimes, 7% due to negligence or incompetence, 5% due to credential issues, and 4% due to sexual misconduct - Disciplined physicians less likely to be women (OR 0.46), more likely to be in practice less than 20 years (OR 1.51), international graduates, not board certified (OR 0.65) - Nonsignificant trend to higher discipline in anesthesia, psychiatry, and surgery

						- Annual discipline rate was approximately 0.37%
Cuddy ²⁹	2017	USA	Physicians	Research question: Are USMLE Step 1 and Step 2 CK scores related to the chance that a physician who graduated from a US MD-granting medical school will receive a disciplinary action in medical practice after accounting for other factors?	Federation of State Medical Boards disciplinary cases and National Board of Medical Examiners database for US physicians who graduated from a US medical school between 1994 - 2006	<ul style="list-style-type: none"> - Lower average scores on Step 1 (basic science material) and Step 2 (clinical skills) of the Clinical Knowledge (CK) portion of the US licensing exam were associated with disciplinary action - Higher Step 2 CK scores were associated with lower disciplinary action after controlling for other factors - 1.3% of the physicians in the sample received at least one disciplinary action from a state board - Odds ratio for female discipline compared to males is 0.54 - Average time to discipline was 12 years
Davis ³¹	2017	USA	Physicians	1) To examine administrative actions taken to suspend or rescind the licenses of Florida physicians who	Disciplinary action cases and court cases of Florida physicians indicted, charged, or convicted of illegal	- Of 25 physicians who lost their licenses, 8 were revoked and 17 voluntarily surrendered with the condition of never reapplying

				<p>were indicted or convicted of crimes related to illegally prescribing or dispensing controlled substances</p> <p>2) To provide insight into whether this disciplinary regime is sufficient to protect the public from physicians whose prescribing behaviour falls short of the standard of care</p>	<p>prescribing or dispensing of controlled substances from 2010 - 2015</p>	<p>- 11/25 physicians who eventually lost their licenses had active licenses until revocation.</p> <p>8/25 licenses were temporarily suspended before conviction, 6/25 were temporarily suspended after conviction. Only one license was permanently revoked before conviction.</p> <p>- In more than 2/3 of cases ending in revocation, the license was rescinded at least 1 year after the physician was indicted. The average time between conviction and revocation was 291 days.</p>
Draine ³²	2018	USA	Pharmacists Pharmacy technicians	<p>The aim of this work was, with the use of state board records, to describe reported medication diversion within the practice of pharmacy and to compare diversion by employee type.</p>	<p>State board of pharmacy records from nine US states. Disciplinary actions were obtained from the records for the timer period of May 2008 to May 2013.</p>	<p>- Pharmacy technicians account for most medication diversion cases (71.4%)</p> <p>- Most controlled substance diversions were done by technicians (93%)</p> <p>- Pharmacists were more likely to divert for personal use than sale (44% vs 8%), while technicians</p>

						<p>diverted for these two reasons about equally</p> <ul style="list-style-type: none"> - Authors suggest that reason for differences between technicians and pharmacists is the investment in the profession and risk if caught
Elkin ³⁶	2011	Australia New Zealand	Physicians	To describe the characteristics of the doctors involved in misconduct cases, the misconduct at issue, and the case outcomes. In addition, because a robust typology for organizing this information does not exist, we aimed to develop one.	Physician disciplinary cases from New South Wales, Victoria, Queensland, Western Australia, and New Zealand between Jan 1, 2000 – Sept 30, 2009	<ul style="list-style-type: none"> - Sexual misconduct (24% of cases), illegal or unethical prescribing (21%), and inappropriate medical care (20%, e.g., treatment problems and diagnostic errors) were most common reasons for discipline - In 19% of cases, the only penalty was non-restrictive (e.g., caution, reprimand, fine). In 43% of cases, penalty was temporary or permanent removal from practice - Male doctors disciplined 4 times more than female doctors - Average of 21.4 years since graduation until discipline - Rate of discipline was 6 per 10,000 doctors per year. Rate of discipline decreased over the study period

						<ul style="list-style-type: none"> - Most clinical cases occurred in non-inpatient settings - Obstetrician/gynecologists had highest case rate, then psychiatrists, followed by general practitioners
Elkin ³⁴	2012	Australia New Zealand	Physicians	To examine how disciplinary tribunals assess different forms of misconduct in deciding whether to remove doctors from practice for professional misconduct.	Physician disciplinary cases from New South Wales, Victoria, Queensland, Western Australia, and New Zealand between Jan 1, 2000 – Sept 30, 2009	<ul style="list-style-type: none"> - The most common types of misconduct were inappropriate or inadequate treatment (36% of cases), inadequate or inappropriate medical certificates or records (26%), and illegal or unethical prescribing (25%) - Harm to patients beyond emotional upset only occurred in 37% of misconduct cases - Most common explanations of misconduct were poor judgment (46%) and willful wrongdoing (45%) -92% of cases against male doctors, and doctors had been practice an average of 21.4 years before discipline - 65% of cases were against general practitioners, 10% against physicians in psychiatry

						- Half of cases were first reported by patients or their representatives
Elkin ³⁵	2012	Australia	Physicians	1. To determine whether IMGs were disproportionately likely to attract complaints 2. To analyze the extent to which the risk varied across countries of qualification, while recognizing that a variety of factors including cultural misunderstandings and racism may drive groundless complaints.	Physician medical board complaints cases in Western Australia and Victoria from 2001 to 2010	- 37% of doctors in the sample gained their entry-to-practice qualification outside of Australia - Compared to Australian-trained doctors, international graduates had higher odds of complaints (OR 1.24) and higher odds of adverse disciplinary findings (OR 1.41) - Incidence of complaints was 27 complaints per 1000 doctor-years. Investigations and hearings were conducted for 30% of complaints - Doctors from Nigeria, Egypt, Poland, Russia, Pakistan, the Philippines, and India had higher odds of complaints than Australian-trained doctors
Enbom ³⁸	1997	USA	Physicians Osteopaths Podiatrists	All complaints of sexual misconduct investigated and closed by the Oregon	All complaints of alleged sexual misconduct brought	- 78/80 cases involved males, and the two cases involving females were

			Physician Assistants Acupuncturists	Board of Medical Examiners for the years 1991 to 1995 are evaluated in this study to serve as a baseline. How does Oregon's experience compare with national data on violation of sexual boundary issues? Can we identify higher-risk groups? Are the essentials in place to work toward zero tolerance of sexual boundary violations?	to the Oregon Board of Medical Examiners for the years 1991 to 1995.	closed with non-disciplinary outcomes - All sexual violation complaints occurred without a chaperone present - Increasing age associated with increased risk of complaint for sexual misconduct - Osteopaths and podiatrists at higher risk of disciplinary action than allopathic medical doctors - Specialties of psychiatry and obstetrics/gynecology were at higher risk of complaints resulting in disciplinary action
Enbom ³⁷	2004	USA	Physicians Osteopaths	To analyze closed sexual misconduct allegations against physicians from 1998 – 2002 compared to allegations from 1991 – 1995	Oregon Board of Medical Examiners closed complaints of sexual misconduct from 1998 - 2002	- Sexual misconduct cases increased from 5.6% of total reportable disciplinary actions from 1991 – 1995 to 14.5% from 1995-2002 - Most practitioners continued working with practice limitations or modifications, monitoring, or therapy - Sexual misconduct complaints more common in age 50-59 and > 70.

						<p>Those aged 50-59 had the highest proportion of reportable disciplinary actions</p> <ul style="list-style-type: none"> - Osteopaths had higher proportion of complaints and sexual misconduct complaints - Complaints most often from a patient or their associate
Feine ³⁹	1991	USA	Dentists	<p>This study investigated the disciplinary actions of the Texas State Board of Dental Examiners for cases of practicing dentistry without a license (PDWOL), malpractice/ negligence, and drug offences. An analysis was made of the likelihood of conviction, the likelihood of a sentence requiring time out of the office, and the severity of the sentences</p>	<p>Texas Board of Dental Examiners disciplinary cases from 1985 – April 1988</p>	<ul style="list-style-type: none"> - Dentists charged with practicing dentistry without a license received harsher penalties than those charged with drug offenses or negligence/malpractice - Dentists charged with practicing dentistry without a license always received penalties that prevented them from practicing and for a longer time than for drug offenses or negligence/malpractice - More dentists charged with drug offences were convicted compared to those charged with negligence/malpractice

				assigned by the board for these three infractions.		
Foong ⁴⁰	2018	Canada	Pharmacists	The objective of this study was to determine the most common actions or omissions that result in disciplinary action and to explore the restrictive actions that are imposed	Pharmacist regulatory body disciplinary cases from 10 provinces from 2010 – July 2017	<ul style="list-style-type: none"> - Most cases occurred in community pharmacies and most involved multiple or repeated incidents - 61% cases involved professional misconduct, 30% involved unskilled practice, and 34% involved dishonest business practices (some cases involved multiple violations) - Of 558 cases, 225 involved professional misconduct only, 100 involved unskilled practice only, and 112 involved dishonest business practices only. 121 involved a combination - 42% of cases were from one province, Quebec. Quebec had a higher proportion of cases involving unskilled practice only and of isolated incidents - Three most common penalties were fines, license suspensions, professional development. Least

						common penalty was license revocation
Foreman ⁴¹	2004	USA	Chiropractors	To determine categories of offense, experience, and gender of disciplined doctors of chiropractic (DC) in California and compare them with disciplined medical physicians in California	California Board of Chiropractic Examiners disciplinary actions closed between Jan 1998 – April 2002	<ul style="list-style-type: none"> - Fraud was the most common reason for discipline, second was sexual misconduct, ‘other’ was third, and drug or alcohol abuse was fourth - 44% of chiropractor cases concerned fraud, but only 9% of physician cases concerned fraud. 22.6% of chiropractor cases involved sexual boundary issues, with only 10% for physicians. In contrast, 6.4% of cases concerned negligence or incompetence, but 24% of physician cases concerned this - 89% of chiropractors disciplined were licensed less than 20 years. - Rate of discipline was 4.5 disciplinary actions per year, which is almost double the rate for medical doctors (2.27 actions per year)
Gallagher ⁴²	2015	UK	Dentists	To assess if the General Dental Council considers relevant factors at all	General Dental Council fitness to practise rulings from	<ul style="list-style-type: none"> - Where harm or risk of harm to the patient was involved, 50% of cases resulted in removal of the

