



Economic Research
& Policy Bureau

Estimating the Impact of a Heat Illness Rule on Heat-Attributable Claims Costs

ERPB White Papers Series

Produced by the Economic Research & Policy Bureau

New Mexico Workers' Compensation Administration

Dr. Richard Adu-Asamoah, Bureau Chief

Charles Cordova, Economist

Introduction

This white paper presents an **informal analysis** of the potential economic impact of implementing a heat illness rule in New Mexico on workers' compensation claims costs. The New Mexico Environment Department (NMED) has proposed a New Mexico Heat Illness and Injury Prevention Rule (the Standard) in response to increasing temperatures and associated risks to workers, particularly those in outdoor or heat-exposed environments. As part of the policy discussion surrounding this proposal, the New Mexico Workers' Compensation Administration (NMWCA) has received multiple data requests regarding heat-related claims data, likely resulting from the proposed Standard.

This analysis is intended to provide a general estimate of the financial costs of heat-attributable claims on the state's workers' compensation system, and the potential reduction in those costs if a Standard is adopted. While subject to limitations, the results suggest that heat-attributable



claims have a measurable cost within New Mexico's workers' compensation system, and that those costs could be reduced with the implementation of workplace protections. This analysis is presented to provide a general sense of the scale of potential reductions as a neutral reference point to inform stakeholder discussions of the Standard.

Disclaimer

This analysis is intended as a **rough, informal estimate** of the potential costs of heat-related workplace injuries and the possible financial benefits of prevention. Several important limitations apply. First, injury incidence increases are based on national-level data, which may not precisely reflect conditions in New Mexico.

Second, the application of an expected reduction in incidence assumes a causal relationship between the implementation of a heat illness standard and a subsequent adaptation to and reduction in heat-attributable injuries. While this assumption is supported by prior research, causal relationships cannot be definitively established from observational data alone.

Additionally, it does not account for differences in the respective standards or levels of enforcement. The one-third reduction applied in this analysis was selected as a rule of thumb based on prior findings but simplifies more nuanced observed effects, which varied across temperature ranges and time periods and may reflect a combination of policy-driven and broader safety improvements.

Average claim costs are based on systemwide averages and may not be representative of claims costs specific to heat-attributable injuries in New Mexico. These limitations should be considered when interpreting the results. Additional research may be needed to verify that national-level data used in this analysis applies to New Mexico specifically and to develop heat-specific New Mexico claim cost profiles. Such research would likely require a significant investment of time and resources.

Finally, while internal research related to heat-attributable claims was conducted to support this study, no separate lists or tabulations of claims by specific injury type were created beyond the aggregated estimates presented in this report.



Summary

Using a combination of New Mexico workers' compensation claims data, NOAA daily temperature records, and national research on injury risk by temperature range, it is estimated that 1,150 workers' compensation claims over a three-year period were potentially attributable to excessive heat. This includes both medical-only and indemnity claims filed between 2022 and 2024.

Applying average costs per claim from the NMWCA Annual Expenditure Report, these heat-related claims represent a total estimated cost of approximately \$7.4 million. If the proposed Standard were to achieve a one-third reduction in heat-related claims – based on findings observed in California after implementation of a similar standard – the estimated cost savings to the workers' compensation system would total roughly \$2.5 million over the same three-year period.

These estimates are informal and subject to limitations, including the use of national research findings in a New Mexico-specific context, and the difficulty of isolating a causal relationship between policy implementation and injury reduction. Nonetheless, they offer a general indication of the potential financial impact of heat-related workplace injuries and the possible benefits of prevention.

Methodology

An initial dataset was compiled of all claims with paid benefits submitted to the New Mexico Workers' Compensation Administration between 2022 and 2024. Claims were classified as either medical-only or indemnity based on the presence of indemnity benefits. Claims without any indemnity payments were categorized as medical-only, typically reflecting less severe injuries that did not result in lost work time. Claims with one or more recorded indemnity payments were classified as indemnity claims, indicating more serious injuries involving time away from work.

Daily maximum temperature data was obtained from the National Oceanic and Atmospheric Administration (NOAA). Daily maximum temperatures were assigned to individual claims by matching the injury date and ZIP code of each claim to location-specific weather data. ZIP codes were geocoded to obtain latitude and longitude coordinates and paired with injury dates



to retrieve daily maximum near-surface air temperature values. Claims without valid geolocation or temperature data were retained in the dataset and noted for subsequent adjustments.

