

2023

## References for Trends in Malpractice Payments and Adverse Actions Against Healthcare Providers in the State of Colorado Between 1990–2022

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## References for Trends in Malpractice Payments and Adverse Actions Against Healthcare Providers in the State of Colorado Between 1990–2022

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# Trends in Malpractice Payments and Adverse Actions Against Healthcare Providers in the State of Colorado Between 1990–2022

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## Abstract



### INTRODUCTION

We evaluated malpractice payments and adverse actions across all health professions in the state of Colorado - we have applied our knowledge of studying malpractice in other states and other professions to the state of Colorado. Throughout evaluation, we define medical malpractice as professional negligence by act or omission. Adverse actions are actions administered by boards of registration in a health profession against a provider. The purpose of this study is to understand trends in malpractice payments and adverse actions in all health professions in Colorado during the period 1990 to 2022. For this study, various health professionals have been categorized into six groups i.e. Physical healthcare workers (Chiropractor, Optometrist, Podiatrist, Technician and Assistant), Nurses (Physician assistant, Advanced practice nurse, Registered nurse, Practical nurse, Nurse Para-professionals), Mental healthcare workers (Psychologist, Social worker, Therapist and Counselor), Pharmacists, Dental healthcare workers (includes dentist, hygienist, dental assistant) and Physicians (includes MD and DO).

## METHODS

This is a retrospective study that utilizes the National Practicing Data Bank (NPDB) database for the period of 1990-2022. This information was exported to a data visualization tool and trends were studied. The University of Michigan Medical School's Committee on Human Subjects research evaluated our study and deemed it "not regulated" (HUM00116742).

## RESULTS

During the study period, a total of 29,862 adverse actions and 5,608 malpractice payments were reported among all healthcare professions in Colorado. The highest number of adverse actions were against Nurses with 14,787—they were also subject to 353 malpractice payments. Physical healthcare workers had 1,875 adverse actions against them, and they were subject to 282 malpractice payments. The group with the second highest adverse action reports against them were Mental healthcare workers with 4,920. The malpractice payment against them remained constant for the past few years with only 3 malpractice payment reports in 2022. Pharmacists reported the lowest number of adverse action reports with 1,344. It is the only health profession in Colorado where adverse actions reports consistently declined since 2009. Malpractice payments against them have been zero since 2018. The highest number of malpractice payments were made against Physicians (DO and MD) with 3,946 malpractice reports and 4,299 adverse action reports. For the Dental profession (Dentist, Dental Assistant, Hygienist), 2,430 adverse actions were administered and there were 827 malpractice payments.

## CONCLUSION

In the current study, we found that the adverse actions administered by boards of registration for all healthcare professions has been increasing during the period of the study. During the same period, the number of malpractice payments is decreasing which indicates an inverse relationship. We found the increasing engagement of boards of registration to penalize clinicians seems to have been contributing to a fall in malpractice payments. A better understanding of processes around adverse actions administered in Colorado may be valuable in reducing malpractice payments in other states.

## Introduction

A malpractice payment is described as a monetary exchange as a result of a settlement or judgment of a written complaint or claim based on an alleged failure of a licensed individual to provide adequate health services. Such an infringement may include the filing of a lawsuit in any state or federal court or other adjudicative body.<sup>1</sup> Adverse actions report format is used to submit actions taken against a health care practitioner, entity, provider or supplier. This can include loss of clinical licensure, loss of Drug Enforcement Administration (DEA) prescribing privileges, health and human services exclusion by the Office of the Inspector General, exclusion from Medicare or Medicaid or other federally funded programs and cancellation of clinical privileges and panel membership. Malpractice payments and adverse actions are both reported to the National Practitioner Data Bank (NPDB), a web-based repository of information on medical malpractice payments and certain adverse actions related to healthcare practitioners, providers and suppliers. The NPDB was implemented in 1990 under the Health Care Quality Improvement Act, which enabled data collection and release of information related to the professional competence and conduct of all healthcare practitioners. Medical malpractice is the third leading cause of death in the US, only behind heart disease and cancer.<sup>2</sup> Error rates are significantly higher in the US than in other developed countries such as Canada, Australia, New Zealand, Germany and the United Kingdom.<sup>2</sup> Approximately 20,000 malpractice cases are filed in the US each year.<sup>3</sup> According to the NPDB, the average payment for a medical malpractice claim in the United States was approximately \$300,000 in 2020.<sup>4</sup>