				<p>stages of its deliberations into misconduct, as required by the determinations in the cases of Cohen, Zygmunt, and Azzam; and to assess whether those circumstances described in the Indicative Sanctions Guidance as warranting erasure from General Dental Council registers led to that outcome.</p>	<p>August 27, 2013 to October 10, 2014</p>	<p>professional, versus 36% when no risk of harm was found</p> <ul style="list-style-type: none"> - Where dishonesty was involved, removal occurred in 77% of cases, versus 22% of cases where dishonesty was not involved - No association with severity of sanction was found with the behaviour of the dentist since the misconduct, or the time that had passed since the event, or the time that had passed since previous disciplinary action event
Gallagher ⁴⁵	2015	UK	Physicians	<p>The aim of this research is to examine determinations of impairment of fitness to practice, and sanctions imposed, by the General Medical Council and Medical Practitioners Tribunal Service between October 1, 2011 and</p>	<p>GMC and MPTS Fitness to practice cases for doctors between Oct 1, 2011 and Sept 30, 2012</p>	<ul style="list-style-type: none"> - Where harm or risk of harm to the patient was involved in the case, there was a 49% chance that the sanction would be removal from the register. When there was no risk of harm, only 17% of doctors were erased from the register - Where dishonesty was involved in the case, there as a 40% chance of

				<p>September 30, 2012.</p> <p>Among the objectives are:</p> <ol style="list-style-type: none"> 1. to assess whether aggravating and mitigating circumstances considered when imposing sanctions are first considered when determining impairment, as required by the determinations in Cohen, Zygmunt, and Azzam, 2. to assess whether those circumstances described by the GMC in their ISG as warranting erasure from the Medical Register do actually lead to that outcome. 		<p>erasure, but only a 20% chance when dishonesty was not an involved</p> <p>- Overall, the GMC and MPTS do apply the rulings of appeal cases when considering an impairment of fitness to practise</p>
Gallagher ⁴⁶	2015	UK	Pharmacists	To assess whether aggravating and mitigating circumstances considered by the General	GPhC Fitness to Practise Committee cases for pharmacists from October 1, 2011	- Cases that involved dishonesty had a statistically significant higher risk of erasure from the register.

				Pharmaceutical Council (GPhC) when imposing sanctions are considered when determining impairment of fitness to practise and to determine whether those circumstances described by the GPhC in their Indicative Sanctions Guidance (ISG) as warranting erasure from the Register of Pharmacists lead to that outcome.	to September 30, 2012	- More cases that involved risk of harm to patient resulted in erasure than cases that did not involve risk of harm to patient, but this was not statistically significant
Gallagher ⁴³	2017	UK	Optometrists Opticians	The aim of this research is to examine determinations of impairment of fitness to practise and sanctions imposed by the General Optical Council during the three-year period between 1 October 2012	General Optical Council fitness to practise decisions from Oct 1 2012 to Sept 30, 2015	- Where harm or risk of harm to patient was an aggravating factor, it was not more likely to result in erasure than if risk of harm was not present - Where dishonesty was involved, it was significantly more likely to result in erasure – it resulted in erasure in 94% of cases when

				<p>and 30 September 2015.</p> <p>Among the objectives are:</p> <p>(1) to assess whether the fitness to practise Committee is adhering to the judgements in Cohen, Zygmunt, and Azzam when determining fitness to practise; and</p> <p>(2) to assess whether those circumstances described by the General Optical Council in their Hearings Guidance and Indicative Sanctions as warranting the suspension or termination of an optician’s registration do actually lead to these outcomes.</p>		<p>dishonesty was involved, while only 67% cases when dishonesty was not involved</p>
Gallagher ⁴⁴	2020	UK	Pharmacists	To determine which factors are associated with removal from the	GPhC Fitness to Practise Committee cases for pharmacists	- Failure of the registrant to attend the hearing increased risk of removal from the register by over three times,

				professional register at General Pharmaceutical Council's (GPhC) disciplinary hearings.	from January 1, 2016 – December 31, 2019	and absence of legal representation increased this risk by two times. - Composition of panel: Severity of sanction was not associated with the attendance of a chairperson, registrant, or lay panel member - Severity of sanction was not associated with profession, level of experience, gender, nature of allegation, or area of practice
Grant ⁴⁷	2007	USA	Physicians	1) To provide a current, general descriptive assessment of the rates of discipline 2) To document an important feature of the disciplinary process, the rate at which offenders are subsequently sanctioned again 3) To compare these features of board discipline to those of the	Federation of State Medical Boards database of sanctions delivered from 1994 to 2002	- Most common reasons for discipline: After “not applicable” (used when the physician was found not guilty), unprofessional conduct, negligence, failure to conform to minimal standards of acceptable medical practice, and failure to maintain adequate records were the most common reasons for discipline - Physicians disciplined before are more likely to be subject to discipline again (12 times higher risk than those not disciplined before)

				malpractice system in order to better understand the interplay between these two quality-control mechanisms		- Number of actions increasing overall during the study period from 2971 to 5502
Green ⁴⁸	1996	USA	Nurses	To determine whether there were certain characteristics common to registered nurses (RNs) who violated the nursing practice act and were subsequently disciplined	Board of Nurse Examiners for the State of Texas files and disciplinary cases for nurses over a two-year period	<ul style="list-style-type: none"> - Disciplined nurses often had more than 6 years of experience but likely to be employed less than 3 years with employers when incident occurred – most discipline occurred within a year of changing jobs or practice settings - Most common settings are full-time employment in hospital medical-surgical unit, critical care, or emergency. A larger than usual percentage of nurses switched settings after discipline to geriatric nursing and long-term care - Penalty was most often a warning - Females are more than men, but men are disproportionately disciplined 3x more compared to the general RN population

						<ul style="list-style-type: none"> - Average age was 44 years - Disciplined nurses more likely to be associate-degree trained without advanced education
Hamolsky ⁵⁰	1998	USA	Physicians	Summarize disciplinary actions undertaken by the state Board	Physician disciplinary action cases resulting in a finding of unprofessional conduct from the Rhode Island Board of Medical Licensure and Discipline from Jan 1987 – Sept 1998	<ul style="list-style-type: none"> - All cases related to findings of unprofessional conduct – incompetence, negligent or willful misconduct; action taken by another state; abuse of controlled substances - Most to least common penalties were written reprimand, license suspension, restrictions on practice, surrender of license, license revocation, denial of licensure - Specialties with higher risk were general practice, emergency medicine, and obstetrics/gynecology
Harris ⁵²	2018	USA	Physicians	To investigate the variation in the rate of state medical board physician disciplinary actions between US states	National Practitioner Data Bank disciplinary action cases for physicians from 2010 - 2014	<ul style="list-style-type: none"> - There was a fourfold variation in total rate of misconduct between states with the lowest and highest rates. Mean rate was 3.76

						<p>disciplinary actions per 1000 physicians</p> <ul style="list-style-type: none"> - Mean rate of cases involving license suspension, revocation, or surrender, mean rate was 1.15 actions per 1000 physicians - Malpractice environment, physician supply, and year of discipline were not found to be significant associations with discipline - Most common reason for discipline was ‘not specified’ (38% of cases), and second was ‘illegal activity’ (8%)
Holtman ⁵³	2006	USA	Physicians	To examine longitudinal patterns in disciplinary actions taken by state medical boards against a national population of physicians, comparing the risks of repeat adverse licensure action among physicians disciplined for	National Practitioner Data Bank disciplinary cases for physicians from 1990 - 2000	<ul style="list-style-type: none"> - Alcohol and drug abuse and drug violations made up the largest specific category of reasons for licensure action (penalties/limitations on the physician’s license) - Physicians who underwent a licensure action for drug abuse are at the highest risk of repeat licensure

				drug abuse with the risks for physicians disciplined for other reasons.		<p>action and faster repeat licensure action</p> <ul style="list-style-type: none"> - Cases involving drug or alcohol abuse were more likely to end in license restoration than other reasons for discipline - Physicians who graduated later (i.e., were younger) were more likely to have licenses restored. Younger physicians reoffended faster than older physicians - Faster repeat action was associated with number and severity of adverse actions
Hudson ⁵⁴	2011	USA	Nurses	To describe nurses who have been disciplined in Oregon over a 12 year period. Data were analyzed to describe the disciplined population demographically, to address differences in violations at differing levels of licensure, to	Disciplinary cases against nurses in Oregon from 1996 to June 2008	<ul style="list-style-type: none"> - Substance abuse was the most common violation (31.4%), substandard or inadequate care was second, unprofessional conduct was third, failure to maintain records was fourth, and incompetence was the fifth most common -Substandard care and unprofessional conduct violations more common for LPNs than RNs or APRNs. Failure to

				look for trends in Board actions related to the most frequently occurring violations, and to check for consistency of board actions for the same violation among licensure categories		maintain records was more common in APRNs than RNS or LPNs. Substance abuse most common in RNs than LPNs or APRNs. - RNs were most likely to be reprimanded compared to LPNs and APRNs, and more LPNs were suspended than RNs or APRNs. RN licenses were revoked more frequently for substance abuse compared to LPNs and APRNs, and LPN licenses were revoked more often for unprofessional conduct compared to other nursing licenses. - Overall 7.6% recidivism rate
Humphrey ⁵⁶	2011	UK	Physicians	To evaluate whether country of medical qualification is associated with higher impact decisions at different stages of the UK General Medical Council's fitness to practice process after allowing for other	General Medical Council inquiries into fitness to practice for physicians from April 1, 2006 – March 31, 2008	- Non-UK-qualified doctors are more likely to receive high-impact decisions at each stage of the fitness to practice process - Triage: More cases involving non-UK-qualified physicians had high impact decisions

				characteristics of doctors and inquiries		<ul style="list-style-type: none"> - Investigation: Referral for adjudication more common for cases involving non-UK-qualified doctors - Adjudication: Non-UK-qualified doctors more likely to be suspended or license permanently revoked -37% of cases involved non-UK-qualified doctors, while 33% of doctors were trained outside the UK - More complaints about UK-qualified doctors came from individual members of the public, while more complaints about non-UK-qualified doctors came from organizations - Inquiries more likely to involve males, doctors qualified more than 20 years, and general practitioners
Jeyalingam ⁵⁷	2018	Canada	Physicians	We aimed to determine the factors associated with recurrent disciplinary events in physicians who had	Disciplined Canadian physicians from January 2000 to May 2015 using publicly available online	<ul style="list-style-type: none"> - Main reasons for physicians to be re-disciplined were standard of care issues and unprofessional conduct. Re-disciplined physicians also had more cases related to mental illness

