MORE THAN "TRUE": TOWARD A COMPREHENSIVE REGULATORY APPROACH TO THE COMMUNICATION OF MISINFORMATION BY HEALTH PROFESSIONALS

by

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Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people. We recognize that African Nova Scotians are a distinct people whose histories, legacies and contributions have enriched that part of Mi'kma'ki known as Nova Scotia for over 400 years.

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Abstract

Health misinformation has been identified as a major threat to individual and public health, and many governments and health institutions have been occupied with how to contend with its spread. The problem has been especially acute during times of crisis, such as the recent COVID-19 pandemic. Previous research has identified and sought to understand the manner in which misinformation originates and spreads, and a variety of legal and policy responses have been proposed or enacted to try to curb the spread of misinformation and its associated harms. However, a sub-area of health misinformation that has not been examined with as much attention, despite its significant influence on the health information landscape, is how regulators contend with misinformation that is spread by health professionals – the experts most people turn to for reliable health information and advice. This thesis seeks to understand how regulated health professions are dealing with the problem of health misinformation among their professional members, focusing on medicine and nursing as two of the most common and longstanding health professions. Through three main methods, consisting of a tracing of the history of the regulation of health misinformation, a comparative jurisdictional scan of the legal and policy schemes that intersect with health misinformation in regulated professions, and a content analysis of case law dealing with allegations of health misinformation spread by health professionals, I examine the relative strengths and limitations in how health professions regulators have dealt with the problem of health misinformation by health professionals. I argue that while some effective policy approaches to the problem exist, regulators are not consistent in their approaches to defining, identifying, responding to, or preventing the communication of health misinformation by the professionals they regulate. Drawing from the concept of knowledge-based-consensus, I propose that a more effective approach to professionals' communication of health misinformation could be achieved by using a more consistent set of regulatory strategies that would center around an organizing principle of ensuring that the evidentiary standards on which professionals rely are consistently identified and transparently communicated to patients and the public.

Chapter 1: Introduction

In recent years, misinformation has been recognized as one of the most pressing risks to health and security – with the World Economic Forum having recognized it as the top global risk anticipated over the next two years.[1]As a sub-type of misinformation, health misinformation is a significant problem of concern for governments and the public alike, with serious harms such as patient illnesses and deaths being closely associated with it.[2]

Attention to health misinformation has risen since the COVID-19 pandemic, when governments and the public alike were overwhelmed with large amounts of inaccurate messaging related to the coronavirus, the safety and efficacy of its treatments, and to the pandemic itself. Many have suggested that this challenge arose or was worsened by a lack of preparedness for a widespread disease outbreak alongside relatively new technologies such as the internet and social media.[3]

However, the problem of an "infodemic" was not entirely unanticipated. Years prior to the COVID-19 pandemic, observers had already written on the phenomenon of an "infodemic" accompanying previous disease outbreaks, and the importance of understanding and preparedness for the spread inaccurate and unconfirmed information spreading during future public health crises.[4] These observers appeared to be quickly proven correct in 2020, when the

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[1] See World Economic Forum, *The Global Risks Report 2024, 19th Edition: Insight Report* (Geneva: World Economic Forum, online (pdf): <www3.weforum.org/> [perma.cc/X98R-F7B4].

[2] See, e.g. CCA (Council of Canadian Academies), "Fault Lines." (Ottawa (ON): Expert Panel on the Socioeconomic Impacts of Science and Health Misinformation, 2023) at 19, online (pdf): <cca-reports.ca/> [perma.cc/K6SU-J8ZZ] (finding that COVID-19 misinformation in Canada may have caused 2,800 preventable deaths and 13,000 preventable hospitalizations).

[3] See Boris D Luschniak, "COVID-19 Caught the World Unprepared" in Vassyl A Lonchyna, Peggy Kelley, & Peter Angelos, (eds), *Difficult Decisions in Surgical Ethics: An Evidence-Based Approach* (Springer: 2022), doi: <10.1007/978-3-030-84625-1_44>; Zapan Barua et al, "Effects of misinformation on COVID-19 individual responses and recommendations for resilience of disastrous consequences of misinformation" (2020) 8 Progress in Disaster Science 100119, doi: <10.1016/j.pdisas.2020.100119>.

[4] See e.g. Gunther Eysenbach, "Infodemiology and Infoveillance: Framework for an Emerging Set of Public Health Informatics Methods to Analyze Search, Communication and Publication Behavior on the Internet" (2009) 11:1 J

beginning of the global COVID-19 pandemic was accompanied by the beginning of a proliferation of misinformation related to COVID-19. Part of the observers' reasoning for anticipating a wave of health misinformation was an observed lack of adequate institutional protections against health misinformation spread to patients, including not only a relative lack of engagement by health organizations in preventing the spread of health misinformation, but a lack of protection against misinformation spread by health professionals themselves.[5]

The problem of health professionals spreading misinformation has become prominent in news cycles in recent years, with numerous high-profile examples of health professionals being accused of spreading misinformation, such as false or misleading claims that the COVID-19 pandemic was a "planned exercise in population control",[6] that a majority of people who received the COVID-19 vaccine developed blood clots,[7] or that patients could safely and effectively rely on alternative treatments, such as hydroxychloroquine and ivermectin.[8] While some health professionals accused of spreading misinformation have faced disciplinary action, others reportedly have not, with disciplinary processes being described as moving much more slowly than the spread of the misinformation.[9]

Med Internet Res e11, doi: <10.2196/jmir.1157>; David J Rothkopf, "SARS, Fear, Rumors Feed Unprecedented 'Infodemic'" (18 May 2003) *The Record*, online: *Newspapers* <www.newspapers.com/> [perma.cc/N28T-NDYP].

[5] *Ibid*.

[6] See Ashleigh Stewart, "Revealed: How a web of Canadian doctors are undermining the fight against COVID-19" (2022) *Global News,* online: <globalnews.ca/> [perma.cc/U9GH-XPT6].

[7] *Ibid* (stating that a physician referenced "his own research... claiming that "more than half" of participants tested positive for blood clots after receiving a COVID-19 vaccine — a direct contradiction to the rate of between one in 83,000 and one in 55,000 patients cited by the National Advisory Center on Immunization").

[8] See Soo Rin Kim et al, "Group of Physicians Combats Misinformation as Unproven COVID-19 Treatments Continue to be Prescribed" *ABC News* (4 Mar 2022) <abcnews.go.com/> [perma.cc/DGU2-G458]; World Health Organization, "Coronavirus Disease (COVID-19): Hydroxychloroquine" (28 March 2023), online: <www.who.int/> [perma.cc/758D-7FYP] [*WHO Hydroxychloroquine*]; National Institutes of Health, "Ivermectin" (20 December 2023), online: <www.covid19treatmentguidelines.nih.gov/>, *Internet Archive:* <web.archive.org/> [*NIH Ivermectin*].

[9] *Ibid*.

As societal concern about misinformation has grown, many initiatives for tracking and combatting misinformation have been emerging around the world.[10] However, there have not been as many coordinated efforts to address misinformation in professional healthcare settings, particularly when the misinformation is alleged to be spread by health professionals. This is a particular problem because misinformation communicated by health professionals can have an outsized impact relative to other sources of misinformation, due to the elevated amount of perceived knowledge and legitimacy that regulated professionals have when they communicate information (or misinformation) about health, as well as the trust and status that these health professionals hold.[11] In short, health misinformation may be more persuasive and can have proportionally larger reach when it is communicated by a health expert.

Health professionals in many parts of the world are regulated by professional regulators, which are organizations created by government to oversee and control matters of licensing, education, and complaints and discipline for practitioners of a profession. Professional regulators are often called "Colleges", "Boards", or "Councils". For example, the Ontario College of Pharmacists is the professional regulator that regulates all practitioners of the pharmacy profession in Ontario,[12] the California Board of Registered Nursing is the professional regulator that regulates all practitioners of the registered nursing profession in California,[13] and the

[10] See Daniel Funke and Daniela Flamini, "A Guide to Anti-misinformation Actions around the World" (updated 13 August 2019), online: <www.poynter.org/> [perma.cc/SQX4-6HL3]; RAND, "Tools That Fight Disinformation Online", online: <www.rand.org/> [perma.cc/CFK2-7NVU].

[11] See e.g. Timothy Caulfield, Alessandro R Marcon, Blake Murdoch, Injecting Doubt: Responding to the Naturopathic Anti-Vaccination Rhetoric, 4 J.L. & Biosciences 229 (2017) (arguing that regulation helps to legitimize professionals and increase the persuasiveness of health claims made by those professionals); College of Physicians and Surgeons of Ontario, "The Spread of Misinformation" (9 March 2023), online: <dialogue.cpso.on.ca/> [perma.cc/SH7K-3536] (noting that physicians hold a "unique position of trust").

[12] See Ontario College of Pharmacists, "Pharmacy Profession At-A-Glance", online: <www.ocpinfo.com/> [perma.cc/P6VG-3VR3].

[13] See California Board of Registered Nursing, "About the Board", online: <www.rn.ca.gov/> [perma.cc/6RSF-BYF2].

General Medical Council is the professional regulator that regulates all practitioners of the medical profession in the United Kingdom.[14]

Professional regulators ordinarily have a legal mandate to protect the public,[15] in consideration of the harm that can occur through the improper practise of health care and the need to ensure that care is adequately safe and helpful to patients.[16] As organizations that regulate the quality and safety of patient care, set standards for the professional behaviour of practitioners, and work to protect the public interest, professional regulators are in the most immediate position to address misinformation that is communicated by health professionals.

Due to the degree of influence on personal and public health that health professionals can have when communicating misinformation, as well as the relative lack of systematic attention to how this problem is being addressed by professional regulators charged with overseeing the safe practice of health professionals, I have chosen to focus this thesis on the current trends, areas of effectiveness, and shortcomings among regulatory responses to misinformation by health professionals.

The remainder of this introductory chapter will describe the definitions of key terms and concepts applied in this thesis, the structure and approach of each of the main chapters, and the central themes arising from the chapters regarding regulation of health professionals who are alleged to have spread misinformation.

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[14] See United Kingdom General Medical Council, "About Us", online: <www.gmc-uk.org/about>, *Internet Archive:* <web.archive.org/>.
[15] See *Regulated Health Professions Act*, SO 1991, c 18, ss 2.1, 3(2); Cal Bus & Prof Code, s 2001.1; United Kingdom *Medical Act 1983,* c 54, s 1(A).
[16] United Kingdom *Medical Act 1983,* c 54, s 1(B).

I. Understanding Misinformation: Key Terms and Concepts

This section describes several terms and concepts that are important to defining and understanding misinformation. These include the concept of misinformation in general, as well as the concepts of evidentiary basis (the philosophical or conceptual foundations of claims related to health), predictive decision-making (the ability of patients and public health entities to predict future outcomes based on available information and make their decisions accordingly), process (the idea of having processes that facilitate decision-making in a transparent and non-misleading fashion), and communication (the ways in which information and misinformation can be conveyed from one person to another). These ideas will be introduced in turn and then brought together to create a working definition of health misinformation for the purpose of this thesis.

It is helpful here to begin with the concept of misinformation generally, before moving to describe health misinformation. Definitions of misinformation vary, but generally, existing definitions of misinformation refer to communications (i.e., spoken statements, written messages, images, etc.) that contradict expert consensus and the best available evidence.[17] In this context, expert consensus refers to ideas that are agreed on by a large proportion of experts in a field, and the best available evidence refers to the strongest existing evidence that supports an idea, based on how much evidence exists, how widely the evidence can be generalized, and how concrete the evidence is.[18]

[17] See Emily K Vraga and Leticia Bode, "Defining Misinformation and Understanding its Bounded Nature: Using Expertise and Evidence for Describing Misinformation" (2020) 36:1 Political Commun 136, doi: <10.1080/10584609.2020.1716500>.
[18] *Ibid*; Brian G Southwell et al, "Defining and Measuring Scientific Misinformation" (2022) 700:1 Annals AAPSS, doi: <10.1177/00027162221084709>.

With the general idea of misinformation and best available evidence introduced, it is important to consider what kind of evidence is relevant when describing health misinformation more specifically. In health-care settings, which tend to place a heavy emphasis on science as a basis for their communications and practices, the type of misinformation that is of major concern is scientific misinformation.[19] Scientific misinformation generally refers to statements or communications that "fail relevant tests of validity based on the best available evidence and expert judgment at the time", and which are communicated alongside scientific information, potentially competing with it, despite lacking actual scientific backing.[20]

In a health care context, misinformation fundamentally connects to the nature, or basis, of health-related information. The evidentiary basis of information is essential to how patients and the public make predictions about the consequences of their actions. People make decisions based on what they think or expect will happen (predictive decision-making), and the evidentiary basis of the information behind those decisions is a central component of being able to predict what may happen as the result of one's actions, and how likely it is that it will happen.

For the purpose of this discussion, "evidentiary basis" can be defined as the foundation of the evidence supporting a health intervention (i.e., a treatment, therapy, diagnostic intervention, or other activity intended to benefit health). The foundation of the evidence refers to the philosophical and material basis of the intervention (which may include science, personal experience, supernatural beliefs, historical practices, or some combination of these), as well as to the standard of the evidence (which can include the type, quality, and amount of the evidence).

In health science, the evidentiary basis in support of a health treatment can have a large impact on the probability that the treatment will be effective in treating a health problem.

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[19] See Southwell et al, *supra* note 18.
[20] *Ibid.*

Research has estimated that a significant portion of mainstream health treatments may considered to be "false" (that is, ineffective or unlikely to be effective) based on the type of evidentiary support underlying them, especially where the evidentiary support consists of poor-quality clinical research.[21] In other words, clinical research, and especially poor-quality health research, is frequently "false" (i.e., unlikely to be correct in its conclusions about a treatment's effectiveness), and this clinical research can by extension result in a health intervention that is "false" (i.e., unlikely to be effective at what it is expected to do). On the other hand, an evidentiary basis of high-quality clinical research is much more likely to signal that a health intervention is effective (i.e., that the intervention has a much higher probability of resulting in the health effect that it is expected to generate).

It is important to note differing types of health interventions may have a high rate of success without needing to have the same type of evidence (e.g. clinical research) supporting them. Different types and standards of evidence will be more relevant[22] to different interventions. For example, high-quality clinical research, such as randomized controlled trials, is a relevant evidentiary basis for determining the effects of clinical products. However, some approaches to health, such as those based in traditional knowledge, can be both beneficial to health and often compatible with mainstream medicine that is based in clinical research science,[23] but interventions based in traditional knowledge may have different origins,

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[21] See John P A Ioannidis, "Why Most Published Research Findings Are False" (2005) 2:8 PLOS Med e:124, doi: <10.1371/journal.pmed.0020124>.

[22] I use the term relevance here to describe whether a type of evidence is known to reliably predict how likely a health intervention is to succeed. For example, clinical trials are known, based on many repetitions over time, to be a type of evidence that reliably predicts how likely a pharmaceutical product is to succeed at treating a disease. This makes clinical trials a relevant type of evidence to support claims about the effectiveness of pharmaceutical products.

[23] For example, a large proportion of mainstream medicines are sourced from traditional knowledge: see World Health Organization, "Traditional Medicine Has a Long History of Contributing to Conventional Medicine and Continues to Hold Promise" (10 August 2023), online: <www.who.int/> [perma.cc/M66B-5DZP] .

supporting evidence, and traditional uses than interventions based in clinical research.[24] Additionally, an approach such as a clinical research trial is not always a relevant or necessary basis for evaluating all possible types of health interventions, such as community health programs, religious or spiritual supports, or social or cultural supports for patients. Understanding the type, strength, and relevance of evidence that underlies (or does not underlie) each type of health intervention is important for ensuring that professionals and patients can evaluate and predict how likely the health intervention is to result in the outcome that they are seeking.

Health care has historically left room for some differences in the nature and amount of evidence that supports a given treatment. However, problems arise where there is a high degree of inconsistency between evidentiary basis of health interventions that are used alongside one another, and especially where inconsistencies are not understood and communicated among health care providers and patients. These inconsistencies, if not properly communicated, can give the impression that different interventions have equivalent evidence, equivalent effects, and an equivalent likelihood of success for a given health concern, even where this is not the case. This consideration of likelihood (and misunderstandings of likelihood) brings the discussion to the topic of predictive decision-making.

A primary harm of health misinformation is its negative effect on the ability to make predictive health decisions, i.e., decisions that consist of reviewing information to determine the likelihood that a particular action will lead to a particular outcome, and then making a decision that seems most likely to achieve a desired outcome or avoid an undesired outcome. This

[24] See e.g. Billie Joe Rodgers et al, "At the Interface: Indigenous Health Practitioners and Evidence-Based Practice" (Prince George: National Collaborating Centre for Aboriginal Health, 2019), online (pdf): <www.nccih.ca/> [perma.cc/LCG5-62ZW].

impairment in predictive decision-making can happen both on an individual level, and on a societal scale. Present-day health care places a heavy emphasis on patient autonomy and the importance of each person being able to make decisions about their health in a way that is meaningful to them.[25] A fundamentally important part of this process is the ability to make informed, predictive decisions by considering all of the relevant information that might affect a health care decision – and for information to be relevant, it needs to be accurately understood. The decision-making process is hampered when patients are presented with communications containing misinformation, as these communications interfere with the ability to make accurately informed decisions.

Recent infectious disease outbreaks have brought more emphasis on the importance of population health, and the ability for policymakers and the public to make informed decisions about actions that may affect a population or society as a whole. Researchers have noted that collective decision-making can be undermined by misinformation, interfering with the ability to make accurate and effective decisions to protect the health of populations.[26]

Hence, health misinformation can be considered both a personal and a collective problem, one which threatens to undermine the values of personal autonomy (by interfering with the ability to make informed and personally meaningful decisions), as well as values regarding public safety and population well-being (by affecting people on a large scale with negative consequences for populations).

A final concept that is important to conceiving of health misinformation is the process of how information is communicated, and whether that process yields a result of accurate or true

[25] See the discussion on informed consent in Chapter 4 (Case Content Analysis) at page 70.
[26] See Southwell et al, *supra* note 18 ("[a]s Lewandowsky, Ecker, and Cook (2017) have noted, misinformation can be problematic because of its potential negative consequences for collective decision-making, and yet we also should acknowledge that false information is not all equally problematic").

information with which someone can make a decision. A potential obstacle to defining misinformation tends to revolve around this idea of accuracy, or truth. There is naturally some controversy in how information should be determined to be accurate or inaccurate, true or untrue.[27] Disagreement about whether a communication is accurate is common, as is disagreement over who should be allowed to determine what is true or untrue for the purpose of regulation.

In response to these logistical problems in defining what distinguishes accurate health information from health misinformation, I suggest that widespread concern about misinformation among regulators and public is not always about accuracy of information per se, but about the process of being able to engage with information and reason through that information in a meaningful way when making decisions. This concept of misinformation being about *process* rather than solely being about *truth*, focuses less on the idea of accuracy and more on the usefulness of information in predicting potential health outcomes when making health decisions. It also fundamentally focuses on the evidentiary basis of health information, because properly understanding the evidentiary basis of information lies at the core of being able to make predictions, and hence being able to make health decisions. The process of sharing information (and misinformation) still relates to accuracy and truth, in that a transparent and effective information-sharing process can lead to the highly predictive decision-making that yields what we think of as an "accurate" or "true" result, and a poor process can lead to poor predictions, which we may think of as "inaccurate" or "untrue" results. However, focusing only on the end results of accuracy or truth can lead us to miss the essential steps of the decision-making process,

[27] See Southwell, *supra* note 18.

which have to do with properly understanding and communicating evidentiary standards and using these standards to help make predictions that matter to the decision-maker.

Having introduced the concepts of evidentiary basis, predictive decisions, and process as they relate to misinformation, I will now expand on one final concept, communication, before moving to a working definition of health misinformation. When defining what constitutes communication of misinformation by health professionals, it is helpful to turn to existing regulations as a guide, as many health professions regulators have rules dealing with professional communication standards.

It will likely seem obvious to state that misinformation can be communicated in any way that information can be communicated. Regulators have been attentive to the different ways in which health professionals communicate information, both accurate and inaccurate, to patients and the public. It is common for rules governing professional communications to apply to a range of different types of communication, including public statements (e.g., marketing, interviews, social media posts), as well as direct communications with patients.[28]

Rules regarding communications also tend to include both statements and omissions: that is, many regulators apply their standards both to express statements that create a misleading impression, and to omissions, where the lack of certain information, including some details but leaving out others, creates a misleading impression.[29] The omission of information can include a lack of disclosure of the evidentiary nature of treatment, if the evidentiary nature differs from what a patient might typically assume or expect in the circumstances (e.g., failing to mention that

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[28] See e.g. Washington Medical Commission, "Guidance Document: Social Media and Electronic Communications" GUI2023-01 (14 July 2023), online (pdf): <wmc.wa.gov/> [perma.cc/6HEQ-RE8S]; College of Physicians and Surgeons of Nova Scotia, "Advertising and Public Communications by Physicians" (updated 26 May 2023), online: <cpsns.ns.ca/>; Fla. Stat. § 456.62 (2024).

[29] See e.g. College of Physicians and Surgeons of Ontario, "Advertising" (Policy) (December 2020), s 3, online: <www.cpso.on.ca/> [perma.cc/5JFX-4FM6]; College of Physicians and Surgeons of New Brunswick, "Regulation # 10: Advertising" (consolidated February 1999), s 1, online: <cpsnb.org/> [perma.cc/G28R-MCL8].

a treatment is experimental and lacks strong research-based evidence of effectiveness, in a setting where the treatments offered are normally well-established and not experimental). Regulator rules are similarly broad in the terms that they use to capture misinformation, with rules using the term "misinformation" alongside others like "false", "misleading", "inaccurate", or "deceptive" communications.[30]

These trends represent a broad approach to defining the communication of misinformation, one that includes any mode of communication, whether by statement or omission, that misinforms or is likely to misinform.

II. Working Definition of Health Misinformation

Bringing all of these ideas together, for the purpose of this thesis, I define health misinformation by health professionals as follows: a communication of any kind made by a health professional, about a health intervention, which contains an informational claim that is stated or implied to have an evidentiary basis that most people would not reasonably expect or understand it to have.

Essentially, misinformation can be considered a process of deception by way of interference with a person's reasonable expectations about the information that is being communicated to them. From this perspective, misinformation is not so much a falsehood or lie, but something that misleads a person and interferes with that person's own process of seeking the truth. While existing definitions of misinformation (including health misinformation) typically reference a lack of truthfulness,[31] I believe that this focus on truthfulness does not fully

[30] See e.g. 22 Tex Adm Code §§164.3, 217.11 (2008); Fla Admin Code 64B8-11.001 (2020).
[31] See Ilona Fridman, Skyler Johnson & Jennifer Elston Lafata,"Health Information and Misinformation: A Framework to Guide Research and Practice" (2023) 7:9 JMIR Med Educ e38687, doi: <10.2196/38687>.

account for the experience and expectations of the audience hearing the misinformation, and that it is important for a definition of health misinformation to include a consideration of how the recipient of the misinformation is perceiving and making predictions based on the informational claims that are being conveyed.

For example, a written or verbal statement by a surgeon that a particular surgical complication (such as an infection) is uncommon based on the surgeon's experience, regarding a type of surgery that the surgeon has never before performed, would constitute misinformation, because the statement is based in an evidentiary basis – personal experience – that does not actually exist to support the claim that the surgical complication is uncommon. Patients who may want to make a decision about whether to have the surgery, where that decision is based partly on the expected risk of infection, cannot appropriately make a prediction about probability of infection because the stated evidentiary basis of that prediction (the surgeon's personal experience) does not actually exist, although a reasonable patient would presumably expect it to, based on the surgeon's statement.

Another example would be a physician or nurse prescribing a common medication for an "off-label" use (that is, prescribing the medication to treat a different health condition than what the medication has been studied and approved to treat), where the "off-label" use has never before been tested or attempted.[32] If the health professional states to a patient that the medication is commonly used and that they expect the medication will be effective for the "off-label" health condition, this would constitute misinformation. The statement about effectiveness is based on

[32] For clarification, off-label uses of medications are not problematic on their own, as medications are commonly used safely and effectively for purposes other than those approved on the medication's label. Off-label uses sometimes have good-quality evidentiary support (see e.g. G. Zarkavelis et al, " Off-label despite high-level evidence: a clinical practice review of commonly used off-patent cancer medicines" (2023); 8:1 ESMO Open 100604, doi: <10.1016/j.esmoop.2022.100604>). In my above example, the problem is not the off-label use, but the lack of accurate and transparent communication regarding the nature of the evidence in support of an off-label use.

terms that imply that the medication is commonly and effectively used for the "off-label" condition, an informational claim based in an evidentiary basis (common usage, and the scientific study required for the medication's approval) that does not actually exist for the "off-label" health condition for which the medication is being prescribed. A patient deciding whether to take the medication for their "off-label" condition cannot appropriately make a prediction about the probability of the medication's effectiveness because the implied evidentiary basis of that prediction (common usage of the medication for their health condition, and scientific study of the medication for their health condition) does not actually exist.

This working definition will guide each of the main chapters of the thesis, which will now be described.

III. Roadmap of Chapters

A. Legal and Regulatory History

The chapter that follows this introduction examines how misinformation has been conceptualized since the early 20th century, when modernization of health professions began to take place, as well as the kinds of regulatory responses that have existed over time to address misinformation. The chapter overviews major societal changes, developments in regulatory structures, and conceptions of misinformation that have influenced the current regulatory landscape and current conceptions of misinformation, evidentiary standards, and governance structures that exist to address misinformation by health professionals.

The purpose of this chapter is to describe the scope and nature of the challenge of misinformation within the context of a longer history of misinformation over approximately 120 years, since the time that health care started to become significantly standardized and develop

into a structure of regulated professions. Key ideas illustrated in this chapter are that waves of misinformation and regulatory responses occurred repeatedly over time, but responses have lacked a cohesive concept of what misinformation is. In particular, responses to misinformation have lacked both a consistent vocabulary and consistent attention to the concept of evidentiary standards as an essential factor that separates useful health information from misinformation. This has left regulators unable to effectively cope with misinformation and adapt to factors like commercial influences and technological advances that pose additional challenges to addressing health misinformation.

B. Cross-Jurisdiction Comparison

Chapter 2 of this thesis examines the sets of laws, policies, and regulatory structures that define and respond to misinformation across professional regulators in three jurisdictions (the UK, the US, and Canada), focusing primarily on physician regulators. This chapter examines trends and differences among the rules and governance structures of different regulators, and the connection between these rules and structures and the manner in which the issue of professional misinformation is defined and addressed.

The purpose of the final cross jurisdiction comparison chapter is to examine consistencies and inconsistencies in how regulators are currently addressing misinformation in their policies, with attention to policy approaches that appear to address misinformation most comprehensively, as well as policy approaches that may be ineffective, or, at worst, counter-productive to addressing misinformation. The findings of the history and case content chapters will serve as a guide that may help to explain or to give context to some of the policy approaches and the extent

to which these policy approaches consider, or do not consider, evidentiary standards and communication standards in the spread of misinformation.

C. Content Analysis of Case Law Dealing with Alleged Health Misinformation

Chapter 3 of this thesis consists of a case content analysis of administrative body and court cases involving allegations that a physician or nurse has engaged in communicating misinformation to a patient or to the public. The approach of case content analysis consists of analyzing the content of cases in a systematic fashion to answer questions about how and why decision-makers are making particular decisions in an area of law. In this instance, a case content analysis has been chosen in order to examine trends in the nature of the alleged misinformation, the definitions and rules relied on in determining whether misinformation was communicated, and the outcomes of cases involving alleged misinformation by health professionals.

The purpose of the content analysis chapter is to examine how widespread the problem of health professions misinformation is and to analyze how regulatory decision-makers are dealing with situations in which a health professional is accused of spreading misinformation, assessing the level of consistency among published cases and any notable patterns in the approach to and the outcomes of these cases.

IV. Key Themes Arising from Research

From the three main sections of research emerge several main themes regarding misinformation by health professionals. First, misinformation is not clearly and consistently defined by regulators. The historic and current lack of a specific and consistent definition of misinformation has made it difficult for regulators, health professionals, and the public to

distinguish appropriate professional communications from inappropriate professional communications.

Second, most jurisdictions lack a clear system for designating responsibility for responding to misinformation. Many lack published, comprehensive strategies to define, identify, prevent, and stop communications of misinformation by health professionals. Responsibility for addressing misinformation appears to be diffuse within and among regulators, resulting in a lack of dedicated institutions or individuals to act on the problem.

Third, there is lack of coordination and consistency in policies and approaches across institutions and jurisdictions for the purpose of dealing with misinformation. The same types of communications by health professionals in different jurisdictions may be encouraged, discouraged, or ignored by regulator policies and practices, depending on the jurisdiction. This third problem is perhaps the most significant one, as it contributes to the perception that the problem of misinformation is fundamentally about "truth", and that no one, not even medical experts, can agree on what is true. This distracts from health professions' focus on facilitating patient autonomy and decision-making and frames misinformation as an unresolvable or unimportant issue.

The concluding chapter of this thesis discusses possibilities for what an improved, more consistent approach to health misinformation could look like, encouraging an approach that focuses not on debates about "truth" and its importance, but on the process of enabling professionals, patients, and the public to actively determine what is true and supporting patients and the public in making decisions based on their understanding of the truth. I suggest, using examples, that regulators can center policies and practices around the consistent and transparent

communication of evidentiary standards, focusing not just on the end outcome of "truth", but on the process of information-sharing and decision-making that is intended to reach it.

Chapter 2: History of Health Misinformation Responses and Regulation

I. Introduction

To understand health professions regulators' approach to health misinformation, it is necessary to understand the history of how misinformation has been defined and regulated over time. The history described in this chapter covers a time frame of approximately the past 120 years, from the early 1900s to present. I have chosen this span of time because, as I will shortly discuss in more detail, the turn of the 20th century marked the beginning of health care's development into the standardized and professionally regulated field that it is today, making it a natural starting point in a history of health misinformation in regulated health professions.

This history is relevant to the thesis for two main reasons. First, waves of health misinformation have occurred multiple times during this time span, and past regulatory and state approaches to the problem of health misinformation may yield useful insights to how it might best be managed now. Second, the current institutional approaches to health misinformation reflect structures and assumptions that originated somewhere in the past – understanding these origins can help with understanding why our current-day approaches take the form that they do, and whether these responses to health misinformation are in line with current needs, or whether current circumstances may call for a different approach than what has been used in the past.

A key theme in this chapter is the manner in which the different evidentiary foundations of different health treatments have been viewed and treated in healthcare over time. At some points in time, different evidentiary foundations have been treated as radically different from one another, with some being largely excluded from formal recognition within regulated professions. At other times, treatments with different evidentiary foundations have been treated as equivalent to one another, with little or no distinction being made between them. Emerging from the larger

history is a present-day lack of standard conceptual approach to the different evidentiary foundations behind different health interventions. While some institutions and jurisdictions make clear distinctions between them, others make little or no distinction.

Because misinformation fundamentally involves a mismatch between evidentiary foundations and patient expectations, the result of this inconsistency in how evidentiary foundations are treated is that misinformation is not defined, understood, or treated the same way within or across professions or jurisdictions. As I will demonstrate through the historical analysis in this chapter, different concepts and attitudes from different parts of history appear to have influenced institutions in an incohesive way, resulting in health systems in which there is not consistency about the size, scope, and definition of misinformation as a problem, nor is there clear agreement about whose responsibility it is to address it, or how it should be addressed.

The structure of this chapter describes four key elements of the history of health misinformation over the past approximately 120 years. The first element (described in Part A) consists of major societal developments since the early 1900s that have had a significant connection to health misinformation. The second element (described in Part B) consists of the state's relationship with health misinformation – that is, how governing institutions have responded to health misinformation over time. The third element (described in Part C) consists of regulated health professions' relationship with health misinformation. The fourth element (described in Part D) consists of the conceptual vocabulary that has been used over time to health misinformation (that is, the words and ideas that have been used to refer to the problem of health misinformation). Within each of these four parts, the chapter discusses four main phases that occurred over the past 120 years which have been significant in shaping how health misinformation has been defined and responded to – or left unaddressed. I will call these phases

the *standardization* of health care, which occurred from approximately the early to mid 1900s, the *pluralization* of health care, which occurred around the 1960s and 1970s, the *commercialization* of health care, which occurred around the 1970s and 1980s, and the *digitization* of health care, which has been occurring from around the early 2000s onward.

Each of these four phases (standardization, pluralization, commercialization, and digitization) will be discussed by way of a review of historical developments that occurred at a macro (societal) level, meso (state) level, and micro (regulatory body) level, in turn. While this will result in some overlap among topics across the four conceptual components of the chapter, this approach is intended to provide context for how each period of development had significant impacts at all levels in terms of societal, state, and regulator relationships with health misinformation.

For greater ease of understanding, a roadmap of the chapter structure is as follows:

A) Macro-level history of health misinformation: Key developments at the societal level

This section describes societal changes related to health care that have influenced the manner in which health misinformation has been able to develop and spread during the four key phases (standardization, pluralization, commercialization, and digitization).

B) Meso-level history of health misinformation: Key developments at the state level

This section describes changes in government structures and functions related to health care that have influenced whether and how health misinformation is addressed by state institutions during the four key phases.

C) Micro-level history of health misinformation: Key developments at the regulator level

This section describes developments within health professions regulatory bodies that have influenced how these institutions have addressed health misinformation during the four key phases.

D) Vocabulary history of health misinformation: Key developments in language

This section describes the vocabularies that state and health professions regulatory institutions have used to refer to health misinformation over time, and how these changing vocabularies have reflected different conceptions of health misinformation during the four key phases, in terms of how these institutions have framed both the problem of health misinformation, as well as its potential solutions.

II. History of Health Misinformation Regulation at Four Levels: Macro-, Meso-, Micro-, and Language

A) Macro-Level History of Health Misinformation: Key Developments at the Societal Level

1. Phase 1: Standardization of Health Care

The 1900s saw health care develop from an eclectic variety of theories and practices with many informational bases, to an increasingly cohesive and standard system with a common informational basis that is consistently based in *empiricism*, that is, through observation using the senses of perception. It is important to note, for the purposes of this chapter, that empiricism can be compatible with *science*, that is, knowledge production through systematic observation and experimentation.[33] However, the two concepts are not the same -- empiricism is a sub-part of

[33] See Lois N. Magner, *A History of Medicine* (Boca Raton: CRC Press, 2005).

science (the part consisting of observation through perception), but science also involves additional components, such as systematic collection of information and the experimental testing of ideas.[34] As a result, health interventions that are scientifically-based are necessarily also empirically-based, while empirically-based interventions may or may not have been tested and supported by science. Many health interventions have entered into healthcare practice through empirical study, and over time, scientific methods have increasingly, but not always, been used to test and evaluate the merits of these interventions.