The US has one of the highest costs of healthcare in the world and, according to the American Medical Association (AMA).<sup>5</sup> In 2021, US healthcare spending reached \$4.3 trillion, which averages to about \$12,900 per person.<sup>6</sup> Fear of malpractice has been seen as one of the contributors to higher healthcare costs due to overuse of healthcare services.<sup>7</sup> This fear of lawsuits, litigation and regulatory challenges can cause healthcare professionals to practice what is often described as 'defensive medicine'. It may cause healthcare professionals to use excessive ▶

procedures, testing and referrals to reduce the perceived malpractice risk. Studies have estimated the cost of 'defensive medicine' to be around \$100-180 billion per year.<sup>8,9</sup> According to a survey of dentists, mainly general dental practitioners, defensive behavior was found to be very likely in dental practice.<sup>10</sup> These included unnecessary referral to specialists especially for difficult patients and carrying out treatments at their patient's request even if they were professionally deemed unnecessary. The adverse effects of defensive medicine are not limited to the increased cost of healthcare but also affect the overall quality of the healthcare system.<sup>11</sup>

Medical malpractice litigation is a controversial and complex issue that has implications for patient safety and healthcare quality. Medical malpractice litigation occurs when a patient sues a healthcare provider over an allegation of professional negligence. Professional negligence occurs when a healthcare provider fails to meet the standard of care and causes harm to a patient. This can include errors, omissions, misdiagnoses, delayed diagnoses, improper treatments or failure to obtain informed consent. The medical malpractice litigation system aims to compensate injured patients for their losses and to deter substandard care by holding providers accountable for their actions. However, the effects of medical malpractice litigation on patient safety and healthcare quality are unclear and disputed. Some argue that medical malpractice litigation promotes patient safety by creating incentives for providers to improve their performance and avoid errors.<sup>11</sup> Others contend that medical malpractice litigation undermines patient safety by inducing defensive medicine, discouraging error reporting, increasing stress and burnout and reducing access to care.<sup>13</sup>

The aging population in the US is projected to continue rising, reaching 20% above age 65 by 2030, which is expected to increase healthcare costs.<sup>6</sup> As older adults may have more comorbidities and take more drugs, research suggests that the risk of medical injury is higher.<sup>15</sup> Failure to meet patient expectations or to disclose a medical error can lead to a higher likelihood of a claim.<sup>16</sup> Although only a very small percentage of paid malpractice claims in the US are judged in court, several characteristics differ between settled and judged claims. Such differences may influence perceptions of malpractice risk and future reform efforts.<sup>17</sup>

Although the basic definition of medical malpractice is relatively uniform across the country, the process involved in seeking compensation for it is not. Different states have passed different laws on when and how victims of medical malpractice can pursue claims. According to the National Conference of State Legislatures (NCSL),<sup>18</sup> the summary of damage provisions for Colorado states: "the total amount recoverable for all damages for a course of care for all defendants in any civil action for damages in tort brought against a healthcare professional, or as a result of binding arbitration, whether past damages, future damages, or a combination of both, shall not exceed \$1 million, present value per patient, including any claim for derivative noneconomic loss or injury, of which not more than \$300,000, present value per patient, including any derivative claim, shall be attributable to direct or derivative noneconomic loss or injury; except that, if, upon good cause shown, the court determines that the present value of

past and future economic damages would exceed such limitation and that the application of such limitation would be unfair, the court may award in excess of the limitation the present value of additional past and future economic damages only."

The limitations of this section are not applicable to a healthcare professional who is a public employee under the "Colorado Governmental Immunity Act" and are not applicable to a certified healthcare institution that is a public entity under the "Colorado Governmental Immunity Act". In Colorado, any lawsuit based on alleged medical negligence by a healthcare professional or institution must be filed within two years after the action occurred. Under the "discovery rule," Colorado law says that the cause of action occurs when "both the injury and its cause are known or should have been known by the exercise of reasonable diligence." However, the two-year clock dictated by the Colorado medical malpractice statute of limitations begins to run when the injured party discovers or should have discovered the resulting injury.<sup>19</sup>

In this multidisciplinary evaluation of medical malpractice claims and adverse actions across all health professions in Colorado, we aim to provide a comprehensive analysis of the trends and patterns of malpractice claims for professions in six groups i.e. Physical healthcare workers, Nurses, Mental healthcare workers, Pharmacists, Dental healthcare workers and Physicians. A comprehensive list of clinicians listed in NPDB is available on the NPDB website.<sup>20</sup> By comparing the malpractice claims and adverse actions across different health professions, we will be able to understand if the dental profession is a leader or a laggard in improving medical malpractice in Colorado.