				<p>already incurred a previous event. As such, we used a national cohort of disciplined Canadian physicians to characterize re-discipline and compare physicians disciplined more than once to those first-time disciplined.</p>	<p>publications from provincial medical boards</p>	<p>and unlicensed activity and less cases related to sexual misconduct.</p> <ul style="list-style-type: none"> - License suspension and restrictions were more frequent among re-disciplined physicians than those disciplined for the first time. License revocation was uncommon and similar for both first time and re-disciplined physicians - Of red-disciplined physicians, 93% were male and 34% were international graduates. The most common specialty was family medicine (58%), followed by psychiatry (11%), surgery (9%), and obstetrics/gynecology (9%)
Jones ⁵⁸	2008	USA	Nurses	<p>To study the difference in frequency of incidents of violations between associate degree-prepared registered nurses and baccalaureate degree-prepared registered nurses</p>	<p>Ohio Board of Nursing disciplinary reports for registered nurses from Jan 2002 – Dec 2006</p>	<ul style="list-style-type: none"> - Associate degree-prepared (ADN) registered nurses had significantly more boundary violations than baccalaureate degree-prepared (BSN) registered nurses and - Disproportionately more ADNs were subject to boundary violations

						<p>compared to the amount of ADNs in the workforce</p> <ul style="list-style-type: none"> - Rate of boundary violations in registered nurses was 0.01% - 37% of those disciplined for boundary violation had prior disciplinary action
Jones ⁵⁹	2019	USA	Physicians (General surgeons)	To measure associations between first-time performance on the American Board of Surgery (ABS) recertification exam with subsequent state medical licensing board disciplinary actions	Certification data collected from the American Board of Surgery database for all surgeons initially certified in general surgery between 1976 and 2005, and disciplinary action case information	<ul style="list-style-type: none"> - General surgeons who passed the recertification exam on their first attempt had the lowest risk of subsequent loss of license disciplinary actions, while those who failed on first attempt had significantly higher rate of loss of license actions (HR 2.98) - Those who waited until initial certification expired to take the exam again also had higher rate of loss of license actions (HR 2.08)
Jonsson ⁶⁶	2007	Sweden	Physicians (Obstetrics)	The aim of this study was to review the grounds for disciplinary action in obstetric malpractice	Board of Medical Responsibility obstetric malpractice claims concerning	<ul style="list-style-type: none"> - Incorrect use of oxytocin was one of the main reasons for discipline in 33% of cases and was a factor in 68.5% of cases

				cases in Sweden, and to evaluate whether adverse perinatal outcomes in these cases were related to the inappropriate use of oxytocin, and, thus, could possibly have been prevented	delivery cases resulting in disciplinary action from 1996 - 2003	<ul style="list-style-type: none"> - Most malpractice cases involved inability to recognize or respond to fetal distress, inappropriate use of oxytocin, and failure to effect a timely delivery - Main factors contributing to discipline were related to interpretation of fetal heart rate patterns and fetal scalp sampling to assess fetal wellbeing - More physicians involved in high-risk cases and midwives in low-risk cases
Kenward ⁶¹	2008	USA	Nurses	To review nursing disciplinary action cases in the USA from 1996 to 2006	Disciplinary action cases against nurses from the National Council of State Boards of Nursing's Nursys databank of license and discipline information from Jan 1996 to Dec 2006	<ul style="list-style-type: none"> - Drug-related violations (e.g., drug abuse, diversion) made up 24% of all violations - Rate of discipline increased by 155% over 11 years, and percentage of nurse population disciplined increased by almost 90% - Found that state boards across the USA issue similar penalties for certain violations

						<ul style="list-style-type: none"> - Males overrepresented in disciplinary action compared to general population of nurses that are men - Practical nurses are more likely to be disciplined than either advanced practice nurses or registered nurses - Average recidivism rate in a given stat was 24%
Khaliq ⁶²	2005	USA	Physicians	<p>1) To examine a spectrum of characteristics of physicians disciplined by the Oklahoma Board of Medical Licensure and Supervision</p> <p>2) To assess the risk of being disciplined in the context of each of these characteristics over time</p> <p>3) We compared the Oklahoma State Board's performance in disciplining physicians to</p>	Oklahoma State Board disciplinary actions and demographics for physicians in 2001	<ul style="list-style-type: none"> - Most frequent complaints were quality of care, medication/prescription violations, incompetence, and negligence/malpractice - Type of penalty did not vary with race, sex, or board certification - Increased risk of discipline was seen with male sex (HR 1.8), non-board-certified physicians (HR 2.2), more years in practice, and international graduates (HR 1.1; but only significant in univariate analysis)

				that of other state boards using data maintained by the Federation of State Medical Boards		<ul style="list-style-type: none"> - Specialties with higher rates of discipline from highest to lowest risk were family medicine, psychiatry, obstetrics/gynecology, general practice, and emergency medicine. Lower risk associated with internal medicine, radiology, cardiology. - Since inception of the Board, 2.8% of physicians had been disciplined - Most common sources of complaints were the general public (66%) and 'other' sources (18%; Federation of State Medical Boards, Medicare, insurance companies, law enforcement)
Kiel ⁶³	2006	Australia	Physicians	To explore the way in which psychiatric evidence is used in hearings involving sex or drug complaints against doctors in New South Wales	Medical Tribunal cases of doctors in New South Wales between 1980-2005	<ul style="list-style-type: none"> - 40 doctors were disciplined for sexual misconduct, 35 of which were de-registered. 28 were general practitioners, 12 were psychiatrists. - 50 doctors were de-registered for self-prescribing and/or overprescribing.

						- Identified four characteristics or predictors of recidivism: lapse of time since conduct (less likely to reoffend with more time), once-off incident (less likely to reoffend), lack of insight (more likely to reoffend), and acceptance of adverse finding/contrition/remorse (less likely to reoffend)
Kiel ⁶⁴	2013	Australia	Physicians	To examine why impaired doctors become the subject of disciplinary proceedings and draws on a small pilot study examining all the reported disciplinary cases in the Medical Tribunal of NSW in 2010.	New South Wales Medical Tribunal disciplinary case proceedings in 2010	- Almost 1/3 cases involved a doctor with an impairment and more than half had some form of addiction - 1 in 3 doctors did not report colleagues they believed to be impaired or incompetent, and did not completely agree that they had a duty to report - Most cases related to psychiatric problems, followed by drugs, alcohol, and cognitive impairment
Kiel ⁶⁵	2017	Australia	Physicians	To address the issue of how protective orders in	Two cohorts of cases from the Medical Council of New South	- Most common forms of impairment were substance use disorder and psychiatric conditions.

				<p>medical tribunals are utilized</p>	<p>Wales from 2013 – 2016: one involving impaired doctors and the other involving doctors who were not impaired (but were guilty of misconduct)</p>	<ul style="list-style-type: none"> - In cases involving impairment in older doctors, common themes were a lack of insight into the misconduct and rigidity in the doctor’s approach to practise - The most common penalty was conditions on the license to practice – 56/128 doctors had conditions, while 30 were erased and 24 were suspended - Conditions aimed to rehabilitate doctors, especially when a health condition was involved - 34/128 cases involved sexual misconduct – 14 were erased, 9 suspended, and all had conditions on their license - The authors hold that the tribunal’s faith in conditions on a license in order to protect the public is misplaced
Kinney ⁶⁶	2019	USA	Physicians (Physical	1) To determine the rate of disciplinary actions for physical medicine and	Federation of State Medical Boards discipline cases and	- Failing Part I and/or Part II of the board certification exam carried 5 times the risk for future discipline

			<p>medicine and rehabilitation)</p>	<p>rehabilitation (PM&R) physicians and investigate the correlation of disciplinary actions with sex, practice subspecialty, and medical school training location</p> <p>2) To investigate the relationship between performance on the ABPMR primary certification examinations and the risk of subsequent disciplinary actions by state medical boards during a physiatrist's career</p> <p>3) To determine whether either of the two initial ABPMR certifying examinations is more predictive of physicians receiving future disciplinary actions</p>	<p>American Board of Physical Medicine and Rehabilitation database for physicians who completed a residency in physical medicine and rehabilitation between 1968 - 2017</p>	<ul style="list-style-type: none"> - Multiple attempts to pass Part II doubled the risk of discipline, and multiple attempts to pass Part I increased risk non-significantly - Multiple attempts to pass both Parts I and II carried three times the risk of discipline - Scores on the exams also were predictive of future discipline, with lower scores having higher risk - Male physiatrists had 2.29 times increased risk of discipline than females - International graduates were overrepresented and had 2.11 times higher risk of disciplinary action
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Kinney ⁶⁷	2020	USA	Physicians	<p>1. To investigate the relationship of participation and performance in the American Board of Physical Medicine and Rehabilitation maintenance of certification program with the incidence of physician disciplinary actions by state medical boards.</p> <p>2. To determine whether the severity of disciplinary action is related to participation in MOC.</p> <p>3. Also studied the relationship of scores on the MOC Part III knowledge assessment on the likelihood of</p>	Physicians with time-limited board certificates in physical medicine and rehabilitation who were enrolled in the maintenance of competence program, and Federation of State Medical Boards disciplinary action cases	<ul style="list-style-type: none"> - Physicians with lapsed certification were 2.53 times more likely to have a disciplinary action than those who never lapsed - Physicians with lapsed board certification were more likely to have higher severity violations resulting in disciplinary action than those without a lapse in certification - Lower scores on the Part III Knowledge Assessment component of the certification were associated with higher risk of discipline - Overall rate of disciplinary action for physical medicine and rehabilitation physicians was 3.6% from 1969 - 2017 - 77% of disciplinary actions involved physicians over 40 years of age
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				receiving a disciplinary action.		
Kocher ⁶⁸	2008	USA	Physicians (Orthopedics)	To assess the association between orthopedic board certification and physician performance by comparing rates of medical malpractice claims, hospital disciplinary actions, and state medical board disciplinary actions between board-certified (BC) and non-board-certified (NBC) orthopedic surgeons.	State medical board public domain information for three states, and American Board of Orthopedic Surgeons database	<ul style="list-style-type: none"> - Non-board-certified orthopedic surgeons had significantly higher discipline rates than those who were board-certified (13% rate for non-board-certified versus 7.6% for board-certified) - No significant difference was found regarding medical malpractice claims or hospital discipline
Kohatsu ⁶⁹	2004	USA	Physicians	To determine if there is an association between certain physician characteristics and the likelihood of medical board-imposed discipline	Medical Board of California physician disciplinary cases between July 1, 1998 – June 30, 2001	<ul style="list-style-type: none"> - Most common reasons for discipline were negligence (38%), drug/alcohol offenses, (10%) unprofessional conduct (10%), conviction of a crime (9%), and inappropriate prescribing (9%) - Most common penalties were probation (34%), reprimand (22%),