Before the 1900s, methods of diagnosis and treatment were commonly based in many different belief and practice systems, including empiricism, personal belief systems and spirituality, and generational traditions. It was not uncommon for practitioners to use multiple methods alongside one another.[35] As formal health professions began to develop in different countries, those that were the first to gain significant support as regulated professions (typically medicine and nursing), did so largely based on the idea that *standardization* would bring about safer and better-quality care for patients.[36] This standardization usually involved adopting a single informational standard from which to work, with science ordinarily being chosen as the standard.

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[34] See e.g. Encyclopedia Britannica, "Scientific Method" (31 July 2024), online: <www.britannica.com/>.
[35] See e.g. Erica M. Storm, "Roy Porter Student Prize Essay, Gilding the Pill: The Sensuous Consumption of Patent Medicines, 1815–1841" (2018) 31:1 Social History of Medicine 41; John S. Haller, Jr., *A Profile in Alternative Medicine: The Eclectic Medical College of Cincinnati, 1845-1942* (Kent, OH: The Kent State University Press, 1999) at 7; J.T.H. Connor, "A Sort of Felo-De-Se": Eclecticism, Related Medical Sects, and Their Decline in Victorian Ontario" (1991) 65:4 Bull Hist Med 503; Fabio De Sio & Heiner Fangerau, "The Obvious in a Nutshell: Science, Medicine, Knowledge, and History" (2019) 42:2-3 Ber Wiss gesch, 167 <doi.org/10.1002/bewi.201900001>.
[36] See Roger Collier, "Professionalism: The Privilege and Burden of Self-regulation" (2012) 184:14 CMAJ 1559, doi: <10.1503/cmaj.109-4286>; Tracey L. Adams, "Professional Self-Regulation and the Public Interest in Canada" (2016) 6:3 Professions and Professionalism 1, doi: <doi.org/10.7577/pp.1587>; Anthony Ogus, "Rethinking Self-Regulation" (1995) 15:96 Oxford J Legal Stud 97, <doi.org/10.1093/ojls/15.1.97>.

In tandem with the move toward establishing formal health professions, the early 20th century also saw an increased separation between professions deemed "scientific" and those deemed "unscientific". One development that exemplified this trend was the release of the Flexner report, a report created in 1910 by American educator and education reformist Abraham Flexner, who had been commissioned to survey North American medical schools and recommend changes to medical education programming.[37]

The final report led to major changes in the structure of health professions education. These effects included a reduction in the number of medical schools, changes to medical program delivery, and an increased emphasis on science as the basis of medical education. The report recommended the continuation or closure of numerous medical schools, based on the author's belief that only the highest-quality schools should remain open and receive public support.[38]

While the Flexner report's notions of "quality" were problematic and included criteria unrelated to scientific standards, the report's partial emphasis on science-based education standards was highly influential. The report encouraged an already-emerging emphasis on distinct identification of health professions training that had an empirical or scientific knowledge basis, such as training in surgery and medicines that had emerged from scientific methodology.

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[37] See Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching*, Bulletin No 4, (New York City: Carnegie Foundation for the Advancement of Teaching, 1910), online (pdf): <archive.carnegiefoundation.org/> [perma.cc/4XB7-4ELE].

[38] Notably, while scientific standards were one criterion relied on for determining quality, other standards, such as existing funding levels and physical amenities (e.g., campus laboratories) were also considered. Due to systemic inequalities in funding levels and available amenities, the report is widely viewed and criticized as having promoted policies that had systemically racist effects, particularly through reducing the proportion of Black medical graduates by recommending the closure (rather than increased funding) of most historically Black medical schools, which tended to have fewer existing funds for amenities and less funding overall. For further reading on this issue, see Terry Laws, "How Should We Respond to Racist Legacies in Health Professions Education Originating in the Flexner Report?" (2021) 23(3) AMA J Ethics E271, doi: <10.1001/amajethics.2021.271>; Lynn E. Miller & Richard M. Weiss, "Revisiting Black Medical School Extinctions in the Flexner Era" (2012) 67:2 Journal of the History of Medicine and Allied Sciences 217, doi: <doi.org/10.1093/jhmas/jrq084>.

The report distinguished these types of training from those that had a supernatural, faith-based, or other non-empirical foundation, such as homeopathy.[39] The distinction between these approaches had not been consistent prior to the 1910s, with health interventions with different foundations sometimes being presented within the same curriculum, and with health education programs based on different foundations existing alongside one another.[40]

The new separation between programs that were identified as scientifically focused, and programs that were not, was reflected in the professions that were granted self-regulating status, as well as in the amount of public funding and resources that were given in support of the regulated professions. This led to greater mainstream prominence of professions considered to be science-based (including medicine and nursing), and diminished professional power of other occupations (e.g. naturopathy, chiropractic) which were considered to be unscientific.[41]

2. Phase 2: Pluralization of Health Care

Following health care's initial phase of standardization, a major and contrasting change took place between roughly the 1950s and 1960s. This change can be described as a shift from scientism to pluralism in health care, and it has been attributed to different factors by different scholars. Some have described the history as being one of "turf wars", where professions that did not consistently rely on science and which had been largely excluded from regulation gained

[39] See *Flexner*, *supra* note 37.
[40] See *Flexner, supra* note 37 at 284-285 (overviewing medical programs with scientific subjects taught alongside subjects not based in science, such as homeopathy: see Jeremy Y Ng et al, "The brief history of complementary, alternative, and integrative medicine terminology and the development and creation of an operational definition" (2023) 12:4 Integrative Med Res100978, doi: <doi.org/10.1016/j.imr.2023.100978> (describing homeopathy's origins as an alternative approach to scientific medicine).
[41] See Jeremy Y. Ng, "The regulation of complementary and alternative medicine professions in Ontario, Canada" (2020) 9:1 Integrative Med Res 12, doi: <doi.org/10.1016/j.imr.2020.01.001>.

more status as of the 1960s.[42] Others credit the 1960s counter-culture movement as a major force that encouraged *pluralization*.[43] Still others have noted that the pluralization movement may have come about as some of the major public health and safety advances that medical science brought about in the early 20th began to carry less relevance by the mid-century, as general health and lifespan had already increased for many populations and major scientific advances became less salient.[44]

The 1960s and 1970s saw a significant change to the conception of non-mainstream health practices as unscientific and illegitimate, as well as a change in the concept of what constitutes misinformation. During this period came the emergence of the new age movement, a movement that combined spiritual concepts from around the world and which emphasized practices intended to improve well-being. These practices included alternative health practices, many of which had foundations in spiritual or supernatural beliefs. The new age movement was especially popular in North America and Britain, and it led to a wide variety of non-mainstream health practices becoming popular.[45] This popularity was represented both in an increase in the number of people using these health practices, and the number of people offering these non-mainstream practices in the form of health products and services.

Non-mainstream health practices can be distinguished between those with an empirical basis that is compatible with a mainstream scientific perspective (such as many traditional medicine practices), and those without an empirical basis that have an entirely different

[42] See e.g. "Expertise Turf Wars" in Patricia O'Reilly, *Health Care Practitioners: An Ontario Case Study in Policy Making* (Toronto: University of Toronto Press, 2000).
[43] See Magner, *supra* note 33 (see especially Chapter 10).
[44] See James Le Fanu, *The Rise and Fall of Modern Medicine* (New York: Carroll & Graf, 2000).
[45] J Gordon Melton, "New Age Movement" in *Encyclopedia Britannica*, 1 April 2024, online: <www.britannica.com/>; J Gordon Melton, "Realizing the New Age" in *Encyclopedia Britannica*, online: <www.britannica.com/> [Melton, "Realizing"].

informational basis compared to mainstream medicine (such as many practices that are more novel, e.g., homeopathy).

The distinction between these kinds of non-mainstream practices, and their very different informational bases, was not generally made within the new age movement (which was known for combining practices with many different origins and informational bases), nor was it made in many mainstream institutions, which tended to distinguish between "mainstream" and "alternative", but not between the type of information being communicated by practitioners working within each category.[46] As a result, the more pluralized health care system that emerged from new age influences has also tended not to make this distinction.

There are several parallels between the new age movement's influences, and the pre-scientific, pre-standardized system that had come earlier. In both periods, health practices with different underlying philosophies and informational basis were promoted alongside one another, sometimes based on historic popularity, and often in association with successful marketing.[47] Additionally, both periods saw a relatively heavy commercial element introduced into them, as will be discussed in the next section.

3. Phase 3: Commercialization within Healthcare

[46] See Jeff Levin, "New Age Healing: Origins, Definitions, and Implications for Religion and Medicine" (2022) 13 Religions 777, doi: <10.3390/rel13090777>; a notable and prevalent issue related to the lack of distinction between New Age and alternative medicine practices has been the New Age appropriation of Indigenous medicines by New Age and alternative practitioners, a problem which pre-dated and continued beyond the New Age era: see e.g. Sarah Dees, "Before and Beyond the New Age: Historical Appropriation of Native American Medicine and Spirituality" (2023) 4:2 American Religion 17, doi: <10.1353/aiq.2000.0001>.

[47] See e.g. Lisa Aldred, "Plastic Shamans and Astroturf Sun Dances: New Age Commercialization of Native American Spirituality" (2000) 24:3 Am Indian Q 329, doi: <10.1353/aiq.2000.0001>; Michael York, "New Age Commodification and Appropriation of Spirituality" (2020) 16:3 J Contemp Relig 361 <10.1080/13537900120077177> (as with the practice of appropriation, the issue of commodification of health practices in New Age and alternative medicine settings has especially negatively impacted Indigenous communities' traditional practices).

Commercial elements within medicine pre-date medicine's standardization and professionalization, and medicine has remained an economic activity since it first became associated with regulated professions and formal education systems. Commercial determinants of health can be described as commercial activities intended to gain a financial profit, which may range from the provision of products and services to marketing and lobbying. Misinformation has been noted as a "commercial determinant of health" where it is undertaken in a commercial setting.[48] This may include both businesses that use misinformation to market health products and services, as well as businesses that profit from user engagement with misinformation, such as social media platforms.[49]

There are numerous examples of how *commercialization* and misinformation can interact, and of how commercial movements have helped to propagate or normalize misinformation and interventions that are not evidence-based.

The modern era of healthcare has arguably had two major periods of commercialization. The first was the period of proprietary medicines, which pre-dated standardized health professions by centuries but enjoyed a period of heightened popularity around the same time that mainstream occupations were becoming recognized as formal professions. The second was a more recent period of commercialization within health professions and professional practice.

Proprietary medicines originated as non-prescription treatments based on proprietary (and usually secret) recipes, often sold in bottle form, with various health claims attached to them. Proprietary medicines have often been called "patent medicines", although few were ever

[48] See World Health Organization, "Commercial Determinants of Health Factsheet", 21 March 2023, online: <www.who.int/> [perma.cc/5ETS-CHEH].
[49] Marco Zenone, Nora Kenworthy, & Nason Maani, "The Social Media Industry as a Commercial Determinant of Health" (2023) 12 Int J Health Policy Manag 6840, doi: <10.34172/ijhpm.2022.6840>.

actually patented. Proprietary medicines originated in England in the 1700s and later spread to North America.[50] They reached the height of their popularity around the late 19th to early 20th century, when huge amounts of print advertising were devoted to thousands of purported remedies.[51] Historically, the medicines were used by both regular (mainstream) and irregular (alternative) medical practitioners and practices, and the medicines had a range of levels of efficacy. Not all who prescribed the medicines were attempting to deceive the public or sell ineffective medicines.[52] However, patent medicine's origins can be described as more of a business endeavour than a medical one, and patent medicine marketing became heavily associated with false or fraudulent medical claims.[53]

Criticism of proprietary medicines' secretive approach and associated false advertising was common among physicians who were part of medicine's early-1900s move toward a scientific approach to healthcare.[54] Many viewed the medicines as a major source of misinformation to the public, whom they felt were exploited by the often sensational claims and the lack of open available information about the medicines' contents.[55] Alongside these criticisms from the medical community, several major journals and magazines published widely-read critiques of proprietary medicines.[56] Both of these developments were influential on public opinion and on lawmakers. This led to the passage of legislation both in the U.S.,[57] and in

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[50] See Alan Mackintosh, The Toadstool Millionaires: A Social History of Patent Medicines in America Before Federal Regulation (2017) 30:1 Soc Hist Med 22, <doi.org/10.1093/shm/hkw054>.
[51] *Ibid*.
[52] See Storm, *supra* note 35.
[53] *Ibid*.
[54] See Daniel Joseph Malleck, *Refining Poison, Defining Power: Medical Authority and the Creation of Canadian Drug Prohibition Laws*, *1800-1908*, National Library of Canada (PhD Thesis, Queen's University, Kingston, Ontario, 1998), online (pdf): <www.collectionscanada.gc.ca/> [perma.cc/V9NT-EWWJ].
[55] See e.g. A J Clark, "Commercial Influences in Therapeutics" (1923) 2 Br Med J 94, doi: <10.1136/bmj.2.3281>.
[56] See e.g. Samuel Hopkins Adams, "The Great American Fraud: Articles on the Nostrum Evil and Quacks, in Two Series, Reprinted from Collier's Weekly" (P F Collier & Son: 1906), online: *Internet Archive* <archive.org/>.
[57] See *Pure Food and Drug Act* (1906), United States Statutes at Large (59th Cong., Sess. I, Chp. 3915, p. 768-772; cited as 34 Stat. 768)

Canada,[58] that required the disclosure of proprietary medicine ingredients and restricted the manner in which proprietary medicines could be labelled and marketed.

The regulatory response significantly restricted marketing and labelling of proprietary medicines, and it introduced significant monitoring and compliance measures related to deceptive advertising. Hence, this period saw one of the first ever organized set of actions against misinformation, or "quackery", as it was commonly labelled at the time. Much of the response was implemented by institutions other than regulated health professions, such as prosecutors and competition or anti-trust authorities tasked with regulating commercial activity generally.[59] However, many mainstream professionals either remained restricted from engaging in marketing activities, or had new restrictions created by their regulators where the restrictions had not previously existed.[60] These regulatory measures were prevalent from the early to mid-20th century.[61]

Following the first period of commercialization and the initial response to it, a more recent increase in commercialized healthcare has occurred globally since the 1980s.[62] As health care has become more commercialized, its links to misinformation have become more apparent. More recent trends of commercialization, and their links to misinformation, have taken multiple forms that directly connect to regulated health professions, including digital marketing of health

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[58] See *An Act Respecting Proprietary or Patent Medicines*, SC 1908, c 56.
[59] See e.g. See Vaughan Black, "A Brief Word about Advertising" (1988) 20:3 Ottawa L R 509 at 514-519, online (pdf): *CanLII* <canlii.ca/t/2b16>; Congress on Medical Quackery (Conference Report), (1962) 77:5 Public Health Rep 453, PMCID: PMC1914698 [Conference Report].
[60] See e.g. N D Tomycz, "A Profession Selling Out: Lamenting the Paradigm Shift in Physician Advertising" (2006) 32:1 J Med Ethics 26, doi: <10.1136/jme.2005.012617>; Gordon E Miracle & Terence Nevett "A Comparative History of Advertising Self-regulation in the UK and the USA" (1988) 22:4 Eur J Mark 7, doi: <10.1108/EUM0000000005278>.
[61] *Ibid.*
[62] See Maureen Mackintosh & Meri Koivusalo, *UNRISD Research and Policy Brief 7, Commercialization and Globalization of Health Care: Lessons from UNRISD Research* (Geneva: The United Nations Research Institute for Social Development (UNRISD), 2007), online (pdf): <www.files.ethz.ch/> [perma.cc/GW2A-V4CJ].

services, continuing medical education programs, fitness to practice programs, and health research journal article publication. Examples will be discussed in more detail in the later section addressing regulated health professions.

4. Phase 4: Digitization and Health Care

Previous commentaries have discussed how previous periods of increased misinformation have been tied to sudden changes in technology, and especially to changes that made media and information more widely available to the public at a faster rate than had been seen before.[63] Examples include widespread health misinformation spread by newspapers and other print media and by radio, especially during times when new diseases, such as Spanish Influenza and HIV, were initially becoming widespread.[64]

Most recently, the expansion of the Internet and Internet access has allowed health professionals to reach a much larger audience with informational claims, and by extension, with misinformation. Internet and online media expansion, and the misinformation associated with them, can be compared to, and potentially viewed as an evolution of, the previous misinformation waves that were connected with earlier technologies, such as newspapers and radio.[65] Some commenters have noted that now, as in previous times of elevated health misinformation, approaches have tended to be reactive rather than proactive,[66] especially in the realm of regulated health professions.

[63] See Kenneth Grad & Amanda Turnbull, "Harmful Speech and the Covid-19 Penumbra" (2023) 19:1 CJLT 1.
[64] *Ibid.*
[65] *Ibid.*
[66] *Ibid.*

But existing commentaries do not generally note another aspect of the problem: a lack of recognition of, and responses to, the conceptual similarities in how health misinformation has been popularized in previous eras of technological development, and how health misinformation has been popularized in the current times. These similarities are evident when considering a phenomenon that has occurred alongside the development of digital technology: the phenomenon of "post truth".

Post-truth, a term that emerged in the 1980s and 90s within American politics, and which was popularized in the 2010s, has been defined as ""[r]elating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief."[67] The idea of a "post-truth era" describes the apparent trend of these circumstances having increased in much of the world since the 2010s.

Proposed and existing interventions in Canada, the U.S., the U.K., and other countries have tended to focus on public education and access to information, and on technological interventions to reduce the spread of misinformation (e.g. Artificial Intelligence).[68]
While "post-truth" has largely been viewed as a new phenomenon associated with technological evolution, it poses many of the same conceptual problems as the unconventional therapies which previously became popular in a new age context.

Post-truth is generally considered to reflect an element of distrust toward established authorities, as well as an element of anti-science. However, it has been noted that "post-truth" beliefs do not always reflect an across-the-board rejection of science, truthfulness, or scientific

[67] See Michael Lynch, "We Have Never Been Anti-Science: Reflections on Science Wars and Post-Truth" (2020) 6 Engaging Sci, Tech, & Soc 49 at 50, doi: <10.17351/ests2020.309>, citing Oxford Dictionaries, "Word of the Year" (2016), online: <languages.oup.com/> [perma.cc/B8Y7-FFCT].
[68] *Ibid.*

authorities in those who hold such beliefs; rather, a post-truth belief may reflect an anti-science or anti-consensus opinion that is limited to a particular topic.[69]

The anti-science element of post-truth can be described as a phenomenon in which individuals and organizations make statements that not only contradict scientific knowledge, but compete with science for legitimacy.[70] In this sense, post-truth functions in much the same way as the new age/counter-culture movement of the 1960s, or the eclectic "irregular" health approaches that existed alongside mainstream medicine before health care's initial standardization.

Whereas science seeks to reach opinions that fit with reality and that can reliably predict future consequences, post-truth has been characterized as interpreting reality to fit with pre-existing opinions, regardless of future consequences.[71] Hence, the scientific perspective focuses on "universal truth", attempting to find and communicate likely consequences that may be observed by any person. By contrast, the post-truth perspective focuses on "personal truth", that is, individual experience, observation, or opinion, and communicates this as being the absolute truth that definitively applies to all people,[72] regardless of consequences, such as whether a health decision and its consequences for one person would yield the same consequences for a different person who makes that same decision.[73]

The post-truth perspective overgeneralizes from limited personal experiences, beliefs, or information.[74] This over-generalization is arguably a version of presenting information as having

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[69] *Ibid* at 55.
[70] *Ibid.*
[71] See Cristina Silvia Vâlcea, "Anti-science Narratives as a Form of Legitimization of Post-truth" (2023) 37:1 Philologica Jassyensia 257, doi: <10.60133/PJ.2023.1.18>.
[72] *Ibid*.
[73] *Ibid* at 263-265 (discussing the example of anti-vaccine influencers attempting to discourage COVID-19 vaccination, regardless of the potential negative health consequences for other people who decline the vaccine).
[74] See Lynch, *supra* note 67 at 49–57 ("[p]erhaps the problem is not anti-science per se, but the collapse of more nuanced debate into over-generalized "scientific" claims in the public airing of disagreements").

an evidentiary basis it does not have, by presenting a claim with limited evidentiary support that may apply in limited circumstances as though it has broader evidentiary support that can apply generally to all circumstances. The new age movement has been similarly critiqued for having removed different types of knowledge and traditional practices from their original context, resulting in the use of health interventions in ways that are not always culturally appropriate, and which have removed aspects of these interventions' original meaning, resulting in confusion about their intended use and potential health consequences outside of their original context.[75]

B) Meso-level History of Health Misinformation: Key Developments at the State Level

State responses to health misinformation have tended to be closely tied to the conception of misinformation that was prevalent in each time period.

1. Phase 1: Standardization of Medicine and its Relationship to the Administrative State

The early 20th century rise of a scientific approach to health care happened in tandem with an increased emphasis on the connections between science and policy. By the middle decades of the century, this influence was being seen in how government and regulatory bodies were organized. Just as a scientific approach had become increasingly embedded into health care in the early 20th century, a scientific approach to governance had also become increasingly

[75] See e.g. Michael York, "New Age Commodification and Appropriation of Spirituality" (2010) 16:3 J Contemp Relig 361, doi: <10.1080/1353790012007717>; Jennifer Rindfleisch, "Consuming the Self: New Age Spirituality as "Social Product" in Consumer Society" (2006) 8:4 Consum Mark Cult 343, doi: <10.1080/10253860500241930>.

popular across North America and the U.K. The period of the 1940s to the 1960s brought renewed attention to the role of science in regulatory governance, and a scientific philosophy of governance was an important element that shaped administrative evolution during and after this period.

In Canada, the 1968 McRuer Commission led to the creation of a report that is now widely viewed as having laid the foundation for how Canada's modern administrative state would be organized.[76] The report's impacts were significant for health professions regulation, as professional regulators are administrative bodies, and many of these bodies were created around or after this time period. The reforms that took place included a greater emphasis on judicial oversight of administrative bodies, and greater and clearer limits on the discretion of administrative decision-makers.[77] These recommended reforms were based in large part on the stated need for government to keep pace with major societal changes, particularly "modern science, technology, and communications" and "scientific and technical advances".[78]

In the United States, many influential works during this period similarly emphasized and discussed the role of a scientific approach to managing government administration.[79] In particular, the notion of "management science" was especially influential in shaping U.S. administrative agencies to adopt an empirical approach to governance, with influential organizations dedicated to management science being founded and popularized around this time

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[76] See J McRuer, "Ontario, Royal Commission Inquiry into Civil Rights*"*, Vol 4 (Report) (Toronto: Queen's Printer, 1968), online <archive.org/>.
[77] See Steven G Calabresi, "The Global Rise of Judicial Review Since 1945" (2020) Northwestern Public Law Research Paper No 18-20, doi: <10.2139/ssrn.3234313>; J H Grey, "Discretion in Administrative Law," (1979) 17:1 Osgoode Hall L J 107, doi: <10.60082/2817-5069.2069>.
[78] See McRuer, *supra* note 76.
[79] See Richard J Stillman II, "Dwight Waldo's *The Administrative State*: A Neglected American Administrative State Theory for our Times" (2008) 86:2 Public Administration 581, doi: <10.1111/j.1467-9299.2008.00733.x>, citing and discussing the influence of Dwight Waldo, *The Administrative State: A Study of the Political Theory of American Public Administration* (New York: The Ronald Press Co., 1948); George Lowry, "Putting the Purpose in P.A." (2001), online: <www.maxwell.syr.edu/> [perma.cc/3J38-RE9U].

period.[80] At the same time, more U.S. administrative bodies were being created to address health and safety protection.[81]

In addition to science being part of the framing of the administrative changes that followed the commission, some of reforms themselves affected the way that science was treated as an information standard within the administrative state. In particular, administrative bodies grew to have heavy reliance on the expertise of administrative decision-makers, which meant that within health professions, decisions were increasingly made by decision-makers with a scientific background.

2. Phase 2: Pluralization of Medicine and its Relationship to the State

In the 1970s and 1980s, alongside the continued influence of the new age movement, many health professions statutes in North America and the UK were amended and modernized, and many new professions were created.[82] During the same period, physician advertising became permitted in the U.S. for the first time by the American Medical Association.[83] These developments were associated with increased attention to communications by regulated health professionals, including in their advertising or other public statements. As a result, many advertising policies and communication standards were created between the 1980s and early 2000s, some by statute, and some by regulation. Typically, these policies prohibit false,

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[80] See John R Hall, Jr, "An Issue Oriented History of Tims" (1983) 13:4 Interfaces 9, doi: <10.1287/inte.13.4.9> (overviewing TIMS, a U.S. organization with international influence focused on management science, founded in 1953).
[81] See Joanna L Grisinger, *The Unwieldy American State: Administrative Politics Since the New Deal* (Cambridge: Cambridge University Press, 2012) at 252.
[82] See Tracey L Adams, "Health Professional Regulation in Historical Context: Canada, the USA and the UK (19th Century to Present)" (2020) 72 Hum Resour Health 18, doi: <10.1186/s12960-020-00501-y>.
[83] See Tomycz, *supra* note 60.

deceptive, and misleading communications by health professionals, such as physicians and nurses. [84]

One regulatory trend that accompanied the larger social phenomenon of new age health practices and the pluralization of medicine was the creation and expansion of regulated professions for non-mainstream health occupations that do not primarily or consistently rely on science as an informational basis.[85] This expansion of regulatory institutions dealing with non-mainstream health practices had two significant effects. First, it led to a greater plurality of administrative decision-makers, such as those who make decisions about professional practice standards or discipline. Because many administrative decision-makers within self-regulating bodies ordinarily have an educational background or expertise that matches the occupation that they are regulating, a more pluralized set of institutions meant that administrative decision-makers without a scientific background, or without a consistent dedication to science as an informational basis for their decisions, could become involved in making regulatory decisions of a similar nature to those made in science-based professions. Second, there was increased government funding and support of non-mainstream regulatory institutions and programs, alongside mainstream health professions and programs.[86] Both of these effects arguably

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[84] See e.g. O Reg 114/94, ss 5-6, online: <archive.org/>; College of Physicians and Surgeons of Alberta, "Advertising Standard of Practice" (First Issued 2010), online: <cpsa.ca/> [perma.cc/2JN8-BUJY]; College of Physicians and Surgeons of Nova Scotia, "Advertising and Public Communications by Physicians" (First Approved 2005), online <cpsns.ns.ca/> [perma.cc/26EJ-8UQE].

[85] See e.g. David Coburn, "State Authority, Medical Dominance, and Trends in the Regulation of the Health Professions: The Ontario case" (1993) 37:7 Soc Sci & Med 841, doi: <10.1016/0277-9536(93)90137-S>; California Department of Consumer Affairs Acupuncture Board, "Acupuncture Board History", online: <www.acupuncture.ca.gov/> [perma.cc/26EJ-8UQE]; Simon A Senzon, "Chiropractic Professionalization and Accreditation: An Exploration of the History of Conflict Between Worldviews Through the Lens of Developmental Structuralism" (2014) 21:1 J Chiropr Humanit 25, doi: <10.1016/j.echu.2014.10.001>; Pamela Snider & Jared Zeff, "Unifying Principles of Naturopathic Medicine Origins and Definitions" (2019) 18:4 Integr Med (Encinitas) 36, PMID: 32549831.

[86] See e.g. National Center for Complementary and Integrative Health, "NCCIH Funding: Appropriations History" (last updated August 20240), online: <www.nccih.nih.gov/> [perma.cc/UZF4-VZU4]; George Lewith, Marja Verhoef, Mary Koithan & Suzanna M. Zick, "Developing CAM Research Capacity for Complementary Medicine" (2006) 3:2 eCAM 283, doi: <10.1093/ecam/nel007>.

encouraged a normalization of different informational standards being relied on within similar types of regulatory institutions and other health-related organizations.

Following the increase in the number of health professions being regulated, especially by way of self-regulation, several public scandals involving medical abuse or misconduct by regulated professionals, occurred between the 1990s and 2010s that led to many jurisdictions re-thinking their regulatory structures.[87] The resulting investigations led to reforms and the restructuring of some professional regulators and coincided with more critical sentiments toward self-regulation of health professions.[88] These reforms not directly address misinformation, although they did address structural issues that may connect to misinformation (such as conflicts of interest and public input into regulatory processes). In some jurisdictions, the degree of health professions' autonomy over regulation has also been reduced, with governments relying more heavily on independent oversight bodies and non-health-professionals to regulate professions than before.[89]

3. Phase 3: Commercialization within Health Care and its Relationship to the State

During the period of increased commercialization in healthcare that began around the 1970s, governments responded with enforcement actions that largely conceived of misinformation in terms of inappropriate commercial activity, and particularly in terms of fraud.

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[87] See Tracey L Adams & Mike Sak, "Neo-Weberianism and Changing State-Profession Relations: The Case of Canadian Health Care" (2018) 88 Sociologia 61, doi: <10.7458/SPP20188814798>.
[88] *Ibid.*
[89] *Ibid;* British Columbia ministry of Health, "Superintendent Chosen to Advance New Health Legislation" (7 June 2024) (Press Release), online: <archive.news.gov.bc.ca/> [perma.cc/4QBJ-XLY4].

The law frequently associates fraud with economic activity (and, in particular, economic activity that happens under false pretences).[90] By extension, the idea of misinformation as "health fraud" tended to have economic associations as well. For example, prominent health fraud lawsuits and prosecutions during this time tended to revolve around particularly profitable businesses that were accused of engaging in deceptive practices.[91]

"Health fraud" as a concept was similar to the notion of "quackery" seen in earlier times, in the sense that it was associated with specific enforcement actions by states against perceived wrongdoers in health care, and it can be viewed as another iteration of an organized state response to misinformation. Similarly to the state responses around "quackery", health fraud responses were limited in their scope and tended to conceive of misinformation in a narrow fashion that did not always prioritize or consider systemic aspects of misinformation or public health concerns.

One relatively prominent health fraud case, the *King Bio Pharmaceuticals* case,[92] was a California trade regulation case that dealt with a complaint by the claimant, the National Council Against Health Fraud, that the King Bio company had made false claims about the company's homeopathic products. The trade regulation aspect of the case resulted in the dispute being inherently centered on commercial activity. In the *King Bio* case, the success of the King Bio company (and the failure of the National Council Against Health Fraud) was the result of the court's decision that the burden of proof for claims about the efficacy of a health product (in this instance, a homeopathic remedy) should be on individual complainants, who must demonstrate

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[90] See, e.g. "Quackery: A $10 Billion Scandal" (98th Congress, 2nd Session) (Report) Chairman of the Subcommittee on Health and Long-Term Care, of the Select Committee on Aging, House of Representatives (Washington: U.S. Government Printing Office, 1984), online (pdf): <centerforinquiry.org/>, *Internet Archive:* <web.archive.org/> .
[91] See e.g. Canada Competition Bureau, "Criminal Charges Laid in Cancer Treatment Scam Following Competition Bureau Investigation" (2 August 2005) (News Release), online: <www.canada.ca/> [perma.cc/3KRW-LQFB].
[92] *Nat'l Council Against Health Fraud, Inc. v. King Bio Pharms., Inc.,* 107 Cal. App. 4th 1336 (Cal. App. Ct. 2003.

that efficacy claims are untrue, rather than the burden being on companies to be able to demonstrate the truth of their claims. Citing several U.S. federal laws which require that a claimant or prosecutor has the burden of proving that a marketing claim is false, the court rejected an argument that public policy would require the burden of proof to be shifted to the company making a health claim.[93] The court noted that there was controversy about what type of standard should support the health claims in question, and whether the claims would be supported on a scientific standard. However, these issues were not central to how the case was determined. Due to the commercial nature of the case, the decision may be seen as reflecting a reluctance to develop the law in a way that would place a greater burden of responsibility on those who communicate about health for commercial gain, in a context where trade, rather than health, was the focus.

The commercial context of health misinformation can also be seen in Canadian cases such as *Rocket v. Royal College of Dental Surgeons of Ontario*,[94] a case which involved a challenge to a provision the Ontario *Health Disciplines Act*[95] (the health professions legislation existing at the time) which prohibited advertising by health professionals. The Supreme Court of Canada decided to strike down the provision on the grounds that it was too broad and that it infringed right to free expression under s 2(b) of the *Canadian Charter of Rights and Freedoms*. The case resulted in an interpretation of s2(b) as including the right to engage in non-misleading advertising.[96]

As the "non-misleading" aspect of the permitted advertising was a key aspect of the interpretation, the decision can be seen as helping to clarify what constitutes acceptable versus

[93] *Ibid.*
[94] 1990 CanLII 121 (SCC).
[95] See *Health Disciplines Act*, 1974, SO 1974, c 47.
[96] See *Rocket*, *supra* note 94.

unacceptable marketing, and affirming the ability of regulators to create regulations that target misleading or deceptive communications (i.e., misinformation), as long as the regulations do not constitute a blanket ban on marketing. However, rather than leading to greater clarity and efficacy of action against health-related misinformation, enforcement actions against health-related misleading advertising decreased after the *Rocket* decision,[97] despite many institutions having created more specific regulations to address misleading marketing,[98] and despite commercial activity by health professionals having remained common.

4. Phase 4: Digitization in Health Care and its Relationship to the State

As the Internet, and the online presence of health professionals, have become widespread, many organizations in addition to health professions regulators have come to deal with health misinformation in some capacity, especially as concern about online misinformation has grown. Examples of Canadian organizations that have taken on a role in regulating online misinformation, such as misleading health advertising, include Health Canada,[99] the Competition

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[97] See Mary Jane Dykeman, *Canadian Health Law Practice Manual* (Toronto: LexisNexis, 2024) (loose-leaf rel. 116-2/2024) at 4-104, s 4.225.

[98] See e.g. College of Physicians and Surgeons of British Columbia, "Practice Standard: Advertising and Communication with the Public" (last revised 24 July 2023), version 7.2, online: <www.cpsbc.ca/> [perma.cc/APZ9-V3UY]; College of Physicians and Surgeons of Alberta, "Conflict of Interest Practice Standard" (reissued 1 January 2021), online: <cpsa.ca/> [perma.cc/2XRT-NMTK]; College of Physicians and Surgeons of Manitoba, "Standard of Practice: Advertising" (1 January 2019), online: <cpsm.mb.ca/> [perma.cc/6AT9-XZKR]; College of Physicians and Surgeons of Nova Scotia, "Advertising and Public Communications by Physicians" (updated 26 May 2023), online: <cpsns.ns.ca/> [perma.cc/5U6H-Q8PZ]; College of Physicians and Surgeons of Prince Edward Island, "Communication with the Public" (Policy) (31 may 2006), online: <www.cpspei.ca/> [perma.cc/XMS6-XG4Z].