## Methods

The National Practitioner Data Bank (NPDB) is a publicly available dataset that contains information about all the malpractice payments against all health professions and the adverse actions taken by the respective boards of registration against all health professions. Federal regulations permit certain entities to report into this database and some examples are state health boards, medical malpractice payers, professional societies, Drug Enforcement Administration (DEA) and Health and Human Services, Office of Inspector General. We utilized the NPDB to conduct the current study, which is a retrospective analysis of non-identifiable, aggregate governmental data on the number of malpractice payments and adverse actions enforced against different health professions in the state of Colorado between 1990-2022.<sup>21</sup>

Adverse actions recorded for the six study groups include loss of state licensure/certification, loss of clinical privileges or panel membership, exclusion from professional society, loss of drug enforcement administration privileges, Department of Health and Human Services, Office of Inspector General exclusion. All data regarding number of malpractice payments and adverse actions were exported to a data visualization tool to analyze the trends. We used simple descriptive statistics to describe the data and highlight the upper and lower limits and calculate the standard deviation. The committee on human studies at the University of Michigan Medical School provided IRB approval for this study (Study ID HUM00116742). ►



## Results

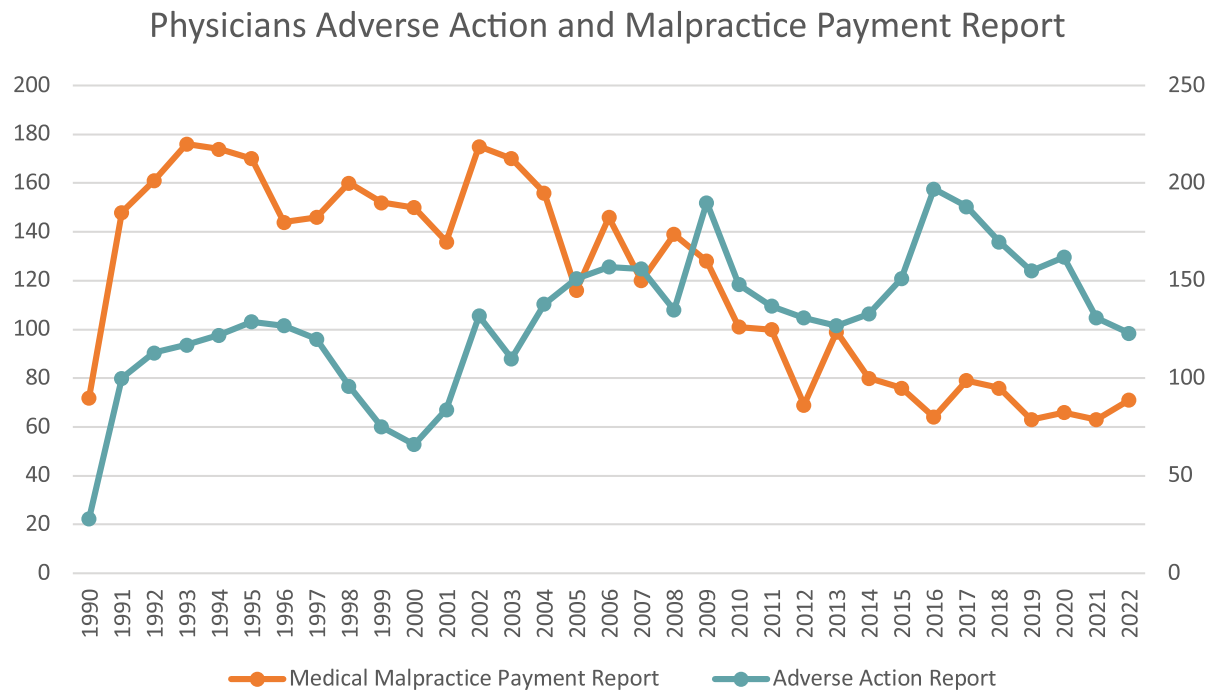


FIGURE 1: A total of 4,299 adverse action reports and 3,946 malpractice payments were found against physicians. The total amount paid in malpractice payments was \$1,597.53 million (inflation-adjusted). The highest no of malpractice payment reports were reported in 1993 (176 reports) and the lowest in 2019 and 2021 (63 reports).