						<p>license surrender (21%), or license revocation (16%)</p> <ul style="list-style-type: none"> - Male sex (OR 2.76), international medical graduation (OR 1.36, outside US and Canada), and increasing age in 20 year intervals (OR 1.64) increased risk - Board certification reduced risk (OR 0.45) - Compared to internal medicine, radiology and pediatrics had decreased risk of discipline, and family practice, general practice, obstetrics/gynecology, and psychiatry were at higher risk. Anesthesiology and surgery had similar risk as internal medicine.
Kreiner ⁷⁰	2017	USA	Physicians Osteopaths	To examine associations between prescriber risk indicators developed as part of a public health surveillance project and medical board disciplinary action	Prescribers subject to actions by the Maine Medical Board and Osteopathic Board between 2010-2014	<ul style="list-style-type: none"> - 199 unique prescribers generated 199 board actions. This involved 164 non-unique prescribers as some had multiple cases - 64 prescribers subject to severe discipline

				<p>against prescribers, particularly actions that cite inappropriate prescribing and actions that involve license suspension or revocation</p>		<p>32 prescribers disciplined for inappropriate prescribing, 63 prescribers for personal substance use issue</p> <ul style="list-style-type: none"> - Being in the top 1% of prescribers for the number of morphine milligram equivalents per day was associated with a severe disciplinary action - Being in the top 1% for number of patients, opioid prescriptions per day, prescriptions per day were risk factors for a moderate severity penalty
Kriisa ⁷¹	1990	Sweden	Various (Physicians Midwives Nurses Physiotherapists)	To review complaints against healthcare practitioners in Sweden to the Medical Board of Responsibility	Complaint cases reported to the Medical Board of Responsibility in Sweden against healthcare professionals from 1987-88	<ul style="list-style-type: none"> - In 2/3 of cases, patients made the complaint against the healthcare provider - Most cases concerned physicians. Most common reasons for complaint was delayed diagnosis or missed diagnosis (58%), treating patient impolitely (14%), administrative error/refusal of certificate error in

						case sheet (12%), and wrong medicine or administrative (11%)
Kwee ⁷²	2020	The Netherlands	Physicians (Radiology)	To systematically investigate the frequency and types of allegations related to radiology practice handled by the Dutch Medical Disciplinary Court in the past 10 years (2010-2019)	Verdicts concerning radiology practice in The Netherlands from 2010 to 2019 from The Dutch Medical Disciplinary Court database for 2010-2019	<ul style="list-style-type: none"> - Allegations against radiologists are few at 4.8 allegations per year, which has been stable for 10 years - Most common allegation was error in diagnosis (39.6% of cases) - Most allegations related to breast imaging and musculoskeletal imaging (18.8% of cases each)
Lipner ⁷³	2016	USA	Physicians (Internal medicine)	<p>1) To examine the practice specialties of physicians in the decade following the start of training in a U.S. IM residency ACGME-accredited program</p> <p>2) To explore performance characteristics during and after training, including the incidence of state medical board</p>	Federation of State Medical Boards cases and American Board of Internal Medicine database for physicians who had completed one year of internal medicine residency training from 1995 – 2004	<ul style="list-style-type: none"> - ABIM-certified physicians had fewer very severe disciplinary actions and more less severe disciplinary actions, while non-board certified physicians had the most very severe actions and the fewest less severe actions. The cohort of ABMS certified physicians had more disciplinary actions than physicians certified in internal medicine, but had much lower discipline rates than non-certified physicians likely due to

				disciplinary actions among physicians who were ABIM certified, those who were ABMS but not ABIM certified, and those who never certified with the ABMS		different rates of discipline depending on specialty - Those who did not obtain specialty board certification had 5 times the number of disciplinary actions
Liu ⁷⁴	2015	Canada	Physicians (Internal medicine)	Examine disciplinary cases among internal medicine physicians in Canada and compare to non-internal medicine physicians who were disciplined	Canadian regulatory body disciplinary cases for physicians from January 1, 2000 – December 13, 2013	- Internists less likely to be disciplined for sexual misconduct, standard of care issues, and unprofessional conduct than other physicians - Discipline rates low overall and lower for internists, specifically. Internists accounted for 10.8% of all disciplined physicians each year - General internal medicine was the most frequently disciplined subspecialty, followed by cardiology - 95.6% of disciplined internists were male

McDonald ⁷⁵	2018	USA	Physicians (Internal medicine)	To assess the risk of disciplinary actions among general internists who did and did not pass the maintenance of certification examination within 10 years of initial certification	Federation of State Medical Boards disciplinary cases and American Board of Internal Medicine database files for general internists from 1990 - 2003	<ul style="list-style-type: none"> - Not passing the maintenance of certification exam within 10 years of initial certification was associated with higher disciplinary action rates - Those who did not pass on first attempt had 35% higher risk of discipline than those who did - Those who passed the maintenance of certification exam within 10 years of initial certification had a higher proportion of less severe disciplinary actions, and lower proportion of very severe actions than those who did not pass
Melo ⁷⁶	2019	USA	Physicians	To review Rhode Island boundary violations and penalties for physicians from 2012-2018 and an evaluation of what specific criteria were used by the Board to reinstate a physician's license	Rhode Island Board of Medical Licensure and Discipline disciplinary action cases relating to boundary violations	<ul style="list-style-type: none"> - 15/16 boundary violation cases were related to sexual misconduct, and most involved males - 13/16 physicians who had a boundary violation lost their license. All physicians who had sexual intercourse with a patient lost their licenses for differing periods of time

						<ul style="list-style-type: none"> - All physicians who were reinstated were formally monitored for some time - Most common specialties disciplined: Psychiatry, internal medicine, family medicine
Mendelson ⁷⁸	2014	Australia	Physicians	The aim in this study was to examine jurisprudential notions that underpin modern disciplinary proceedings, their purpose, fairness and efficiency, through the examine of 32 published decisions dealing with practitioners who were found to have inappropriately and/or unlawfully prescribed Schedule 4 and Schedule 8 medications	Disciplinary cases by professional disciplinary tribunals in New South Wales and Victoria against medical practitioners found guilty of inappropriately and/or unlawfully prescribed Schedule 4 and Schedule 8 medications from July 2010 to September 2014	<ul style="list-style-type: none"> - Of the 32 cases, all were general practitioners, 7/32 were female, 30/32 were over 50 years old with most in late 60s or older - Penalties varied in severity from caution, reprimand, suspension, removal from register. Conditions or limitations on practice were applied in all cases except license revocation. Determination of penalties were discretionary by the disciplinary tribunals - Half of cases had a history of investigations for problematic practices
Mendelson ⁷⁷	2015	Australia	Physicians	To examine case reports of disciplinary proceedings against	Case reports of disciplinary proceedings from the	<ul style="list-style-type: none"> - Specialty: 15/27 were general practitioners, 8 were anesthetists, two obstetrician/gynecologists, and 1

				doctors who abused narcotic analgesics between 2010 to 2015	Australia Health Practitioner Regulation Agency against doctors who were found to have self-administered Schedule 8 drugs (controlled drugs of addiction/dependence, mainly opioids) and Schedule 4 drugs (anabolic and androgenic steroidal agents, barbiturates and benzodiazepines) between 2010 - 2015	each cardiology, ENT surgeon, one resident - 21/27 cases involved males and average age was 42 years - 8/27 received a suspension, 10 were not practising but had license formally cancelled, 2 received reprimands and fines - Conditions on license to practise were also used. In some cases conditions combined with support from physician health programs enabled rehabilitation, while others relapsed when the conditions were lifted - Did not find that clear criteria were used to determine penalties in these cases
Morelock ⁷⁹	2017	USA	Nurses	The purpose was to investigate apparent disparities of licensure sanction between male and female RNs. The	Texas Board of Nursing disciplinary action cases from 2013 to 2016	- 37% of men's licenses were revoked or surrendered when disciplined, while for women only 29% were these penalties

				type of offense that resulted in licensure action was also captured for analysis.		<ul style="list-style-type: none"> - Male nurses made up 9% of the RN population but comprised 23% of cases - For men, most frequent violation was controlled substance use or diversion, or alcohol-related incidence (73%), and second most common was clinical violations such as medical errors or clinical judgment errors (13%)
Morrison ⁸⁰	1998	USA	Physicians	To assess the offenses, contributing factors, and type of discipline of a consecutive series of disciplined physicians	All disciplined physicians publicly reported by the Medical Board of California from October 1995 to April 1997	<ul style="list-style-type: none"> - Discipline rate of 0.24% of physicians per year - Disciplined physicians less likely to be women (OR 0.44), more likely to be involved in direct patient care (OR 2.56), and more likely to have been practicing for more than 20 years (OR 2.02), and less likely to be board-certified (OR 0.42) - Trend to higher risk of anesthesia and psychiatry being disciplined - Most common reason for discipline was negligence or incompetence (1/3)