[99] See e.g. CBC News, "Don't Use Growth Hormone Sold Over Web: Health Canada" (7 June 2005), online: <www.cbc.ca/> [perma.cc/4874-M8J6] (Health Canada noting in article that health claims associated with products are unsubstantiated); Bi-National Working Group on Cross-Border Mass-Marketing Fraud, *Mass-Marketing Fraud: A Report to the Attorney General of the United States and the Solicitor General of Canada* (May 2003) at 67, online: <www.justice.gov/> [perma.cc/4479-D7BR].

Bureau,[100] Ad Standards Canada,[101] and the Pharmaceutical Advertising Advisory Board.[102] Similarly, a variety of institutions in the U.S. and U.K. have taken on the role of addressing online health misinformation, such as the United States Food and Drug Administration,[103] United States Federal Trade Commission,[104] United Kingdom Medicines and Healthcare Products Regulatory Agency[105], and United Kingdom Advertising Standards Authority.[106]

The greater number of institutions that have become involved in addressing health misinformation, and often online misinformation specifically, would ideally result in a comprehensive and coordinated approach to misinformation. However, as with health professions regulators, other institutions and lawmakers have not been addressing misinformation in a consistent manner since the Internet has become popular.

An example of an area in which inconsistencies have emerged in recent decades has been in the introduction of omnibus health professions legislation, such as the *Ontario Regulated Health Professions Act*,[107] in which many professions with different evidentiary and philosophical bases, such as nursing, medicine, homeopathy, pharmacy, and chiropractic, are

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[100] Canada Competition Bureau, "Miracle Cures - A Prescription for Fraud -- FRAUD: Recognize It. Report It. Stop It" (28 March 2007) (News Release), online: <www.canada.ca/> [perma.cc/M5B2-T8BB].
[101] See Barbara Mintzes, "What are the Public Health Implications? Direct-to-Consumer Advertising of Prescription Drugs in Canada" (Report) (Toronto: Health Council of Canada, 2006) at 9, online: <publications.gc.ca/> [perma.cc/95NU-9PYL] (noting that Health Canada gave Advertising Standards Canada responsibility for preclearing advertising for non-prescription drugs as of 1997; this includes monitoring ads for misleading statements).
[102] See Health Canada Therapeutic Products Directorate, "Therapeutic Comparative Advertising: Directive and Guidance Document " (5 October 2005), online: <www.canada.ca/> [perma.cc/63FS-V8DE] (noting that Advertising Standards Canada and the Pharmaceutical Advertising Advisory Board have a responsibility to decline misleading advertising during preclearance of health product marketing).
[103] See United States Food and Drug Administration, "The Bad Ad Program" (updated 31 May 2024), online: <www.fda.gov/> , *Internet Archive:* <web.archive.org/>.
[104] See United States Federal Trade Commission, "Advertising and Marketing on the Internet: Rules of the Road" (published December 2000), online: <www.ftc.gov/>.
[105] See Liza Gibson, "UK Regulator to Shame Companies for Misleading Advertisements" (2005) *BMJ* 330, doi: <10.1136/bmj.330.7489.436-a> [perma.cc/XB7E-2TFS].
[106] See United Kingdom Advertising Standards Authority, "Self-Regulation and Co-Regulation", online: <www.asa.org.uk/> [perma.cc/6DM8-P7R4].
[107] See e.g. *Regulated Health Professions Act*, 1991, SO 1991, c 18.

regulated together under one piece of legislation.[108] While such statutes and regulatory structures have become common since the 1990s and reflect a streamlined approach to professional regulation, the regulation of occupations with diverse evidentiary foundations (especially where these different foundations are not acknowledged in the legislative scheme) may add to conflation of evidentiary standards among professionals and the public.

Another example can be seen in the lack of consistency about which type of evidentiary standards are required to support marketing claims under some legislative schemes. For instance, under Canada's *Food and Drugs Act*,[109] Health Canada approves and monitors most health products using a scientific (and especially clinical) evidentiary standard. However, since 2004,[110] some health products, such as homeopathic products, have not consistently needed to meet this same evidentiary standard that others must meet, with some product claims being required to be supported on a scientific evidentiary standard, and others requiring support on a homeopathic evidentiary standard.[111] The difference in the evidentiary basis between the homeopathic standard and clinical data standard is substantial, with homeopathic references such as the *materia medica* (books of homeopathic remedies) being considered to be based in faith or personal beliefs,[112] while clinical data is based in systematic, empirical collection of

[108] Omnibus legislation such as the Ontario *Regulated Health Professions Act* typically has separate Acts or Regulations addressing each health profession, in addition to the umbrella legislation. However, despite the existence of separate pieces of profession-specific legislation, the larger legislative scheme sets these different professions alongside one another, without providing context about their differing origins or evidentiary foundations.
[109] See *Food and Drugs Act,* RSC 1985, c F-27.
[110] See Natural Health Products Regulations, SOR/2003-196.
[111] See Health Canada, "Evidence for Homeopathic Medicines" (6 July 2022) at 3.1, online: <www.canada.ca/> [perma.cc/C85L-DELD] (noting that homeopathic evidentiary references such as *materia medica* for health claims considered not to be novel, but requires clinical scientific evidence for novel health claims not included in homeopathic references such as *materia medica*).
[112] See Natalie Grams, "Homeopathy: Where Is the Science?"(2019) 20:3 EMBO Rep e47761, doi: <10.15252/embr.201947761>; Violia Maria Schultz et al, "Systematic review of conceptual criticisms of homeopathy" (2023) 9:11 Heliyon e21287, doi: <10.1016/j.heliyon.2023.e21287>.

information.[113] Although labelling guidance has more recently been updated to require products to disclose when the product is not supported by scientific evidence,[114] the nature of the evidentiary difference between scientific evidence and homeopathic evidence is not required to be explained to the public by product manufacturers or retailers, and both types of claims can be marketed alongside one another, or alongside other types of health products.

In a similar vein, the United States Food and Drug Administration (FDA) also requires most health products to be supported on a scientific (and especially clinical) standard before they can be marketed and sold to the public. Since 1994,[115] though, exceptions have applied to dietary products, for which some health claims related to nutrient deficiency disease, general well-being, or effects on the body's structure and function need not be preapproved (i.e., they do not need to be demonstrated to the FDA to be supported on a particular evidentiary standard prior to marketing). While the relevant regulations require that manufactures have substantiation available for their claims,[116] and guidance has clarified that this must be done on a scientific evidentiary standard,[117] many critics have asserted that the lack of a preapproval process has resulted in a very large number of marketing claims that do not actually meet a scientific evidentiary standard for substantiation.[118]

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[113] See United States Institute of Medicine Roundtable on Value & Science-Driven Health Care, "Clinical Data as the Basic Staple of Health Learning: Creating and Protecting a Public Good: Workshop Summary" (Washington, DC: National Academies Press, 2010), online: <www.ncbi.nlm.nih.gov/>.
[114] See Health Canada, "Guidance Document: Labelling of Natural Health Products" (26 September 2023), online: <www.canada.ca/> [perma.cc/7MAW-CLB3].
[115] See S.784 - *Dietary Supplement Health and Education Act of 1994*, online: <www.congress.gov/>.
[116] See 21 U.S.C. 343, s 403(r)(6), online: <www.govinfo.gov/>.
[117] See United States Food and Drug Administration, "Guidance for Industry: Substantiation for Dietary Supplement Claims Made Under Section 403(r) (6) of the Federal Food, Drug, and Cosmetic Act", Docket Number: FDA-2004-D-0303 (January 2009, current as of 20 September 2018), online: <www.fda.gov/>, *Internet Archive:* <web.archive.org/>.
[118] See e.g. WeiQi Li, "Narrative Review: The FDA's Perfunctory Approach of Dietary Supplement Regulations Giving Rise to Copious Reports of Adverse Events" (2023) 14:1 Innov Pharm 1, doi: <10.24926/iip.v14i1.4989>; Elizabeth Richardson, "What Should Dietary Supplement Oversight Look Like in the US?" (2022) 24:5 e402, doi: <10.1001/amajethics.2022.402>; Ranjani R Starr, "Too Little, Too Late: Ineffective Regulation of Dietary Supplements in the United States" (2015) 105:3 AJPH 478, doi: <10.2105/AJPH.2014.302348>.

Many of these legislative developments, taking place in the 1990s and early 2000s, coincided with widespread access to the Internet among the public. The availability of Internet, alongside inconsistencies in the evidentiary foundations of regulated health products and services, has resulted in a new environment where longer-standing problems regarding undifferentiated evidentiary standards have been able to migrate online and reach wider audiences.

C) Micro-level History of Health Misinformation: Key Developments at the Regulator Level

The ways in which misinformation has been conceptualized and treated by health professions regulators has largely aligned with the prevailing ideas and practices in wider society over time. The relationship between health professions and misinformation has largely gone through four phases since professional regulation first gained prominence. In the initial phase, when health professions regulators were first emerging and standardizing, responses to health-related misinformation largely fell to other governance institutions, such as the criminal justice system. In the second phase, as health professions became more established and more pluralized, they began to deal more heavily with health-related misinformation involving health professionals. In the third phase, as public funding and resourcing became scarcer and commercialization became more prevalent, private institutions associated with industry became more involved in dealing with concerns of health misinformation by practitioners. And finally, in the last phase, following reviews and reforms of self-regulated professions and alongside new technological development, the handling of misinformation involving health professionals now falls among a diffuse array of different administrative and private institutions.

1. Phase 1: Standardization of Medicine and its Relationship to Health Professions

As regulated health professions initially began to develop, concerns of misinformation in the form of "quackery" tended not to be primarily associated with a response from professional regulators, but rather, from other institutions. The lack of leadership from regulated professions was likely in large part because few regulators existed during this time, and those that did were relatively new and not necessarily highly resourced. Additionally, those engaging in "quackery", or irregular practice, were often viewed in contrast to the regular (or mainstream) practitioners associated with regulated professions like medicine and nursing, [119] and hence, their activities may have been viewed as being outside the scope of what regulated professions should regulate.

The institutions that did tend to deal with concerns of misinformation by health practitioners during this period tended to be those associated with either criminal justice or economic activity. For example, prohibitions on deceptive marketing fell under the Canadian *Criminal Code* for the first half of the 20th century, until being migrated to the *Combines Act* to be treated as a "combines" (i.e., anti-trust) issue from the 1960s onward.[120] During the same period, the U.S. Federal Trade Commission took action against thousands of false marketing concerns.[121] When mainstream health professionals were involved in responding to misinformation, they tended to partner with regulators other than health professions regulators to address it.[122]

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[119] See Magner, *supra* note 33 (see especially Chapter 10).
[120] See Black, *supra* note 59.
[121] *Ibid* at 519.
[122] See e.g. *Conference Report*, *supra* note 59.

2. *Phase 2: Pluralization of Medicine and its Relationship to Health Professions*

Following their standardization, mainstream health professions, such as medicine, nursing, and physiotherapy, gained power as professional institutions by the mid-20th century, with regulatory bodies such as colleges and boards being established for these professions across Canada, the U.S., and the U.K. These regulatory bodies were consistently established under a model of self-regulation, where each profession has its governing body established by a statute and is given resources and policy-making authority to oversee all practitioners of its profession.[123] This oversight traditionally extends to all aspects of the profession, including creating requirements for entry into the profession (such as a university degree), making professional standards for appropriate practice of the profession (such as standards for correctly performing treatments on patients), investigating complaints against professionals, and imposing discipline for professionals who are found to have fallen short of standards.[124] Historically, self-regulation has been justified based on the idea that professionals can be most effectively regulated by others in their own profession, who have the expertise to understand what constitutes an appropriately educated and competent health professional.[125]

As mainstream professions gained status and regulatory power, they were repeatedly challenged by professions that are commonly described as alternative, such as chiropractic and homeopathy, with interprofessional disputes ranging from informal to formal. These disputes

[123] See Adams, *supra* note 36.
[124] See Robert Schultze, "What Does it Mean to be a Self-governing Regulated Profession?" (2007) 4:3 J Prop Tax Assess & Admin 41, online (pdf): <professional.sauder.ubc.ca/>.
[125] *Ibid.*

became especially prominent when unconventional therapies (i.e., Complementary and Alternative Medicine, or CAM) first became popular.[126] One example of such as dispute was the American case of *Wilk v AMA*, in which a group of chiropractors challenged the American Medical Association (AMA), a physicians' group with close connections to medical regulators, alleging that the AMA had conspired against the chiropractic profession by publishing a critique of chiropractic practices which called for restrictions on the practice of chiropractic care.[127]

Many authors have viewed these interprofessional disputes as rivalries that were fundamentally about competing professions' desire for power, legitimacy, or status,[128] with mainstream professions' response to irregular practices being described as one of "professional dominance".[129] The *Wilk* case itself contains similar framing, with the decision having been in favour of the chiropractic profession and the court having described the nature of the interprofessional dispute as one based on professional status and dominance.[130]

While disputes between professions can have significant impacts on the relative amount of power and status that each profession holds, the notion of the disputes as being entirely about power leaves out the substantive claims and concerns at the heart of many of the disputes. The conception of regulation as being about legitimacy or "turf/status protection" has contributed to a perception of professional regulation as reflecting legitimacy and status, rather than ensuring the quality and clarity of health information being learned and conveyed by professionals. While this perception is surely not universal, it arguably serves as a distraction from substantive concerns

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[126] See Magner, *supra* note 33.
[127] See *Wilk v American Medical Association,* 895 F.2d 352 (7th Cir. 1990).
[128] See Tracey L Adams, *Regulating Professions: The Emergence of Professional Self-Regulation in Four Canadian Provinces* (Toronto: University of Toronto Press, 2018); Coburn *supra* note 85.
[129] See Malleck, *supra* note 54; Terri A Winnick, "From Quackery to "Complementary" Medicine: The American Medical Profession Confronts Alternative Therapies" (2005) 52:1 Social Problems 38, doi: <doi.org/10.1525/sp.2005.52.1.38>.
[130] See *Wilk, supra* note 127.

about the clarity and accuracy of communication not only by professionals from CAM-related professions, but mainstream professions including medicine and nursing.

Self-regulation movements from 1960s onward tended to focus on safeguarding the public through standardization (especially of education and practice standards), often with an underlying assumption that medicine and nursing standards would ensure safety and efficacy, and sometimes with an underlying assumption that such standards were or should be based in a consistently understood standard of evidence and information or a consistent quality of service.[131] However, as will be discussed in chapter 3, the actual standards that have developed are not consistent across jurisdictions and have tended not to include written clarifications on the nature and communication of evidence and information. As a result, written standards have tended, prior to the 2020s, not to directly address the evidentiary and communication issues that give rise to misinformation.[132]

The lack of consistent standards was likely influenced in part by the alternative medicine movement, which coincided with an increased use of non-scientific practices by physicians and nurses, as well as the development of alternative medicine policies by regulators. These events may be seen as part of a larger general trend of medicine becoming more pluralistic from around the 1990s onward.[133] The policies that emerged to address alternative medicine being practiced by mainstream practitioners tended to address the conditions in which such treatments may be used by professionals (potentially reflecting the historic scope of practice/rivalry concerns

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[131] See Adams, *supra* note 36; A Stievano et al, "Shaping Nursing Profession Regulation through History – A Systematic Review" (2018) 66:1 Int Nursing Rev 17, doi: <10.1111/inr.12449>; Adams, *supra* note 128.
[132] Please see Chapter 3 (Comparative Jurisdictional Scan) for further discussion.
[133] See Ayo Wahlberg, "A Quackery with a Difference—New Medical Pluralism and the Problem of 'Dangerous Practitioners' in the United Kingdom" (2007) 65:11 Social Sci & Med 2307, <10.1016/j.socscimed.2007.07.024>; Winnick, *supra* note 129.

discussed previously). However, they have not consistently addressed the clear communication of evidence and evidentiary standards.[134]

3. *Phase 3: Commercialization of Medicine and its Relationship to Health Professions*

In addition to the previously discussed private industry bodies that came to deal with misinformation in commercial settings, regulated health professions went through a larger trend of commercial influence between roughly the 1960s and 1990s. During this time, private entities became more influential not only in dealing directly with misinformation, but in fulfilling other unrelated functions that sometimes resulted in health professions becoming more vulnerable to misinformation being spread among their members. Two examples of this phenomenon include continuing professional education and commercialized publishing of health research. I explore these examples in more detail below.

Continuing education is a common requirement for regulated professionals, who typically must spend a minimum number of hours per year on educational activities intended to keep their

[134] Some rules, such as those seen in Texas, are more specific, addressing matters such as therapeutic mechanisms: see 22 Texas Admin Code §200.3 (2)(D) (2016) ([p]rior to rendering any complementary or alternative treatment, the physician shall provide information to the patient that includes the following with the disclosure documented in the patient's records: ...a description of the underlying therapeutic basis or mechanism of action of the proposed treatment..."); other rules are more general and address scopes of practice, but not the communication of evidentiary standards: see College of Physicians and Surgeons of Alberta, "Practising Outside of Established Conventional Medicine" (Standard of Practice) (reissued 1 January 2021), s 3(b), online: <cpsa.ca/> [perma.cc/6Q94-9P6A] (stating that practitioners must "always act within the scope of their practice based on their qualifications, skill, knowledge and level of competence").

health care knowledge up to date.[135] Continuing education became standard around the mid 20th century,[136] coinciding with the rising emphasis on scientifically based training.[137]

Continuing education's historical emergence from a patchwork of associations and universities[138] has meant that oversight has never been cohesive, and the national standards that emerged for the oversight of continuing education have had limited power over industry.[139] In the later part of the 20th century, continuing education costs to physicians had become significant, but a relative lack of funding to offset these costs, due in large part to a historical lack of centralized resourcing and oversight, led to a high level of dependency on industry sponsorship for these costs.[140] As a result, industry sponsorships of medical education courses, especially by pharmaceutical companies, became more common.[141] Many critics contend that this development resulted in companies financing and influencing the delivery of continuing education in ways intended to increase their profits, rather than focusing on the quality and accuracy of the education material, despite efforts to ensure continuing education's independence from industry influence.[142] A common concern is that commercial bias can result in physicians

[135] See James J Hennelly, "Who Controls Our Continuing Medical Education?: The Shortcomings of the Current CME Regulation Regime and How to Reform It" (2014) 23:1 Annals of Health Law 1, online: <lawecommons.luc.edu/>.
[136] See "5: Conflicts of Interest in Medical Education" in B Lo & MJ Field, eds, *Conflicts of Interest in Medical Research, Education, and Practice*, Institute of Medicine (US) Committee on Conflict of Interest in Medical Research, Education, and Practice (Washington (DC): National Academies Press (US); 2009), online: < www.ncbi.nlm.nih.gov/>.
[137] See Dennis K Wentz, ed, *Continuing Medical Education: Looking Back, Planning Ahead,* 1st Ed, (Lebanon, NH: University Press of New England, 2011).
[138] See Sheryl Spithoff, Industry Involvement in Continuing Medical Education: Time to Say No (2014) 60:8 Can Fam Physician 694, online: <www.cfp.ca/>.
[139] See Wentz, *supra* note 137.
[140] See Bernard Marlow, "The Future Sponsorship of CME in Canada: Industry, Government, Physicians or a Blend?" (2004) 171:2 CMAJ 150, doi: <10.1503/cmaj.1040629>.
[141] See Lo, *supra* note 136.
[142] See Hennelly, *supra* note 134; Lo, *supra* note 136.

using the most-promoted medical interventions in the standard practice, rather than the most effective ones.[143]

Biased commercial promotion of health interventions most obviously poses problems for ensuring that patients receive effective care, but it also connects to misinformation. Because mainstream healthcare became standardized with a strong emphasis on science as a foundation, using a medical intervention as a standard practice tends to imply that the intervention is the most scientifically effective intervention that exists. When this is not actually the case, it arguably gives a false impression to patients and professionals about the efficacy of the intervention, leading them to overestimate how effective the treatment is.

While industry involvement in medical education has remained common, external oversight of it has remained limited.[144] In Canada, the U.S., and the U.K., standards and enforcement related to continuing education have largely been left to voluntary industry organizations and codes, professional societies and associations, and individual employers, such as hospitals, that have developed their own standards.[145]

While voluntary and regulatory standards include some interventions in industry sponsorship, such as requiring certain disclosures about conflicts of interest, industry has retained a high degree of influence and control over the content of education in regulated health

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[143] Hennelly, *supra* note 135.

[144] For example, the Canadian Pharmaceutical Advertising Advisory Board can oversee CME activities only in limited circumstances related to marketing: See Pharmaceutical Advertising Advisory Board (PAAB), "Health Products and Food Branch: The Distinction Between Advertising and Other Activities (Policy)" (Issued 1996; Administrative Update 2005), online: <code.paab.ca/> [perma.cc/5B27-A4Z7]. In the U.S., government has been largely uninvolved in directly regulating industry involvement in CME, and constitutional challenges have led to the Food and Drug Administration having a limited ability to regulate commercial involvement in CME: see Hennelly, *supra* note 135.

[144] *Ibid*; Innovative Medicines Canada, *Code of Ethical Practices* (2018) Ottawa, online: <innovativemedicines.ca/> [perma.cc/2NL7-EWZA] (voluntary industry code addressing potential conflicts of interest in CME); Society for Academic Continuing Medical Education (SACME), "Publications", online: <sacme.org/Publications> [perma.cc/B8N4-VKJM] (organization with members in U.S., Canada, and U.K., dedicated to scholarly activity to improve CME).

professions, particularly medicine.[146] There has also been little policy attention to regulating industry influence on nurses,[147] despite evidence that nurses attend industry-funded events at a similar frequency to physicians.[148] As a result of the historic lack of a cohesive oversight and funding system, commercialized continuing education has remained an entrenched problem whereby industry activity in education may give professionals and the public a distorted impression of which health interventions are most effective, and on what basis.

A second example of the intersection between commercialization in health care and health misinformation can be seen in commercialization related to medical research publications. Research publications are an essential component of building knowledge in mainstream healthcare. Research journals, such as those dedicated to medical and nursing research, ordinarily strive for quality and accuracy in the research articles that they publish. However, in recent decades, [149] a phenomenon termed "predatory publishing" has emerged, in which some newer journals publish papers with little regard to quality or accuracy, generally in exchange for a fee.[150] The trend of "predatory publishing" has been distinguished from mainstream medical publishing by several features, including that it typically lacks a peer review process or staff with relevant medical or scientific expertise, and it often involves relatively aggressive marketing techniques, such as repeated solicitation e-mails.[151]

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[146] See Hennelly, *supra* note 135.
[147] See Quinn Grundy, Lisa A. Bero, & Ruth E. Malone, "Marketing and the Most Trusted Profession: The Invisible Interactions Between Registered Nurses and Industry" (2016) 164:11 Annals of Int Med, doi: <10.7326/M15-2522>.
[148] See Jane Robertson et al, "Mandatory Disclosure of Pharmaceutical Industry-Funded Events for Health Professionals", (2009) 6:11 PLoS Med e1000128, doi: <10.1371/journal.pmed.1000128>.
[149] See Sarah M Ward, "The Rise of Predatory Publishing: How to Avoid Being Scammed (2016)" 64 Weed Science 772, doi: <10.1614/WS-D-16-00080.1>.
[150] See Pedro David Delgado-López, Eva María Corrales García, "Influence of Internet and Social Media in the Promotion of Alternative Oncology, Cancer Quackery, and the Predatory Publishing Phenomenon" (2017) 10:5 Cureus e2617, doi: <10.7759/cureus.2617>; University of Cambridge, "Predatory Publishers", online: <osc.cam.ac.uk/> [perma.cc/8PXA-D74U].
[151] See Ward, *supra* note 149; See Agnes Grudniewicz et al, "Predatory Journals: No Definition, No Defence" (2019) 576 Nature 210 (2019) (Comment) doi: <10.1038/d41586-019-03759-y>.

Predatory publishing became common as journals became increasingly available on the internet, especially open access journals, a publishing model in which a one-time fee can be paid to a journal to have a published article be made available for free to anyone. When open-access journals became widespread in the early 2000s, this fee came to stand in place of journal subscription fees that readers would need to pay to read a journal, with the open-access fee being paid by a public or private funder, or by the author. Journals regarded as predatory developed a business model of publishing articles openly in exchange for a fee, similar to some open access journals, but without the corresponding quality review process that publication ordinarily entails.[152]

Predatory publishing has been criticized for encouraging misinformation by allowing articles to be legitimized through publication, without quality checks and regardless of their content or its accuracy. [153] Predatory journals themselves have also been accused of communicating false or deceptive information to potential authors about the publication process.[154] A similar phenomenon has also been described regarding academic conferences, with a phenomenon of "predatory conferences" having arisen, in which participants meet and share their research with attendance fees but without a typical quality review of the information that is being shared.[155] Because publishing articles and attending conferences can both fulfill regulatory continuing education requirements, it is potentially possible for predatory journals and conferences to be avenues for spreading misinformation, while at the same time giving rise to continuing education credits for health professionals who participate in them.

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[152] See Ward, *supra* note 149.
[153] See Grudniewicz, *supra* note 151.
[154] See Delgado-López, *supra* note 150.
[155] See Tove Godskesen, Stefan Eriksson, Marilyn H Oermann, & Sebastian Gabrielsson, "Predatory conferences: a systematic scoping review" (2022) 12:*22* BMJ Open e062425, doi: <10.1136/bmjopen-2022-062425>.

These examples illustrate some of the direct and indirect ways in which commercialization has led to more potential opportunities for health professionals to be exposed to, and to spread, misinformation, within institutions and activities that are considered to be an intrinsic part of health professions or professional practice.

4. Phase 4: Digitization in Health Care and its Relationship to Health Professions

Regulatory institutions must now contend with the Internet as an arena to be monitored, in addition to older sources of professional communications that still exist, such as printed publications and clinic spaces. As health misinformation has expanded into the Internet, regulator attitudes and responses toward it have remained conceptually inconsistent.

One aspect of this inconsistency can be seen in the response to technology-driven misinformation trends, particularly COVID-19 misinformation that is viewed as anti-scientific. Anti-science ideas often attempt to challenge or undermine mainstream medical and regulatory authority.[156] As a result, Internet-based misinformation trends may often be viewed as a force that exists in opposition to professional health care. Regulatory responses to anti-scientific or "post-truth" claims made by practitioners during COVID-19 pandemic would seem to reflect this viewpoint, with many institutions taking punitive action toward practitioners accused of

[156] See Peter Hotez, *The Deadly Rise of Anti-science: A Scientist's Warning* (Maryland: JHU Press, 2023).

spreading misinformation,[157] or making public statements that assert a commitment to scientific or evidence-based practice.[158]

On the other hand, though, some elements resembling post-truth have come to exist within regulatory authorities themselves. For example, some health professions' regulators have policies allowing for reliance on experience as part of an individual practitioner's scope of practice (the scope of the health interventions the practitioner is permitted to undertake), without elaborating on whether or how a practitioner's experience relates to other types of knowledge or evidentiary foundations.[159] This is potentially problematic if a practitioner's experience-based claims appear to contradict another aspect of their scope of practice, such as science-based training, a phenomenon which has been described in some disciplinary cases, such as the *S.K.B.* case described later in the Content Analysis chapter.[160] There may be a connection between a lack of "upstream" clarity around the permitted evidentiary foundations of a scope of practice, and "downstream" instances of misconduct in which evidentiary foundations are presented to patients in a misleading fashion, such as a practitioner relying on their experience in a manner that presents this experience as being equivalent to scientific evidence.

Other examples include regulatory policies allowing practitioners to base their practices in fields of knowledge aside from science, without distinguishing these from scientific

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[157] e.g. Quinta Jurecic "The Professional Price of Falsehoods" (2023), Knight First Amendment Institute, online: <knightcolumbia.org/> [perma.cc/KMZ8-KR4F]; Ai-Leng Foong-Reichert, Kelly A. Grindrod, Sherilyn K.D. Houle, & Zubin Austin, "Quacks vs facts: Regulatory Body Discipline When Clinicians Spread COVID-19 Mis/Disinformation" (2022) 155:2 Can Pharm J (Ott) 72, doi: <10.1177/17151635221076003>.

[158] See e.g. College of Registered Nurses of Newfoundland and Labrador, "College of Registered Nurses Calls of All RNs and NPs to be Vigilant Against the Spread of Misinformation" (2021), online <crnnl.ca/> [perma.cc/DG84-K9JN] ("[t]he spread of misinformation and non-evidence-based theory chips away at the foundations of public confidence from which our institutions are formed").

[159] Nova Scotia College of Nursing "NSCN Standards of Practice for Registered Nurses" (2017), online <cdn1.nscn.ca/> [perma.cc/LEV3-SS4M].

[160] *SKB v TZ,* 2014 CanLII 71029 (ON HPARB).

evidence,[161] as well as jurisdictions that permit the prescribing of COVID-19 treatments that have been discredited from a mainstream medical science perspective.[162] These examples illustrate situations where policies that permit non-scientific evidentiary foundations exist alongside policies and practice norms that reinforce a reliance on science or evidence-based medicine.

As trends of online misinformation have developed, health professions education such as medical and nursing training has not automatically included Internet or media literacy, and these literacies are variable for both students and professionals, potentially leaving professionals under-prepared to recognize and respond to misinformation.[163]

The commonality among these examples is a lack of consistent norms that distinguish different types of evidence and evidentiary foundations so that practitioners are aware of these differences and are able (and required) to make these differences clear to patients.

D) Vocabulary History of Health Misinformation: Key Developments in Language

As changes in the areas previously described (society, regulated health professions, and the larger state) have taken place over time, these changes have been accompanied by noticeable trends and shifts the vocabulary that has been most commonly used to refer to misinformation. The different vocabularies, which are overviewed next, have reflected differing conceptions of

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[161] See British Columbia College of Nurses & Midwives, "Knowledge-based Practice", online <www.bccnm.ca/> [perma.cc/AEK5-DDJC].

[162] See Federation of State Medical Boards, "Board Authority Legislation" (1 October 2022), online: *Internet Archive* <web.archive.org/>.

[163] See Masresha Derese Tegegne et al, "Digital Literacy Level and Associated Factors Among Health Professionals in a Referral and Teaching Hospital: An Implication for Future Digital Health Systems Implementation" (2023) 11:11 Front Public Health, doi: <10.3389/fpubh.2023.1130894>; Ilona Cieślak et al, "Social Media Literacy among Nursing Students During the COVID-19 Pandemic – Does Year of Study Matter? A Nationwide Cross-sectional Study" (2023) 30:1 Ann Agric Environ Med 171, doi: <10.26444/aaem/162219>.

misinformation. As will be seen, each type of vocabulary has had its uses and has been associated with different professional or state-level responses to misinformation, but all vocabularies have shared some important conceptual and practical limitations.

1. *Phase 1: Vocabulary for Health Misinformation during the Standardization of Health Care*

The 20th century period of administrative evolution with an emphasis on science coincided with the popularity of the term "quackery", a term which predated the standardization of medicine, but which had become especially popular during the standardization period.[164] Some experts were conscious of the potential vulnerability of the public to misleading or deceptive information, as expressed, for example, at one of several organized conferences dedicated to forming a medical and regulatory response to "quackery", where a speaker noted the susceptibility of all people to "quackery" due to contemporary factors such as rapidly changing technology and the increasing complexity of medicines.[165] As the notion of "quackery" stood in direct contrast to a scientific approach, the use of the term, and the division between legitimate and illegitimate practice that it entailed, created clear boundaries for regulators to act on, and some governing bodies took increased action against "quackery" as a result.[166]

The legal and regulatory responses associated with the early 20th century "quackery" idea of misinformation, i.e., misinformation as an intentional, identity-based activity, tended to revolve around attempts to identify the practitioners engaging in quackery and to exclude them

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[164] See e.g. Anat Rosenberg, "Exaggeration: Advertising, Law and Medical Quackery in Britain, c. 1840–1914" (2021) 42:2 J Legal Hist 202.
[165] Proceedings, Third National Congress on Medical Quackery, 1966, Chicago, Illinois, 1966, at 2, online (pdf): *Center for Inquiry* <cdn.centerforinquiry.org/> [perma.cc/RG8K-Z5SH] [Proceedings].
[166] *Ibid; Conference Report*, *supra* note 59.

from the ability to practise health care. This included prosecution, as well as attempts by mainstream professionals to prevent irregular practitioners from becoming regulated professionals who could gain the status and legal protection that accompanies regulation.[167] Both the language and the regulatory approach of this period were prevalent for approximately the first half of the century.

While the anti-"quackery" response was likely the first co-ordinated state or regulatory response to health misinformation in many jurisdictions, there were several shortcomings to its approach. The first problem was that professional regulators did not have much specific policy infrastructure to deal with misinformation conveyed by professionals, even if they may have had the will to act on "quackery" (deception related to non-scientific or unconventional practices). Many regulators lacked disciplinary mechanisms prior to the mid 20th century, and while codes of ethics sometimes did address honest practice, they were not generally usable as part of disciplinary mechanisms.[168] Discipline processes only evolved into their present form around the 1960s, amid administrative reforms. As a result, there were few instances of specific enforcement actions against health professionals related to misinformation.[169]

The second problem was that the framing of "quackery" did not acknowledge that the overlap between science and health care is not exact – practices that are not strongly supported by science do not always constitute misinformation,[170] and practices supported by science can still potentially be described or used in a deceptive manner. As a result, the idea of quackery did not address the exact aspects of informational foundations and communication practices that

[167] See *Proceedings*, *supra* note 165; *Conference Report, supra* note 59.
[168] See W Wesley Pue, "Foxes, Henhouses, Unfathomable Mysteries, and the Sufferance of the People: A Review of Regulating Professions and Occupations" (1996) 24 Man L J 283.
[169] *Ibid*.
[170] See Magner, *supra* note 33.

would distinguish deceptive from non-deceptive behaviour by health professionals. This problem was compounded by a lack of case law addressing misinformation prior to regulatory reforms in the 1960s, as well as a lack of policies that specifically defined misinformation and distinguished which informational and communication standards constituted deceptive or non-deceptive practices. As administrative decision-maker discretion became limited and the use of judicial review processes increased after the 1960s,[171] a lack of specific standards addressing misinformation within professional practice meant that decision-makers had a limited ability to act on potential misinformation without specific precedents or rules to rely on.

The third problem with the conception of "quackery" was that when the idea of "quackery" (i.e., misinformation based on non-science and non-convention) lost its salience, it did not have an effective replacement within regulatory systems, leaving regulators with little in the way of tools for identifying or acting on deception associated with health treatments.