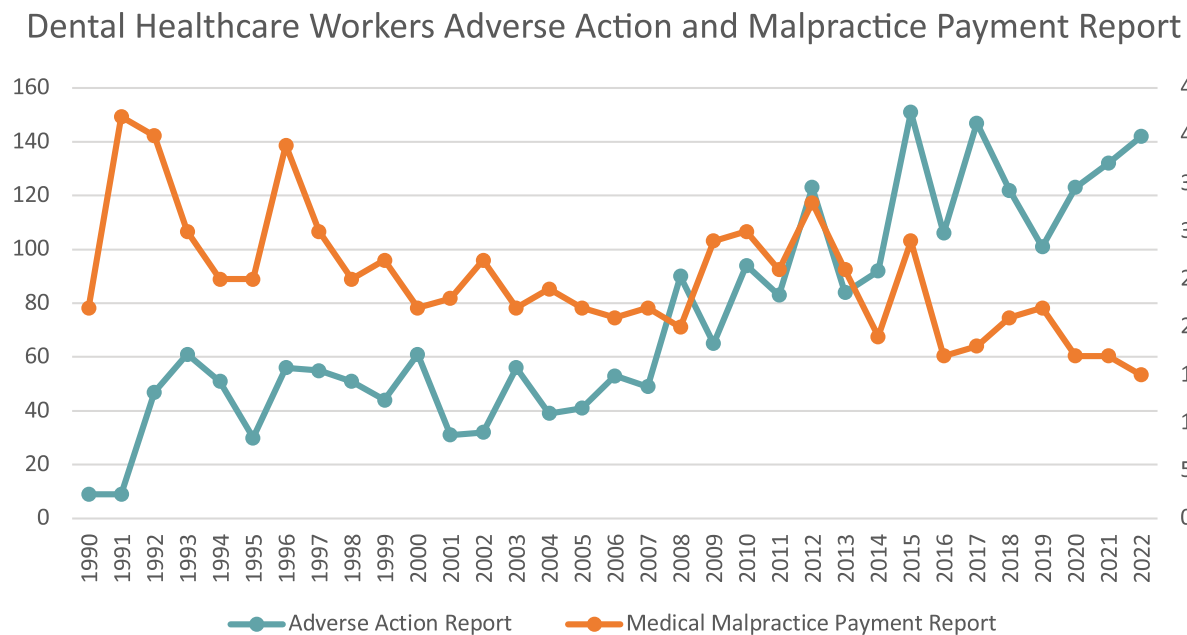


FIGURE 2: A total of 2,430 adverse action reports and 827 malpractice payments were found against Dental healthcare workers. The total amount paid in malpractice payments was \$63.95 million (inflation-adjusted). The highest no of malpractice payments reports were reported in 1991 (42 reports) and the lowest in 2022 (15 reports).