						<p>of cases), followed by physician health issues</p> <ul style="list-style-type: none"> - More likely to be disciplined severely if female or if multiple offenses
Munk ⁸¹	2015	USA	Dentists	<p>1) To explore a potential consequence of the paucity of emotional intelligence education by determining the level of emotional intelligence-related infractions in state dental board disciplinary actions and characterizing those infractions into the categories of cognitive intelligence-related (CI-R) infractions, technical intelligence-related (TI-R) infractions, and emotional intelligence-related (EI-R) infractions</p> <p>2) To assess the proportion of EI-R</p>	State dental board disciplinary action reports from 2010-2014 from 21 states	<ul style="list-style-type: none"> - Of 1100 disciplinary action reports, there were proportionately more emotional intelligence related infractions (56.6% of infractions) than cognitive (2.4%) or technical intelligence related (41%) infractions - No state in the study had more cognitive intelligence-related infractions than technical or emotional intelligence related infractions - (Cognitive-intelligence included mental/physical health; technical-intelligence included clinical standard of care, and emotional-intelligence related included professional misconduct and dishonesty)

				infractions to CI-R and TI-R infractions and to identify the nature of EI-R infractions		
Nasseri ⁸²	2016	Canada	Physicians (Dermatology)	To review cases of disciplinary and legal action against dermatologists in Canada	Disciplinary action cases against Canadian dermatologists from 10 provincial medical regulators and malpractice cases from the Canadian Legal Information Institute	<ul style="list-style-type: none"> - 6/1459 (0.4%) cases against doctors over 30 years involved dermatologists - Cause for discipline in 3/6 cases was failing to meet the standard of care, inadequate medical records in 3 cases, inadequate patient follow-up in 2 cases, inadequate consent in 1 case, and sexual assault in 1 case - Disciplinary measures included fines, reprimands, continuing education courses, suspension, loss of license, and criminal charges.
Nelson ⁸³	2018	USA	Physicians (Emergency medicine)	To determine if maintaining certification was associated with a lower risk of regulatory body disciplinary action	Federation of State Medical Boards disciplinary cases and American Board of Emergency Medicine database files for physicians who	<ul style="list-style-type: none"> - Physicians who allowed their board certification to lapse had higher rates of disciplinary action vs those who did not lapse (6.4% vs 2.5%) - More than one attempt on the board certification exam was associated with 40% higher chance of being

					obtained initial board certification from 1980 - 2005	disciplined compared to those who passed on first attempt
Papadakis ⁸⁶	2004	USA	Physicians	To determine if medical students who demonstrate unprofessional behaviour in medical school are more likely to have subsequent state board disciplinary action.	Medical Board of California disciplinary cases from 1990 - 2000 for physicians who graduates from the University of California San Francisco	<ul style="list-style-type: none"> - Disciplined physicians were 2.15 times more likely to have negative comments about professionalism in their medical school files than those who were not disciplined - Reason for discipline in most cases was unprofessionalism (65/68 cases) - Disciplined physicians had slightly lower undergraduate GPA than those not disciplined - Students who became physicians of obstetrics/gynecology or psychiatry were overrepresented in discipline
Papadakis ⁸⁵	2008	USA	Physicians (Internal medicine)	Determine whether performance during residency predicts future disciplinary action in internists	State licensing board disciplinary action cases and American Board of Internal Medicine Resident Evaluation Summary documents for physicians who	<ul style="list-style-type: none"> - Disciplined physicians had more unsuccessful attempts and lower scores on the internal medicine certification exam. Higher scores were associated with decreased risk for discipline

					entered internal medicine residency training in the US between 1990 - 2000	<ul style="list-style-type: none"> - Disciplined physicians had lower ratings on their ABIM Resident's Evaluation Summary. - Either of these predictors doubled the chance of being disciplined - 83% of cases were for unprofessional behaviour
Peabody ⁸⁹	2019	USA	Physicians (Family medicine)	Examine the association between American Board of Family Medicine certification and state regulatory body disciplinary action against a physician	Federation of State Medical Boards disciplinary action cases for family physicians and American Board of Family Medicine database in 2017	<ul style="list-style-type: none"> - Board certification was associated with decreased odds of being disciplined – more than twice the cases if not certified, and more than six times the cases of severe penalties if not certified - Having ever been certified decreased odds of discipline, even if certification later lapsed - Lapsed certification more likely to have a more severe penalty than a less severe penalty
Phipps ⁹⁰	2011	UK	Pharmacists	To establish whether there are any characteristics of pharmacists that predict their likelihood of being	Pharmacists who had undergone a disciplinary hearing by the Royal Pharmaceutical	<ul style="list-style-type: none"> - Misconduct (violation of standards, dishonest behaviour) was more common than clinical malpractice - Community pharmacists significantly more likely to be

				subjected to disciplinary action	Society of Great Britain from April 1, 2007 – Dec 2009	disciplined than pharmacists in non-patient facing roles. Community pharmacists more likely to be disciplined than hospital pharmacists, but not statistically significant - 1/5 pharmacists disciplined had previous disciplinary action - Higher odds ratio for overseas training and non-white ethnicity, but not statistically significant
Reich ⁹¹	2011	Various	Physicians (Psychiatry)	The goal of this article is to examine the published literature to identify which psychiatrists might eventually have difficulty with the law or medical boards and to see how these findings might inform psychiatric practice and training	Literature search to identify studies of malpractice lawsuits or medical board discipline of psychiatrists between 1990 and 2009	- 8 reports of US physician discipline from various states, and one of UK physician discipline. Of insurance company reports, 4 reports were found and 2 sets of aggregated insurance company data were found - Legal complaints often involved patient suicide, sexual misconduct, inappropriate prescribing, and physician alcohol or substance use. Data from insurance companies involved ineffective or incorrect treatment, misdiagnosis, improper hospital detention.

						<ul style="list-style-type: none"> - The more severe the patient's illness, the higher the risk of legal action - Psychiatrists found to be at higher risk of discipline than other specialties - Greater risk of discipline associated with male gender, more years in practice, international medical graduates, and lower risk of board-certified
Richard ⁹²	2005	USA	Physicians	To determine the actual risk of disciplinary action against a physician by a state medical board for prescribing opioids for patients in pain	All disciplinary actions taken against physicians by the New York State Board for Professional Medical Conduct reviewed for the three year period from July 1, 1999 to June 30, 2002.	<ul style="list-style-type: none"> - Of 1050 cases, 32 (3%) involved overprescribing of opioids - 56% of New York State physicians disciplined for controlled substances had more than one additional charge of misconduct - Found little risk for discipline if there was documentation showing a doctor-patient relationship and that prescribing was for pain

Roberts ⁹³	2020	USA	Osteopathic physicians	Investigate the relationship between COMLEX (osteopathic physician licensing board examinations) scores with subsequent disciplinary action	Federation of State Medical Boards disciplinary action cases for osteopathic physicians and National Board of Osteopathic Medical Examiners results from 2004 - 2013	<ul style="list-style-type: none"> - Higher Level 3 scores had significantly lower odds in receiving a disciplinary action that revoked a license, imposed limitations on practice, or had other actions. Level 3 is the last exam in order to be licensed - Higher scores on the Level 2 PE BD (performance exam, biomedical/biomechanical domain) had significantly lower odds in receiving a board action that revoked a license or imposed limitations on practice - Significantly lower odds of discipline if female or more years in practice - Less than 1% of osteopathic physicians disciplined during the study period
Ryan ⁹⁴	2018	Australia	Chiropractors Osteopaths Physiotherapists	We aimed to compare the risk of complaint among chiropractors, osteopaths,	Complaints lodged against chiropractors, osteopaths and	<ul style="list-style-type: none"> - Male practitioners has 2.4 times the rate of discipline compared to

				and physiotherapists and to locate any increased risks in specific aspects of clinical practice.	physiotherapists with the Australia Health Practitioner Regulation Agency and Health Professionals Council Authority	females, and risk increased with each decade after the age of 35 - Chiropractors had highest rate and risk of disciplinary action, followed by osteopaths, and then physiotherapists - Across professions, 90% of practitioners are not subject to complaints - For chiropractors and osteopaths, more than two-thirds of complaints related to professional conduct, and one-third were related to performance. For physiotherapists, about half of complaints related to professional conduct, and half were related to performance. For all professions, about 1/5 complaints concerned treatment provided.
Santen ⁹⁶	2014	USA	Physicians	Research question: Is identification by promotions committees during medical school	Students who matriculated in 1976-1996 and graduated in 1980-2000 from the	- Of 2078 students that graduated, 29 (1.4%) had disciplinary action by a state medical board. Only 4 of the graduates with disciplinary action

				associated with disciplinary actions by state medical boards later in practice?	Vanderbilt University School of Medicine and Federation of State Medical Boards disciplinary action cases	had formal identification by the promotions committees during medical school. - Those identified by the promotions committees have 3 times the risk of being disciplined by a state medical board compared to those not identified during medical school - Of the 4 students identified, 3 failed a course in first year then had no further problems (55 students failed a course in first year and only three had state medical board actions)
Spittal ⁹⁸	2016	Australia	10 health professions	To determine the outcomes of notifications of concern regarding the health, performance, and conduct of health practitioners from 10 professions in Australia and to identify factors associated with the	All notifications lodged with the Australian Health Practitioner Regulation Agency from January 1, 2011 to December 31, 2012	- Overall rate was 6.3 notifications per 1000 practitioners per year - 38% of notifications involved performance concerns (e.g., clinical care and communication), 31.5% involved conduct (e.g., disruptive behaviour, improper use of health information, noncompliance with regulatory requirements), 5.6% involved health of practitioners, and

				imposition of restrictive actions.		<p>2.7% involved alleged breaches of sexual boundaries</p> <ul style="list-style-type: none"> - Dentists had highest rate of notification (20.7 per 1000 practitioners per year), followed by doctors (14.5) and nurses at the lowest rate (2.0) - Pharmacists who were subject to a notification were three times more likely to receive a penalty than doctors - Men were at higher risk of a notification, as were those who were older - Odds of restrictive action higher if involving health impairments, unlawful use of medications, or boundary violations compared to clinical care - Dentists and psychologists had 4 times the risk of a notification resulting in restrictive action
Stewart ⁹⁹	2011	USA	Physicians	We hypothesized that com- plaints to the Texas	Complaints, investigations,	- After tort reform in Texas, complaints against physicians