2. *Phase 2: Vocabulary for Health Misinformation during the Pluralization of Health Care*

Within the larger new age movement that became a major social influence during the decade, non-mainstream health practices became increasingly popular, with this rise in popularity being deemed the alternative medicine movement. As the new age movement and alternative medicine movement became more influential, they became significantly commercialized.[172] Both the popularities of these movements, and their commercialization, led to increased public support for the use and regulation of alternative health professions previously

[171] See Calabresi, *supra* note 77.
[172] See Melton, "Realizing", *supra* note 45.

deemed "unscientific" and illegitimate among existing professions. Non-mainstream therapies became increasingly subject to formal regulation and licensing in many jurisdictions, as many lawmakers and health professionals shifted from presuming that such practices are inherently deceptive and harmful to presuming that they are deceptive and harmful when practiced inappropriately and irresponsibly.[173]

Notably, the notions of "inappropriate" and "irresponsible" practice did not tend to expressly address the communication standards that health practitioners should use when sharing information about their treatments. The basis of the information that was communicated about health treatments, and in particular, whether the information would be considered deceptive, was not a significant part of the definition of "appropriate" and "responsible" treatment. Instead, the concept of appropriate and responsible practice focused largely on competency and training standards, addressing how the treatment should be undertaken,[174] rather than how the treatment might differ from others in terms of supporting evidence and informational foundations.

A similar set of ideas was reflected in the popularity of the terms "misleading" and "deceptive", which were also commonly referenced by regulators and other health-related institutions during this time period.[175] As with the language of "inappropriate" and "irresponsible" practice, these terms were framed around general ideas of unprofessional conduct, rather than focusing on the exact epistemic or evidentiary nature of the "misleading" or "deceptive" communications.

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[173] See Wahlberg, *supra* note 133.
[174] *Ibid.*
[175] See e.g. Lee Ann Bundren, "State Consumer Fraud Legislation Applied to the Health Care Industry: Are Health Care Professionals Being Consumed?" (1995) 16 J Legal Med 133 (discussing the trend of increasing connection between consumer fraud protections based around deceptive business practices and the regulation of health professionals).

In contrast to previous terms associated with health misinformation, which generally referred to deceptive communications by any person, the emergence of terms like "irresponsible" treatment and "misleading advertising" was more closely associated with communications by regulated health professionals. Despite this more specific focus, the epistemic differences between different professions (and practices within the same profession) did not seem to receive much attention during this time. A problem with this approach is that alternative medicine providers and scientific healthcare do not always define evidence and safety in the same way.[176] Because the regulation of alternative health care professions did not explicitly address these differing conceptions of evidence and safety, there was little attention to how the practice and communication of complementary and alternative medicine might cause confusion or misinformation to patients, especially when regulated alongside mainstream professions that use a different informational basis for their treatments.

3. *Phase 3: Vocabulary for Misinformation during Commercialization in Health Care*

As noted previously, due to fraud being a well-recognized form of commercial misconduct when healthcare went through a major phase of commercialization, the concept of fraud became attached to professional misconduct within the healthcare sector. This resulted in the popular notion of health misinformation as "health fraud". Working from this concept, several influential health fraud initiatives and organizations emerged in the 1990s, focusing on deceptive economic activities that involved health products or services. For example, the

[176] See e.g. Christine Ann Barry, "The Role of Evidence in Alternative Medicine: Contrasting Biomedical and Anthropological Approaches" (2006) 62:11 Soc Sci & Med 2646, doi: <10.1016/j.socscimed.2005.11.025>.

Mexico, US, Canada Health Fraud Work Group (MUCH), was established as a governmental partnership dedicated to responding to cross-border fraud cases involving health services, mainly through investigation and law enforcement actions.[177] Similarly, the National Council Against Health Fraud, was established in the 1990s as a private organization dedicated to addressing commercial health misinformation. The Council was active in many litigation cases involving allegedly deceptive health practices, including an influential but unsuccessful case involving alleged false health advertising.[178]

As discussed previously, health fraud is a somewhat ambiguous term that can refer to multiple kinds of fraudulent activity, and at the same time, it can limit attention to the total harms of inaccurate health information, in favour of focusing especially on the economic aspects of the harm. Additionally, while health fraud cases have had some focus on the verifiability of claims, they have not tended to focus on which evidentiary standards should be used to verify which type of communication, or whether the communication would be clearly and accurately understood by its audience. Finally, there do not appear to be many published health fraud cases in which mainstream practitioners such as physicians or nurses were alleged to be involved in false or deceptive communications, except for cases involving insurance fraud.[179] Based on this, "health fraud" appears to have been associated mainly with non-mainstream practitioners and companies, or else with false insurance claims by mainstream professionals, with little attention to mainstream professionals who may be communicating misinformation that is unrelated to insurance claims. In this sense, "health fraud" as a conception of health misinformation, while

[177] See Ubaka Ogbogu, "Combatting Unlicensed Stem Cell Interventions through Truthful Advertising Law: A Survey of Regulatory Trends" (2016) 9:2 MJLH 311 at 329, online: *CanLII* <www.canlii.org/>.
[178] See *King Bio, supra* note 92.
[179] See e.g. *Ontario (College of Physicians and Surgeons of Ontario) v Davis*, 2001 ONCPSD 2.

popular for a time, was still limited in its scope and in the regulatory actions that were associated with it.

The use of the term "health fraud" to refer to misinformation, and the health fraud organizations themselves, appear to have become defunct after the early 2000s. Around this time, the term "health fraud" came to refer to health insurance fraud, especially following the 2010 introduction of a U.S. criminal law that defined health care fraud as the defrauding of health care benefit programs.[180] While some sources occasionally reference health fraud in its earlier sense of referring to misinformation or deception,[181] the newer meaning of health insurance fraud has now become more standard. As a result, rather than referring to health treatments that are undertaken in a fraudulent manner toward patients or the public, health fraud now largely refers to making false insurance claims for health treatments that were not actually provided, where patients were not necessarily misinformed in the process.[182]

The history of "health fraud" as a concept is similar to the pattern seen in previous eras dealing with "quackery" and "inappropriate" or "misleading" conduct. In all instances, a new conception of misinformation was tied to a new wave of specific enforcement actions which later died out, appearing to have become increasingly narrow or defunct in their application, largely without proactive or lasting approaches to misinformation being adopted within regulatory institutions.

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[180] See 18 USCA § 1347 (2011).
[181] See e.g. United States Food and Drug Administration, "Health Fraud Scams" (2011), online (video): <www.fda.gov/>, *Internet Archive:* <web.archive.org/> (describes health fraud as involving false or deceptive claims about health treatments).
[182] See National Health Care Anti-Fraud Association, "The Challenge of Health Care Fraud", online: <www.nhcaa.org/> [perma.cc/HR7H-NBGA]; Adam Miller, "Exposing Medical Fraud: "One of the Last Taboos in Society"" (2013) 185:1 CMAJ 16, doi: <10.1503/cmaj.109-4359>.

4. *Phase 4: Digitization in Health Care and its Relationship to Misinformation Vocabulary*

Since the 2000s, the previous vocabularies, from quackery to health fraud, have still been in occasional use by some organizations, despite their decrease in popularity and meaning from a regulatory perspective. While all of these once-popular terms may be viewed as referring to health misinformation, the literal term "health misinformation" did not come into common use until the past few years, especially within health professions regulators.

The new popularity of the term "health misinformation" largely coincided with the popularity of the concept of "post-truth" and with the COVID-19 pandemic. Scholars have noted a significant rise in scholarly attention to and published articles about misinformation in the 2010s, especially around the 2016 US presidential election.[183] While the term "misinformation" had become more popular in the years before the COVID-19 pandemic, its use in the more specific context of health and healthcare became popular after the pandemic began.[184]

With the popular use of the term "health misinformation" being a relatively more recent one, it remains in common use in the present day. As will be discussed in more detail in later chapters, "health misinformation" as a concept has coincided with the creation of new laws, regulations, and enforcement actions that revolve around the concept and use of the term, similarly to previous iterations of popular language describing deceptive communications related to health.

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[183] See Sadiq Muhammed T & Saji K. Mathew, "The Disaster of Misinformation: A Review of Research in Social Media" (2022) 13:4 Int J Data Sci Anal 271, doi: <10.1007/s41060-022-00311-6> (see especially figure 1).
[184] See Grad, *supra* note 63.

When comparing the different vocabularies that have been in common use over time, there are several patterns of notable parallels and differences between them. In each of the historic periods and trends described, there has been a cycle of new vocabulary becoming popular to describe health misinformation, alongside a ramping up of reactive responses by regulators and other health-related institutions to respond to each iteration of the problem. Eventually, both the use of the popular terminology of the time, and the regulatory responses connected to it, have tended to diminish, until new social circumstances have triggered a new vocabulary and a renewed regulatory response.

Given that, as noted previously, health misinformation is considered to be a large-scale and still growing problem, this historic cycle of responses has been ineffective at creating viable long-term institutional protections against the spread of health misinformation, both in general, and by health professionals in particular.

Part of the reason for a lack of long-term efficacy may be that each of the historic phases of regulatory responses has lacked a unified approach that acknowledges all fundamental aspects of the problem, including systemic, commercial, and especially the epistemic aspects of health misinformation that have repeated in each time period.

For instance, the concept of "quackery" largely framed misinformation as an epistemic problem (in the sense that "quacks" were relying on methods not supported by mainstream scientific foundations), and it acknowledged that there were commercial components to the problem (e.g., practitioners profiting from "quack" remedies). However, responses to "quackery" tended to focus on individual practitioners deemed to be outside of mainstream practice, rather than considering systemic factors inside and outside of medicine that might increase of decrease the tendency of a practitioner to engage in "quackery".

The concept of "inappropriate" or "misleading" professional conduct similarly framed misinformation as a problem of individual practitioners making irresponsible decisions, though it tended not to focus on commercial, systemic, or epistemic aspects of misinformation. Instead, responses to "inappropriate" or "misleading" conduct tended to treat the problem as a matter of correcting individuals who were not considered to be practising in a safe manner.

The concept of "health fraud" framed health misinformation around the commercial aspects of the problem, treating health misinformation as a matter of financial or economic misconduct in which patients (and later, insurers) were deceived into paying money that they would not have paid had they been more properly informed by practitioners about the medical goods or services that they were receiving. However, it did not always acknowledge the systemic or epistemic aspects of the problem, instead often focusing on instances of health misinformation that appeared to be particularly egregious or extreme in the amounts of money that had been received by a practitioner, with varying degrees of consideration to the health harms that resulted.

While previous vocabularies often did not tend to address the systemic nature of how health information travels and is regulated, "health misinformation" seems to be more associated with a consideration of the systemic nature of the problem, in addition to its commercial and epistemic aspects. In this sense, using the literal term "health misinformation" frames the problem in a somewhat more comprehensive way than previous language did. However, there are still some significant limitations that this conception of misinformation shares with previous concepts. First, the language around health misinformation tends to focus notions of truth or correctness, often framing these notions around medical consensus or science, but institutions discussing health misinformation do not always engage with the precise nature or quality of the

evidence related to each health claim or treatment in question. Second, historic and current language related to health misinformation have tended not to consider regulatory institutions' own potential role in enabling, encouraging, or failing to prevent the spread of misinformation by health professionals.

III. Key Themes Arising from History of Regulation of Health Misinformation

Summarizing the key ideas from this chapter, the four main phases of development described above—standardization, pluralization, commercialization, and digitization—and the societal, state, and regulator responses to these phases, have led to an incomplete and often incohesive approach to health misinformation within regulated health professions. Standardization, with its focus on scientific methods, followed by pluralization, with its embrace of non-standard health interventions, have together led to the adoption of contradictory ideas that have not always been reconciled within regulators, the state, and society. The result has been an approach to health care that is generally scientific, but which contains non-scientific exceptions that are permitted or encouraged alongside the scientific approach, and which may range from compatible to incompatible with science. This adoption of inconsistent and sometimes competing evidentiary standards within the same institutions and systems left institutions under-equipped to deal with the challenges of commercialization and digital innovation, both of which have facilitated the spread of health misinformation (with these developments having made health misinformation more profitable and easier to spread). At the same time, the language being used to address health misinformation, rather than fully acknowledging these inconsistencies, has tended to frame misinformation around the exclusion of unacceptable practitioners or practices, but has not tended to pay attention to the underlying evidentiary nature of health interventions

and communications, or on the manner in which accepted activities, regardless of their evidentiary basis, may be undertaken in a deceptive manner that constitutes misinformation. These issues, and the manner and extent to which they are reflected in present-day laws and policies, will be further considered and explored in the next chapters.

Chapter 3: Comparative Jurisdictional Scan: Laws and Policies Dealing with Misinformation in the Regulated Health Professions Context

I. Introduction

Addressing health misinformation is an ongoing challenge for health professions regulators. As the previous history chapter has illustrated, historic factors have given rise to competing influences with respect to the evidentiary standards regulators and health professionals use. Additionally, health care's relationship with commercialization and the internet has resulted in these factors being significant aspects of how health care systems operate, but also being capable of exacerbating the problem of misinformation.

This chapter presents a jurisdictional scan of health professions regulators' statutes and policies related to misinformation across Canada, the U.S., and the U.K., and with reference to these statutes and policies, considers what an approach to improved clarity and consistency regarding evidentiary and communication standards would look like. The scan and analysis focus especially on evidentiary standards (that is, the basis of information that is relied on by health professionals in their work), and communication standards (the way in which information is communicated to patients and the public), because these two types of standards represent or closely relate to many statutory laws and policies that deal with misinformation. As a reminder, misinformation can be considered to consist of the communication of information which has an evidentiary basis other than what is stated or implied by the person communicating that information. Because of this, two factors that are fundamentally important to any regulatory approach to misinformation include communication standards, which address how that basis is communicated, and evidentiary standards, which address the basis of information.

The jurisdictional scan consisted of a search of statutes and policies of regulators in U.K, Canada, and a selection of U.S. states. The selection of U.S. states included states that were reported to have created bills targeting misinformation by health professionals,[185] or bills that have been widely criticized as enabling or endorsing misinformation by health professionals,[186] in order to have a sample of jurisdictions that reflected the apparent variety of different approaches to health misinformation among jurisdictions.

This chapter describes the methods that were used to conduct this scan, followed by an overview of key legal concepts that have traditionally been connected to evidentiary and communication standards. In this sense, these concepts have a close connection to the approach that regulatory bodies have taken with respect to misinformation. These concepts include informed consent, professional advertising, complementary and alternative therapies, and the standard of care. These concepts are introduced at the outset so that their relevance will be familiar to readers in advance of the chapter's final sections, which consist of the findings and discussion of the jurisdictional scan.

II. Methods

For each jurisdiction, information was collected on whether there existed any provisions in statutes or policies concerning the regulation of medicine or nursing that addressed evidentiary standards, specific communication requirements (e.g. rules regarding the circumstances and

[185] See e.g., Assemb Bill No. 2098, 2021-2022 Reg Sess ch 938 2022 Cal Stat.
[186] See e.g. [186] See e.g. VA House Joint Resolution No. 5002. Sess. 1 (2020), online: <lis.virginia.gov/>; VA Sen. Bill No. 73. Reg. Sess (2022), online: <lis.virginia.gov/>; OH H.B. 631, 134th Gen Assemb, Reg. Sess. 2021-2022, online: <www.legislature.ohio.gov/>; *WHO Hydroxychloroquine, supra* note 8; *NIH Ivermectin, supra* note 8.

manner in which cosmetic interventions should be discussed with patients)[187], mandatory disclosures of information, prohibited types of medical intervention or communication, standards regarding the honesty and accuracy of professional communications, or other rules addressing evidence, information, or communication standards by professionals. (See Appendix A.) Where relevant provisions were found in a given jurisdiction, examples of these provisions were collected and saved in an excel spreadsheet. Where no relevant provisions were found for either a physician or a nurse regulator in a given jurisdiction, this was also recorded in the spreadsheet.

This scan did not include all U.S. states; instead, it included states that introduced or attempted to introduce laws or policies that had significant intersections with health misinformation, such as statues or policies that directly prohibit or otherwise address misinformation by health professionals, or statutes or policies that have been alleged to permit or promote health misinformation. Rather than having the greatest possible representativeness and generalizability, this scan is intended to yield a general sense of the similarities and variations across jurisdictions in terms of how misinformation and evidentiary standards are dealt with by mainstream health professions regulators.

A. Overview of Key Legal Concepts Related to Evidentiary Standards, Communication Standards, and Misinformation

As explained in the previous chapters, the laws and policies that are used to address misinformation in healthcare can be divided into two main categories: those that relate to evidentiary standards (the basis of information that is relied on by health professionals in their

[187] See United Kingdom General Medical Council, *Guidance for Doctors Who Offer Cosmetic Interventions* (1 June 2016), online (pdf): <www.gmc-uk.org/>, *Internet Archive:* <web.archive.org/>.

work), and those that relate to communication standards (the way in which information is communicated to patients and the public). Many health professions laws and policies fall expressly or obviously within these categories, such as those that contain the word "evidence" or "communications" within their titles or provisions. However, there are additional longstanding legal concepts and norms that fall within, or closely intersect with, these categories of evidentiary standards or communication standards. These include informed consent, marketing, complementary and alternative therapies, and the standard of care. While these concepts are common in across jurisdictions included in this scan, each as its own strengths and limitations as I describe below. It is important to trace these concepts in order to understand how they relate to the larger concepts of evidentiary standards and communication standards that are fundamental to misinformation, and hence to develop a deeper understanding of the approach to misinformation in Canada, the US, and the UK.

1. Informed Consent

Informed consent is the process of a patient agreeing to a health procedure, based on the patient being given sufficient information about the procedure to be able to make an informed decision.[188] Informed consent is relevant to a discussion of health misinformation due to the connections that misinformation and informed consent have to patients' decision-making about health care. Rather than just being a matter of inaccurate or wrong information, misinformation interferes with patients' ability to determine for themselves which information is most relevant and useful for their health situation, in order to decide which health intervention what is right for

[188] See Parth Shah et al, "Informed Consent" in *StatPearls* (Treasure Island, FL: StatPearls Publishing, 2023), online: <www.ncbi.nlm.nih.gov/>.

them. Informed consent is intended to facilitate this process of decision-making, and so it is relevant to consider current informed consent processes when considering health misinformation.

Informed consent can arise in different areas of law, such as health professions regulatory processes and disciplinary proceedings (which always involve professional regulators), as well as malpractice cases (which do not always primarily involve professional regulators). Because cases from each area of law contribute to the standards of informed consent as a whole, this chapter considers sources from all areas where relevant, including those outside of health professions regulatory processes, although the main focus remains on health professions regulatory processes.

Informed consent is generally understood to include providing patients with "valid and reliable information".[189] In principle, this aspect of informed consent should ensure that patients are provided with useful information and prevent patients from being misinformed about a health intervention. However, if the evidentiary basis of the relevant information is not expressly identified in informed consent rules, and if patients' understanding of the relevant information is not ensured, then the validity and reliability of information may not be ensured.

There is some variation by jurisdiction as to what information must be given to the patient for the information to be considered sufficient, but typically, the necessary information that a health professional must communicate to a patient during informed consent includes a discussion of the risks, benefits, and possible alternatives to each procedure that is being considered by the patient and the professional.[190] While this seems to be a specific and practical

[189] Audrey Ferron-Parayre & Catherine Régis and France Légaré, "Informed Consent from the Legal, Medical and Patient Perspectives: The Need for Mutual Comprehension" (2017) 22 Lex Electronica 1 at 5, online: *CanLII* <canlii.ca/t/strd>.
[190] See Shah, *supra* note 188.

set of relatively universal requirements, it is not always apparent or consistent as to how these requirements connect to evidentiary standards and communication standards. That is, statutes and policies within jurisdictions do not consistently address which evidentiary standards are relied on during informed consent, and whether or how these standards should be communicated to patients.

In Canada, the necessary parts of informed consent recognized in the common law include "the nature of the proposed operation, its gravity, any material risks and any special or unusual risks attendant upon the performance of the operation"[191]. Both the common law and statutes across Canada, the U.S., and the U.K. have adopted similar concepts of what must be disclosed to patients, including factors such as the method or nature of the treatment, the material risks and expected benefits of the treatment, side effects of the treatment, alternative actions available, and the likely or expected consequences of having no treatment.[192]

The factors underlying informed consent focus on a risk-benefit calculus, where patients can make predictions about each possible course of action and choose an action based on the predicted possibilities that are personally important to them. In principle, this approach empowers patients to understand all possible courses of action and choose the action that is consistent with their goals and values. However, there are two limitations to the current informed consent requirements. One is a lack of consistent rules about explaining the evidentiary nature of

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[191] See e.g. *Reibl v Hughes*, [1980] 2 SCR 880, 114 DLR (3d) 1; *Hopp v Lepp*, [1980] 2 SCR 192, 112 DLR (3d) 67; for examples of statutes, see e.g. *Consent to Treatment and Health Care Directives Act, RSPEI 1988, c C-17.2, s* 6(2); *Ontario Health Care Consent Act,* 1996, SO 1996, c 2, Sched A, s 11.

[192] See e.g. *Reibl v Hughes*, [1980] 2 SCR 880, 114 DLR (3d) 1; *Hopp v Lepp*, [1980] 2 SCR 192, 112 DLR (3d) 67; *Montgomery v. Lanarkshire Health Board* [2015] UKSC 11, [81] (appeal taken from Scot) (case addressing UK approach to informed consent); *Canterbury v Spence*, 464 F 2d 772 (1972); *Nixdorf v Hicken*, 612 P2d 348 (Utah 1980); American Medical Association, *Code of Medical Ethics* (2022) at 2.1.1, "Informed Consent", online: <code-medical-ethics.ama-assn.org/> [perma.cc/JG9F-9WVL] (sources addressing US approach to informed consent); *Consent to Treatment and Health Care Directives Act, RSPEI 1988, c C-17.2,* s 6(2); *Ontario Health Care Consent Act,* 1996, S.O. 1996, c. 2, Sched. A, s 11.

a treatment. The other is a lack of consistent clarity about how to ensure that patients and health professionals share a similar understanding about the information that is being shared.
As we have seen in the history chapter, different evidentiary standards may underlie different interventions, and different patients and professionals may have different assumptions about the evidentiary standards that underlie a given treatment.

Among the factors required for informed consent, the "method" or "nature" of the treatment would seem to have the most direct connection to evidentiary standards, as a treatment's method or nature arguably would include the nature of the evidentiary standard that underlies the treatment, including whether the treatment in question has demonstrated scientific value.[193]

Case law has not identified which standard of care applies to unconventional treatments in all circumstances, and while some cases have dealt with standards of disclosure for unconventional treatments, these disclosure standards have not always expressly dealt with evidentiary standards, generally focusing on benefits and risks but not the nature of the evidence underlying them.[194] As a result, it is unclear which evidentiary standard (if any) must be relied on when explaining treatment options, or whether and how differences in evidentiary standards for different treatments must be conveyed to patients. For example, in the U.S. case of *Charell v Gonzalez*, a physician was determined to be liable for persuading a patient to engage in a course of alternative medicine treatments, consisting of a special diet and coffee enemas, rather than standard treatment for the patient's cancer, after the alternative course of treatment caused the

[193] See Timothy Caulfield & Colin Feasby, "Potions, Promises and Paradoxes: Complementary Medicine and Alternative Medicine and Malpractice Law in Canada" (2001) 9 Health L J 183; Allan Freedman, "Legal Issues in Alternative Health Care" (2002) 13:2 Phys Med Rehabil Clin N Am 247, doi: <10.1016/s1047-9651(01)00006-7>.
[194] See Mary Jane Dykeman, *supra* note 97 at 13-52, "C. Traditional Practitioners Who Perform or Recommend CAM"; s 13.112. This text provides commentary on the *Charell, Krop,* and *Devgan* cases.

cancer to progress. In this case, a jury determined that "the treatment provided by defendant was a departure from good and accepted medical practice", and the physician's lack of disclosure about the risks of the treatment and about the available conventional therapies (that is, scientifically-based cancer treatments) was an essential aspect of the physician's failure to meet the standard of care during the informed consent process.[195]

The Canadian case of *Krop v College of Physicians and Surgeons of Ontario* considered the standard that should be required for informed consent with respect to a physician using alternative treatments for patients with health concerns related to allergies or environmental exposure. In that case, the court to which the original disciplinary decision was appealed determined that any medical opinion must be supported by a "responsible and competent body of professional opinion".[196] The court also noted that the regulator's discipline committee "stated that it must be made clear to the patient where scientific evidence exists - and by extension where it does not - for both diagnostic methods and treatment recommendations." [197]

While "scientific support" or "scientific validation"[198] for recommended treatments was expected in the *Krop* case, using the standard of a reasonable and competent body of professional opinion does not guarantee a consistent evidentiary standard, as bodies of opinion may potentially be based in different evidentiary standards apart from or in addition to science, with this being true both within the medical profession, and across professions.

In *Devgan v College of Physicians and Surgeons of Ontario*,[199] a practitioner who gave unconventional treatments to terminally ill patients was found to have engaged in misconduct

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[195] See *Charell v Gonzalez*, 251 A.D.2d 72, 673 NYS 2d 685 (1998).
[196] See *Krop v College of Physicians and Surgeons of Ontario*, 2002 CanLII 53258 (ON SCDC) at para 26.
[197] See *Ontario (College of Physicians and Surgeons of Ontario) v Krop*, 1999 ONCPSD 14 (CanLII), affirmed in *Krop v College of Physicians and Surgeons of Ontario*, 2002 CanLII 53258 (ON SCDC).
[198] *Ontario (College of Physicians and Surgeons of Ontario) v. Krop*, 1998 ONCPSD 18 (CanLII).
[199] 2005 CanLII 2325 (ON SCDC).

for, among other things, engaging in misleading conduct by failing to adequately disclose the limitations of the unconventional treatment and the lack of an adequate evidence base to support some of the physician's claims about the treatment. The Ontario Superior Court of Justice affirmed the regulator's finding that the treatment was not supported by "reasonable professional opinion",[200] that the practitioner had not adequately disclosed the limitations of unconventional treatment,[201] despite the practitioner conceding that this was a matter of "basic medicine",[202] and that the practitioner acknowledged that telling patients that the treatment would be curative would be "medically improper"[203] but still told patients that he would cure them or implied to them that he could prolong their lives.[204]

In *Devgan*, the standards of conventional medicine were applied and expected of the practitioner, even where he was practicing using unconventional methods. Additionally, a conventional medical standard was applied to communication requirements for informed consent for the unconventional treatments. Despite this, the case did not clarify which evidentiary standard, or standards, were considered to constitute a medical standard for the purpose of communication and treatment. This can be contrasted with other case law, such as some of the cases in the case content analysis, as well as with written policies, discussed below, that are more specific in referencing standards such as clinical evidence or scientific evidence.

As these examples illustrate, cases tend to expressly or implicitly endorse an idea of either relying on a scientific standard, or clearly explaining any deviations from it. However, this has not consistently been an express requirement. In general, there is a lack of consistent formal

[200] *Ibid* at para 33.
[201] *Ibid* at paras 33, 59.
[202] *Ibid* at para 59.
[203] *Ibid* at para 60.
[204] *Ibid* at para 60.

requirements to explain the evidentiary standard and supporting evidence for a treatment, even in instances where practitioners are expected to explain the limitations of an unconventional treatment. Specific disclosure of a lack of strong scientific support may be required in instances where an unconventional treatment is being proposed, but in case law, the nature of and differences between evidence types has not been consistently required to be fully explained. Without this disclosure, any explanations of a treatment's limitations may not be clearly understood by patients.

2. Marketing, Social Media, and Communications Policies

Professional regulators consistently have policies dealing with communications, such as those addressing advertising, social media use, media interviews, or other communications with members of the public. Advertising or marketing policies are a common and longstanding type of policy among health professions regulators. In the past decade, more internet-specific social media policies have become more common, and in the past several years, misinformation guidelines and statements have also been published by some regulators. Along with these policies have come some references to evidentiary standards that practitioners are expected to rely on when making communications, such as a requirement that publicly made statements be supported by scientific evidence, or a more general requirement that statements are supported by reasonable evidence or medical opinion.[205] In addition to occasional references to evidentiary

[205] See e.g., 22 Texas Admin Code §200.2 (3) (2003); College of Physicians and Surgeons of Newfoundland and Labrador, *By-Law 5: Code of Ethics*, s 21, online (pdf): <cpsnl.ca/> [perma.cc/7NKV-SEDR]; Quebec Code of Ethics of Physicians, CQLR c M-9, r 17, s 6.

standards, policies usually include standards related to accuracy, such as requirements that public statements by professionals must be accurate, honest, true, or verifiable.[206]

While many policies expressly require accuracy of communication, and some clarify the evidentiary standards that practitioners must rely on in practice, communications policies do not usually include a requirement to clarify the evidentiary basis of statements made by practitioners. That is, there is usually no explicit requirement to explain treatments with different foundations, such as supernatural bases, empirical bases, or bases in personal opinions or speculation. In jurisdictions that do not expressly require a specific type of supporting evidence, such as scientific research, this can lead to problems in ensuring that marketing claims or other communications are accurately understood by the public. Without express requirements to explain evidentiary basis of treatments, interventions that are novel, speculative, or even supernatural in nature, may be marketed alongside practices with extensive scientific support, with no distinction made between the basis of one intervention and the basis of another. This can interfere with patients' ability to judge a treatment's likelihood of success and make meaningful decisions about treatment options, as patients may make very different evaluations of the likelihood of success of a practice with supernatural foundations than a practice with scientific foundations.

Additionally, communications policies tend not to contain an explicit requirement to explain the evidentiary difference between interventions that have different types, amounts, and strengths of evidentiary support, such as novel therapies which may have less research

[206] See e.g. United Kingdom General Medical Council, *Good Medical Practice*, ss 30, 69, 81-87, 89, online (pdf): <www.gmc-uk.org/>, *Internet Archive:* <web.archive.org/ >[*Good Medical Practice*]; Washington Medical Commission, *Social Media and Electronic Communications*, Guidance Document (2023), s 4, online (pdf): <wmc.wa.gov/> [perma.cc/UB6M-DMW4]; College of Physicians and Surgeons of Alberta, *Advertising Standard of Practice* (Issued 2010, Reissued 2015), online: <cpsa.ca/> [perma.cc/Y2DU-VJEZ].

supporting them than older therapies that have been studied and used for longer. As a result, therapies whose long-term effects across the population are unstudied may be marketed alongside therapies whose long-term effects across the population are well-documented with a large amount of supporting evidence, such as clinical research, population studies, and widespread reporting of safety incidents and adverse effects. Where no distinction is made between these therapies, patients again can be put in a position where they cannot evaluate the potential differences in the likelihood of each therapies' success and may be given the misleading impression that all of the therapies are equivalent in their evidentiary support and potential for effectiveness.

3. Policies Related to Unconventional Therapies

Unconventional therapies (sometimes also called by other names, such as "complementary and alternative therapies", "complementary and alternative medicine (CAM)", "integrative therapies", "integrative medicine", and "holistic medicine"[207]) is a term that is used to describe any medical intervention that is not a mainstream, standard therapy within a health profession or health care system.[208] Because this definition is very broad, it captures many different types of practices, ranging from traditional healing practices to newly-created therapies, with many different types and levels of evidentiary support.

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[207] Some of these terms, such as "integrative medicine" and "holistic medicine" have other meanings that are not necessarily related to complementary and alternative therapies. However, alongside their other meanings, these terms are commonly used as synonyms for complementary and alternative therapies.

[208] See National Center for Complementary and Integrative Health, "Complementary, Alternative, or Integrative Health: What's In a Name?", April 2021, online: <www.nccih.nih.gov/> [perma.cc/YL9X-B758]; World Health Organization, "Traditional, Complementary and Integrative Medicine", online: <www.who.int/> [perma.cc/KUY3-QGUD].

What tends to distinguish unconventional therapies from mainstream or conventional medicine is the difference between the evidentiary foundations of unconventional therapies and the evidentiary foundations of mainstream practices. While this is not always a clean division (that is, mainstream research-based practices may lack a well-supported scientific evidentiary basis for certain health claims, and unconventional therapies may have at least some amount of scientific foundation),[209] unconventional therapies tend to be defined by having less scientific support (if any) relative to mainstream health treatments.

For example, the Federation of State Medical Boards of the United States' 2002 "Model Guidelines for the Use of Complementary and Alternative Therapies in Medical Practice" describes conventional medical practice as being science-based, and recommends that any CAM used by medical doctors should also be based in reasonable scientific evidence.[210] Other state and provincial policies distinguish conventional medicine as having a scientific basis,[211] or note that that unconventional may not always have a scientific basis and may require that physicians only recommend treatments supported by science.[212]

These examples illustrate that the differences between typical evidentiary foundations in conventional medicine and unconventional therapies are often acknowledged in regulator policies. Additionally, some policies related to unconventional therapies may have requirements

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[209] See Ioannidis, *supra* note 21; Matthew Herder, "Pharmaceutical Drugs of Uncertain Value, Lifecycle Regulation at the US Food and Drug Administration, and Institutional Incumbency" (2019) 97:3 Milbank Quarterly 820, online: <10.1111/1468-0009.12413>.

[210] See "Appendix E, Model Guidelines for the Use of Complementary and Alternative Therapies in Medical Practice" in Institute of Medicine (US) Committee on the Use of Complementary and Alternative Medicine by the American Public, *Complementary and Alternative Medicine in the United States* (Washington, DC: National Academies Press (US), 2005), online: <www.ncbi.nlm.nih.gov/>.

[211] See e.g. 33 Tex. Admin. Code § 200.3 (2003); La. Admin Code. tit. 46, Pt XLV, § 7103.

[212] See College of Physicians and Surgeons of Ontario, "Advice to the Profession: Complementary and Alternative Medicine", online: <www.cpso.on.ca/> [perma.cc/QC5B-MM94].

for practitioners to communicate the evidentiary support for unconventional therapies,[213] particularly where it may differ from the typical support for conventional therapies. However, policies generally appear to make little or no distinction between different types of unconventional therapies and their different evidentiary foundations, such as the difference between longstanding health practices which often have empirical or scientific foundations, and newer practices which may have any foundation and any amount of evidentiary support – often, these types of practices are combined under the same label of complementary or alternative therapies.[214] There also is often no explicit requirement to describe how the evidentiary standard underlying an unconventional therapy differs from common medical standards of care, which may potentially result in patients assuming that the evidentiary standard is similar to a typical medical standard, leading to inaccurate expectations about the chances of the treatment successfully meeting the patient's needs. While some jurisdictions do require a disclosure of a lack of scientific evidence for treatments that are not science-based,[215] and other require practitioners to disclose to patients when the practitioner's opinions are contrary to generally-held opinions within the profession,[216] such requirements are not universal, and where they do exist, they do not require practitioners to explain from an evidentiary standpoint how a non-science-based intervention differs from a science-based intervention, or to explain the difference

[213] See e.g. 22 Texas Admin Code §200.3 (2)(D) (2016); College of Physicians and Surgeons of Ontario, "Complementary and Alternative Medicine (Policy) (Approved November 1997, Updated September 2021), s 11, online: < www.cpso.on.ca/> [perma.cc/J56Y-YBGD].
[214] See e.g. College of Physicians and Surgeons of British Columbia, "Practice Standard: Complementary and Alternative Therapies" (revised 6 May 2022), online: <www.cpsbc.ca/> [perma.cc/36US-V925]; 22 Texas Admin Code §200.3 (2)(D) (2016).
[215] See Quebec Code of Ethics of Physicians, Code of Ethics of Physicians, CQLR c M-9, r 17, s 49 ([a] physician must, with regard to a patient who wishes to resort to insufficiently tested treatments, inform him of the lack of scientific evidence relative to such treatments, of the risks or disadvantages that could result from them, as well as the advantages he may derive from the usual care, if any).
[216] See e.g. College of Physicians and Surgeons of New Brunswick, *Code of Ethics* (November 2021), s 45, online: <cpsnb.org/> [perma.cc/L767-D2WZ].

in evidentiary foundations between a practitioner's personal opinion and general medical opinion, in instances where the two diverge.