CONTINUED ►

## Nurses Adverse Action and Malpractice Payment Report

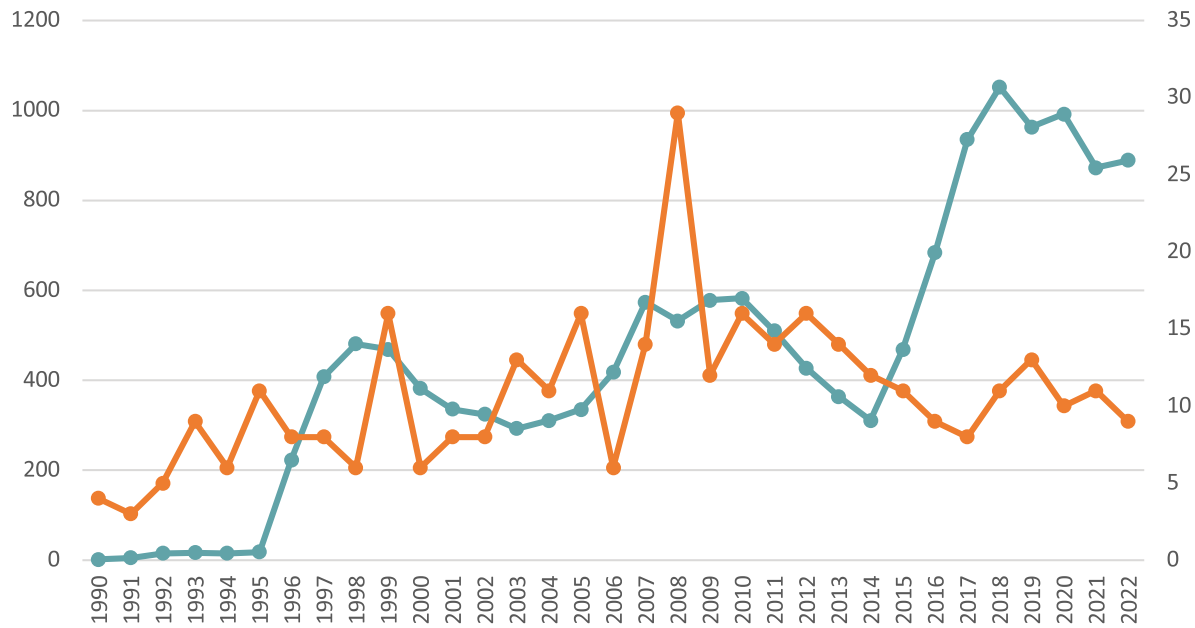


FIGURE 3: The highest number of adverse actions were against Nurses with 14,787 reports. They were subject to 353 malpractice payment reports. The total amount paid in malpractice payments was \$125.17 million (inflation-adjusted). The highest no of malpractice payments was reported in 2008 (22 reports) and the lowest in 1991 and 1992 (3 reports).

## Physical Healthcare Workers Adverse Action and Malpractice Payment Report

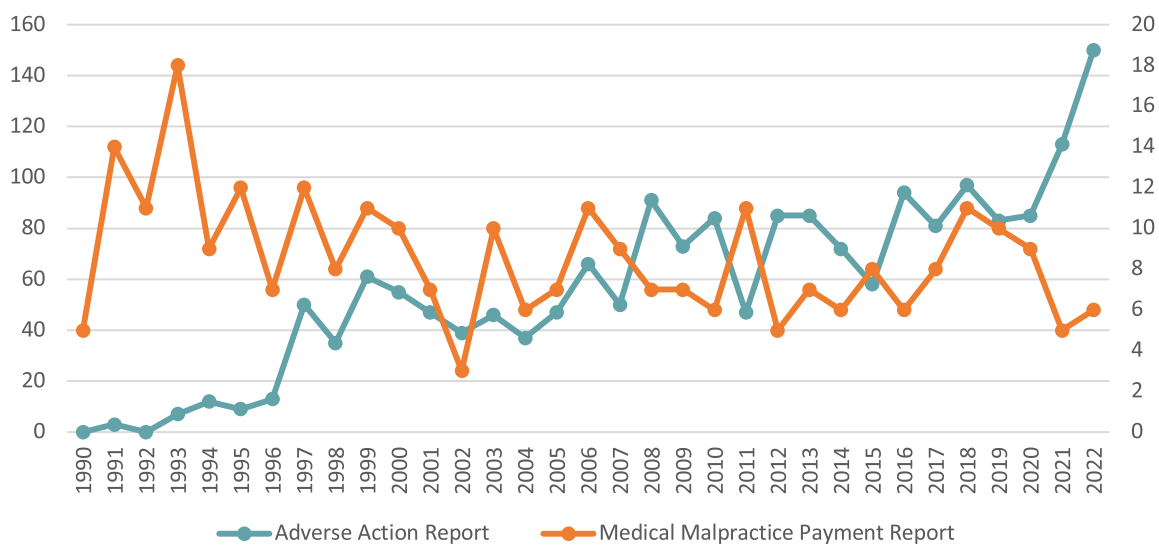


FIGURE 4: A total of 1,875 adverse action and 282 malpractice reports were found against the physical healthcare workers. The total amount paid in malpractice payments was \$46.50 million (inflation-adjusted). The highest no of malpractice reports was reported in 1993 (18 reports) and the lowest in 1990 (5 reports).



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Mental Healthcare Workers Adverse Action  
and Malpractice Payment Report