				<p>Medical Board (TMB) increased after tort reform. To test this hypothesis, we compared complaints, investigations, disciplinary actions, and penalties against physicians before and after comprehensive state tort reform measures were adopted</p>	<p>disciplinary actions, and penalties against physicians by the Texas Medical Board from 1996 to 2010</p>	<p>increased 13%, number of investigations opened increased by 33%, disciplinary actions increased by 96%. Regarding penalties, license revocations or surrendering of license increased by 47% and financial penalties increased by 367%.</p> <p>- Even after adjustment for increase in number of physicians, these increases remain</p>
Strong ¹⁰⁰	2006	USA	Physicians Dentists Optometrists	<p>This article explores questions of professional values and interests in health professional regulatory board decision making and reports on the results of a study of regulatory boards' enforcement of commercial practice restrictions. The study examined the disciplinary</p>	<p>Disciplinary decisions of the Virginia Boards of Dentistry, Medicine, and Optometry relating to commercial violations between 1987 and 1997.</p>	<p>- Of 744 complaints regarding commercial violations, 18.4% of them were substantiated and found to be actual violations. Commercial violations involved business aspects of practice including advertising, billing insurance, and fees</p> <p>- Found no significant difference in the nature of sanctions imposed on commercial vs non-commercial violations – punitive sanctions were not more likely to be used in</p>

				decisions of the Virginia Boards of Dentistry, Medicine, and Optometry between 1987 and 1997.		commercial violations than non-commercial violations - In commercial violations, punitive sanctions were used in 29%, and nonpunitive sanctions used in 71% of cases
Surgenor ¹⁰¹	2016	New Zealand	Various health practitioners	Analyze all available decisions of New Zealand's Health Practitioners Disciplinary Tribunal published between 2004 and 2014, looking at both procedural factors (practitioner and hearing characteristics) and outcome factors (findings, penalties, and appeals).	Health Practitioners Disciplinary Tribunal cases from 2004 – 2014	- 77% of cases due to professional misconduct, 20% of cases due to a conviction, and a small number of cases involved both - Nurses were more likely than doctors to lose license permanently, and doctors were more likely than nurses to receive censure, fines, and costs of investigation - 75% of cases involved doctors, nurses, and pharmacists (the three largest health workforces) - Approximately 2/3 of cases involved females, and 8.7% of cases had previous disciplinary action - Number of cases increasing yearly but likely due to change in

						disciplinary structure and increasing size of workforce
Surgenor ¹⁰²	2018	New Zealand	Various health practitioners	The purpose of this study is to examine demographic, registration and practice setting characteristics of psychologists who were subject to any HPCAA notification over the 12 year period between 2004-2015	Notifications against psychologists to the New Zealand Psychologists Board and publicly available decisions of the Health Practitioners Disciplinary Tribunal from 2004 - 2015	<ul style="list-style-type: none"> - Less than 2% of practising psychologists are subject of a notification per year - Most complaints from patients and family members - Average of 12.1 years licensed in New Zealand before notification. This was shorter of international graduates (9.2 years) versus graduates of New Zealand (13.1 years) - Most cases concerned females, but males were still overrepresented in notifications compared to general psychologist population. All four cases of sexual misconduct involved female psychologists. - Only 4.3% of complaints progressed to the disciplinary tribunal

						<p>- Most common penalties were censure, conditions, costs, fines. Suspension and license cancellation occurred least frequently.</p>
Surgenor ¹⁰³	2019	New Zealand	Various health practitioners	To understand patterns of consensual relationship sexual misconduct in New Zealand, we collated all relevant HPDT decisions where there was a finding of guilt. We then discussed selected themes illustrated by these cases, including approaches taken to penalty.	Health Practitioner Disciplinary Tribunal cases related to consensual sexual relationship cases between Sept 2005 – Oct 2018	<p>- 26 cases, which comprised 6.4% of all disciplinary decisions at the time of the study</p> <p>- 50% of cases resulted in licence revocation/cancellation, and 30.8% involved suspension. All had to pay some amount of costs. Conditions were applied for those returning to continuing to practice</p> <p>- Male practitioners made up 61.5% of cases. Did not find men to be disciplined more severely than women for sexual misconduct</p> <p>- Nurses and doctors made up most cases (42.3% and 34.6% respectively), followed by psychologists (11.5%), physiotherapists (7.7%), and one midwife (3.8%)</p>

						- 24/26 cases were in community or outpatient setting. 65.3% of cases involved providing care for mental health issues
Taylor ¹⁰⁴	2017	United Kingdom	Physicians	We have investigated fitness to practise proceedings involving dually registered doctors, the practice of oral and maxillofacial surgery, or specialists in the field.	Outcomes of all General Dental Council fitness to practise proceedings from January 2004 to June 2016, and the General Medical Council's register to identify the licensing and registration status of all current specialists in oral and maxillofacial surgery.	- Six cases were identified that involved an oral and maxillofacial surgeon who was registered with both the General Dental Council and General Medical Council - Three cases of "double jeopardy" were identified, where the practitioners were disciplined by both the GDC and GMC, when the practitioner should have been disciplined only by the GMC
Thomas ¹⁰⁶	2018	Australia	Dentists	To describe the frequency and nature of complaints amongst all dental practitioners (dentists, dental prosthetists, oral health therapists, dental	Complaints that involved dental practitioners (i.e. general dentists and dental specialists, dental prosthetists,	- Compared to other health professions, dentists were at the highest risk of complaints in Australia (42.7 complaints per 1000 practitioners per year)

				therapists and dental hygienists) registered to practice in Australia between January 1, 2011 and December 31, 2016, and examine the factors associated with receiving a complaint.	dental hygienists, dental therapists and oral health therapists) between Jan 1, 2011 to Dec 31, 2016 identified through the Australian Health Practitioner Regulation Agency and the Health Professions Council Authority	<ul style="list-style-type: none"> - More than 90% of complaints involved dentists, less than 3% of complaints involved allied dental professionals - Among dentists, most complaints concerned performance issues (e.g., concerns about treatment and procedures), and conduct concerns (e.g., concerns about fees such as over-charging) - Higher disciplinary risk was associated with male gender and older age of practitioner
Tiffin ¹⁰⁷	2017	UK	Physicians	1) To evaluate the validity of the Professional and Linguistic Assessments Board (PLAB) system (of which the International English Language Test System (IELTS) could be considered a component) with respect to whether the scores demonstrated	General Medical Council fitness to practice cases between 2006 – 2012 and PLAB scores for international medical graduates	<ul style="list-style-type: none"> - Significant predictors of disciplinary action included male sex, higher IELTS speaking score, and multiple attempts at PLAB Part 1 or Part 2 - Higher scores on IELTS reading, listening, Part 1 and Part 2 on the first attempt were protective of censure - Doctors with younger age at registration were more likely to be

				<p>an ability to predict the risk of subsequent fitness to practise issues in IMGs registering via this route</p> <p>2) To evaluate the extent to which the proposed restrictions placed on the number of times the PLAB test could be taken must be expected to impact the future rate of fitness to practise events in this group of doctors working in the UK</p>		<p>censured for non-clinical concerns. Older doctors had higher risk of a clinical issue leading to censure.</p>
Tullet ¹⁰⁸	2003	UK	Pharmacists	<p>To conduct a longitudinal study in order to define trends and identify areas where remedial or preventative support could be focused. Research questions included:</p>	Royal Pharmaceutical Society of Great Britain disciplinary cases for pharmacists between Oct 1988 – Sept 2000	<p>- Fraud, drug trafficking, and theft were the most common personal misdemeanours, and failure to keep adequate written records, unsupervised sale of Pharmacy Only medicines, irresponsible actions as a superintendent pharmacist, and labelling offenses were the most common professional misdemeanours</p>

				<p>1. Who were the individuals most likely to transgress?</p> <p>2. What types of misdemeanours were the most common?</p> <p>3. How were the misdemeanours dealt with?</p> <p>4. What were the motives for misbehaving?</p> <p>5. From the above, could strategies for future prevention be devised?</p>		<p>- 37% of hearings were for misconduct, and 63% resulted from a court conviction. Many cases involved multiple misdemeanours</p> <p>- Males 7.37 times more likely to be disciplined for misdemeanour, and those of ethnic minority were 3.80 times more likely to be disciplined than Caucasian</p> <p>- 94% of professional misdemeanours were from small chain or independent community pharmacies</p> <p>- Financial gain and ignorance of the law were the two most commonly cited motives by pharmacists</p>
Unwin ¹⁰⁹	2014	UK	Physicians	To examine the association between doctors' sex and receiving sanctions on their medical registration, while controlling for other potentially confounding variables	General Medical Council's List of Registered Medical Practitioners database from May 29, 2013 which included all doctors who have been registered to	<p>- Being a female doctor is protective of being sanctioned (OR 0.35). GMC is twice as likely to receive a complaint about a male than a female</p> <p>- Doctors who qualified outside the European Economic Area had the highest proportion of doctors with sanctions. Female doctors were more</p>

					<p>practise at any point from October 20, 2005 to May 28, 2013</p>	<p>likely to have qualified in the UK and male doctors were more likely to have qualified outside the EEA</p> <ul style="list-style-type: none"> - Regarding years in practice, doctors who qualified 31-40 years ago had the highest proportion of sanctions. Female doctors were more likely to have recently qualified. Also, as years in practice increased, the proportion of female doctors decreased. - Doctors registered to both the specialist and general practitioner registers had the highest proportion of doctors with sanctions. A higher proportion of female doctors registered as general practitioners, and a higher proportion of male doctors registered as hospital specialists - Possible reasons for lower sanctions in women include differences in communication style, less years in practice (more likely to work part
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						time and have less patient encounters), and possibly a higher threshold for tolerance for females by the public
Vander Woude ¹¹¹	1993	USA	Nurses	To identify the characteristics associated with chemically dependent nurses in an upper Midwest rural state (South Dakota) who have been disciplined by the Board of Nursing	All licensed and practical nurses disciplined by the South Dakota Board of Nursing for problems related to chemical dependency from Nov 1979 to July 1991	<ul style="list-style-type: none"> - Of 35 cases, 65.7% were registered nurses, 23% were licensed practical nurses, and 4 had dual licensure as a practical nurse and registered nurse - Males were overrepresented in the study population comprising 23% of nurses disciplined - Method of diversion varied: theft (40%), falsification of records (32%), substituting drugs with other substances (27%), combination (23%) - Nurses were primarily employed in hospital settings and rural settings (due to rural nature of the state) - Various factors common: family stress, family history of dependency, physically or verbally abusive relationships, mental illness.