4. The Standard of Care

Canada, the U.S., and the U.K. have taken similar approaches to defining the standard of care for a practitioner's clinical care (that is, the standard that the practitioner's care must meet for the care to be considered appropriately competent and not negligent). In Canadian case law dealing with the standard of care, the standard that practitioners are expected to follow in their practice has been described as that of a practitioner of reasonable prudence practicing in the same circumstances.[217] U.S. cases have taken a similar approach, describing the standard as being one of achieving "minimally competent care" in practice,[218] and undertaking to meet "meet the standard of skill possessed generally by others practicing in his field under similar circumstances." [219] In the U.K., the standard is known as the "Bolam test", which requires that a practitioner acts "in accordance with a practice accepted as proper by a responsible body of medical men skilled in that particular art."[220]

Across all three countries, the standard of care has developed to be an approach that is largely based around professional norms, comparing the skill and knowledge of any given health professional to the norm among people practicing that profession in that jurisdiction. Generally, conduct that is in line with what would be expected of a prudent practitioner on the field, based

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[217] See *Ter Neuzen v Korn*, 1995 CanLII 72 (SCC), [1995] 3 SCR 674.
[218] See Peter Moffett & Gregory Moore, "The Standard of Care: Legal History and Definitions: the Bad and Good News" (2011) 12:1 West J Emerg Med 109, PMID:< 21691483>, citing *Hall v Hilbun,* 466 So 2d 856, 1985, Miss.
[219] See Moffett, *supra* note 218, citing trial judge in *McCourt v Abernathy*, 457 SE 2d 603 (SC 1995).
[220] See *Bolam v Friern Hospital Management Committee* [1957] 1 WLR 58, [1957] 2 All ER 118.

on the norms of that field, means that a practitioner has conformed to the standard of care. However, departing from norms does not automatically mean that a practitioner has fallen short of the standard – for example, legislation often limits prosecution or sanction for practice that does not conform to professional norms, unless the departure is sufficiently large to constitute improper conduct.[221]

In the medical and nursing professions, norms underlying the standard of care have often, but not always, tended to be scientific in nature. For example, the landmark *Abernathy* case in the U.S. described medicine as an "inexact science", with room differing care reflecting different professional "preference".[222] Similarly, the U.K. *Bolam* case provided the hypothetical example of a doctor's refusal to use antiseptics and anaesthetics as an example of wrongful conduct that would not meet present scientific standards.

While norms behind the medical standard of care tend to often be impliedly scientific, they have not ordinarily included an express communication standard that would guide professionals' understandings and explanations of evidentiary foundations underlying the standard of care. That is, professionals have often been expected to practice in a manner that is supported by science, but the standard of care has not included a requirement for professionals to explain the scientific or other foundations of their practices.

These concepts give context to the findings and discussion to follow, particularly by way of their common theme of reflecting certain norms (such as a general reliance on science, emphasis on accuracy, and support for patient autonomy and safety) that are highly prevalent and arguably essential to mainstream health care, but which are not always expressly required in all laws and policies dealing with the communication of information by health professionals.

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[221] See e.g. *Health Professions Act*, RSA 2000, C H-7, s5.
[222] See Moffett, *supra* note 218, citing trial judge in *McCourt v Abernathy*, 457 SE 2d 603 (SC 1995).

III. Findings

A. Summary of Comparison Scan: Current Approaches to Laws and Policies that Relate to Misinformation

1. Evidentiary Standards

There is a large range of policies addressing which evidentiary standards health professionals must rely on when practicing or when communicating with patients and the public. While most jurisdictions had at least one statute or policy that referenced evidentiary standards, the extent to which evidentiary standards were addressed was highly variable, and the standards themselves, as well as the ways in which they were described, were also diverse. At one extreme, the province of Ontario's College of Physicians and Surgeons has a policy that defines and describes different types of evidence in elaborate detail, including a hierarchy of evidence types and their implications for determining the probability of a treatment's success.[223] At the other extreme, the state of Florida's medical and nursing regulators appear not to make any policy reference to the evidentiary standards practitioners are expected to rely on.

Across the 20 selected jurisdictions, the areas in which evidentiary standards are referenced include medical education (with occasional references to specific subjects or types of

[223] See College of Physicians and Surgeons of Ontario, "Advice to the Profession: Complementary and Alternative Medicine", online: <www.cpso.on.ca/> [perma.cc/QC5B-MM94].

evidence to be learned about in education), [224] continuing education,[225] advertising,[226] communication with patients,[227] infection control,[228] and cultural competency.

Among these areas, there are several themes that the rules dealing with evidentiary standards address. One of these themes is requiring practitioners to make distinctions between different claims or approaches with different relationships to evidence, such as requirements for practitioners to distinguish between fact and opinion,[229] or to distinguish between faith-based and non-faith-based healing.[230] Many jurisdictions refer to specific evidentiary standards that practitioners must use in practice, such as being required to rely on scientific standards,[231] to practice in accordance with scientific principles,[232] to avoid treatment with no scientific basis,[233] or to be able to demonstrate scientific, medical, or other theoretical standards that are being relied on in practice or in communication.[234] Instead of referencing science, some jurisdictions

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[224] See e.g. WA Rev Code § 18.71.055 (2022), s 2.
[225] See e.g. CA Bus & Prof Code § 2196.9 (2023) ("(a) [i]n determining its continuing education requirements for physicians and surgeons, the board shall consider including a course in maternal mental health, which shall address the following:...(3) The range of evidence-based treatment options...")
[226] See e.g. College of Physicians and Surgeons of British Columbia, "Practice Standard: Advertising and Communication with the Public" (last revised 24 July 2023), online: <www.cpsbc.ca/> [perma.cc/APZ9-V3UY]; ("[s]hould a registrant choose to advertise, the advertisement must... conform to the Canadian Medical Association's Code of Ethics and Professionalism" citing Canadian Medical Association, *Code of Ethics and Professionalism,* which states in Part C, "Physician Responsibilities", s 6 that physicians must "[r]ecommend evidence-informed treatment options", online (pdf): <policybase.cma.ca/>, *Internet Archive:* <web.archive.org/>.
[227] See e.g. 22 Texas Admin Code §200.3 (2024), s 6.
[228] See e.g. Cal. Bus. & Prof. Code § 2221.1(a).
[229] See *Good Medical Practice, supra* note 206, s 89 (d) ("you must not present opinion as established fact").
[230] See 26 V.S.A. § 1312) § 1312. (stating that standards regarding medicine and practising illegally apply to "persons professing and attempting to cure disease by means of "faith cure," "mind healing," or "laying on of hands," but "shall not apply to persons who merely practice the religious tenets of their church without pretending a knowledge of medicine or surgery", i.e., distinguishing between those who engaging in entirely faith-based or religious practices, and those who use faith-based practices as a medical or health intervention).
[231] See e.g. Department of Health Washington Medical Commission, "Guideline: Charter on Medical Professionalism for Allopathic Physicians and Physician Assistants", GUI2018-0, at 4 online (pdf): <wmc.wa.gov/> [perma.cc/SX8N-ZWDW] ("[p]ractitioners should uphold scientific standards...").
[232] See e.g. Quebec Code of Ethics of Physicians, Code of Ethics of Physicians, CQLR c M-9, r 17, s 6.
[233] See e.g. College of Physicians and Surgeons of Saskatchewan, "Policy: Complementary and Alternative Therapies" (Amended January 2020), online: < www.cps.sk.ca/ > [perma.cc/D4JW-VFSW] ("[i]t is unethical to engage in or to aid and abet in treatment which has no acceptable scientific basis...").
[234] See e.g. 22 Texas Admin Code §200.3 (6) (2016).

instead refer to relying on the best available evidence,[235] or to evidence-informed techniques.[236] Still other jurisdictions refer to consensus in addition to, or rather than, evidentiary foundations, such as those that require practitioners to give generally-held opinions when interpreting scientific knowledge,[237] or to be in conformity with current widely-accepted views of profession.[238]

This variation mirrors the history of evidentiary standards being inconsistent over time across all three countries, as well as the history of health practices with different evidentiary standards being used and regulated alongside one another.

2. Specific Communications Standards

Among the jurisdictions surveyed, communications standards often relate to unconventional or emerging areas of practice, such as complementary and alternative medicine policies, COVID-19 policies, and stem-cell treatment policies.[239] A few communications standards deal with a

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[235] See *Good Medical Practice, supra* note 206, s 7(e) ("[i]n providing clinical care you must... propose, provide or prescribe effective treatment based on the best available evidence").
[236] See e.g. College of Physicians and Surgeons of British Columbia, "Practice Standard: Advertising and Communication with the Public" (last revised 24 July 2023), online: <www.cpsbc.ca/> [perma.cc/APZ9-V3UY] ("[s]hould a registrant choose to advertise, the advertisement must... conform to the Canadian Medical Association's Code of Ethics and Professionalism" citing Canadian Medical Association, *Code of Ethics and Professionalism,* which states in Part C, "Physician Responsibilities", s 6 that physicians must "[r]ecommend evidence-informed treatment options", online (pdf): <policybase.cma.ca/>, *Internet Archive:* <web.archive.org/>.
[237] See e.g. College of Physicians and Surgeons of New Brunswick, *Code of Ethics* (Adopted November 1996, Amended November 2011), s 45, online: <cpsnb.org/>.
[238] See e.g. College of Physicians and Surgeons of British Columbia, "Practice Standard: Advertising and Communication with the Public" (last revised 24 July 2023), online: <www.cpsbc.ca/> [perma.cc/APZ9-V3UY] ("[s]hould a registrant choose to advertise, the advertisement must... conform to the Canadian Medical Association's Code of Ethics and Professionalism" citing Canadian Medical Association, *Code of Ethics and Professionalism,* which states in Part C, "Physician Responsibilities", s 41 that "physicians must provide opinions consistent with the current and widely accepted views of the profession when interpreting scientific knowledge to the public...", online (pdf): <policybase.cma.ca/>, *Internet Archive:* <web.archive.org/>.
[239] College of Physicians and Surgeons of Ontario, "Complementary and Alternative Medicine (Policy) (Approved November 1997, Updated September 2021), s 11, online: <www.cpso.on.ca/> [perma.cc/J56Y-YBGD]; Vermont Board of Medical Practice, "Position Statement on Unprofessional Conduct and COVID-19" (Adopted 3 November 2021), online (pdf): <www.healthvermont.gov/> [perma.cc/A8V6-EXD2]; 26 V.S.A. § 1354 s 41.

particular diagnosis or type of treatment, such as treatments for patients with Down syndrome, or cosmetic treatments.[240] These standards may deal with evidentiary standards, such as *the Texas Administrative Code*, which requires practitioners to use only treatments with anticipated benefits that are "supported by scientific evidence and does not solely rely on placebo effect."[241] Others deal with the development of informational resources based on particular evidentiary standards, such as Washington's *Revised Code*, which requires the Department of Health to develop "Up-to-date, evidence-based, written information about Down syndrome and people born with Down syndrome that has been reviewed by medical experts and national Down syndrome organizations."[242]

3. Mandatory Disclosures of Information to Patients

Requirements for practitioners to disclose specific information to patients were often centered around unconventional areas of practice, or views that diverge from typical evidentiary standards or consensus within a profession.[243] Some requirements also consist of specific disclosures involving informed consent, such as disclosures that must be made during informed consent for complementary and alternative medicine treatments under professional codes of ethics.[244] Occasionally, mandatory disclosures of information are required for specific types of treatment, such as treatments for COVID-19.[245]

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[240] See RCW 43.70.738 (2016); United Kingdom General Medical Council, *Guidance for Doctors Who Offer Cosmetic Interventions* (1 June 2016), online (pdf): <www.gmc-uk.org/>, *Internet Archive:* <web.archive.org/>.
[241] See 22 Texas Admin Code §200.2 (3) (2003).
[242] See RCW 43.70.738 1(a)(i) (2016).
[243] See e.g. College of Physicians and Surgeons of British Columbia, "Practice Standard: Advertising and Communication with the Public", (Effective 1 December 2009, Last Revised 24 July 2023), online: <www.cpsbc.ca/> [perma.cc/APZ9-V3UY].
[244] See College of Physicians and Surgeons of Ontario, "Complementary and Alternative Medicine (Policy) (Approved November 1997, Updated September 2021), s 12, online: <www.cpso.on.ca/> [perma.cc/J56Y-YBGD].
[245] See Fla. Stat. § 456.62, (2024).

4. Prohibited Types of Communication or Treatment

Rules that prohibit professionals from engaging in certain forms of communication or performing specific types of treatment are often focused on specific diagnoses or medicines. For example, some jurisdictions restrict the use of a therapy for certain diagnosed conditions, such as chelation therapy for certain conditions for which evidence of efficacy is deemed to be lacking, such as arteriosclerosis, if the use is not approved by the U.S. Food and Drugs Agency.[246] Others may prohibit a therapy altogether where its use is considered to be discredited from an evidentiary standpoint, such as Florida's prohibition on the use of laetrile by medical practitioners, [247] or several jurisdictions' bans on the use of conversion therapy, although this ban applies only to patients under the age of 18.[248]

In other instances, prohibitions are more general, such as jurisdictions which prohibit practitioners from recommending treatments that have been demonstrated to be ineffective on a medical science standard.[249] Rules against excessive prescribing or treatment and against making guarantees about a treatment's success are also common.[250]

5. Standards Addressing the Honesty or Accuracy of Information

Rules requiring practitioners to be honest and accurate when conveying information tend to follow several structures. Some rules contain a literal requirement that information conveyed by

[246] See ARS Title, §32-1401, s 27(hh).
[247] See 458.331(ff) Fl Stat (2023).
[248] See e.g., CA Bus & Prof Code § 865.2 (2023); 8 NYS §6531-A(2) (2019).
[249] See e.g., College of Physicians and Surgeons of Newfoundland and Labrador, "Standard of Practice: Complementary and Alternative Medicine" (2022), online (pdf): <cpsnl.ca/> [perma.cc/2ZKX-UKF6].
[250] See e.g. CA Bus & Prof Code § 725, online: <california.public.law/>; NY State Education § 6530.

practitioners be honest and accurate.[251] Other rules focus on the verifiability of evidence (that is, requiring that information conveyed by practitioners can be verified by patients and the public).[252] Other wording relating to honesty and accuracy includes rules prohibiting practitioners from engaging in fraud, deceit, or misrepresentation in their communications,[253] or prohibiting practitioners from making impossible claims (such as representing that an incurable disease can be cured).[254] These rules are not mutually exclusive, and most jurisdictions have one or more of them in their statutes or regulator policies.

The standards addressing honesty and accuracy of information tend to address several areas of practice and professional communication. Most commonly, they apply to professional advertising, social media use, and other communications with the public, as well as to unconventional treatments.[255] A few jurisdictions have honesty or accuracy standards that apply to direct patient communication (such as statements regarding treatment made when consulting with patients), requirements for the keeping of relevant supporting evidence (such as keeping relevant supporting evidence available on request when making advertising claims), or requirements that the burden of proof be on the practitioner to demonstrate the accuracy of claims.[256]

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[251] See e.g., College of Physicians and Surgeons of Alberta, "Conflict of Interest Standard of Practice" (Reissued 1 January 2021), online: <cpsa.ca/> [perma.cc/8UUL-EX5Y]; *Good Medical Practice, supra* note 206.
[252] See e.g., College of Physicians and Surgeons of Ontario, "Advertising" (Policy) (December 2020), online: <www.cpso.on.ca/> [perma.cc/5JFX-4FM6].
[253] See e.g. 8 NYS § 6530 (2019); 54.1 VS § 54.1-2915 (2020); 18 VAC 85-20-28 (2005); 18 VAC 85-20-30 (2007); College of Physicians and Surgeons of New Brunswick, "Regulation #10: Advertising" (Consolidated February 1999), s 1(b), online: <cpsnb.org/> [perma.cc/UWV5-VUX3].
[254] See e.g. 22 Tex Adm Code §164.3(5) (2008).
[255] See note 28 for examples.
[256] See *Good Medical Practice*, *supra* note 206 (containing numerous standards dealing with honesty and accuracy); 18 VAC 85-20-30 (2007) (requiring supporting evidence for claims); 8 NYS § 6530(a) (2021) (placing the burden of proof on a practitioner making claims about health).

6. Other Standards that Address Communication, Evidence, or Information

The other standards found among physician and nurse regulators that address communication, evidence, or information used by practitioners are eclectic, targeting a variety of aspects of professional practice. They broadly fit into several categories, including procedures, educational programming, guidance documents and position statements, and rules regarding transparency and practitioner motivations.

Procedural rules include whistleblowing protections for practitioners who make complaints against colleagues or institutions, rules that allow for emergency (expedited) disciplinary measures against practitioners in certain circumstances, and rules for adverse event reporting. Whistleblowing protections are intended to protect practitioners who complain against colleagues or institutions, which could include complaints concerning misinformation or any other form of potential misconduct.[257] Emergency disciplinary measures allow for a faster disciplinary process in certain circumstances, such as where a practitioner's activities pose a potential ongoing danger to the public.[258] Where misinformation appears to pose a health risk, such measures could potentially be applied to address practitioner misinformation more quickly. Adverse event reporting requirements support the collection of information about the observed risks of health treatments, helping to build the evidentiary basis of each information to assist in supporting informed decisions about the risks of the treatment.[259]

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[257] See e.g. Washington Medical Quality Assurance Commission, "Procedure: Whistleblowing Protection" (3 November 2017) PRO2017-09, online: <wmc.wa.gov/> [perma.cc/U3D3-EU8J].
[258] See e.g. FL Stat § 458.3311 (2023).
[259] See United Kingdom Nursing and Midwifery Council and General Medical Council, "Openness and Honesty When Things Go Wrong: The Professional Duty of Candour" (Joint Guidance Document) (29 June 2015) at 23-32, online: <www.nmc.org.uk/> [perma.cc/ZE3F-39HD].

Rules related to educational programming include regulators being empowered to create rules and standards to which continuing education must adhere, and regulators being empowered to create programs and standards for facilitating communication between practitioners and patients, such as cultural competency training and multilingual language training for practitioners. These rules can potentially give greater control to regulators to create rules addressing training and evidentiary standards, and to create rules and programs that improve the clarity and comprehensiveness of communication by practitioners to patients.

Guidance documents and position statements clarify a regulator's position on a particular practice issue, helping to create and enforce norms and expectations for practitioners. Examples include statements regarding specific diagnoses or treatments (e.g. the Joint Statement on Misleading COVID-19 information)[260] and guidance on preventing the overuse of certain treatments (e.g., choosing wisely guidance on the use of antibiotics).[261]

Rules regarding transparency and practitioner motivations tend to center on practitioner relationships and disclosures about themselves or their treatment methods. Examples of these rules include transparency standards (such as prohibitions or restrictions on the use of secret remedies, i.e. requiring that treatment ingredients be disclosed to patients), conflict of interest rules (e.g. regulations on relationships with industry, restrictions on practitioners' ability to sell items to patients), prescribing rules (i.e., prohibitions on prescribing a treatment for an improper or nontherapeutic purpose), and restrictions on practitioners discussing their personal beliefs with

[260] See College of Physicians and Surgeons of British Columbia and First Nations Health Authority, "Joint Statement on Misleading COVID-19 information" (6 May 2021), online: <www.cpsbc.ca/> [perma.cc/JTV6-D7EN].
[261] See College of Physicians and Surgeons of New Brunswick, "Choosing Wisely Antibiotics", online: <cpsnb.org/> [perma.cc/Q76W-Z4FR].

patients. These rules essentially target the potential concern of undue influence on patients on the basis of undisclosed or selectively disclosed information.

IV. Discussion

The key concepts outlined earlier in this chapter (informed consent, marketing, honesty and accuracy, standard of care) have important uses in protecting patients and empowering free and informed decision-making. However, the findings from this chapter suggest that many of the rules seen in the jurisdiction scan do little to support these essential principles of medicine, or may go so far as to conflict with or undermine them.

A notable strength of the previously discussed key concepts is that they largely reflect practical considerations and encourage patients' abilities to make own choices about the care that they receive. For instance, when considering how the standard of care is constructed across Canada, the U.S., and the U.K., the standard of competence for practitioners has a focus on practicality and realistic expectations for practice. Practitioners are generally compared against others in their field, and not held to a higher standard than training or everyday practice can support. Informed consent standards focus on patients' autonomy and the need for patients to make their own decisions, with consideration for all concerns that are likely to be relevant to the patient. Standards regarding unconventional treatment acknowledge the reality that different practitioners and patients rely on different types of therapy, and that a therapy being outside of mainstream care does not automatically mean that it cannot or should not be relied on.

While each of these standards has useful strengths, the standards share limitations with respect to a lack of clear and consistent evidentiary and communication standards connected to them. Many regulator rules and policies do not include any requirement or expectation that the

evidentiary basis of a treatment be communicated to patients, or that different evidentiary standards be explained to patients if a practitioner does not consistently rely on one standard. In addition to limitations related to evidentiary standards, many published cases and policies also lack an explicit reference to misinformation, despite misinformation being widely acknowledged as a major problem affecting health care and being a common subject of complaints and concerns from the public.[262]

Examples of this issue include the "nature of the treatment" in informed consent,[263] which would logically seem to include the evidentiary basis of a treatment but does not expressly do so; the fact that mainstream therapies tend to be impliedly (and sometimes expressly) scientific but do not have consistent levels of scientific support; the lack of any mention of misinformation in many jurisdictions' marketing standards; the lack of requirements for practitioners using unconventional treatments to explain the evidentiary standards supporting those therapies; and the lack of training of health professionals to be able to identify and communicate evidentiary standards.

As the chapter on history illustrated, the lack of attention to distinguishing and explaining different evidentiary standards has existed for a long time, and it largely continues to exist in the present, even as the concept of misinformation has evolved. Among existing rules, the current

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[262] See e.g. Richard S Saver, "Physicians Spreading Medical Misinformation: The Uneasy Case for Regulation" (2023) 108 Minn L R 911 at 922, doi: <10.2139/ssrn.4457780> (describing an increase in misinformation complaints during the COVID-19 pandemic); Victor Suarez-Lledo & Javier Alvarez-Galvez, "Prevalence of Health Misinformation on Social Media: Systematic Review" (2021) 23:1 J Med Internet Res e17187, doi: <10.2196/17187>; Isabelle Valdes, Ashley Kirzinger, Shannon Schumacher, & Liz Hamel, "KFF Misinformation Poll Snapshot: Public Views Misinformation As A Major Problem, Feels Uncertain About Accuracy Of Information On Current Events" (15 December 2023), online: *KFF* <www.kff.org/> [perma.cc/5AYK-EG4H]; Oksana Kishchuk, "9 in 10 Canadians Have Seen Misinformation on Health and Health Care, and Most Think That Is Here to Stay" (13 May 2024), online: *Abacus Data* <abacusdata.ca/> [perma.cc/U7L7-LTEM]; Ashleigh Stewart, "Fecal matter, threats and vandalism: Ontario's College of Physicians and Surgeons details abuse" (19 January 2023), online: *Global News* <globalnews.ca/> [perma.cc/X32J-HW2N] ("[i]n Ontario alone, there are 50 active cases against 30 doctors for allegedly spreading misinformation about COVID-19").

[263] See Dykeman, *supra* note 97 at 13-70-13.71, s 13.161-13.162 (noting that the nature of the intervention could include that an intervention has no scientifically proven value).

focus is frequently on accuracy and honesty, but typically there is not a focus on the exact basis of the information, or the clarity of the information for practitioners or patients, taking into account their personal expectations, norms, and understandings of health information.

These problems extend beyond the statutes and policies described in this chapter, given that not all instances of misconduct involving misinformation are reported or published. When regulators respond to misinformation and find that a practitioner's conduct constitutes misconduct, regulatory responses have often developed to be punitive and exemplary in nature, resulting in a relatively high, resource-intensive standard required for a regulatory response to be triggered (i.e., egregious instances of deception, or a repeat pattern of deception).[264] These shortcomings limit the ability of the rules to give full effect to the principles that these rules are intended to advance, such as patient autonomy and an honest and trustworthy patient-practitioner relationship.

The current array of rules dealing with evidentiary standards and communication standards in health professions can arguably be characterized as belonging to three categories. The first category is rules that have some superficial connection to misinformation, but which fail to specifically and meaningfully address misinformation as a problem. This includes rules that are relatively expansive, but vague in their meaning. For example, many jurisdictions prohibit misrepresentations by practitioners, but these rules typically do not clarify what constitutes a misrepresentation, including which evidentiary standard(s) could be used to evaluate whether something is a misrepresentation. This may help to explain some of the

[264] See e.g. L J Finocchio, C M Dower, T McMahon, C M Gragnola, & Taskforce on Health Care Workforce Regulation, *Reforming Health Care Workforce Regulation: Policy Considerations for the 21st Century* (Report), (San Francisco: Pew Health Professions Commission, 1995), online: <www.leg.state.nv.us/> [perma.cc/6X8X-C843]; Fiona McDonald, *Health Professional Regulatory Regimes: A Comparative Analysis Report to Manitoba Health* (2006), online (pdf): <www.gov.mb.ca/> [perma.cc/8J3U-QJLN].

cases seen in the previous content analysis chapter, in which decision-makers addressed the fairness or reasonableness of a communication made by a health professional, but not its evidentiary support or whether it was conveyed in a way that would give patients an accurate impression of the information. While misrepresentations may formally constitute misconduct in these jurisdictions, written rules may lack adequate guidance to enable decision-makers to consistently recognize, from an evidentiary foundations standpoint, whether a communication has constituted a misrepresentation, and hence, whether the practitioner engaged in misconduct, or whether they specifically did so by communicating misinformation.

The second category of rules includes rules that appear to normalize misinformation. For example, several U.S. jurisdictions have attempted to introduce policies which protect practitioners from facing discipline for the use of empirically controversial or discredited COVID-19 treatments, despite these treatments being widely considered to be based in misinformation.[265] While some may argue that these treatments, or any other treatment, does not constitute misinformation merely because they are discredited by a consensus of health professionals and organizations, if the mainstream consensus and the evidentiary basis behind it are not adequately explained to patients, then patients arguably are being given a misinformed impression about the treatments by the practitioners who offer them, one which is potentially lent unjustified legitimacy by some jurisdictions' endorsement of the treatments by publicly naming the treatments and offering protection to those who recommend them.

[265] See e.g. VA House Joint Resolution No. 5002. Sess. 1 (2020); VA Sen. Bill No. 73. Reg. Sess (2022); OH H.B. 631, 134th Gen Assemb, Reg. Sess. 2021-2022; *WHO Hydroxychloroquine, supra* note 8; *NIH Ivermectin, supra* note 8.

Similarly, jurisdictions with rules that prohibit the professional discipline of practitioners who offer unconventional treatments, but which do not specifying the evidentiary standards to which these treatments must adhere or how these standards should be communicated to patients, suffer the same problem of potentially encouraging and legitimizing practices that are likely to create a misleading impression for patients, who are left without any guarantee of having the required information to evaluate how the unconventional treatment differs from conventional treatment and assess the treatment's likelihood of success.

Another relevant example includes rules with vague wording about the evidentiary standards that practitioners may rely on in their practice or professional communications, especially when policies potentially permit the use of evidentiary standards aside from or in addition to science.[266] As will be illustrated in the later content analysis chapter, this can potentially lead to conflicts over how the standards should be interpreted and whether they may be causing confusion or misunderstanding for patients or members of the public. A final example is that of jurisdictions which lack guidance for regulator staff with respect to how staff can identify misinformation. This can leave the regulator's decision-makers with limited tools and skills for identifying and addressing potential misinformation in regulatory proceedings, or in other areas such as professional marketing or complaint intake processes.

A third and final category of rules includes those that deal with evidentiary standards, communication, or misinformation in a relatively more comprehensive manner.

[266] See e.g., 18 RCW 18.71.011 (2011) (practice of medicine definition includes reference to treating any condition, " real or imaginary, by any means or instrumentality"); *Complainant v College of Registered Nurses of British Columbia*, 2017 BCHPRB 99.

One example of this is jurisdictions that have the most specific and detailed rules regarding the use and communication of evidentiary foundations of treatments. This includes the Ontario CPSO's guidance regarding the evidence hierarchy, which describes the differences between different types of evidence, as well as jurisdictions with prohibitions or restrictions on treatments that have been widely discredited.[267] These restrictions and prohibitions need not be understood as a regulator dictating what constitutes "truth" to health professionals or patients, but rather, it can by understood as signifying that a particular treatment deviates so substantially from the typical evidentiary foundations of medicine that it would be deceptive and harmful to present that treatment to patients alongside other forms of treatment and give patients the impression that the treatments are all equivalent in their evidentiary foundations and observed harms and benefits). Both examples seek to improve the level of understanding between practitioners and patients as to the exact nature of each treatment that is available to patients, helping to create the strongest possible facilitation of informed decision-making by patients.

Another example is standards and programs that improve cultural competency and multi-language communication skills among practitioners. These standards have the dual benefit of improving practitioner communication skills when discussing treatments (and hence, reducing the chances of miscommunication that may misinform patients), while also serving as a tool for addressing cultural bias and racism in medicine.[268] This is particularly relevant when considering that health misinformation and racist informational claims often accompany one another, with a notable recent example being during the COVID-19

[267] See College of Physicians and Surgeons of Ontario, "Advice to the Profession: Complementary and Alternative Medicine", online: <www.cpso.on.ca/> [perma.cc/QC5B-MM94]; for further examples, see notes 246-249.
[268] See Cal Bus Prof Code s 2198-2198.1 (2011).

pandemic, when some of the most common health misinformation statements also contained racist sentiments.[269]

Rules which place restrictions on practitioners' disclosure of their personal beliefs to patients may also be useful in preventing patients from drawing a misinformed impression about the treatments their practitioner discusses. This is because it is not uncommon for some health interventions that may have stronger foundations in personal belief or opinion than empirical evidence.[270] In these situations, practitioners discussing their personal beliefs, if those beliefs relate in any way to their support of the recommended treatment, may give patients an inflated sense of the legitimacy and effectiveness of the treatment, due to the relatively high amount of trust that patients tend to place in the judgment and expertise of practitioners.[271]

Across the jurisdictions surveyed, evidentiary standards and communication standards exist across a wide range of areas (from education to advertising, patient communication, infection control, and cultural competence), often in a high level of detail, such as requiring practitioners to clearly distinguish fact from opinion, make disclosures about the type of evidence they are relying on when recommending an intervention, or disclose when their advice or a patient's request is not in line with customary practices within their profession.

The more explicit and detailed evidentiary and communications standards described above would be very comprehensive if they all existed within the legislative and policy framework of a single professional regulator. However, these rules exist in a patchwork across

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[269] e.g., Ans Irfan, Ashley Bieniek-Tobasco & Cynthia Golembeski, "Pandemic of Racism: Public Health Implications of Political Misinformation" 26 HPHR 1, doi: <10.13140/RG.2.2.15324.36480>.
[270] See e.g. *Complainant v College of Registered Nurses of British Columbia*, 2017 BCHPRB 99.
[271] See e.g. Timothy Caulfield, Alessandro R Marcon, Blake Murdoch, Injecting Doubt: Responding to the Naturopathic Anti-Vaccination Rhetoric, (2017) 4 J L & Biosciences 229 (arguing that regulation helps to legitimize professionals and increase the persuasiveness of health claims made by those professionals); College of Physicians and Surgeons of Ontario, "The Spread of Misinformation" (9 March 2023), online: <dialogue.cpso.on.ca/> [perma.cc/SH7K-3536] (noting that physicians hold a "unique position of trust").

Canada, the U.K., and the U.S.; and often, a relatively comprehensive rule that exists in one jurisdiction does not exist, or is even contradicted, among the rules found in another jurisdiction.

Some variation is to be expected, as the differences in frameworks reflect the individual histories and priorities within different jurisdictions. However, the lack of consistency among jurisdictions exists to such a degree that there are significant gaps in evidentiary and communication standards, resulting in a lack of clear and consistent guidance for practitioners regarding how to define, identify, and not perpetuate misinformation. This inconsistency is especially a problem in digital era, where misinformation spread by professionals and their patients in one jurisdiction can easily spread widely among other regions.

Having now surveyed the laws and policies that are relevant to health misinformation within regulated health professions, I will turn to a consideration of how case law has dealt with situations in which a regulated health professional has been alleged to have communicated health misinformation. The next chapter will address cases that with the issue of health misinformation communicated by health professionals, with reference to the issues considered in this and the history chapter.

Chapter 4: Content Analysis: Case Law Dealing with Allegations of Health Professionals Communicating Health Misinformation.

I. Introduction

Having reviewed the regulatory frameworks that relate to health misinformation in regulated health professions, an important next step is to understand how these frameworks are being used. This chapter will examine cases that deal with allegations of health professionals having communicated misinformation, taking an empirical approach to evaluate how regulators address these allegations. As the Introduction chapter noted, the purpose of this chapter is to analyze how regulatory decision-makers are dealing with situations in which a health professional is accused of spreading misinformation, using a case content analysis to assess the level of consistency among published cases and any notable patterns in the approach to and the outcomes of these cases.

A case content analysis consists of systematically reading from a set of documents, such as published case texts, and collecting information about a chosen set of features from those cases (such as the statutory or case law referenced in the cases), in order to draw inferences about how those features are used or addressed across the body of cases in question.[272] While it originates and is used in various social science fields, it has also been adopted in legal research to examine areas of case law from an empirical standpoint and gain a systematic understanding of the cases in question.[273] Case content methodology is not structured in a way that allows researchers to discern cause and effect or to predict the outcome of future cases based on patterns

[272] See Mark A. Hallt & Ronald F. Wright, "Systematic Content Analysis of Judicial Opinions" (2008) 96 California L R 1, doi: <10.15779/Z38R99R>.
[273] *Ibid.*

found in previous cases, but it can be useful for the purpose of better understanding what courts (or other adjudicative bodies) are doing in a given area of cases, and how they are reaching their decisions in that area.[274] It also has sometimes been particularly useful in disproving prior assumptions or conventional wisdom about when and how judicial decision-makers are relying on prior precedents or principles when making decisions.[275]

Misinformation not only poses a problem in health professions, where scientific knowledge is always evolving and professional opinions are acknowledged to sometimes differ – it is also a challenging issue for courts and tribunals to address in cases where a health professional is alleged to have participated in communicating misinformation. Not only do courts and tribunals need to deal with the same challenges of interpreting evolving scientific knowledge and differences in professional opinions, they also must consider and apply consequences if it is determined that a professional has engaged in spreading misinformation in a manner that amounts to misconduct. In light of this, it is particularly valuable to understand when and how decision-makers are dealing with these issues, and whether their approaches are consistent. However, there appears not to be any previous published research applying a case content analysis to written decisions dealing with the issue of health misinformation allegedly spread by health professionals.