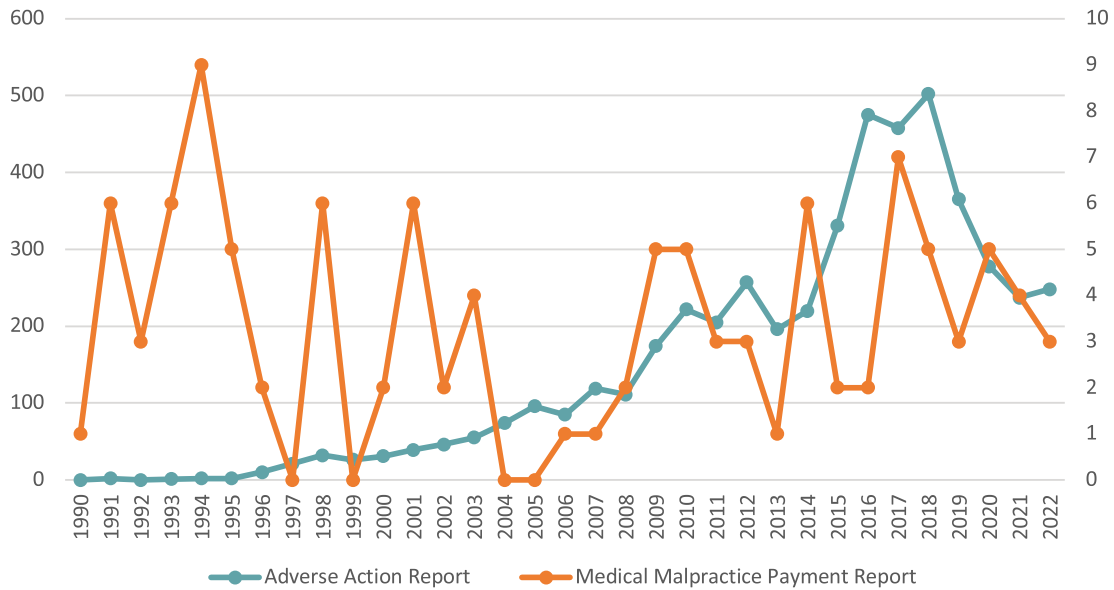


FIGURE 5: Mental healthcare workers had the second highest number of adverse action reports against them with 4,920 reports. The total no of malpractice payment reports against them was 110. The malpractice payment against mental healthcare remains constant for the past few years with only 3 malpractice payment reports in 2022. The total amount paid in malpractice payments was \$12.45 million (inflation-adjusted). The highest no of malpractice payment reports was reported in 1994 (9 reports) and the lowest was 0 reports in 1997, 1999, 2005 and 2006.

Pharmacists Adverse Action and Malpractice Payment Report

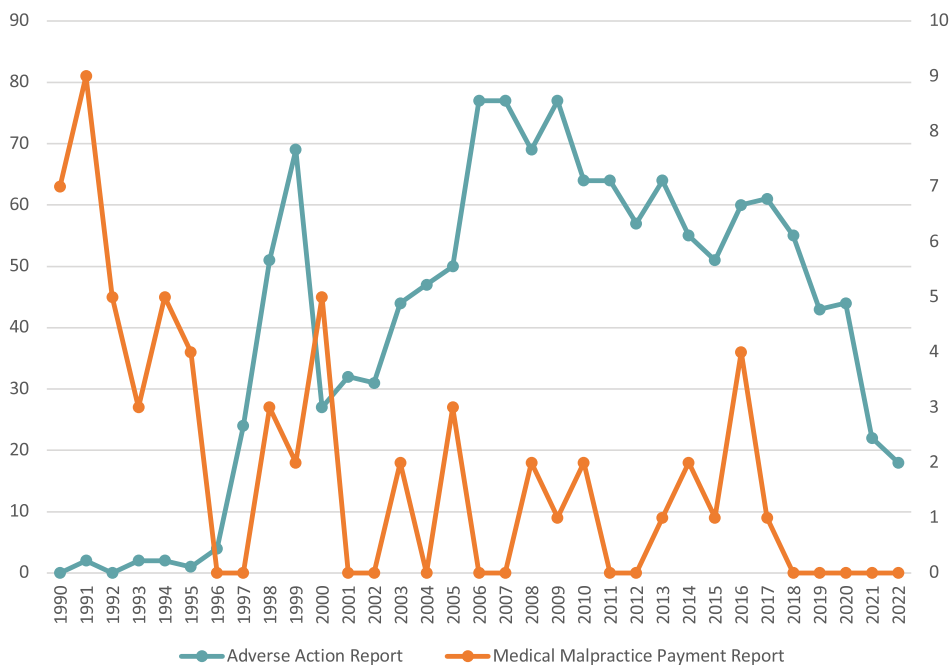
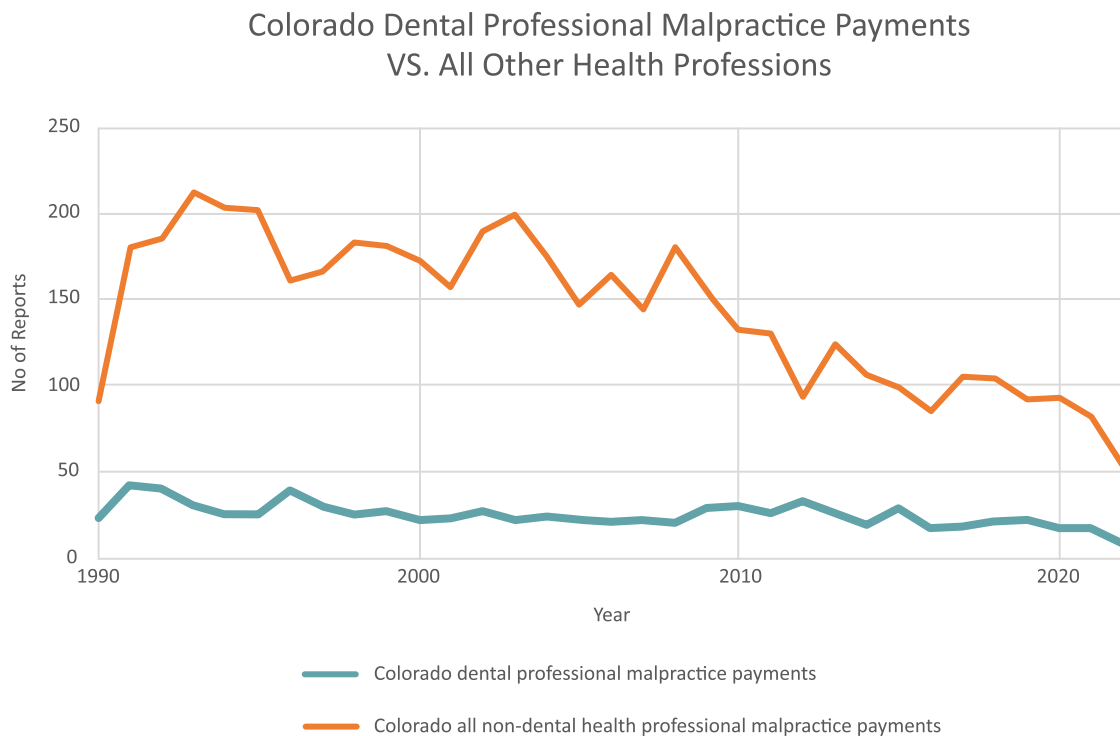