Wakeford ¹¹²	2018	The Netherlands	Physicians	To assess the association of poor performance on high-level UK postgraduate exams with the likelihood of fitness to practise sanctions, and in particular, we consider the separate roles of both clinical and knowledge assessments.	Physicians who had fitness to practice sanctions recorded on the publicly available List of Registered Medical Practitioners, combined with MRCGP and MRCP(UK) exam performance scores (marks on the first attempt) between Sept 2008 - Jan 2017	<p>-Fitness to practise sanctions are clearly related to lower exam performance. Those who scored significantly lower on the MRCGP exam were more likely to be sanctioned – both the knowledge and clinical tests of the MRCGP are independent predictors of future sanction</p> <p>- Those disciplined were 2.73 times more likely to be male, 1.355 times more likely to have qualified outside the UK, and risk increased with more years in practise</p> <p>- 6158 doctors had a fitness to practise sanction, which was 1.62% of registered doctors</p>
Wallis ¹¹³	2019	New Zealand	Physicians	To describe disciplinary cases for inappropriate prescribing of drugs of dependence by doctors in New Zealand, with a	Medical practitioner disciplinary case proceedings from 1997-2005 from the Medical Practitioners Disciplinary Tribunal	- Of 236 cases against medical practitioners, 25 (11%) included inappropriate prescribing of drugs of dependence. In all cases, the doctor was found guilty of professional misconduct

				view to understanding risk factors and outcomes	and from 2004-2016 for the Health Practitioners Disciplinary Tribunal	<ul style="list-style-type: none"> - Cases of inappropriate prescribing often involved other misconduct such as forging a colleague's signature and sexual relations with patients - Prescribed drugs included opioids in 17 cases, benzodiazepines in 12 cases, pseudoephedrine in 2 cases, and sibutramine in 1 case - 6/25 doctors were removed from the register, 11 were suspended, and the rest had conditions on license to practice - Most doctors male, in practice average of 24 years, in general practice
Walton ¹¹⁴	2020	Australia	Dentists Nurses/midwives Pharmacists Physicians Psychologists	The aims of this study were to profile the most common complaints and to examine whether any demographic factors are associated with receiving a complaint for five health professions in	All complaints received for medicine, nursing/midwifery, dentistry, pharmacy, and psychology from the Australia Health Practitioner Regulation Agency,	<ul style="list-style-type: none"> - Overall annual rate was 1.5 complaints per 100 practitioners. This rate varied by profession with dentistry and medicine having the highest rates of complaints - Risk of discipline was over twice as high for males than females, over three times as high for those 45 and

				Australia (dentistry, medicine, nursing/midwifery, pharmacy, psychology)	the New South Wales Health Professional Councils' Authority, and the NSW Health Care Complaints Commission from July 1, 2012 to December 31, 2013	older compared to those 35 and younger, and higher for those born overseas (not including UK or Ireland) - The most common reasons for discipline across professions were clinical care, medication, health impairment, communication, and documentation. The most common reasons varied by profession
Webster ¹¹⁵	1995	UK	Opticians Optometrists	This article looks at the meaning of professional misconduct and the disciplinary procedure	General Optical Council (UK) disciplinary cases from 1986 - 1993	- Of 27 cases, 8 due to professional misconduct, 7 due to criminal offense, 6 due to breach of publicity rules, 1 each due to breach of supervision rules, a case against a Responsible Officer, and Opticians Act offense - More cases against optometrists than opticians likely because there are more optometrists and there are more regulations for optometrists - Assault of a patient will result in loss of license unless there is a strong

						<p>mitigating factor such as medical or psychiatric reports</p> <ul style="list-style-type: none"> - Failures of professional obligations are serious reasons for discipline often resulting in suspension or erasure
Yates ¹¹⁶	2010	UK	Physicians	To determine whether there are risk factors in a doctor's time at medical school that are associated with subsequent professional misconduct	Doctors who had graduated from any 1 of 8 medical schools in the UK from 1958 – 1997 who had a proved finding of serious professional misconduct in a General Medical Council proceeding from 1999 - 2004	<ul style="list-style-type: none"> - Male sex was a predictor of professional misconduct - Poor performance during the early (pre-clinical) years of medical school also a predictor. Those subject to discipline were more likely to have failed exams, repeated parts of the program, or had overall lower level of performance - Most common reasons for complaints were professional and personal behaviour such as dishonesty or improper relationships. Clinical competence was a concern in 38% of cases
Yeon ¹¹⁷	2006	USA	Physicians	We hypothesized that the level of board activity, measured by the number	Federation of State Medical Boards	<ul style="list-style-type: none"> - Larger medical boards discipline more physicians than smaller boards.

				of serious disciplinary actions taken by the board, might correlate significantly with board resources, so we performed a statistical analysis using medical board personnel and medical board budget as independent variables and board actions as the dependent variable.		<p>This finding was independent of medical board funding.</p> <ul style="list-style-type: none"> - Medical board with more staff have more medical board actions per practicing physician per state each year - Overall, medical board resources, structure, and function influence board activity and disciplinary actions
Zhou ¹⁹	2017	USA	Physicians (Anesthesiology)	1. To test the hypothesis that the lifetime risk of a disciplinary action against a physician's medical license is lower in those who pass both the written and oral exams (i.e., are certified by the American Board of Anesthesiology) compared with those who	Federation of State Medical Boards discipline cases for physicians who entered anesthesiology training from 1971 - 2011	<ul style="list-style-type: none"> - Risk of license action is more than 3 times higher in non-board-certified physicians compared to board-certified physicians - Those who had the lowest risk of license actions were those who passed both Part 1 (written exam) and Part 2 (oral exam) on the first attempt. Risk was higher for those who passed both exams but needed more than one attempt, and risk was highest for those who only passed

				<p>pass only the written examination.</p> <p>2. To describe the basis and severity of the disciplinary actions in physicians who entered anesthesiology training from 1971 to 2011 and to determine the secular trend in the incidence of these actions during the study period.</p>		<p>Part 1, did not pass either, or did not finish anesthesiology training</p> <ul style="list-style-type: none"> - Risk was similar for those who did not pass Part 1 and for those who pass Part 1 but not Part 2 - The three most common violations were actions taken by another state board, failure to disclose required information, and violation of a board statute or rule - Risk of license actions higher in men than women and American graduates - Rate has been stable for 30 years for physicians entering anesthesiology training, with 2-3 new cases per 1000 person years
Zhou ¹²⁰	2018	USA	Physicians (Anesthesiology)	To explore the association between participant performance in the Maintenance of Certification in Anesthesiology program and post certification	Federation of State Medical Boards disciplinary cases involving anesthesiologists from 1994 - 2005	<ul style="list-style-type: none"> - Voluntary participant in the Maintenance of Certification (MOC) program was associated with lower incidence of license actions - Failing to complete certification on time (every 10 years) was associated with higher incidence of actions

				physician performance as measured by license actions		<ul style="list-style-type: none"> - Introduction of time-limited certification requiring recertification every 10 years was not associated with change in license actions - Rate of license actions was 3.8%
Systematic Review						
Unwin ¹¹⁰	2015	International	Physicians	<p>Using a systematic review and meta-analysis, this study seeks to answer:</p> <ol style="list-style-type: none"> 1. Was the sex difference observed in UK doctors in 2013 also present in different countries, with different medical systems and cultures? 2. Has the sex difference varied over the last four decades? 3. Are sex differences present on measures of poor performance other than disciplinary action, 	Studies describing the association between doctors' sex and experience of medico-legal action	<ul style="list-style-type: none"> - Meta-analysis found that men were 2.45 times more likely to be subject to medicolegal action than women. - Authors concluded that this increased risk for men persists despite increased numbers of women choosing medicine, and despite there being more male doctors in the workforce - Regarding disciplinary action, 12/15 studies found that male physicians were more likely to be subject to discipline than females, while 3/15 found no statistically significant difference - Of the 32 papers included, 27 showed that men were at higher risk of medicolegal action across

				such as malpractice litigation?		disciplinary action, malpractice experience, referral to a medical regulatory body, medicolegal matters with a medical defence organization, criminal cases, and complaints to a healthcare complaints body
Literature Review						
Sansone ⁹⁵	2009	USA	Physicians	To present and summarize the available literature related to sexual boundary violations by physicians	Existing literature on sexual boundary violations by physicians	<ul style="list-style-type: none"> - This review identified 5 studies reviewing disciplinary actions of physicians by licensing bodies (4 from US, one from UK). Also identified surveys related to sexual boundaries (3 from US, 1 each from the Netherlands, New Zealand, and Israel) - More men are offenders (>85%) - Osteopathic physicians 4 times more likely to be disciplined for boundary violations than allopathic physicians - Physicians most at risk for boundary violations are from family medicine, psychiatry, obstetrics/gynecology, but some

						<p>research has found no differences between specialties</p> <ul style="list-style-type: none"> - Prevalence of sexual boundary violations from self-report studies is 6.8% while studies reviewing disciplinary action report a prevalence of 1.6%
Literature review and observational research						
DuBois ³³	2019	USA	Physicians	<p>1) Describe prior research by others on the problems of serious ethical violations in medicine, including data on frequencies, harms to patients, and correlates of violations</p> <p>2) Analysis of cases to identify factors that are common to most cases, and factors that divide cases into distinct groups or typologies</p>	<p>Federation of State Medical Board disciplinary action cases for physicians who have committed serious ethical violations (improper prescribing of controlled substances, sexual abuse of patients, unnecessary invasive procedures) and literature review</p>	<p>Literature review:</p> <ul style="list-style-type: none"> - Increased risk of discipline associated with male gender, age over 45 years, training outside of the US, lack of board certification, solo practice, prior grades/test scores <p>Study:</p> <ul style="list-style-type: none"> - Most cases involved intentional and repeated offenses over a few years - Most cases involved males, occurred in non-academic settings, settings in which there were oversight problems, and were motivated by selfish reasons such as financial gain or sex