The key questions to be addressed in this chapter include the question of how regulators are defining and identifying misinformation, which standards regulators are relying on to identify misinformation, and which factors are associated with greater (or lesser) consistency in identifying and sanctioning misinformation. The main purpose of this chapter is to apply a case content analysis to identify patterns that can be seen across cases dealing with alleged

[274] *Ibid.*
[275] *Ibid.*

misinformation from physicians and nurses. The main research questions for the case content analysis are as follows:

1. Evidentiary standards: Which evidentiary standards does each decision-maker rely on in deciding whether misinformation was communicated? Is there an association between the type of evidentiary standard relied on, and the prevalence of the regulators establishing a finding of misinformation?

2. Non-evidentiary standards: Which non-evidentiary standards (i.e., professional norms, case law on non-evidentiary concerns, or other standards) does each decision-maker rely on in deciding whether misconduct occurred, and whether the professional should be sanctioned? Is there an association between the reliance on non-evidentiary standards, and the prevalence of the regulators making a finding of misconduct or applying a sanction?

3. Outcomes: Does a finding of misinformation consistently lead to a finding of misconduct and the application of a sanction? If not, is there an association between a reliance on non-evidentiary standards, and the prevalence of a finding of misconduct or the application of a sanction?

4. Patterns in regulator approaches: Which factors have been influential on regulators' ability to consistently identify and respond to health misinformation communicated by health professionals?

The first question deals with evidentiary standards (i.e., the basis of information that is relied on by health professionals in their work), asking which evidentiary standards each regulator relies on in their decisions, how often each type of standard is used, and whether there is an association between the type of evidentiary standard that the decision-maker relied on, and the likelihood that the decision-maker found that a health professional had communicated misinformation. Examples of evidentiary standards include scientific standards (including

evidence such as observational studies or experimental studies) and experiential/anecdotal standards (including evidence such as parties' testimony).

The second question deals with non-evidentiary standards (any laws, rules, or norms that influence a legal decision, and which do not in themselves constitute evidentiary standards) asking which standards each regulator relies on in making their decisions besides those directly related to evidence, and whether the use of non-evidentiary standards is associated with the likelihood that the regulator determined that a health professional had communicated misinformation. For example, how often does each regulator rely on principles established in prior legal precedent cases, professional practice norms, or policy standards to determine whether professional misconduct occurred? Is a regulator more likely to decide that a communication constitutes misinformation when comparing the facts of the case against professional norms, or against precedent cases?

The third question deals with case outcomes, asking how often a regulator's finding of misinformation leads to the regulator applying a sanction against the health professional who was found to have communicated that misinformation. This question is intended to address whether a finding of misinformation consistently leads to a sanction (e.g., a warning, fine, or license suspension), as well as whether reliance on different evidentiary and non-evidentiary standards is associated with the likelihood that a regulator makes a finding of misinformation or applies a sanction. For the purpose of this question, a "sanction" is defined broadly and includes any warning, punishment, or order that a practitioner do or refrain from doing something as a result of the regulator's finding that the practitioner communicated misinformation. It also includes conditions that are placed on a health professional's practice, such as requirements that a practitioner undergo training or education in order to be permitted to practice.

The fourth question deals with patterns in regulator approaches to cases of alleged misinformation, asking which factors appear to influence whether a regulator identifies and responds to alleged health misinformation communicated by a health professional.

As a reminder, the working definition of misinformation for the purpose of this analysis is communication with an underlying evidentiary basis other than what is stated or implied. That is, misinformation is a communication that gives the audience a different impression about the information than what they would reasonably expect if they were accurately informed of the real evidentiary basis of that information. For example, if a doctor tells a patient that a particular type of injection has been proven to be highly effective for the patient's foot condition, the patient might assume that the doctor is referring to scientific research studies as the evidentiary basis supporting the statement that the injection may help the patient's condition (audience impression). The patient may reasonably assume this because scientific research is the type of evidence that is commonly used to support claims of efficacy for injections (meaning scientific research is the implied evidentiary basis here). However, if the doctor is actually relying on the anecdotal evidence of a colleague who regularly performs such injections (i.e., if the actual evidentiary basis is different from implied evidentiary basis), and the patient does not know this, then the doctor's claim about the injection would be an example of misinformation, due to the misleading impression it created for the patient.

Under this definition, misinformation can range from unintentional miscommunication, to indifference about the accuracy of one's statements, to intentional deception, and includes any communication that leaves the recipient with a different impression about the communicated message than what the message's actual informational basis supports.

A starting assumption of this chapter, informed by the previous comparative chapter, is that through the course of their operations, institutions may potentially protect against misinformation, fail to address misinformation, or potentially, perpetuate misinformation. While it may often be assumed that professional institutions would be consistently dedicated to combatting or preventing misinformation, existing evidence suggests that this is not always the case in practice. While there are some jurisdictions in which health professions and other regulators have policies and statements designed to discourage health professionals from communicating misinformation on particular topics,[276] other jurisdictions, such as Iowa, Louisiana, Virginia and Ohio, have created or attempted to create policies that have been accused of encouraging professionals to promote health interventions that amount to misinformation, particularly discredited or controversial treatments related to COVID-19, by including protections for practitioners who use such treatments.[277] Still more jurisdictions do not appear to openly and proactively monitor misinformation involving health professionals or to create publicly accessible regulatory responses to concerns of misinformation involving professionals. Given the inconsistency with which regulators appear to treat misinformation at a policy level, this chapter seeks to examine possible consistencies and inconsistencies in how regulators are responding to allegations of misinformation in case law involving formal proceedings against practitioners.

[276] See e.g. College of Physicians and Surgeons of British Columbia and First Nations Health Authority, "Joint Statement on Misleading COVID-19 Information" (6 May 2021), online: <www.cpsbc.ca/> [perma.cc/JTV6-D7EN]; Physicians and Surgeons: Unprofessional Conduct, Cal. Assemb. B. 2098 (2021-2022), Chapter 938 (Cal. Stat. 2022), s 2270(b)(4).

[277] See e.g. Federation of State Medical Boards, "Board Authority Legislation" (archived as of 1 October 2022), online: *Internet Archive* <web.archive.org/>; VA House Joint Resolution No. 5002. Sess. 1 (2020); VA Sen. Bill No. 73. Reg. Sess (2022); OH H.B. 631, 134th Gen Assemb, Reg. Sess. 2021-2022; *WHO Hydroxychloroquine, supra* note 8; *NIH Ivermectin, supra* note 8.

II. Overview of Health Professions' Regulation of Misinformation by Health Professionals

Currently, misinformation by health professionals falls within the realm of professional conduct, and as a result, regulatory actions dealing with instances of alleged misinformation by health professionals generally treat it as an issue of misconduct. This means that existing avenues for dealing with professional health misinformation largely consist of the established disciplinary and non-disciplinary responses that apply to professional misconduct. Examples of disciplinary responses may include a formal caution, a professional censure, a practice restriction (e.g., a requirement for supervision or further education for the professional), a monetary fine, a suspension of the professional's license, and a revocation of the professional's license. Examples of non-disciplinary responses may include an informal warning, the proactive monitoring of the practitioner's marketing materials and social media posts, and the creation of education requirements designed to inform practitioners about misinformation.

This chapter does not directly draw conclusions about whether the communications by health professionals at the center of each decision constituted misinformation. In some cases, the professionals may well have communicated information that was entirely accurate, and in others, they may have communicated information that was deceptive and which constituted misinformation. The purpose of this chapter is not to make this determination, but rather, to focus on patterns within the cases that indicate consistency or inconsistency in how misinformation is evaluated by regulators, and whether existing assumptions about regulators' handling of misinformation are accurate. As discussed in the Introduction chapter, regulators are mandated to protect public interest, are generally staffed by health experts with a strong understanding of health information, and have shown concern about health misinformation. For these reasons, it would be sensible to assume that case law would reflect this mandate, expertise,

and concern by demonstrating a high level of consistency in recognizing and acting on health misinformation if it is present in a case. However, there does not appear to be existing research that examines the extent to which this is true.

In addition to using content analysis as the primary method of research for this chapter, I will be using the concept of knowledge-based consensus as a frame of reference for interpreting how case decisions are dealing with evidentiary standards, due to consensus being the typical standard on which health professionals rely when generating, learning, and communicating health knowledge.[278] While there are exceptions to this approach (as noted in the earlier Introduction chapter), the predominant approach to knowledge and information in health professions is one that can be described as a knowledge-based consensus.

Philosopher Boaz Miller has defined knowledge-based consensus as consisting of three aspects.[279] The first is social calibration (using the same background assumptions and evidentiary standards). The second is consilience of evidence (using varied pieces of evidence that agree). The third is social diversity (using evidence from diverse sources and perspectives). If all three aspects align, the resulting opinion is likely to be accurate knowledge. If they do not align, then the result may be a widespread opinion that does not represent accurate knowledge (for example, because the opinion is not sufficiently supported by evidence).[280] Miller's description of knowledge-based-consensus is useful for its comprehensiveness, and for this reason, it will be used to inform this chapter and the thesis as a whole.

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[278] See B Kea & B Sun, "Consensus Development for Healthcare Professionals" (2015) 10 Intern Emerg Med 373, doi: <10.1007/s11739-014-1156-6>; Miriam Solomon, "Group Judgment and the Medical Consensus Conference" (2011) 16 Philosophy of Medicine 239, doi: <10.1016/B978-0-444-51787-6.50009-X>.
[279] Boaz Miller, "When is Consensus Knowledge Based? Distinguishing Shared Knowledge from Mere Agreement" (2019) 190 Synthese at 2, 11-12, 24, 27, doi: <doi.org/10.1007/s11229-012-0225-5>.
[280] *Ibid.*

III. Methods

Case content analysis consists of a systematic analysis of the texts of legal decisions, for the purpose of examining empirical claims about case law, such as the relationship between facts and case outcomes, or the connection between judges' reasoning and case outcomes.[281] It generally consists of selecting a set of case decision texts, coding the content of each case based on a set of criteria and themes to be examined, and analyzing the patterns found among the content of the cases (i.e., the themes found across cases and the frequency with which those themes occur).[282]

A primary use of case content analysis is to identify trends in the reasoning and outcomes of a body of case law. Case content analysis may also be useful for identifying, errors, misunderstandings, or methodological weaknesses in conventional legal views, such as identifying patterns (and challenging existing assumptions) about the frequency with which a particular type of litigation takes place.[283]

There are two major limitations to case content analysis. The first relates to representativeness. Sets of cases are limited to accessible decisions, leaving out decisions that are not readily accessible for research (particularly many unpublished decisions). Additionally, content analysis does not give weight to the relative influence of cases, so this method of analysis generally does not account for the relative authoritativeness or influence of some cases over others. The second limitation relates to subjectivity. While researchers can be as consistent as possible when choosing methods and key words for coding the features of each case, there is

[281] See Hallt, *supra* note 272.
[282] See Michelle Mello & Kathryn Zeiler, "Empirical Health Law Scholarship: The State of the Field" (2009) 96 Geo L J 649, online: <scholarship.law.georgetown.edu/>; Hallt, *supra* note 272.
[283] See Hallt, *supra* note 272.

usually some room for interpretation when coding and analyzing cases.[284] Because of these limitations, it is difficult to make any causal claims about how the content of cases relates to case outcomes. Because of this, the strongest use of content analysis tends to be in identifying and explaining mistaken assumptions about bodies of case law, and in identifying general trends among a body of cases. Given the lack of previous study of case law in this area, an identification of general trends among existing cases is a useful starting point for understanding how concerns of misinformation are being dealt with in cases that involve health professionals.

A general overview of the process for case content analysis is as follows: First, a set of cases is selected, either by way of random sampling, or by sampling all cases within a given time period. Next, case decision texts are read and the features of each decision are recorded in a coding scheme. Coding schemes usually include features such as key facts, features of the reasoning of the case, legal issues raised, and case outcomes. Next, the coded results are analyzed, often with a combination of quantitative methods (counting the number of instances of a given feature, such as an outcome that favours a claimant or a defendant), as well as qualitative methods (describing the content of the case, such as a judge's reasoning).[285]

A. Case Search

Cases were searched in case law databases (CanLii, Westlaw), using a collection of search terms listed in Appendix (F). Cases from any jurisdiction within Canada, the US, and the UK, both published and unpublished,[286] were included in the search. While published cases may

[284] See Mello *supra* note 282; Hallt *supra* note 272.
[285] See Hallt, *supra* note 272.
[286]In some U.S. jurisdictions, unpublished decisions are made accessible within case databases; such decisions are still labelled as "unpublished", despite being available to read.

have greater influence on subsequent regulatory decisions, unpublished cases were included to provide a broader insight into the decisions that regulators have made regarding health misinformation. For a summary of the number of cases included and their inclusion and exclusion criteria, please see Appendices C and D.

1. Criteria for Inclusion

To be included in the content analysis, cases first needed to meet five main criteria. First, each case needed to include a complaint of misconduct against a regulated doctor (physician or surgeon) or a nurse. Second, each case needed to include an allegation that the doctor or nurse had communicated misinformation (i.e., a deceptive, false, misleading, or inaccurate communication). The nature of the communication could include a direct statement or an omission of information, where that statement or omission was alleged to create a deceptive, false, misleading, or inaccurate impression. Written and verbal communications were both included. Third, the alleged misinformation needed to be about a medical intervention (such as a medication, surgery, or physical therapy). Fourth, the alleged misinformation needed to have been made to a patient or to the public. Fifth, each case needed to have involved a professional regulator. Published decisions by other adjudicative bodies (i.e., other types of regulators and courts) were only included when an original decision made by a professional regulator had undergone an appeal or a judicial review by that adjudicative body.[287]

[287] For further clarification, there are several appeal/judicial review pathways to which original decisions in this set of cases were sometimes subject. These include an internal appeal (where the original decision is re-considered by the regulator or another administrative body), an external appeal to a court (where at least one issue connected to the original decision is considered and ruled on by a court), and a judicial review (where an adjudicative body reviews a professional regulator or other administrative body's decision): see e.g. John M Evans, "Administrative Appeal of Judicial Review: A Canadian Perspective" (1993) Acta Juridica 47, online: <digitalcommons.osgoode.yorku.ca/> at 53-54, 68-70. While the law in the US and UK differs, both countries also have processes similar to those in Canada: see e.g. Jared P Cole, "An Introduction to Judicial Review of Federal Agency Action" (Congressional Research

2. Criteria for Exclusion

To ensure a precise scope of analysis, cases were excluded from the analysis if they met any of the following criteria. First, cases that were not published in English (whether originally or as an official translation), were excluded.[288]

Second, cases from before the year 2000 were excluded. This was intended to allow for a review of cases that were decided after the beginning of the COVID-19 pandemic (2020 onward), alongside cases from other recent years, rather than comparing cases from earlier points in history when the regulatory landscape was significantly different.

Third, cases that did not did not specify the nature of the alleged misinformation, or which did not identify who was allegedly misinformed, were excluded. This was done to ensure that it was possible to identify whether a patient or the public was alleged to have been misinformed, and what the patient or the public was allegedly misinformed about.

Fourth, cases that did not deal with communications in a patient-care context were excluded, such as allegations of a physician or nurse communicating misinformation as an expert witness, rather than as a health care provider. Communications made in clinical settings, as well as communications made through public media (e.g. television, social media, printed publications), were included if the communications related to a medical intervention and were accessible to patients or the public.

Service, 2016), online (pdf): <sgp.fas.org/> [perma.cc/6GAC-E7DK]; Richard J Piece Jr, "What do the Studies of Judicial Review of Agency Actions Mean?" (2011) 63:1 Admin L R 77; Graham Mayeda, "Reasonableness as Responsiveness in Administrative Law in the United States, United Kingdom, and Canada: Kant and Arendt on the Role of the Community in Deferential Judicial Review" (2023) 71:4 Am J Comp Law 930, doi: <10.1093/ajcl/avae006> (contains an overview of judicial/administrative review in all three countries).

[288] The exclusion of French-language decisions was a limiting factor in this research, as cases from some regulators may be published in French only.

Fifth, cases dealing with certain topics were excluded if they could be distinguished from misinformation related to a medical intervention, or if they related to legal issues that are distinct from misinformation. For example, allegations of misdiagnosis were excluded, because these allegations relate to a patient's condition, rather than to a medical intervention, and because much of the law related to misdiagnosis treats it as an issue of negligence, without any deception necessarily being involved.[289] Similarly, cases dealing with allegations of misinformation about test results were excluded, as this issue generally related to diagnostic misinterpretation by professionals, rather than misinformation about a health intervention that is performed on a patient. Another example of an excluded topic was forgery or inaccurate record-keeping, where the case concerned inaccurate documents but not communications with a patient or the public. A final example of an excluded topic was allegations of improper prescribing, as improper prescribing may not always involve deception. Unless patients in such cases were specifically alleged to have been misinformed about a medication that was improperly prescribed, these cases were excluded.

3. Case Content Collection Process

A coding scheme with several categories of information was applied to each case in the sample. These categories were procedural information, information about the alleged misinformation, standards and considerations relied on in reaching a decision (including law, policy, evidentiary standards, professional norms, and other principles), and case outcomes.

[289] See e.g. Ali S Saber Tehrani et al, "25-Year summary of US malpractice claims for diagnostic errors 1986-2010: an analysis from the National Practitioner Data Bank" (2013) 22:8 BMJ Qual Saf 672, doi: <10.1136/bmjqs-2012-001550>.

Procedural information included which jurisdiction the case originated from, which date the case was published, which organization oversaw the case (i.e., which regulator, court, or tribunal), how many complainants there were, and whether there had been a prior case or complaint against the same doctor or nurse.

Information about the alleged misinformation included the topic of the alleged misinformation (e.g., misinformation about medication, diet, vaccines, etc.), the form of communication that the doctor or nurse used (e.g., verbal statement, news article, website), and whether the alleged misinformation consisted of a statement of information, an omission of information, or both.

Information about legal and policy standards included whether a law or policy addressing misinformation by health professionals existed in the jurisdiction when the case was published, as well as which sources or law or policy were cited in the decision, including case law, statutes, professional policies, and constitutional provisions. Information about evidentiary standards included whether the decision text identified the evidentiary standards that were used to determine whether there was misinformation, and what those standards were. Information about professional norms included references to professional consensus or norms, including any wording that suggested a norm or a majority practice among professionals, such as “accepted”, “usual”, “typical”, “standard”, “majority”, “most”, and “consensus” in relation to professional opinions, knowledge, or practices. Information about other considerations involved in the decision included any additional principles referenced by the regulator or reviewing body (e.g., informed consent, expertise, public health, or public safety).

Finally, information about outcomes included whether there was a finding that the professional communication constituted misinformation, whether there was a finding of

professional misconduct, and whether a sanction or other regulatory response was applied based on the finding of misinformation or misconduct.

IV. Findings and Discussion

The following section contains a description and discussion of the results of the case content analysis, beginning with a brief description of the areas of inconsistency among cases, followed by a discussion of each of the research questions in turn. Cases are presented by theme, rather than by jurisdiction, except in instances where there is a comparison to be made among jurisdictions.

A. Case Characteristics

A search of cases meeting the inclusion criteria yielded a total of 39 Canadian decisions, 29 U.S. Decisions, and 9 U.K. decisions, for a total of 77 decisions. There were significantly fewer published decisions specific to health misinformation found in the U.S. and the U.K. compared to Canada. Much of the difference can likely be explained by the fact that U.S. and U.K. health professions regulators have fewer decisions published in searchable public or subscription databases, compared to Canadian health professions regulators. In instances where multiple related decisions were published from the same case (e.g., decisions at multiple levels of appeal or for multiple complaints), all decisions from the case were included if they met the inclusion criteria. As a result, within the total 77 decisions, there were 53 unique cases.

While 75 of the 77 decisions dealt with allegations that a physician had communicated misinformation, only two cases dealt with allegations that a nurse had communicated

misinformation. Despite the low number of cases involving nursing professionals, these cases were still included because, alongside the cases involving physicians, they are illustrative of the larger themes of evidentiary and philosophical inconsistency in approaches to misinformation that will be discussed later in this chapter. Given the very small number of nursing cases included, these cases cannot be relied on to draw generalized conclusions about the potential differences between misinformation cases involving nursing and misinformation cases involving medicine. These cases are relevant to the overall evaluation of case decisions that deal with the issue of health misinformation, and not to comparative claims about either individual profession.

Of the 77 decisions, 63 contained a final determination about whether a doctor or nurse had communicated misinformation, engaged in misconduct, or both. Fourteen of the decisions did not contain a final determination about misconduct, and nine of these 14 decisions did not contain a determination about misinformation. See Appendix C for a chart of the case numbers and patterns among cases.

B. Overview of Patterns Seen among Decisions

In many decisions that were reviewed for this chapter, the decisions relied on at least one aspect of Miller's definition of knowledge-based consensus, such as multiple pieces of evidence, or shared assumptions by experts. However, reviewing the decisions revealed a pattern of the three aspects of consensus not always aligning, resulting in a lack of clarity and consistency among the decisions, and potentially leading to a lack of clarity and consistency in the quality of information that patients and the public are receiving from health professionals.

There were several inconsistencies that were common across decisions. First, evidentiary standards were often inconsistent across jurisdictions, regulators, and cases. Second, the

reasoning used in many decisions did not have a strong consilience of evidence (multiple pieces of evidence to support the decision). Third, the diversity of evidence sources was inconsistent and sometimes low in decisions. These inconsistencies were reflected in the diversity of outcomes among cases, where different decision-makers sometimes made different determinations about similar misinformation complaints. Additionally, there was a lack of consistency in whether complaints about misinformation were addressed at all in decision texts (that is, parties' complaints of misinformation were not always mentioned or addressed in the decision text), and in how misinformation was identified.

If the reasoning and outcomes are not consistent across decisions, it follows that at least some of these decisions are not consistently identifying misinformation and ensuring that the information reaching patients and the public is of reliable and useful quality. Decisions that do not identify deceptive communications, or which even go as far as validating those communications, are likely to perpetuate the use of misinformation by health practitioners. These issues will be discussed in more detail within the sections addressing the research questions below.

C. Research Questions

1. Evidentiary Standards

This question examined which evidentiary standards regulators rely on when deciding whether misinformation was communicated, and whether there is an association between the type of evidentiary standard relied on, and the prevalence of the regulators establishing a finding of misinformation. Among the cases reviewed, there was a lack of consistent reference to

evidentiary standards for identifying whether a communication constituted misinformation. Some decisions referred to a specific type of evidence (such as scientific methodology, clinical evidence, or research studies)[290] that was used to evaluate the accuracy of a communication. For example, in a case dealing with the accuracy of a practitioner's social media statements suggesting that hydroxychloroquine could treat COVID-19, an Ontario administrative body referenced "a large retrospective study" as an evidentiary standard to be considered when evaluating the claim.[291] However, most decision texts did not mention any type of evidentiary standard in relation to evaluating misinformation complaints. As a result, it was often unclear what evidentiary basis, if any, the decision-maker relied on to decide whether a communication contained misinformation.

A lack of reference to evidentiary standards was not directly associated with a lack of a finding of misinformation or professional misconduct. In fact, a higher proportion of decisions that did not refer to evidentiary standards contained findings of misinformation, compared to the proportion of decisions that did refer to evidentiary standards. However, there were two issues associated with whether and how evidentiary standards were referenced in the decisions. The first issue was that decisions that did not reference evidentiary standards sometimes did not address the complaints about misinformation. That is, complaints about misinformation were sometimes ignored altogether in the reasoning of the decisions that did not reference evidentiary standards, with the reasoning focusing only on other matters instead. The second issue was that

[290] See e.g. *College of Physicians and Surgeons of Ontario v Rona*, 2022 ONPSDT 45 (referencing science/scientific theories); *Texas Medical Board, Petitioner v Kenneth W. O'Neal, M.D., Respondent*, State of Texas, 2008 WL 538898 (TX.St.Off.Admin.Hgs.) (referencing medical science, clinical evidence); *Gill v Brown*, 2023 CanLII 22233 (ON HPARB) (referencing research studies).
[291] *Gill v Bezanson*, 2023 CanLII 22190 (ON HPARB) at paras 39, 42, 43.

decision-makers who did reference evidentiary standards were not consistent in the evidentiary standards they relied on, or how they interpreted those standards.

Turning to the first issue, several decisions that did not refer to evidentiary standards also did not address the complaint of misinformation, despite misinformation being among the main concerns of the complainants in these cases. The most obvious problem that can arise where a complaint of misinformation goes unaddressed is that it may allow misinformation to spread without consequence. However, a second problem is that if the health professional did not actually communicate misinformation, then readers of the decision can still see that the health professional was accused of misinforming someone, but not that the complaint was expressly found to be unsubstantiated. This could potentially be a reputational concern for professionals who do not receive a finding of misconduct, but who also do not receive any vindication, regarding their actions.

Professional regulators have the power to decide on any complaint of professional misconduct, including misinformation. By contrast, it is not always open to a reviewing body to decide on every issue that was raised in a complaint. For example, depending on their governing legislation, some appeal boards can only determine whether the regulator's original decision was reasonable or correct, and not whether the original issues in the complaint had merit.[292] For this reason, decision texts may not always contain an opinion about whether a practitioner communicated misinformation. However, even if reviewing bodies cannot decide every issue from the complaint, they are generally permitted to describe any issue, refer any issue back to the regulator for reconsideration, or affirm the regulator's decision on the issues.[293] As a result,

[292] For instance, in the Canadian cases in this sample, the appeal boards in question were permitted to review complaint decisions for reasonableness, for adequacy of investigation, or for both: see *Regulated Health Professions Act*, 1991, S.O. 1991, c. 18, s 33(1); *Health Professions Act*, RSBC 1996, c 183, s 50.6(1), (5).
[293] See e.g. *Regulated Health Professions Act*, 1991, S.O. 1991, c. 18, s 22 (6).

reviewing bodies can still address misinformation as an issue in a disciplinary case, and they are not required to ignore it altogether in their decisions.

Decisions in which evidentiary standards and misinformation were ignored in the decision text were often from cases that had been decided at multiple levels, with at least one appeal or review involved. In one instance, a regulator initially did not address a complaint about misinformation, but when that decision was appealed to an appeal board, the appeal board determined that regulator had not adequately addressed concerns about misinformation and referred the matter back for further investigation.[294] This case may be considered as an example of a reviewing body acting as a potential safeguard where misinformation may have otherwise gone unaddressed by the regulator.

However, in other instances, neither the original regulator nor any subsequent reviewing bodies appeared to address complainants' concerns about misinformation. For example, one decision involved a practitioner whom the complainants alleged had misinformed them that blood work was required in advance of receiving a vaccine, and that the practitioner gave the vaccine to one complainant after the bloodwork was done but before the bloodwork results were received. In the decision text, the regulator did not address the accuracy of what the practitioner had stated about the bloodwork. Instead, the regulator determined that the physician's decision to administer the vaccine without the bloodwork results was reasonable, a determination with which the reviewing body agreed. No misconduct was found, although the regulator provided practice advice to the practitioner regarding future assessments for immunizations.[295] Whether the practitioner's statements about the bloodwork constituted misinformation was apparently not discussed by the regulator or the reviewing body.

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[294] See *R.M. v M.L.,* 2011 CanLII 26327 (ON HPARB).
[295] See *RSV v PUP,* 2014 CanLII 52712 (ON HPARB).

In another decision, a practitioner had informed patient of a serious diagnosis in the emergency department, and the patient had subsequently complained that the diagnosis and associated medical advice had not been communicated in a professional manner. This included a concern that the practitioner had misinformed the patient regarding dietary advice.[296] The regulator noted that the dietary advice was "well-intentioned"[297], but neither the regulator nor the reviewing body addressed whether the dietary advice constituted misinformation. There was no finding of misconduct or disciplinary action. While the dietary advice may not have required any disciplinary action, this does not explain why the complainant's concern about misinformation was left unaddressed, especially when misinformation was identified as one of the main concerns of the complaint.[298]

In a third example, a decision involved a complainant who was concerned about a practitioner's competence, on the basis that the practitioner had allegedly provided misinformation about a bone marrow transplant. While the regulator and the reviewing body discussed the complainant's concerns about competency, the appeal decision text did not address whether the information communicated by the physician constituted misinformation, but rather, whether the information was appropriate to the patient's diagnosis.[299] This framing of the issue deals with whether the information was relevant to the patient, but not necessarily whether the information itself was accurately conveyed: information can potentially be correct but unrelated to a diagnosis (and therefore inappropriate). In focusing only on appropriacy, the decision did not address whether the information was accurately communicated, and whether the patient was accurately informed or misinformed.

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[296] See *BL v AW,* 2011 CanLII 38228 (ON HPARB).
[297] *Ibid* at para 23.
[298] *Ibid* at para 5.
[299] See *Williams v Lam*, 2022 CanLII 54164 (ON HPARB).

The only case outside of Canada in which misinformation concerns were not addressed was a U.S. case in which the concerns are left unaddressed due to procedural issues. In that case, a practitioner was charged with misconduct that was likely to deceive or defraud the public, including administering treatments without obtaining relevant test results or medical history.[300] The administrative law judges found that most of the claims related to deception were not properly raised, and so could not be dealt with. The remaining allegations were found unproven after relevant documentation was seized during a separate investigation, and hence could not be examined.[301]

The fact that misinformation issues were not addressed in a particular decision does not automatically mean that the decision was unreasonable or that it contained an error. As is evident from the U.S. case described above, procedural problems may potentially prevent an issue from being included in a decision. Additionally, all three countries in the sample have legal standards for determining the reasonableness of decisions, [302] but as described below, those standards do not include an absolute requirement that all issues in a case be commented on in a decision. Instead, the level of importance of an issue determines whether the issue should be addressed in the decision.

In Canada, the Supreme Court has established that the reasons for a decision do not need to include all arguments or issues of a case,[303] and regulatory case law has generally followed

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[300] See *Texas Medical Board, Petitioner v Jesus Antonio Caquias, M.D., Respondent*, 2012 WL 3550483.
[301] *Ibid.*
[302] See Michael Bobek, "Reasonableness in Administrative Law: A Comparative Reflection of Functional Equivalence" (Eric Stein Working paper No 2/2008), Jan Komarek, Ed (Prague: Czech Society for European and Comparative Law, 2008), online: <csesp.files.wordpress.com/>.
[303] See *Newfoundland and Labrador Nurses' Union v Newfoundland and Labrador (Treasury Board)*, 2011 SCC 62 ("Reasons may not include all the arguments, statutory provisions, jurisprudence or other details the reviewing judge would have preferred, but that does not impugn the validity of either the reasons or the result under a reasonableness analysis"); *Construction Labour Relations v Driver Iron Inc*, 2012 SCC 65 at para [3] ("[t]his Court has strongly emphasized that administrative tribunals do not have to consider and comment upon every issue raised by the parties in their reasons").

this principle accordingly.[304] However, regulatory case law has also noted that the failure to address key issues may render a decision unreasonable, and hence undermine its validity.[305]

Similarly, the Supreme Court of the United States has established that while all decisions should include the reasons and evidence relied on for a determination, not all decisions require a full opinion or "formal findings of fact and conclusions of law".[306] However, the Supreme Court has also stated that failure to consider important issues can amount to an abuse of discretion where an administrative agency fails to consider "important aspect of the problem",[307] which may then undermine the validity of the decision.

In the U.K., it has been similarly established that decision-makers must take "all relevant matters into account" and disregard "all irrelevant matters".[308] Hence, the reasonableness (and validity) of a decision depends on the level of relevance of each issue related to the decision. If a matter is not sufficiently relevant, it presumably is also not sufficiently important to be included in the decision.

There is a lack of specific guidance for determining the level of importance of an issue for the purpose of making a legal decision. Whether an issue like misinformation is an "important aspect" or "key issue" of a case could potentially be based on the issue's level of importance to the parties, or on the level of importance of the issue to society more generally. Arguably, either interpretation supports the idea that misinformation is an important issue that merits attention in any regulatory decision. Across all cases in the sample, complainants consistently raised misinformation or deception among the main aspects of their complaint, often

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[304] *Complainant v College of Physicians and Surgeons of British Columbia*, 2018 BCHPRB 67 at para 77-78.
[305] *Complainant v College of Physicians and Surgeons of British Columbia*, 2018 BCHPRB 6 at para 74–76.
[306] See *Goldberg v Kelly*, 397 U.S. 254 (1970).
[307] *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co*., 463 U.S. 29 (1983).
[308] *Associated Provincial Picture Houses v Wednesbury Corporation Ltd* [1948] 1 KB 223.

referring to it repeatedly or among a short list of key concerns.[309] This indicates that concerns of misinformation are generally of high importance to complaining parties. Regarding the level of importance of misinformation more generally, the high level of consistency with which US and UK cases dealt with misinformation concerns, as well as the regulatory position in the UK that "There is a presumption that the GMC [General Medical Council] should take some action when the allegations concern dishonesty"[310], suggests that regulators in these countries have adopted an interpretation of misinformation as an important issue to be addressed in any decision. By comparison, approximately 15% of Canadian cases did not address misinformation complaints.

As discussed above, misinformation was a key issue for parties in these cases, even if a decision-maker did not address it, and as discussed in Chapter 1, misinformation can be considered a widely-recognized societal issue that could be expected to receive attention in cases where it is put in issue. In these decisions in which misinformation was not addressed, the decisions' framings tended to focus on issues that were distinct from misinformation, but which may relate to it (e.g., practitioner competency, practitioner reasonableness, and positive practitioner intentions). This suggests that decision-makers were aware that the practitioner's conduct was potentially problematic, but that they did not automatically consider the conduct from the perspective of its level of accuracy, or the impact that the level of accuracy could have on patients or the public. However, this problem was not present in cases where decision-makers referred to specific evidentiary standards that could be used to evaluate a practitioner's conduct – in all these cases, concerns of misinformation were addressed. This pattern suggests that if decision-makers are encouraged to make consistent reference to evidentiary standards when

[309] See e.g. *BL, supra* note 296; *RSV, supra* note 295.
[310] See *Professional Standards Authority for Health and Social Care v General Medical Council*, [2020] EWHC 3122, referring to United Kingdom General Medical Council, *Guidance on Warnings* (Last Published April 2024), s 24, online: <www.gmc-uk.org/>, *Internet Archive:* <web.archive.org/>.

making decisions, this may ensure that decision-makers consistently consider concerns of misinformation that have been raised in the case.