FIGURE 6: A total of 1,344 adverse actions and 62 malpractice payments were found against pharmacists. The total amount paid in malpractice payments was \$3.82 million (inflation-adjusted). The highest no of malpractice reports was reported in 1991 (9 reports). Malpractice payments against them have been zero since 2018.



*FIGURE 7: In 1990 the number of malpractice payments against dental professionals in Colorado represented 19.8% of all payments against health professionals whereas in 2022 it came down to 13.1%.*

## Discussion

In the US, medical malpractice suits first appeared with regularity beginning in the 1800s.<sup>22</sup> Since the 1960s the frequency of medical malpractice claims has increased and today, lawsuits filed by aggrieved patients alleging malpractice are relatively common. With the advancement of technology, a growth in knowledge that enables the provision of care to more and more complex patients, and an increased interdisciplinary approach that requires communication and collaboration, there is an increased risk of error and subsequent litigation.

*Figure 1* shows a total of 4,299 adverse action reports and 3,946 malpractice payments against physicians during the study period. The highest number of malpractice payment reports was in 1993 (176 reports) and the lowest in the year 2019 and 2021 (63 reports)—clearly, physician malpractice is trending downward in Colorado. In a 2017 study, “A state by state breakdown of

medical malpractice suits” found malpractice suits per 100,000 residents for the state of Colorado to be 24.4 and total payout \$43.9 million (11.2% decrease).<sup>23</sup> Similarly, in this study, it was found malpractice reports against physicians declined from 99 reports in 2013 to 71 in 2022. Although the number of paid claims has declined, the mean paid amount for the claims has increased. The average settlement amount for the state of Colorado is \$313,715.<sup>24</sup>

*Figure 2* shows adverse actions and malpractice payments against Dental healthcare workers. In 1990, the number of malpractice payments against dental professionals in Colorado represented 19.8% of all payments against health professionals whereas in 2022 it came down to 13.1%. Nationally in 1990 this was 16.1% and decreased to 12.4% in 2022. There were only eight malpractice payment reports against dentists in 2022.

*Figure 3* shows adverse actions and malpractice payments against Nurses. The highest number of adverse actions in comparison to other health professionals were reported against nurse practitioners with 14,787 reports. They were subject to 353 malpractice payment reports. Nurses comprise the largest component of the healthcare workforce and are the primary providers of hospital patient care and deliver most of the nation's long-term care. Nurses are the nation's largest healthcare profession with nearly 4.2 million registered nurses (RNs) nationwide. Of all licensed RNs, 84.1% are employed in nursing.<sup>25</sup> The adverse action count for nurses is relatively high—in the current study, it was found (between 1990 to 2018) the adverse action reports against nurses increased by 51.4% and most reports were found in 2018 (1,052) and this may be reflective of the growth of this profession nationally. In contrast, malpractice reports have

remained stagnant since 2008. The nationwide adverse action report in 2022 for nurses was 21,073 as against 879 from Colorado. 4.1% of the adverse action reports were contributed by the state of Colorado. \$3.91 million was paid as the malpractice payment against nurses.