						<ul style="list-style-type: none"> - Higher than expected proportion of physicians were not board certified and were internationally educated - In over half of cases, the physician had a substance use disorder or suspected Cluster B personality disorder
Integrative Review						
Papinaho ⁸⁸	2019	Australia Brazil Israel USA	Nurses	<p>To synthesize knowledge in studies about nurses who had been disciplined by their professional regulatory bodies.</p> <p>Research questions:</p> <ol style="list-style-type: none"> 1. What methods were used in previous studies about to research nurses who had been disciplined? 2. What characteristics were reported with regard to nurses who had been disciplined? 	Studies published in English between Jan 2006 – Nov 2018, peer reviewed, abstract available, about nursing discipline	<ul style="list-style-type: none"> - 14 studies from the US, one each from Australia, Brazil, and Israel - Found literature on nurse regulatory body discipline to be limited - Most studies reported on reasons for discipline, finding that threatening patient safety was main reason for discipline - 13 studies looked at characteristics associated with discipline, finding that more women are disciplined but men are overrepresented in discipline compared to the nurse population. Registered nurses comprise the majority of cases and most cases

				<p>3. What reasons for taking disciplinary action against nurses have been reported?</p> <p>4. What kinds of disciplinary action against nurses have been reported?</p>		<p>occur in hospital or long-term care settings</p> <ul style="list-style-type: none"> - Nurses with a previous criminal record faced discipline earlier in their career. Nurses were more likely to reoffend if they had committed multiple violations - Penalties were similar across jurisdictions
Survey						
Damiano ³⁰	1993	USA	Dentists	To examine the disciplinary activities of the state boards of dental examiners and state peer review committees	US dental boards were sent a questionnaire on disciplinary actions from 1979 - 1987	<ul style="list-style-type: none"> - 26 states responded with disciplinary information - Discipline rates varied across states and depending on the year- 14% of cases dropped voluntarily and 28% were resolved through mediation, 38% resolved by full committee review, and 20% not resolved after a year - 43% of decisions favoured the patient, 31% favoured the dentists,

						and 9% were compromised, and the remainder favoured a third party such as insurance company
Greysen ⁴⁹	2012	USA	Physicians and Osteopaths	To gain information about oversight by licensing authorities for physician uses of the Internet or disciplinary consequences for violations of online professionalism	Executive directors of medical and osteopathic boards in the USA	<ul style="list-style-type: none"> - 44/48 boards received at least one report of an online professionalism violation - Inappropriate patient communication online was most common violation (e.g., sexual misconduct), second was use of Internet for inappropriate practice (e.g., internet prescribing without a clinical relationship), third was online misrepresentation of credentials - License restriction, suspension, or revocation occurred in 56% of the boards - Most incidents reported by patients/families, or by other physicians

Hudspeth ⁵⁵	2007	USA	Physicians	The objective of this survey was to report all Advanced Practice Registered Nurse discipline for all states, including the District of Columbia, in a way which would capture as many discipline actions as possible considering the state-to-state variability which exists.	Survey responses from boards of nursing in the USA reporting all resolved complaints resulting in actions against an APRN's license or practice authorization in 2003 - 2004	<ul style="list-style-type: none"> - Most common reasons for discipline were patient abuse and safety issues (30% of cases), unprofessional conduct (28%), chemical impairment (21.5%), and practicing outside scope of practice (20%) - Nurse practitioners made up 69% of cases, and certified registered nurse anesthetists made up 19% - Overall disciplinary rate was 0.54% (688 cases/ 125,882 nurses in sample)
Scofield ⁹⁷	2005	USA	Dental hygienists	To collect quantitative data addressing safety when dental hygienists administer local anesthetics by reviewing disciplinary actions taken when dental hygienists and dentists administered local anesthetics	State dental boards that authorize dental hygienists to administer local anesthesia	<ul style="list-style-type: none"> - 17/18 boards required certification for dental hygienists to administer local anesthetics - 13/18 boards reported no disciplinary actions for local anesthetic concerns, and 5/18 said information unavailable - 1/18 boards reported two cases of disciplinary action, while 12 boards reported no cases and 5 boards did not have this information

Zhong ¹¹⁸	2009	USA	Nurses	To determine what factors might affect the outcomes of remediation, including the likelihood of recidivism, among nurses who had been the subject of disciplinary action and had been put on probation by a state board of nursing	Nurses subject to discipline in six US states surveyed and publicly available data on criminal conviction and professional discipline in 2001	<ul style="list-style-type: none"> - Category of intentional misconduct or criminal behaviour was the most common reason for discipline (21%) Double the proportion of men in the workforce were disciplined, and a higher proportion of men than women reoffended - Factors associated with those disciplined: Male sex, average age was 43.3, LPNs and RNs more likely to be disciplined in long-term care setting, twice the proportion of licensed practical nurses working was disciplined compared to general population of LPNs - Multiple probationary requirements imposed: employer must provide reports, must practice under supervision, work setting was restricted, or had to complete educational requirements - 39% of nurses disciplined recidivated. Factors associated with reoffending included: history of
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						criminal conviction, switching employers during probation, disciplined for multiple violations, under 40 years old, male sex, and being a licensed practical nurse rather than a registered nurse
Qualitative Research						
Hanna ⁵¹	2019	UK	Physicians Dentists Pharmacists Nurses/Midwives	The aim of the research was to use topic analysis to examine UK fitness to practise dental, medical, nursing, and pharmacy cases to ascertain what lessons can be learnt. The objectives were as follows: 1) To demonstrate how topic analysis could be employed for examining published fitness to practise cases 2) To apply the NMF (non-negative matrix	Fitness to practice cases in the UK for dentists, physicians, nurses/midwives, and pharmacists from Aug 2017 – June 2019	- Patient care was the most common topic for medicine, dentistry, and nursing, and criminal offenses was second - For pharmacy, criminal offenses were the most common, drug possession and supply was second, and patient care was third. Drug possession was not as common for other professions - Medicine had highest percent of personal behaviour/sexual misconduct cases, followed by pharmacy, dentistry, then nursing - Dishonesty/fraud was also a common topic

				factorization) model to enable the identification of topics (themes) 3) To determine the extent to which the topics affected the four professions		
Neville ⁸⁴	2017	UK	Dentists Dental Nurses	1. To identify the number of fitness to practise cases concerning social media infringements investigated by the GDC from Sept 1 2013 to June 21, 2016 2. To quantitatively examine the nature of each of the cases and identify pertinent themes and underlying patterns of these online professional lapses	Fitness to practise cases investigated by the General Dental Council from Sept 1, 2013 to June 21, 2016	<ul style="list-style-type: none"> - Of 253 fitness to practise cases, 6 (2.4%) were related to social media infringements - 5/6 cases involved Facebook. - Most common type of social media infringement was unprofessional and offensive postings on Facebook - Most common penalties were suspension and reprimand - More social media cases involved women than men, and most cases involved dental nurses
Teherani ¹⁰⁵	2005	USA	Physicians	To identify the domains of unprofessional behaviour in medical	Physicians who were graduates of the University of	<ul style="list-style-type: none"> - Regarding unprofessional behaviour, domains of poor reliability and responsibility, and

				students that were linked to disciplinary action.	California, San Francisco that were disciplined by the Medical Board of California	poor initiative and motivation were identified significantly more often in students that were later disciplined as physicians than those who were not disciplined - Domain of lack of self-improvement and adaptability approached significance
Qualitative and observational research						
Papadakis ⁸⁷	2005	USA	Physicians	1) Investigate the association of disciplinary action against practicing physicians with prior unprofessional behaviour in medical school 2) Examine the specific types of behaviour that are most predictive of disciplinary action against practicing physicians with unprofessional behaviour in medical school	Federation of State Medical Boards disciplinary cases for physicians who graduated from one of three medical schools in the US since 1970 who were disciplined between 1990 - 2003	- Unprofessional behaviour in medical was associated with three times the risk of subsequent disciplinary action. Double the proportion of disciplined physicians demonstrated unprofessional behaviour in medical school compared to controls - Irresponsibility and diminished capacity for self-improvement were independent predictors - Low MCAT scores, failing a course during medical school, and low grades in the first two years of

						medical school were predictors of discipline - Family medicine and obstetrics/gynecology overrepresented and pediatrics underrepresented
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Appendix 6: Interview Guide

Structure of the disciplinary action process
<ol style="list-style-type: none">1. Please describe the committees involved and steps taken in the complaints and disciplinary action process.<ol style="list-style-type: none">a. Are there separate committees that handle complaints and discipline? Please explain the difference between these committees.b. Are there times when a complaint might bypass the complaints/inquiry committee and proceed directly to the higher level of disciplinary action?c. Does the college have a framework or decision tree to help decide how the complaint is processed? Please describe this.
Goal of disciplinary action
<ol style="list-style-type: none">2. As a regulatory body director, please describe the goal of regulatory body complaints and disciplinary action processes.<ol style="list-style-type: none">a. Is there a difference in how the college approaches complaints about clinical competence versus professionalism or financial fraud? Please explain.b. Would you say that the processes are effective at achieving this goal - what are some strengths? What are some areas for improvement?c. We have noticed some differences in the types of violations that some provinces discipline. How do you perceive your college's culture and attitude towards disciplinary action to be compared to other Canadian regulators of the same profession? Would you say that your processes are similar or different from other Canadian regulators?
Behaviour change and recidivism
<ol style="list-style-type: none">3. How do regulatory bodies motivate health professionals who have been disciplined or are flagged for incompetence to change their behaviour?<ol style="list-style-type: none">a. What strategies or programs do you have in place to motivate or monitor health professionals that have been disciplined?b. What types of penalties are used by your college in the complaints and disciplinary action processes?c. What is the goal of these penalties? Do you find penalties to be effective?

Perception by members and the public
4. How would you describe members' perceptions of the college? 5. How would you describe the public's perception of the college? a. Anecdotally, some perceive the college to be the 'watchdog' or 'out to catch you'. How would you ideally like to be perceived by members of the profession? b. What would be some strategies to achieve this goal?
Final comments
6. Do you have any final comments to add before we end the interview?