The second issue regarding the treatment of evidentiary standards across the case sample was that among cases that did refer to evidentiary standards, the decisions were not consistent in the type of evidentiary standard they relied on, nor were they consistent in their interpretation of that evidentiary standard. The type of standard relied on, and how the standard was interpreted, was associated with whether a decision-maker subsequently identified a communication as misinformation.

An example of this inconsistency can be seen in the decision texts of two Canadian disciplinary cases*, S.K.B. v T.Z.*,[311] and *Complainant v. College of Registered Nurses of British Columbia*.[312] In the former case, a physician advertising weight loss treatments relied on an evidentiary standard of "clinical experience" to support claims about the efficacy of his treatment,[313] but the regulator determined that the physician's claims implied an evidentiary standard based not just on personal experience, but based on a scientific evidentiary standard. The regulator concluded that although the physician had not expressly made scientific claims, the claims were of a nature that warranted scientific support, but they were not "scientifically or clinically proven".[314] Hence, the regulator found that the physician had communicated deceptive information (i.e., misinformation).[315] In the latter British Columbia case, a nurse advertising therapeutic touch (an intervention described as a faith-based or belief-based healing practice with similarities to some religious healing traditions)[316] cited "academic source[s], including research

[311] 2014 CanLII 71029 (ON HPARB).
[312] 2017 BCHPRB 99.
[313] See *SKB, supra* note 160 at para 9.
[314] *Ibid* at para 14.
[315] *Ibid* at para 43.
[316] See American Cancer Society, *Complete Guide to Complementary & Alternative Cancer Therapies* 2nd Ed (Atlanta: American Cancer Society, 2009) at 248-250, online: *Internet Archive* <archive.org/>.

papers published in peer-reviewed journals",[317] indicating a reliance on scientific standards for their information. A complainant alleged that this claim constituted misinformation because there was "no scientific evidence" to support the claims.[318] In contrast to the former case, the regulator in the British Columbia case concluded that "a therapy or nursing intervention need not have scientific-evidence in support of its use",[319] and did not determine that misinformation had been communicated. This determination was made despite the fact that scientific standards were apparently implied in the advertising itself.

Another example of conflicting standards can be seen in two American cases, *Texas Medical Board, Petitioner v. Stanislaw R. Burzynski, M.D., Respondent*,[320] and *Department of Health, Board of Medicine, Petitioner v. William Hammesfahr, M.D., Respondent*.[321] In the *Burzynski* case, the decision text contained several references to peer-reviewed scientific evidence as a standard of evidence in the context of medical treatment, with conventional parts of the peer review process, such as peer review organizations and peer-reviewed publications, also being referenced. While the physician in this case was not found to have engaged in misinformation as it was defined for the purpose of this analysis, the physician was found to have engaged in other forms of deceptive conduct.[322] In contrast to the *Burzynski* case, the *Hammesfahr* case references peer review, but it does not rely on the same conventional meaning of peer review as was referenced in the *Burzynski* case. In the *Hammesfahr* case, the physician had advertised a medical treatment with a statement that the treatment was supported by a peer-

[317] *Complainant v College of Registered Nurses of British Columbia*, 2017 BCHPRB 99 at para 61 [CRNBC].
[318] *Ibid* at para 70.
[319] *Ibid* at para 76.
[320] See *Texas Medical Board, Petitioner v. Stanislaw R. Burzynski, M.D.*, Respondent, 2016 WL 6300767, (TX.St.Off.Admin.Hgs.).
[321] *Department of Health, Board of Medicine, Petitioner v. William Hammesfahr, M.D.,* Respondent, 2002 WL 31668866 (Fla.Div.Admin.Hrgs.).
[322] Ibid at 123-124.

reviewed study. As the *Burzynski* case suggests, "peer-reviewed" ordinarily refers to a study that has gone through a conventional peer review process with a peer organization and been published in a medical journal. However, the administrative law judge in the *Hammesfahr* case interpreted peer review to mean "reviewed by peers", i.e., read by other doctors, noting that some of *Hammesfahr*'s colleagues had personally read the study (which *Hammesfahr* had conducted himself) but not that the study had undergone a formal review or been published in a medical journal.[323] As a result, the judge determined that the advertising was accurate, and there was no finding of misinformation or misconduct, nor was any sanction applied. Here, the differing interpretation of the evidentiary standard (peer review) led to a very different evidentiary basis being accepted by one decision-maker relative to another, i.e., medical research that had undergone a full review process and to meet standards of publication versus medical research that had been privately read by one or more doctors.

An argument might be made that it is acceptable for decision-makers to rely on different evidentiary standards in different cases, if each standard represents the best evidence that was available at the time that the case was decided. Different health interventions have different types and amounts of evidence to support them, and so it may not be fair or realistic to measure all health professionals' statements about health interventions based on the same standard. It is true that different health interventions, such as new or experimental treatments relative to older and more established treatments, may not have supporting evidence that meets exactly the same standard. However, if health professionals and regulators do not openly explain the evidentiary standard that is used to evaluate each health intervention, then the public may be confused or misled as to the nature and strength of the evidence that supports the intervention. The nature and

[323] Ibid at para 70 ("While the peer review may not be the type that would be acceptable for many medical journals, it nevertheless is a study that was reviewed by peers").

strength of the evidence cannot always be assumed if the evidence does not always meet the same standard. This can leave the public unable to realistically evaluate how reliable the claim is likely to be. This is especially true if the communication refers to professional expertise or professional acceptance, which are acknowledged to be especially influential on non-experts who are trying to evaluate how reliable a communication is.[324]

As a result, the inconsistency of the evidentiary standards relied on by regulators may not be a problem on its own, but a lack of open explanation and justification as to which standard was relied on may give the impression that different evidentiary standards are equivalent, leading the public to believe that health interventions are similarly reliable, when they may in fact some may have much stronger, or weaker evidence, or simply much different evidence than expected, to support them.

2. Non-Evidentiary Standards

This question examines which non-evidentiary standards regulatory decision-makers rely on when determining whether misconduct occurred in relation to a misinformation allegation, and whether the health professional in question should be sanctioned. It also assesses whether there appears to be any association between the reliance on non-evidentiary standards and the finding of misconduct or application of a sanction.

As a reminder, for the purpose of this chapter, non-evidentiary standards include any laws, rules, or norms that influence a legal decision, and which do not speak to the basis of the information that practitioners are expected to rely on when practising. Non-evidentiary standards may originate from, or be influenced by, the three aspects of knowledge-based consensus

[324] See e.g., *Daubert v Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993) at 12.

described by Miller. For example, professional norms often develop from a group of health professionals' collective understanding about what should ordinarily be done (or not be done) in their practice, based on the group's knowledge of a set of medical evidence that the group has amassed over time. Similarly, case law represents prior decisions that were made based on the evidence that was presented to the decision-makers in those prior decisions, and the decision-makers' understanding of that evidence. However, while these non-evidentiary standards may involve evidence and evidentiary standards that have aided their development, the established norms, rules, and precedents that constitute non-evidentiary standards are not in themselves standards of evidence, and the evidence that gave rise to them may have differing levels of strength, diversity, and foundational assumptions. That is, non-evidentiary standards may reflect a particular understanding of evidence, but unlike evidentiary standards, they do not prescribe or determine the type of evidence that practitioners are expected to rely on when providing care. The non-evidentiary standards relied on by decision-makers in the case sample can be divided into legal and policy standards, and normative principles (i.e., non-legal norms).

i. Legal and Policy Standards

There were several trends in which non-evidentiary standards were relied on, and how they related to evidentiary standards. Non-evidentiary standards included legal standards (i.e., binding or authoritative rules such as statutes, case law, constitutions, or conventions), policy standards (i.e., regulator policies and guidelines that are generally non-binding, but which can be influential in determining allegations of misconduct), and professional norms (unwritten conventions that are shared across a health profession as a whole). Across the texts in the sample, references to non-evidentiary standards were found in most cases, and rather than non-

evidentiary standards being considered alongside evidentiary standards, they were often referenced instead of evidentiary standards. The legal and policy standards addressed in this section will be described in turn, before turning to a discussion of how these standards were relied on, and how this reliance related to a lack of consideration of evidentiary standards in many cases.

Constitutional and human rights challenges[325] against laws and policies regulating misinformation or professional communications were a common strategy among professionals alleged to have communicated misinformation. Challenges relating to free expression were the most common type of constitutional or human rights challenge in Canada, the U.S, and the U.K., with professionals raising challenges under s2(b) of the *Canadian Charter of Rights and Freedoms*, the First Amendment of the U.S. Constitution, and article 10 of the *European Convention on Human Rights*, respectively. While no Canadian or U.K. cases were found in which a constitutional or human rights argument led to a favourable decision for the practitioner, several U.S. challenges have had more varied results in relation to constitutional arguments, a point which will be discussed shortly. In Canadian and U.K. cases in which freedom of expression was raised as a concern, decision-makers either determined that free expression had not been infringed or that there had been a justified infringement by regulators on a practitioner's free expression. For example, one Ontario case involved an administrative review board finding that the physician regulator's decision to caution a practitioner and require the practitioner to provide a written report to the regulator after that "posting misleading and inaccurate information regarding vaccines" did not deny the practitioner's right to free expression, and that the decision

[325] For the purpose of this chapter, a constitutional or human rights challenge includes any invocation of a constitutional or human right as a defense against a regulatory complaint, and it includes reliance on any constitution (state or federal), as well as any human rights convention or legislation.

to do so was an appropriate reflection of the regulator's statutory obligation to protect the public.[326]

In another example, an Ontario court found that the physician regulator's decision to ban testimonials and superlatives, and the regulator's decision to take disciplinary action against a practitioner for posting a testimonial with superlatives, did infringe the practitioner's right to free expression, but that this infringement was justified under s 1 of the *Canadian Charter of Rights and Freedoms*.[327] In justifying the infringement, the court's written decision made reference to the power and knowledge imbalance between patient and practitioner, the variable level of critical thinking among the public, the protection of the public, the preservation of trust between practitioners and patients, and the reputation of the medical profession.[328]

Similarly, constitutional and human rights challenges in the U.K. were not accepted by regulators as a valid defence against allegations of communicating misinformation. For example, in the U.K. case of *Adil v General Medical Council*, a physician had made public remarks on Youtube "to the effect that the SARS-CoV-2 virus did not exist; that the pandemic was a result of a conspiracy between the United States, the United Kingdom, and the Israeli governments to impose a new world order ... [and] that Mr [Bill] Gates had infected the world with SARS-CoV2 virus to sell vaccines that would be given to all, by force if necessary, might contain microchips to further the "agenda" of 5G mobile technology, and would be used to control or reduce the worlds' population."[329] In considering whether the physician's Youtube video communications were protected as free expression under article 10 of the European Convention on Human Rights, the court to which the GMC Tribunal's original decision was appealed determined that while the

[326] See *Matheson v Pyle,* 2022 CanLII 1360 (ON HPARB) at paras 41, 45, 52.
[327] See *Yazdanfar v The College of Physicians and Surgeons*, 2013 ONSC 6420 (CanLII).
[328] *Ibid* at paras 121-139.
[329] See *Adil v GMC,* CO/2640/2022 at para 28.

communications fell within article 10, "The article 10 right is a qualified right",[330] and that it was necessary in this instance for the physician's freedom of expression to be restricted "in the interests of public safety, and for the protection of public health, and for the protection of the rights of others, finding a six-month suspension of the physician's license to be justified.

Cases in the United States were more variable in their results. For example, some practitioners' constitutional arguments have been straightforwardly rejected, such as that raised in the case of *Finder v. Texas Medical*, in which a physician attempted to argue that their communications were protected under the U.S. First Amendment as protected commercial speech. Relying on various case precedents, the court in the *Finder* case affirmed the medical board's disciplinary findings against the practitioner, on the grounds that "Because the Board is permitted to restrict false, misleading, or deceptive commercial speech, and substantial evidence supports its finding that Dr. Finder's website contained at least one false, misleading, or deceptive statement".[331]

On the other hand, a recent constitutional challenge to a California bill intended to regulate misinformation communicated by physicians had a more complicated resolution. In *McDonald v Lawson*, physicians brought a challenge against California Bill AB 2098, which would have deemed misinformation related to COVID-19 to be unprofessional conduct for which physicians would be subject to discipline. Under the proposed bill, misinformation was defined as "false information that is contradicted by contemporary scientific consensus contrary to the standard of care."[332]The physician plaintiffs had made public statements regarding COVID-19 that could potentially have been considered to constitute misinformation as defined

[330] *Ibid* at para 30.
[331] See *Finder v. Texas Medical*, No. 03-10-00004-CV, (Tex. App. Nov. 18, 2010).
[332] See Physicians and Surgeons: Unprofessional Conduct, Cal. Assemb. B. 2098 (2021-2022), Chapter 938 (Cal. Stat. 2022), s 2270(b)(4).

by the bill, and one of the plaintiffs was under investigation regarding complaints alleging that the physician had communicated misinformation regarding COVID-19. In anticipation of the bill potentially being enforced against them, the plaintiffs challenged the bill on two grounds. One was an argument that the bill unjustifiably restricted their right to free speech under the First Amendment of the U.S. Constitution, and the second was an argument that the bill should be void for vagueness under the Due Process Clause of the Fourteenth Amendment of the U.S. Constitution.[333] Based on this, the plaintiffs sought a preliminary injunction to prevent the bill from being enforced.

In the *McDonald* case, all relevant levels of court declined to enforce an injunction, leaving it possible for the misinformation to come into effect and be enforced against physicians. In particular, the 9th Circuit court, weighing the state's interest in protecting patients and the public against the protection of medical professionals' first amendment rights, found that and harm to the plaintiffs as medical professionals would be minimal.[334]

However, another case, *Hoeg v Newsom*, which was brought by another group of physicians who were challenging the same bill on constitutional grounds, included a similar argument that relied on the First Amendment.[335] While the *Hoeg* case was not part of the sample due to the lack of complaints against any of the physician plaintiffs, it is relevant to consider it alongside the M*cDonald* case due to the similarities between the two cases. In the *Hoeg* case, an injunction was granted, so that the bill would not be able to be enforced against the plaintiffs who had brought the case. Before either case could be further advanced or appealed, the state

[333] See *McDonald v. Lawson*, No. 822CV01805FWSADS, 2022 WL 18145254, at 4 (C.D. Cal. Dec. 28, 2022), vacated and remanded, 94 F.4th 864 (9th Cir. 2024).
[334] *Ibid.*
[335] See *Hoeg v. Newsom,* 652 F. Supp. 3d 1172, 1191 (E.D. Cal. 2023).

repealed the bill in October 2023, resulting in both cases being dismissed for mootness.[336] As a result, the matters were resolved without any of the plaintiffs ever having to raise arguments regarding the evidentiary standards underlying their communications that were of concern in the cases.

At the administrative law level, in Canadian cases that involved a review of an original regulatory decision (meaning that the original regulator's decision was being examined by an appeal or reviewing body), the cases ordinarily involved a consideration of the standard of review that applied to each case.[337] The Canadian standards for the review of a decision of a regulator can vary, but the standard addressed in the cases in this sample was that of reasonableness (pursuant to the relevant legislation mentioned in note 292). In other words, when reviewing a regulator's original decision, the appeal or reviewing body considered whether the regulator's original decision was reasonable. When looking at a reasonableness review in a judicial context, the way in which a court determines whether the original decision was reasonable (i.e., the way in which a court performs a reasonableness review) is intended to be holistic in nature, considering both the decision-making process and its outcome.[338] Multiple elements, such as the evidence presented and the parties' submissions, are likely to be relevant considerations, per the Supreme Court of Canada's decision in *Canada (Minister of Citizenship and Immigration) v Vavilov*.[339] The judicial standard for performing a reasonableness review in *Vavilov* was written in the context of judicial decisions and was not written to apply to

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[336] See *McDonald v. Lawson*, 94 F.4th 864, 868 (9th Cir. 2024); *Hoeg v. Newsom*, No. 2:22-CV-01980 WBS AC, 2024 WL 1406591, at 3 (E.D. Cal. Apr. 2, 2024).
[337] As noted in note 287, there is a difference between the process of judicial review and the processes of internal and external appeals. These processes can have different associated standards of review. However, I focus here on the standard of reasonableness because the cases in this sample consisted largely of internal appeals and judicial reviews in which the standard of review that was addressed was that of reasonableness.
[338] 2019 SCC 65.
[339] *Ibid*.

administrative processes like internal appeals, including those included in this sample of cases, because administrative bodies have governing statutes that may proscribe different standards.[340] However, the Canadian administrative bodies in the sample were specifically subject to reasonableness as the applicable standard, and these cases tended to directly cite *Vavilov* as well as case law establishing the *Vavilov* administrative law definition of reasonableness as applicable to their decisions,[341] or else to endorse principles consistent with *Vavilov* within their written decisions,[342] indicating that these administrative bodies have imported the holistic review approach described in *Vavilov*. Despite this, in the cases that were examined in this sample, references to reasonableness frequently consisted of reviewing bodies noting that they were acknowledging or deferring to the expertise of the original decision-maker, rather than engaging in a holistic approach that involved any other considerations that might establish (or not establish) reasonableness.[343]

At the regulator policy level, a common pattern across Canadian, U.S., and U.K. cases was a reliance on marketing policies, such as advertising and social media policies, to determine whether a health professional's communications were appropriate. These policies tend to reference truth or accuracy,[344] as well as ideas related to professional image, such as good taste

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[340] See *Moffat v Edmonton (City) Police Service*, 2021 ABCA 183.
[341] See e.g. *Complainant v College of Physicians and Surgeons of British Columbia* (No 1), 2022 BCHPRB 50; *Complainants v College of Physicians and Surgeons of British Columbia* (No 1), 2022 BCHPRB 10 (both citing *The College of Physicians and Surgeons of British Columbia v. The Health Professions Review Board*, 2022 BCCA 10) at 165.
[342] See e.g. *Coles v Douville, 2021 CanLII 90128* (ON HPARB) at 28-29; *RK v DH*, 2020 CanLII 40679 (ON HPARB) at para 18 (both endorsing an approach to considering the "underlying rationale" of the decision and whether the decision is "transparent, intelligible and justified", the same approach endorsed in *Vavilov, supra note #* at 15.
[343] See e.g. *YL v KSG,* 2020 CanLII 79123 (ON HPARB) at 47*; Williams v Lam*, 2022 CanLII 54164 (ON HPARB) at 64 (both referencing the expertise of the original Committee, but not whether or how the Committee specifically dealt with the alleged concerns of misinformation or whether this was reasonable, although other concerns related to patient care were addressed in the reasons).
[344] See e.g., *Mcevenue v Buffone*, 2021 CanLII 111717 (ON HPARB) (citing Part II of the Ontario Regulation 114/94, which prohibits the use of marketing information that is "false, misleading, or deceptive"); *Complainant v College of Registered Nurses of British Columbia*, 2017 BCHPRB 99 (citing para 2 (a)-(c) of the College's

or the reputation of the profession.[345] In addition to relying on marketing policies, the U.S. cases frequently considered whether professionals had failed to maintain other professional practice standards, such as standards for the administration of specific health treatments (e.g., steroids or liposuction)[346], and U.K. cases had a strong focus on "fitness to practice", a concept used within the Good Medical Practice framework that focuses on professional competence and capability.[347]

Another type of policy that was commonly relied on when determining cases was regulator policy statements that are specific to misinformation, such as the College of Physicians and Surgeons of Ontario's Statement on Public Health Misinformation,[348] or the Washington Medical Commission's Position Statement on Misinformation.[349] Among health professions that had misinformation policy statements, the policies tended to be commonly cited. However, cases that cited a misinformation policy were not more likely to expressly address misinformation or to find that a practitioner engaged in communicating misinformation than cases that did not cite a misinformation policy. It is difficult to draw any conclusions from this lack of an association between the existence of a misinformation policy and the likelihood of regulatory cases expressly discussing and addressing alleged misinformation, but it may be that a policy statement

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Marketing Bylaw, which prohibits the use of marketing information that is "false or inaccurate", "reasonably expected to mislead the public", or "unverifiable"); *Adil, supra* note 329 (citing the GMC's Social Media Guidance, which requires practitioners to follow paragraph 65 of the GMC's *Good Medical Practice* guidelines, requiring "honesty and integrity"); *Finder, supra* note 331 (citing section 164.052 of the Tex Occ Code, which prohibits marketing that is "is false, misleading, or deceptive").

[345] See e.g. *Mcevenue, supra* note 344 (citing Part II of the Ontario Regulation 114/94, which requires that marketing be "dignified and in good taste"); *Complainant v College of Registered Nurses of British Columbia*, 2017 BCHPRB 99 (citing para 2(e) of the College's Marketing Bylaw, which requires that marketing not be "in bad taste, ... or otherwise contrary to the honour and dignity of the profession"); *Adil, supra* note 329 (citing the GMC's Social Media Guidance, which requires practitioners to follow paragraph 65 of the GMC's *Good Medical Practice* guidelines, requiring practitioners to "make sure that your conduct justifies your patients' trust in you and the public's trust in the profession").

[346] See *Finder, supra* note 331; *Burzynski. supra* note 320.

[347] See *General Medical Council v McCloskey*, [2023] NIKB 75 at para 33.

[348] See *College of Physicians and Surgeons of Ontario v Rona,* 2022 ONPSDT 45 at para 12.

[349] *Richard S. Wilkinson, et al., Plaintiffs, v. Scott Rodgers, et al., Defendants*., NO. 1:23-CV-3035-TOR (E.D. Wash. 2023).

is not sufficient on its own to increase the likelihood that decision-makers will expressly address allegations of misinformation in their decisions, or that decision-makers will find that a health professional engaged in communicating misinformation.

Several themes emerge from the legal and policy standards relied on across the sample. First, regarding constitutional concerns, practitioners' repeated reliance on constitutional and human rights challenges suggests that these tools may potentially be relied on by practitioners as a means of trying to avoid direct engagement with evidentiary standards. Of the sixteen cases in which a constitutional or human rights argument was raised, seven involved physicians who raised constitutional or human rights arguments, where the decision text did not appear to deal with substantive arguments related to evidentiary standards.[350] In another two cases, it was unclear from a reading of the decision texts as to whether the physicians who had raised constitutional challenges relied on any arguments related to evidentiary standards.[351] Constitutional and human rights challenges do not appear to be an effective tool in Canada or the U.K., nor have they usually been successful in the U.S., with the limited exception of the *Hoeg* case, where no practitioners were actually facing investigation or discipline regarding misinformation. Despite these arguments being rarely successful, there has been a pattern of U.S. cases in which health professionals have pre-emptively challenged laws and policies before they are enforced,[352] and a pattern of cases in all three countries in which practitioners have raised constitutional and human rights arguments as defences to complaints that they communicated

[350] See *College of Physicians and Surgeons of Ontario v Phillips*, 2023 ONPSDT 2*; Complainants v College of Physicians and Surgeons of British Columbia* (No 1), 2022 BCHPRB 10; *Matheson, supra* note 326; *SKB, supra* note 160; *Adil, supra* note 329 (U.K.); *Wilkinson*, *supra* note 349 (U.S.); *McDonald*, supra *note* 336 (U.S.).
[351] See *Yazdanfar, supra* note 327; *Gangar v GMC* [2003] UKPC 28 (U.K.).
[352] See *McDonald, supra* note 336; *Hoeg*, *supra* note 336, *Wilkinson, supra* note 349 (physician plaintiffs challenged a position statement regarding COVID-19 misinformation under state constitution after having been charged by their regulator with communicating "false or misleading statements to the public regarding COVID-19 and the available treatments"; challenge was rejected by the court on the basis that the position statement was not law or regulation and could not give rise to declatory relief).

misinformation, often times raising these arguments instead of making arguments related to the substance or evidentiary standards behind their communications. This suggests that raising constitutional and human rights is a relatively common strategy for health practitioners, and that practitioners who raise constitutional challenges may often be doing so as a means of avoiding direct engagement with complainants' concerns about whether the practitioner's communications were deceptive or otherwise lacking in an appropriate evidentiary basis.

Second, regarding the standard of review of cases involving misinformation concerns, particularly in Canada, many cases contained a pattern in which the original decision-maker, the appeal decision-maker, or both, deferred to medical expert authority figures when determining the reasonableness of a decision. This suggests that the common approach to complaints involving misinformation may often be reduced to a mere reliance on expertise, without further consideration of the context of that expertise and how it relates to the other facts and circumstances of the case, including the evidentiary basis that the experts were originally relying on.

Third, the policies that are commonly referred to in decisions related to misinformation, including advertising, practice standards, social media, and fitness to practice policies (which are distinct from practice standards), appear to be useful in the sense that they are frequently relied on to evaluate allegations of misconduct involving misinformation. However, these policies do not consistently refer to specific evidentiary standards for evaluating the accuracy of advertising, public communications, or a practitioner's fitness to practice. While these policies are a reflection of expert and social consensus about appropriate communications, they do not revolve exclusively around evidentiary standards, as some aspects of the policies relate to evidence, and others relate to other concerns such as trust and professional image.

A potential benefit of relying on policies is that a well-written policy can be a useful and efficient tool in determining whether a communication may be deceptive to patients and the public, functioning as a reliable standard that professionals may turn to before deciding what to communicate, and that regulators may turn to when deciding whether a communication constitutes misinformation. However, not all policies address evidentiary standards in detail, and most decisions that relied on these policies did not involve a discussion of evidentiary standards, or any detailed discussion of the substantive claims being made by professionals. As a result, reliance on marketing policies may be functioning as a way to bypass potential concerns about regulators policing the "truth" by instead focusing on whether professionals have conformed to established marketing and practice expectations, often including concerns of good taste and professional image.

When considering this pattern in the context of knowledge-based consensus, practice standards arguably seem to be frequently used as a way of appealing to expert and social consensus, in instances where evidentiary consensus may or may not exist to support the standard. Essentially, the reliance on professional practices standards, without reference to evidentiary standards, can result in regulators engaging with only some parts of the three aspects of knowledge-based consensus.

When considering social calibration (using the same background assumptions and evidentiary standards), policies may reflect shared background assumptions about appropriate conduct, but if evidentiary standards are not included in the policy or referenced by regulators or the parties, it is not possible to know what background evidentiary standards are influencing the decision, or who shares these standards (e.g., health professionals, the parties, the general public, etc.). With respect to consilience of evidence (using varied pieces of evidence that agree),

policies that do not give directions about the variety of evidence that should support practitioner communications or actions can result in a lack of engagement with varied pieces of evidence in each case, making it impossible to know whether a practitioner's communications are supported by a consilience of evidence. Finally, with regard to social diversity (using evidence from diverse sources and perspectives), policies tend to reflect a broad perspective of practitioners and regulators, and sometimes the public (depending on the amount of public consultation or involvement in creating the standards). However, policies do not always reflect or require diverse sources of evidence. For example, a policy requiring professional communications or advertising to be "truthful" or "accurate" may not include any specifics about the type and range of evidence that would demonstrate whether a communication or advertisement is truthful or accurate.

The main theme of note across the professional standards policies is that cases referring to these policies often appear to be focusing on standards (especially those related to image, reputation, and trust) in a manner that is indirectly related to misinformation, rather than expressly dealing with informational or evidentiary standards behind the practitioners' communications. Essentially, professional conventions seem to be prioritized over the evidentiary standards that underlie those conventions.

One exception to the general trend of focusing on professional norms related to public image and public confidence was a U.K. case that instead considered the perspective of patients and the public who might engage with a health practitioner. In that case, the court that was reviewing the medical tribunal's original decision noted that ""[33] In reaching its decision, the IOT [Interim Orders Tribunal] made specific reference to... 'the effect the information that may be provided by [the practitioner] would have on *the ability for a member of the public to reach a*

proper and informed decision about whether they would take the Covid-19 vaccination'" [emphasis added]. In this instance, decision-makers were concerned not just for professional taste or trustworthiness, or about determining what is or is not true in a medical context, but about the ability of patients/public to reach their own informed decision.[353] This reference appears to be reflective of a patient-centered approach that prioritizes informed consent and truth-seeking by patients, supported by health professionals. However, like a majority of decision texts in the sample, this case did not refer to specific evidence or evidentiary standards against which the practitioner's statements were, or should be, evaluated.

ii. Non-Legal Norms

Some of the most common non-evidentiary principles mentioned in decisions included informed consent, public safety, and public health. This indicates that the rights and well-being of patients and the public were a priority for regulators when considering complaints of professional misconduct. However, the most common non-legal principles relied on by decision-makers were expertise and professional norms. Moreover, decision texts referred to professional norms and expertise more often than they referred to evidentiary standards.

Norms and consensus have a high degree of importance within health professions, including medicine and nursing.[354] Professional norms and expertise appeared within decisions in several ways, including a reliance on the norms and expertise of professional regulators, expert witnesses, and professional communities, all of which are composed primarily of health professionals. Because of medicine and nursing's relatively high level of commitment to

[353] See *McCloskey, supra* note 347.
[354] See e.g. J Jones and D Hunter, "Consensus Methods for Medical and Health Services Research" (1995) 311:7001 BMJ 376, doi: <10.1136/bmj.311.7001.376>.

evidence-based practice, it might be assumed that reliance on the professional norms and expertise of health professionals equates to reliance on robust or consensus-supported evidence. That is, it might be assumed that professional norms and expertise have a large consilience of evidence and social diversity of evidence supporting them, and that professional norms and expertise are consistently reliable. However, inconsistencies among the decision texts demonstrate that professional expertise and norms were not consistently supported by consilience of evidence or by social diversity of that evidence.

Across cases, references to widespread professional "acceptance" of conduct by a practitioner was often associated with a finding that the conduct was acceptable, regardless of the evidentiary standard supporting that conduct.

For example, in the *CRNBC* case referenced earlier, the decision relied on the nursing profession's apparent acceptance of the nurse's health intervention, and the decision-maker found it unnecessary to evaluate whether that intervention had scientific evidentiary support, despite concerns from the complainant that the nurse had deceptively implied that the health intervention met a scientific evidentiary standard.[355]

Similarly, in the *Burzynski* case, Staff of the Texas Medical Board argued that the physician's advertising regarding his alternative therapy was misleading, referring to an FDA notice to the physician "that certain claims on the Clinic website suggested that [the therapies were] safe and effective for the treatment of various types of brain tumors when they had not been approved for those uses".[356] The administrative law judges in this case found that the advertising was not proven to be misleading because "there is no evidence that Respondent's websites misled prospective patients into thinking that because [the therapy] had been

[355] See *CRNBC, supra* note 317.
[356] See *Burzynski, supra* note 320.

successfully used to treat certain patients, it could or would be used in their individual treatments".[357] However, the decision did not explain the evidentiary basis on which it concluded that the therapy was successful for those certain patients or brain tumors referred to in the advertising. Rather than describing the specific types of evidence considered in determining whether the physician's communications were misleading, the decision instead stated that the alternative cancer therapy in question had become more "accepted and mainstream" over time.[358]

A similar pattern can be seen in the way that expertise was relied on in decisions. In the *Williams v Lam* case, in which a patient had alleged that the physician communicated misinformation about the patient's treatment, the expertise of the regulatory Committee was a primary factor in the decision.[359] As previously noted, the regulatory Committee and appeal board addressed only whether the treatment and information were appropriate, and not whether the description of the treatment had contained misinformation. Rather than evaluating the accuracy of the physician's statements, the focus of the decision was on the regulatory Committee's expertise in determining the appropriacy of the physician's actions.

Two of the written decisions from the *Gill* case relied on expert "Statements by professors from Yale and Harvard universities" and "small studies, largely observational in nature" in finding that physician's claims about a controversial COVID-19 intervention were not misleading at the time when they were made, although the statements were later found to be unsupported based on scientific evidence that emerged after the statements had been made. In this case, the expert statements by professors at two universities were relied on to justify the validity of the statements at the time that they were made, without the regulator explaining or

[357] *Ibid.*
[358] *Ibid.*
[359] See *Williams, supra* note 299.

evaluating the evidentiary basis that those professors relied on. While there was also a direct evidentiary standard referenced, in the form of the "small" and "largely observational" studies, it is not clear whether this standard was also relied on by the professors whose statements were cited, nor is it clear why these studies were taken to be sufficient justification for the physician's claims, in comparison to other decisions that relied on larger or controlled studies, or on collections of multiple studies.

These cases illustrate a common reliance on expertise, where the informational or evidentiary basis of that expertise is not consistently explained in decisions. That is, decision texts do not consistently make clear how, or on what basis, an expert could be determined to be correct or incorrect. References to expertise and deference to decision-makers, without explaining the nature of the evidence and information the expert or decision-maker relied on to make their decision, may lead to a lack of transparent decisions and hinder the ability of health professionals and the public to understand why a decision-maker believed that a particular communication did or did not constitute misinformation.

The fact that expert evidence is termed "evidence" for the purpose of a legal proceeding may help to explain why decision-makers do not consistently explain the evidentiary standards that were used to evaluate the accuracy of professional communications. Because regulators are expected to explain the evidence that they relied on in their decision, but the type of required "evidence" is not always defined, it may appear perfectly appropriate to refer to expert evidence as the "evidence" that was relied on. However, in a legal context, expert "evidence" merely refers to expert opinion, and not to the underlying evidentiary basis supporting that opinion, such as scientific literature, personal observation, or case reports. If a decision refers only to the expert opinion that was relied on, and not to the underlying evidence that the expert relied on to

generate that opinion, then readers are unable to meaningfully evaluate the substance of how the alleged misinformation was evaluated by the expert, or by the decision-maker who relied on that expert.

3. Outcome

The main question related to case outcomes asked whether a finding of misinformation in a decision consistently led to a finding of misconduct and the application of a sanction. In a majority of the decision texts, the regulator or reviewing body determined that the physician or nurse had communicated misinformation to a patient or the public, or affirmed a previous finding of misinformation. In most of these instances, the practitioner in question was also found guilty of misconduct and was subject to a sanction or response from the regulator. However, in thirteen of the decisions, a finding of misinformation did not result in both a finding of misconduct and a sanction or other regulatory response. In ten decisions, the practitioner was not stated to be guilty of misconduct, despite having been found to have communicated misinformation. In nine of these ten decisions, a sanction or other regulatory response was still applied, despite the lack of an express finding of misconduct, with only one decision having a finding of misinformation, but no misconduct or sanction.[360] In another three decisions, there was a finding of misinformation and of misconduct, but no sanction or other regulatory response was applied because the case was referred for further hearings or review. In the nine decisions that found or affirmed a finding misinformation and applied a sanction (such as advice or a suspension), but which did not find that the practitioner had engaged in misconduct, the texts generally noted that the regulator had provided critique or advice about the practitioner's communications and the need for accuracy in communications, and frequently described the practitioner's actions as being inaccurate or

[360] See *Coles v Douville,* 2021 CanLII 90128 (ON HPARB).

dishonest, but they did not expressly state that the practitioner's actions amounted to misconduct or improper activity.[361] While it might be argued that it is appropriate to avoid expressly describing a practitioner's conduct as constituting misconduct or improper conduct where the practitioner may not have intended to be inaccurate, this seems to be at odds with the finding or upholding of a sanction – that is, if a practitioner's conduct was problematic enough to warrant advice, a caution, or a license suspension, then presumably the conduct can be considered (and expressly acknowledged) to have been improper.