A physician assistant works under the supervision of a licensed physician. In the study indicated a major rise in adverse action reports against them since 2005 (4 reports) and the highest in 2019 (23 reports). In addition, Colorado recently passed a bill that would modernize Colorado's PA Practice Act, removing the requirement for PAs to be supervised by a physician.<sup>26</sup> Under the legislation, PAs would be required to have an ongoing collaborative agreement with a physician or employer.

*Figure 4* shows adverse actions and malpractice against Physical healthcare. A total of 1,875 adverse actions and 282 malpractice reports were found against the physical healthcare workers. Among the Physical healthcare workers, the highest number of adverse events were reported against Technicians and Assistants (927 reports).

It is estimated that at least 70% of all medical decisions are based on the results of common diagnostic tests, such as those conducted in a laboratory setting. If a lab test is flawed or a technician makes a mistake, it may result in a physician making the wrong diagnosis or delivering a treatment that's harmful to a patient. Even if they do not intend to harm the patient, or never even saw the patient, they could be sued as part of the laboratory as a whole or as an individual. Second most common adverse actions against physical healthcare workers were reported against chiropractors (790 reports) and the highest in the year 2022 (49 reports). A chiropractor is most commonly sued when there is a failed diagnosis leading to harmful injury to the patient or if the patient's condition deteriorates during Chiropractic Manipulation.<sup>27</sup>

*Figure 5* shows adverse actions and malpractice payments against mental healthcare workers.

The study found a total of 4,920 adverse action reports and 110 malpractice reports against them. Mental healthcare workers have the second highest number of adverse action reports against them. Adverse action reports against psychologists and therapists rose sharply from 2006 (74 reports) to 2018 (455 reports) and a sharp decline is seen after then. Malpractice payment reports against them remain low with only three reports in 2022. Contrastingly, adverse action reports against social workers have grown dramatically over the past decade with seven reports in 2008 and 49 in 2016. Although malpractice payment reports against social workers have remained zero since 1996, there are cases in the news where social workers are sued for malpractice. One such example where a judge ordered a former social worker to pay council women \$3 million in a defamation lawsuit in the state of Colorado.<sup>28</sup>

*Figure 6* shows malpractice payments and adverse actions against pharmacists. A total of 1,344 adverse actions and 62 malpractice payments were found against pharmacists. Each year, in the US alone, 7,000 to 9,000 people die due to a medication error.<sup>29</sup> Additionally, hundreds of thousands of other patients experience but often do not report an adverse reaction or other complications related to a medication. In this study, we observed a dramatic rise in the adverse action reports for pharmacists after 2005, where the upper limit reached 77 in 2006, 2007 and 2009 while malpractice payment reports have been as low as zero from the past five years. (*Fig.1*) The maximum was accounted for in 1991 which resulted in the payment of \$340,000. The total number of pharmacists registered in the state of Colorado is 812 as recorded in 2022 and total case reports for adverse actions were 18 for that same year-this means, roughly 2.2% of the pharmacists faced a lawsuit.

Analyzing the recent trends among healthcare professionals reveal, although total malpractice claims have decreased in the last decade, the total dollar amount paid has increased. Interestingly, the adverse action reports against most of the health professions have increased. A recent increase in

litigation has resulted in malpractice premiums increasing exponentially. A recent study by AMA shows that between 2020 and 2022, roughly 30% of premiums increased year to year. The proportion of premiums with increases in 2022 was 36.2%, a higher rate than any other year since 2005.<sup>30</sup> This further pushes the cost of healthcare as a provider may consciously or unconsciously practice defensive medicine by providing unnecessary tests because of the fear of litigation and affects the overall quality of healthcare.

## Conclusion

In this study, we found that malpractice payments are decreasing and adverse actions against all healthcare professionals are increasing in the state of Colorado. As technology and the demand for healthcare has increased, the complexity and incidence of healthcare delivery, injuries, and adverse outcomes require a system of patient redress that is equitable, fair, economical and just. Continuing education with accredited organizations and proof of those credentials for any expansion in scope of practice can be beneficial for working healthcare providers and their supporting organizations to continue to provide high-quality patient care. There is a need for future reform efforts to continue to develop a system that is economically efficient and adequately compensates those injured by medical errors while excluding frivolous and opportunistic medical claims. ■

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