The lack of a consistent connection between a finding of misinformation, a finding of misconduct, and a subsequent regulatory response may give readers (whether health professionals or the general public) the impression that misinformation is not always a professional conduct concern, despite the various laws, policies, and regulator position and guidance statements indicating that it is. A more consistent explanation of whether and how misinformation constitutes misconduct and whether and how it warrants a regulatory response may give a stronger impression to health professionals and the public that misinformation is not acceptable conduct by health professionals.

Within the written decisions, sanctions and responses from regulators ranged from written and verbal warnings to placing conditions upon professionals' scope of practice, suspensions, and revocations of licenses. However, it is important to note that practitioners who were found guilty of misconduct for misinformation were often found guilty of additional forms of misconduct, such as failing to maintain a practice standard or failure to keep proper records.

[361] See e.g. *FJS v SSE,* 2016 CanLII 21300 (ON HPARB); *Mcevenue v Buffone*, 2021 CanLII 111717 (ON HPARB); *Complainant v College of Physicians and Surgeons of British Columbia* (No. 1), 2021 BCHPRB 39; *Dr Samuel White v General Medical Council,* [2021] EWHC 3286 (Admin); *Webberley v General Medical Council*, [2022] EWHC 3520 (Admin).

As a result, these other findings of misconduct affected the severity of the sanctions in many cases.

Fifteen decisions, or about one in five within the sample, noted that the health professional involved had a prior disciplinary history or complaint made against them. Fourteen of the 15 instances of prior disciplinary history or complaints included prior issues related to misinformation or inappropriate advertising or communications. Because most decisions made no mention of disciplinary history, this figure may be an under-estimate of how often health professionals are repeatedly involved in complaints regarding deceptive conduct. However, repeat problems appear to be common. This suggests that it may be useful to have more active monitoring of public communications by health professionals, especially for professionals with a prior complaint or disciplinary history that specifically relates to misinformation.

4. Patterns in Regulator Approaches

This question asked which factors appear to have been influential on regulators' ability to consistently identify and respond to allegations of health misinformation by health professionals. To begin with, when considering whether laws or policies directly addressing health misinformation had an effect on cases, it appears that the existence of a law or policy regarding misinformation was not in itself associated with a finding that a practitioner communicated misinformation. While these laws and policies appear to have utility in the sense of being highly cited and relied on by regulators, they do not appear to have created a standard on which decision-makers are making more findings of misconduct against practitioners.

No factors examined appear to significantly influence the chances that a decision-maker will find that a practitioner engaged in misinformation (i.e., sources of law relied on, evidentiary standards relied on, professional standards and norms all do not seem to be significantly influential regarding the case outcome). But several factors appeared to be associated with decision-makers failing to address a complaint of misinformation at all in their decision text.

Several cases made reference to whether the decision-maker viewed the communication as reasonable or well-intentioned, including some in which the decision-maker did not specifically address whether the communications constituted misinformation.[362] Arguably, the reasonableness and intentions behind a practitioner's statements should be considered when determining whether the communication rises to the level of misconduct of professional sanction, as a finding of misconduct or the imposition of a sanction may be a disproportionate response to some communications that were well-intentioned or reasonably made, but which happened to be inadvertently mistaken or misleading. However, a practitioner's intention, and even the reasonableness of the practitioner's decisions, is not determinative of whether the practitioner's communication was accurate, whether it constituted misinformation, or whether it may need to be countered with a corrective statement for the benefit of the patient or the public's understanding.

Whether the regulator made explicit reference to the evidentiary standards or professional standards (e.g. professional regulator policies) that were used to evaluate a complaint may be associated with whether the complaint of misinformation is addressed by the decision-maker. Of the seven decision texts that did not address the complainants' concerns of misinformation, five did not make any reference to evidentiary standards, and six did not reference any professional

[362] See e.g., *RSV, supra* note 295.

standards, such as an advertising or communication policy. However, a lack of reference to evidentiary standards or professional standards in a decision did not appear to correlate with the overall likelihood of finding misinformation or sanctioning a professional across the 77 decision texts. Despite this, referring to specific standards is still important to decision-making transparency and to enabling public understanding of how and why a decision was made, as well as for the potential precedential value of the decision. Evidentiary standards were not in mentioned a majority of the texts, with references to evidentiary standards being found in only 31 of 77 cases, or approximately 40% of the sample.

Among the cases that did mention evidentiary standards, there was inconsistency in the type of evidentiary standards relied on, as well as a wide variety of different vocabulary used to describe evidence and evidentiary standards. Terms that were chosen, such as "evidence-based" or "clinical evidence" were rarely defined, and cases more commonly used general terms, such as "science" than specific examples of evidence types, such as "retrospective study". Additionally, the reasoning for the decision-makers' use of one evidentiary standard versus another was usually not explained.

Finally, there was inconsistency in whether all types of consensus relied on in each text aligned with one another. As noted earlier, decision texts relating to misinformation complaints tend to refer to and rely on interpersonal consensus (i.e., consensus among experts or professional communities), without consistently addressing evidentiary consensus (that is, the number and nature of the evidence relied on to support a practitioner's informational claims, and whether there are different pieces of evidence that agree with one another or with the social consensus). This creates a situation where decision-makers appear to be prioritizing only some aspects of knowledge-based consensus – the social aspects – while not consistently engaging

with other aspects – the evidentiary aspects. This, too, poses problems for the transparency, consistency, and precedential value of decisions, as it is not possible to evaluate the full basis on which the decision was made, nor to compare the evidentiary facts of the case to new instances in which a practitioner has been accused of communicating misinformation, if the evidence and evidentiary standards that are relevant to the case are not reported in any detail.

Summary of Key Issues Emerging from Content Analysis

The key issues identified in this chapter's content analysis can be summarized as follows. First, the existence of policies directly addressing misinformation, the incidence of parties raising misinformation as a concern, and the presence of references to evidentiary standards or professional standards did not seem to consistently result in a finding of misinformation in decision texts, and second, a finding of misinformation did not consistently result in a finding of misconduct or a professional sanction.

The cases examined reveal a lack of detail regarding evidentiary standards, in that the evidentiary standards that were referenced were often not consistent, defined or explained in detail, or considered in relation to the nature of the complaint (i.e., some complaints of misinformation went unaddressed altogether, and decision texts rarely addressed which evidentiary standard the complainant might reasonably have expected the practitioner to use or whether the practitioner actually used that standard). Often, social consensus and professional norms appeared to be prioritized in the decision text, without an equivalent amount of attention to evidentiary standards.

These issues are consistent with the themes outlined in the earlier history chapter. First, the lack of specific explanations of evidentiary standards in many decision texts parallels

professional regulators' historic lack of consistent definition and use of evidentiary standards. Second, the inconsistency of the evidentiary standards referenced in decision texts reflects the historic acceptance of pluralization in health care, where different evidentiary standards are used and referenced in the same body of cases and in the same fields of healthcare, but without consistent requirements that these differences be made universally clear. Third, the fact that practitioners are often the subject of marketing-related complaints reflects the commercialized aspects of healthcare that have become prominent over time. Finally, the issue of practitioners often being the subject of repeat complaints or disciplinary actions mirrors the cyclical nature of health misinformation concerns: as indicated in the history chapter, health misinformation often recurs over time, rather than appearing and being comprehensively addressed on one occasion.

The lack of consistent attention to evidentiary and communications standards across cases parallels some of the inconsistencies seen in the jurisdiction scan in Chapter 3. Despite some recent developments, such as the creation of policy documents providing guidance on health misinformation, as well as rules that have been created to keep pace with practitioner engagement with the internet and social media, there appears to be a disconnect between policy aims that seek to address health misinformation, and the manner in which health misinformation is treated in case law. If these inconsistencies and the gaps in evidentiary and communication standards were addressed, misinformation could be understood and acted on in a much more comprehensive manner – one that may lead from a disjointed and cyclical response to misinformation, to a clearer, more proactive, and more cohesive approach both within individual regulators and across all three countries. The final chapter to follow will review the issues identified across these chapters and outline proposals for reforms intended to address them.

Chapter 5: Conclusion - Review of Key Themes and Proposals for Reform

Health misinformation is, in recent years, a widely recognized problem. Health misinformation spread by health professionals—the people who are trusted as a source of reliable health information, expertise, and care—is an especially troubling aspect of the larger misinformation problem, given how influential and important their role in managing health is. Despite health misinformation garnering increasingly high-profile attention, however, institutions of all kinds have struggled to address health misinformation spread by health professionals, with the issue becoming especially acute in the past several years since the COVID-19 pandemic.

Health misinformation has a long history, which has attracted cyclical attention from health systems and health professions regulators alike, as outlined in Chapter 2. However, responses have tended to be reactive -- dealing with new waves of misinformation and with individual practitioners on an often ad-hoc basis -- rather than using a comprehensive and ongoing approach that focuses on the clarity of evidentiary standards and consistency of communication. As I have shown in the content analysis in Chapter 4, this history is reflected in case law from the early 2000s to present, with health professions administrative bodies taking inconsistent approaches in how they identify health misinformation, whether they address health misinformation at all when it is raised as a complaint, and how they respond to it from a disciplinary standpoint. Different decision-makers hearing similar types of complaints may or may not make any comment about alleged misinformation at all; may refer to numerous different evidentiary standards, such as science, personal opinion, or anecdotal experience, as being the appropriate standard for professional communications; and may or may not express that misinformation constitutes inappropriate conduct. This lack of a comprehensive approach is also

reflected in the wide variety of legislative and policy approaches to misinformation within health professions regulation systems, in which approaches to health misinformation range from relatively comprehensive, to relatively limited, to potentially counter-productive, as I have detailed in Chapter 3.

In this concluding chapter of the thesis, I overview some proposals for reforms that could address the shortcomings of past and present approaches to health misinformation within regulated health professions, ideally bringing greater clarity to consistency to practitioner communications, and in doing so, supporting patients' and the public's ability to evaluate health information and make decisions in a manner that best serves them.

I. Essential Features of Reforms Addressing Health Misinformation

The previous chapters have illustrated that the historic and current shortcomings in regulatory approaches to misinformation have not solely been a matter of formal law and policy, but also of wider norms, coordination among institutions, and conceptual consistency in defining and identifying misinformation. For this reason, the reforms suggested here include both general considerations, as well as proposals that are more specific to law and policy frameworks.

A) General Considerations

Useful lessons can be learned, and suggestions for improvement can be made, when considering the areas in which robust protections against misinformation appear to be lacking across jurisdictions. The following ideas for reforms would largely center on the widespread adoption and use of the concept of evidentiary foundations as a consistent norm

within communications by health professionals, an approach that the previous chapters have demonstrated to be lacking in the responses to health misinformation by health professionals.

As discussed in the Introduction chapter, patients are essentially judging probability when making decisions about their health, and this judgment of probability is an essential part of the decision-making process. In light of this, it has been proposed elsewhere that health professionals should receive better training about how to simplify the probabilistic nature of evidence and explain scientific uncertainty when discussing treatments with patients.[363] This could be done in tandem with health professionals receiving more training about different types of evidentiary foundations, given that evidentiary foundations are a central part of judging the probability that a medical intervention will have a desired effect. This is particularly important where health professionals and patients may have different norms regarding communication about consent to treatment (that is, different groups of people may have different expectations about what constitutes adequate informed consent).[364] In addition to more training, health professionals would arguably also benefit from clearer regulatory requirements to explain the probabilistic nature of evidence, disclose to patients how the evidentiary standards differ for different types of treatments, in order to ensure that this communication is happening consistently and adequately.

More robust training and standards regarding evidentiary foundations and probabilistic aspects of treatment can be useful when health professionals are communicating about unconventional treatments, but it would also be useful for strengthening practitioners' ability to understand and communicate about mainstream treatments. For example, some mainstream

[363] See Ferron-Parayre, *supra* note 189 at 6, 12.

treatments, such as the opioid medications at the center of the opioid crisis, were mainstream treatments with a conventional pharmaceutical development process. Many practitioners and patients initially believed the newly-approved opioids to be non-addictive based on research evidence, despite the evidentiary foundations of this evidence not matching the more typical standards for high-quality pharmaceutical research, and the early marketing of opioids is now acknowledged to have constituted misinformation.[365] Better training and communication standards applicable to the evidentiary foundations of every type of medical treatment could potentially have captured and addressed some of the initial practitioner and patient misunderstandings about the drugs and the research supporting them.

B) Considerations at the Level of Law and Policy

While the case content analysis chapter suggests that existing guidance documents that specifically address health misinformation are sometimes considered in disciplinary cases, these documents tend not to provide guidance from an evidentiary standpoint on how or why a particular informational claim constitutes misinformation. These guidance documents could be framed more specifically around evidentiary standards, to more directly encourage communications between practitioners and patients to be focused on clarifying and understanding the informational claims of concern. Specifically, these documents can direct practitioners to explicitly state and explain the type of evidence that they are relying on when making an information claim to patients, such as describing the clinical evidence (e.g., randomized controlled trials) that exists in support of a recommended treatment, and

[365] See e.g. The Role of Purdue Pharma and the Sackler Family in the Opioid Epidemic, *Hearing Before the Committee on Oversight and Reform*, (Serial 116-130) 116th Cong, 2nd Sess, Serial (Washington: U.S. Government Publishing Office, 2021), online: <www.govinfo.gov/> [perma.cc/4VEZ-WPCY].

how this evidence relates or compares to the usual standard of scientific evidence that is relied on for health treatments generally.

In addition to changes that could be made to the approach of existing guidance for professionals regarding misinformation, new guidance documents could also be created to provide information to practitioners about existing case law that deals with misinformation, to improve awareness and understanding of health misinformation in a regulatory context. For example, guidance documents could be published which describe the manner in which professional responsibility has generally taken priority over freedom of expression concerns among professionals alleged to have spread health misinformation.

Existing tools for communicating about evidence when discussing health treatments, such as decision aids, could also be more widely adopted as a model for stronger institutional protections against misinformation,[366] by encouraging practitioners to consistently evaluate and communicate the level of scientific or evidentiary uncertainty about a treatment to patients. More widespread adoption of robust and consistent standards regarding the communication of evidentiary foundations behind health treatments can help to improve patient rights and protections, and may serve as a protective factor in situations in which specific treatments that lack scientific or empirical support become politicized, normalized, or protected within some jurisdictions (such as the examples of COVID-19 treatments that are widely considered to lack an adequate medical evidence base)[367]. These standards could be added to already existing sets of professional standards, such as communications policies, marketing policies, and informed consent policies. Adopting

[366] See Ferron-Parayre, *supra* note 189 at 5-11.
[367] See e.g. VA House Joint Resolution No. 5002. Sess. 1 (2020), online: <lis.virginia.gov/>; VA Sen. Bill No. 73. Reg. Sess (2022), online: <lis.virginia.gov/>; OH H.B. 631, 134th Gen Assemb, Reg. Sess. 2021-2022, online: <www.legislature.ohio.gov/>; *WHO Hydroxychloroquine, supra* note 8; *NIH Ivermectin, supra* note 8.

standards that promote more consistent practitioner understanding and communication of the different evidentiary foundations of different types of health treatments may also promote a better public understanding of diverse health interventions, such as traditional medicines and experimental therapies, without creating confusion for patients and the public about the relative differences between the evidence and evidentiary foundations that underlie different types of interventions.

C) Considerations at the Systemic/Inter-jurisdictional Level

Many of the issues identified across the foregoing chapters of this thesis relate to a lack of consistency among different regulators across different jurisdictions. The following ideas form a set of possibilities that could increase regulators' consistency and cohesion in addressing misinformation, helping to address the cross-border nature of the flow of information and misinformation.

1. Considering the Appropriate Level of an Approach to Health Misinformation in Health Professions

The main barriers to effective intervention identified across the thesis' chapters include a diffusion of responsibility, a lack of consistent regulator scope of authority and resources from one jurisdiction to another, and a lack of a cohesive definition and understanding of what misinformation is in a health professions context. Several types of intervention are potentially possible to address these issues at a systemic level. These could include a national-level approach, or a regulator-level approach.

A national-level approach would consist of legislation intended to prohibit health professionals from communicating misinformation. There are several potential problems associated with a national approach to misinformation within health professions. First, while it might arguably be possible to address health misinformation by health professionals under a federal criminal law power, such an approach may be politically unpopular when balanced against the freedom of expression concerns discussed below. Additionally, while an approach involving national legislation that is specific to health professions might in principle be feasible in the U.K., which does not have a federal model of constituent states or provinces, in Canada and the U.S., health professions regulation happens at provincial or state level, due to the constitutional division of powers in each of these countries.[368] Case law in Canada has also found that previous federal legislation provisions dealing with assisted human reproduction that in essence had the effect of regulating medical professionals were not within the scope of federal authority, even where these provisions were created to serve as criminal legislation.[369] As a result, it is debatable whether a direct federal approach to regulating misinformation in health professions would be possible, but it likely would be outside the scope of each federal government's powers.[370]

In addition to division of powers concerns, legislation dealing with misinformation would likely be subject to constitutional concerns related to freedom of expression. As has been seen in the comparative chapter and the content analysis chapter, freedom of

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[368] See *Schneider v The Queen* 1982 CanLII 26 (SCC) at para 142 (noting that health in general may fall under federal or provincial power, but regulating professions generally falls provincially under property and civil rights); *Law Society of British Columbia v. Mangat*, 2001 SCC 67 (CanLII) at paras 38-40; U.S. Const. amend X; *Gibbons v. Ogden, 22 U.S. 1 (1824).*

[369] See *Reference re Assisted Human Reproduction Act*, 2010 SCC 61.

[370] There is room here for a deeper constitutional law analysis of the issue of whether the Canadian or U.S. federal government could create legislation to address health misinformation by health professionals, but this issue is not the main focus of this thesis.

expression challenges tend not to be successful when raised by professionals in individual disciplinary cases, but there may be an exception in instances of challenges to legislation that seeks to limit or prohibit expression that may constitute misinformation (i.e., formally limiting the manner in which health professionals or regulators can communicate). Additionally, the Supreme Court of the United States has stated that in general, the ability to create legislation that would impose content-based restrictions on speech is very limited, with the exception of legislative restrictions on speech that are incidental to another purpose,[371] seemingly leaving little room for such legislation as it relates to health professionals. By contrast, the passage of the Online Safety Bill in the United Kingdom,[372] with provisions that target and seek to restrict online misinformation, would suggest that door may be open for legislation that targets misinformation by health professionals, whether online or offline, in the U.K. However, criticism of U.K. legislation in relation to its potential impact on the right to free expression,[373] as well as the lack of active legislation that would specifically regulate misinformation in Canada or the U.S., suggest that successfully creating legislation targeting misinformation by health professionals would likely be very difficult in all three countries, especially in terms of creating legislation that could withstand potential political opposition and also succeed against potential constitutional challenges.

In light of these issues with a national-level approach, the problem of misinformation in regulated health professions may be more effectively approached at the professional

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[371] See *National Institute of Family and Life Advocates v. Becerra*, 585 U.S. 755 (2018), citing *Zauderer v. Office of Disciplinary Counsel of Supreme Court of Ohio*, 471 U.S. 626 (1985) & *Ohralik v. Ohio State Bar Association*, 436 US 447 (1978).
[372] United Kingdom, *Online Safety Act* (2023) c 50.
[373] See Peter Coe, "Tackling Online False Information in the United Kingdom: The Online Safety Act 2023 and Its Disconnection from Free Speech Law and Theory" (2023) 15:2 J Media Law 213, doi: <10.1080/17577632.2024.2316360> (discussing the Act's potential conflicts with Article 10(1) of the European Convention on Human Rights).

level, in particular, by clarifying who is responsible for addressing health misinformation, as well as enabling those responsible to have more cohesive conceptual tools for addressing it. Some ideas for improvement would largely require minor changes to existing provincial or state legislation, policy, or directives to health professions regulators, to give regulators more express responsibility for addressing misinformation by health professionals. Many of these reforms would not require a major change in the amount of resourcing given to health professions regulators, and would merely expand on existing responsibilities and practices.

First, regulators across provinces, states, and countries could be required to consistently record and make public the prevalence of reported concerns, complaints, and disciplinary cases relating to misinformation (defined broadly to include deception, misleading information, or inaccuracy in professional communications about health interventions). Given that it is already common for regulators to receive and collect internal reports and statistics about these matters, the burden on regulators to collate and publish this information (if they do not already do so) would likely not be very significant.

A second, related strategy would be for regulators to engage in greater direct sharing of information regarding complaints, concerns, and case outcomes related to misinformation. Consistent collection, organization, sharing, and publication of this information would make it easier for regulators, other parts of government, and outside observers to identify trends in the types of misinformation that appear to be most prevalent among health professionals, as well as trends in the prevalence and apparent efficacy of regulators' responses to instances of health misinformation alleged to be spread by health professionals.

Third, more proactive monitoring of practitioners' public advertising, including greater monitoring of practitioners who have received one or more past complaints related to misinformation could allow for earlier and potentially more effective intervention in instances where health professionals appear to have communicated misinformation. Some sources suggest that regulators lack the resources for proactive monitoring,[374] but there are several possible practical solutions to this, without the need to drastically increase funding or resourcing for existing regulatory bodies. Website scanning programs are one tool that some regulators have adopted to simplify the monitoring process.[375] Another option would be to make it mandatory for health professionals to register their websites and professional social media accounts with the regulator, making it easier to monitor these web pages over time. In addition to using scanning software, regulators could select samples of registered websites to manually search and monitor from time to time, using keyword searches for terms of interest for each website (a process that in principle takes only a few minutes per website.)[376] Registration of professional websites can be a particularly helpful monitoring tool when considering the large volume of commercial marketing material on the internet, which can be difficult to monitor if monitoring is not done in an organized, systematic way. Monitoring websites at regular intervals would resemble the existing audit processes for practitioners' activities that are already commonly undertaken regularly.[377] Additionally, the case content analysis chapter suggests that it is relatively common for practitioners to have a

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[374] See Saver, *supra* note 61.
[375] See Bethany Lindsay, "50 B.C. Chiropractors Refuse to Remove Misleading Claims from Websites, Face Possible Discipline" *CBC* (16 November 2018), online: <www.cbc.ca/> [perma.cc/4CAQ-MSWM].
[376] I base this on my own experience in searching publicly accessible websites for specific keywords, such as "COVID", "vaccines", "ivermectin", etc.
[377] See e.g. 22 Tex Admin Code §216.9 (2018) (describing continuing education audit process for nurses); Frank Cohen, Donna D. Wilson, J. Paul Spencer, & Physicians Advocacy Institute, "Medical Audits: What Physicians Need To Know" (2014), online: <www.physiciansadvocacyinstitute.org/> [perma.cc/Q9HT-56T8] (overviewing types of audits to which American medical practitioners may be subjected).

pattern of repeat complaints or disciplinary history. Based on this, it could be an efficient use of resources for regulator staff to more closely monitor the public communications of practitioners with a previous complaint history, at least for a set period of time following a complaint or disciplinary action.

Fourth, regulators could take the step of embedding standards for training regarding evidentiary foundations and the effective communication of evidentiary foundations to patients, within medical and nursing school curricula and continuing education programs. This would help to improve the consistency with which health professionals understand and discuss the evidentiary foundations of health interventions in their daily practice. Jurisdictions that have created legislative provisions that empower professional regulators to create rules for continuing education could serve as a model for including training about evidentiary foundations within regulators' rule-making authority and mandate.

Finally, health misinformation can be made a priority in the long-term policy planning of regulatory bodies. Frameworks for long-term policy planning already exist in legislation in some jurisdictions. One example of such a framework can be found in Florida's *Regulation of Professions and Occupations* legislation, which requires the health professions regulator to periodically evaluate whether specified policy goals are being met.[378] The government body which oversees regulation (in the case of Florida, the Department of Health), monitors compliance with the plan and makes annual updates to the plan, providing regular feedback reports to the regulators. The review process must include specific subjects set out in the legislation, such as evaluating whether consumer protection is adequate and how it can be improved, as well as whether there is consistency between various practice acts.[379] Plans are

[378] 23 Fl. Stat. 456.005 (2010).
[379] *Ibid*.

required to include conclusions and recommendations about the enumerated issues, to ensure that the issues are receiving consistent attention and action by regulators and the bodies that oversee them. For example, when reviewing consistency between different practice acts, reviews could include elements that specifically examine evidentiary standards, such as a review of the evidentiary standards that practitioners are permitted or expected to rely on, whether these standards are consistent with the standards used by professions in neighbouring jurisdictions, and whether current policy appears adequate in describing and enforcing these standards. A long-term policy plan could also include requirements for regulatory decision-makers and practitioners to clarify which evidentiary standards they are using as a frame of reference when communicating publicly and when engaged in disciplinary matters. Additionally, regulatory guidance or directives could make expressly clear that it should be a starting assumption that misinformation is a sufficiently serious issue that it warrants a review each time it is raised to a regulator (e.g., via a complaint). While a strict requirement for regulatory decision-makers to address misinformation in their decision texts would potentially pose concerns about judicial independence, given that decision-makers still need to be free to determine and address issues in the manner that they deem appropriate, placing an emphasis on complaints or concerns of misinformation during complaint intake and investigation processes, rather than at the disciplinary hearing stage, can help to ensure that the issue of misinformation is not overlooked altogether during investigation and disciplinary processes.

2. The Challenge of Regulating Misinformation through Professional Regulation

An important consideration regarding the above interventions is that each one could require greater responsibility to be placed on professional regulators than currently exists. This is

potentially a concern when considering that many jurisdictions have a system of professional self-regulation in place. Self-regulation has been heavily criticized as being inadequate for protecting the public's interest, especially given the level of commercial interests that regulators' professional members have in their own professional practices.[380] There are concerns of inherent conflicts existing within the self-regulatory structure: self-regulated professions are largely led by members of the profession who regulate the conduct of their fellow members. As a result, shared interests related to status or economic concerns may potentially be prioritized over the duty to protect the public. For example, if spreading misinformation can potentially carry reputational or economic benefits (such as misleading a patient about health products or services in order to make the patient more likely to consent to receiving those products or services from the practitioner), then the members of the profession who regulate the profession may share those same interests and could potentially be more likely to condone the spread of that misinformation. This is especially a concern if there is not a high level of participation by independent individuals or institutions that are not a part of the same profession, and hence, whose reputational and economic interests are less likely to conflict with the public interest in the process of carrying out regulatory duties.

However, whether they are self-regulating or whether they operate independently, professional regulators are likely in the best position to implement changes that would address misinformation spread by the professionals that they regulate. To address potential concerns of

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[380] See e.g.; Chapter 8, "Institutional Conflicts of Interest" in B Lo and M J Field, Eds, *Conflict of Interest in Medical Research, Education, and Practice* (Washington (DC): National Academies Press (US); 2009), online: <www.ncbi.nlm.nih.gov/>; Stephanie Aldridge, "The Regulation of Health Professionals: An Overview of the British Columbia Experience" (2008) 39 JMIRS 4 at 9, doi: <10.1016/j.jmir.2008.01.001> ("[t]here exists the potential for conflict of interest to arise in the duties of the college, such as setting minimum competency levels, establishing standards of practice, and evaluating credentials"). I have also previously written on this topic: See Andrea MacGregor, "Conflicts of Interest in Self-Regulating Health Professions Regulators" (2021) 44:1 Dal LJ 339, online: <digitalcommons.schulichlaw.dal.ca/>.

inadequate action by regulators, these changes could be made in tandem with oversight from health departments and other independent oversight bodies when implementing new standards within regulators, like those seen in the Florida example, in which the Department of Health monitors a compliance plan that a health professions regulator must follow. This would help to minimize the risk of conflicts of interest within professional regulators that could reduce the regulator's professional staff's motivations to act on health misinformation.

3. Toward an Approach to Health Misinformation that Centers Patient Truth-Seeking

As the discussion in this final chapter illustrates, proposals for reform can take a variety of forms at different levels, such as legislation, written policies and guidance, and educational standards. Whatever the reform, the fundamental feature that would be most important is that it would focus on ensuring that the evidentiary foundation of every health intervention is clearly understood by all interested parties within health care – practitioners, patients, regulator staff, administrative decision-makers, and the public. This requires consistent attention to the evidentiary standards that are permitted or required for each health intervention, ensuring that those standards are always communicated in any communication related to care, and especially ensuring that any differences in standards between different interventions are clarified to anyone who may be providing or receiving that care.

Over time, responses to health misinformation have been framed in numerous ways, including treating health misinformation as something that should be considered external to health care (quackery), something that is mainly an economic issue (fraud), something that is a

matter of individual mistakes or poor decisions (inappropriate practice), or something that represents a difference of personal opinion (reflected in dismissed complaints about "accepted" or "reasonable" interventions, regardless of how those interventions were communicated).

While each of these approaches reflects important concerns and interests affecting patients, practitioners, or administrative bodies, they lack an acknowledgement of the most fundamental need that all people have when receiving care – the need to engage in the process of truth-seeking when making health decisions, to fully understand the chances that an intervention will have the health consequences that a person desires, and finally, to make a personal choice based on that understanding. The approach that can acknowledge and respect this essential need is an approach that ensures that patients will have a full and consistent understanding of the evidence that underlies the health decisions that they are making.

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APPENDIX A: Overview of Jurisdictions, Laws, Policies, and Categories of Information Included in Jurisdiction Scan.

Jurisdictions Included	Statutes Included	Policies Included	Categories Included
Canada: All provinces U.K. U.S.: Select States	Provincial, state, or national legislation pertaining to health professions	Provincial, state, or national policies or guidance documents pertaining to the conduct of health professionals, issued or adopted by a professional regulator	Any legal or policy standards addressing evidentiary standards, communication standards, the honesty or accuracy of information, mandatory or prohibited types of communication, or other rules that address evidence, information, or communication
U.S. States included were Arizona, California, Florida, New York, Ohio, Vermont, Virginia, Washington	E.g. California *Business and Professions Code*, Ontario *Regulated Health Professions Act*	E.g. Canadian Medical Association Code of Ethics (adopted by multiple provinces' medical regulators), U.K. General Medical Council Guidance for Doctors Who offer Cosmetic Interventions	E.g. Prohibitions on the misrepresentation of medical treatments, requirement to inform COVID-19 patients of any treatments authorized by the FDA, requirement to practice in accordance with scientific principles

APPENDIX B: Results of Cross-Jurisdictional Comparison of Rules Dealing with Evidentiary, Communication, and Information Accuracy Standards

	Evidentiary Standard(s)	Communication Requirement(s)	Mandatory Disclosure(s)	Prohibited Intervention(s) or Communication(s)	Information Honesty/ Accuracy Standard(s)	Other Relevant Standard(s)
Yes	19	11	13	10	20	18
No	1	9	7	10	0	2
E.g.	NY § 230-a. "...the department shall promulgate rules or regulations describing scientifically accepted barrier precautions and infection control practices as standards of professional medical conduct ..."	UK Good Medical Practice Guidance for doctors who offer cosmetic interventions 18. "If you believe the intervention is unlikely to deliver the desired outcome or to be of overall benefit to the patient, you must discuss this with the patient and explain your reasoning."	BC If practitioner engages in marketing, they must "clearly indicate when you present an opinion that is contrary to the accepted views of the profession."	AZ 458.331 "Grounds for disciplinary action; action by the board and department. ... (ff) Prescribing, ordering, dispensing, administering, supplying, selling, or giving amygdalin (laetrile) to any person."	AB Advertising Standard of Practice: "1. A regulated member who is responsible for an advertisement ... G must ensure the information provided: ... d. is accurate, clear and explicitly states all pertinent details of an offer, with disclaimers as prominent as other aspects of the message..."	CA ARTICLE 10.5. *Cultural and Linguistic Competency of Physicians Act* of 2003 Section 2198-2198.1 provides for language training and cultural competency training to better facilitate communication between physicians and patients of different language and cultural backgrounds

APPENDIX C: Inclusion Criteria for Content Analysis of Cases

Criterion:	✓ **Included**	X **Not Included**
Who was complained against?	Physician or Nurse	Other professional or person
What was alleged?	Communication of misinformation.	Any other allegation.
Who was allegedly misinformed?	Patient(s) or the public.	Anyone else (an insurer, an employer, another health professional, a court, a regulator, legal counsel, etc.), or an unspecified person.
What was the alleged misinformation about?	A health intervention (e.g., medication, surgery, physical therapy).	Any other topic (e.g., a patient's condition, a doctor or nurse's credentials), or no specified topic.
Who oversaw and decided the case?	A health professions regulator (medical or nursing board, medical or nursing college), or a reviewing body (e.g., tribunal or court) overseeing the regulator.	Any other adjudicator (e.g., insurance tribunal only, court only, military court or tribunal only).

APPENDIX D: Chart of Exclusion Criteria for Content Analysis Cases

Criterion:	✓ **Included**	X **Not Included**
In what language was the case published?	English, or official English translation.	Any other language, or unofficial English translation.
When was the case decided?	January 1, 2000, to 2023.	Cases before the year 2000.
What did the decision discuss?	The alleged misinformation itself.	Procedural issues only, without discussion of the alleged misinformation.
In which situation did the communication take place?	Patient care or public settings (e.g., medical office, public interview, social media).	Any other setting (e.g. court testimony, correspondence with insurer).
Did the case relate to a misdiagnosis?	Alleged misinformation about medical intervention, with or without misdiagnosis issue.	Alleged misdiagnosis only.
Did the case relate to test results?	Alleged misinformation about medical intervention, with or without test result interpretation issue.	Alleged misinterpretation of test results only.
Did the case relate to forgery or record-keeping?	Alleged misinformation about medical intervention, with or without alleged forgery or record-keeping issues.	Alleged forgery or improper record-keeping only.
Did the case relate to improper prescribing?	Improper prescribing of medication, where a patient was allegedly misinformed about the prescription.	Alleged improper prescribing of medication, with no other issue.

APPENDIX E: Summary of Patterns across Cases Dealing with Alleged Misinformation from Physicians and Nurses

	Referenced Case Law	Referenced Evidentiary Standards	Referenced Professional Standards (policy/guideline)	Referenced Constitutional or Human Rights concerns	Referenced Statute	Referenced Professional Consensus or Norms
Yes	37	31	41	23	76	32
No	40	46	36	54	1	45

	Practitioner had previous disciplinary history	Addressed misinformation	Found misinformation	Found misconduct	Applied sanction or other corrective response
Yes	14*	70	46	37	43
No	8*	7	31	40	34

*In the remainder of texts (55), it was not clear whether the practitioner had a prior disciplinary history.