The number of claims occurring on high-temperature days was summarized for medical-only and indemnity claims. For each claim type, observed counts were grouped by maximum daily temperature range. Claim summaries were then adjusted based on the proportion of claims with valid temperature data to account for data points with missing temperature information. These adjusted counts were then paired with estimates of increased injury incidence drawn from national research conducted by the Workers Compensation Research Institute (Negrusa et al., 2024). The study identified a progressive increase in injury risk as temperatures rose above a defined baseline, with higher temperatures associated with proportionally higher rates of injury. Temperature range-specific percentages were applied to the adjusted claim totals by temperature band to estimate the portion of injuries potentially attributable to excessive heat.

To estimate the financial impact of heat-related injuries, the number of attributable claims was multiplied by average claim costs for each claim type. Cost estimates were based on systemwide averages reported in the 2023 NMWCA Annual Expenditure Report (New Mexico Workers' Compensation Administration, 2024) and were applied separately to medical-only and indemnity claims. A one-third reduction was then applied to the estimated cost total, reflecting the observed decline in heat-related injuries following the implementation of California's heat illness prevention standard (Park et al., 2021). This reduction was used to estimate the potential cost savings that could result from the adoption of a similar standard in New Mexico over the three-year period analyzed.



Findings

Claims Attributable to Excessive Heat

Table 1 summarizes estimated **medical-only** workers' compensation claims attributable to excessive heat by temperature range over a three-year period. The analysis applies national estimates of injury incidence increases to reported New Mexico claims data from 2022 - 2024. A baseline of 65 - 70°F was used, with no increase in injury incidence assumed below this threshold.

As shown, the number of claims attributable to heat rises progressively with temperature. The largest number of total claims occurred in the 80 - 85°F and 85 - 90°F ranges, contributing 166 and 190 estimated heat-attributed claims, respectively. At the highest temperature band (100°F and greater), 90 claims are estimated to be heat-attributed, reflecting both a smaller base of total claims and a higher rate of injury incidence. In total, 850 medical-only claims over the three-year period are estimated to be attributable to heat exposure.

Table 1: Three-Year Heat-Attributed Medical-Only Claims by Temperature Range			
Temperature Range (°F)	Estimated Total Claims	% Increase in Injury Incidence	Estimated Claims Attributable to Heat
65-70	2516	0.00%	0
70-75	1832	1.70%	31
75-80	2773	3.60%	100
80-85	4037	4.10%	166
85-90	3877	4.90%	190
90-95	2610	6.00%	157
95-100	1707	6.80%	116
100+	1128	8.00%	90
Total:			850
Source: New Mexico Workers' Compensation Administration (2024); Injury incidence increase estimates from Negrusa et al. (2023), Workers Compensation Research Institute.			
Disclaimer: Estimates shown are based on preliminary analyses with multiple assumptions and data limitations. This table is intended to be presented with the accompanying analysis and should not be presented in isolation.			



Table 2 presents the estimated number of **indemnity** workers' compensation claims attributable to excessive heat over a three-year period, based on daily temperature data and corresponding increases in injury risk. The analysis applies temperature-specific incidence adjustments to total indemnity claims recorded in New Mexico between 2022 and 2024.

As with medical-only claims, the number of heat-attributed indemnity claims increases with rising temperatures. The highest number of claims occurs in the 80 - 85°F and 85 - 90°F ranges, with 56 and 65 claims attributable to heat, respectively. Although the total volume of claims at temperatures above 100°F is lower, the elevated injury risk results in 37 estimated heat-related claims in that range over a three-year period.

Overall, 300 indemnity claims are estimated to be attributable to heat exposure over the three-year analysis period. These figures reflect a more severe subset of injuries that result in time away from work and are associated with higher claims costs resulting from injury.

<i>Table 2: Three-Year Heat-Attributed Indemnity Claims by Temperature Range</i>			
Temperature Range (°F)	Estimated Total Claims	% Increase in Injury Incidence	Estimated Claims Attributable to Heat
65-70	981	0.00%	0
70-75	648	1.70%	11
75-80	984	3.60%	35
80-85	1362	4.10%	56
85-90	1330	4.90%	65
90-95	862	6.00%	52
95-100	646	6.80%	44
100+	461	8.00%	37
Total:			300
Source: New Mexico Workers' Compensation Administration (2024); Injury incidence increase estimates from Negrusa et al. (2023), Workers Compensation Research Institute.			
Disclaimer: Estimates shown are based on preliminary analyses with multiple assumptions and data limitations. This table is intended to be presented with the accompanying analysis and should not be presented in isolation.			



Financial Impact of Heat-Attributable Claims

Table 3 summarizes the estimated financial impact of heat-attributed workers' compensation claims over a three-year period. Cost estimates were calculated separately for indemnity and medical-only claims, using average per-claim expenditures reported in the 2023 NMWCA Annual Expenditure Report.

An estimated 300 indemnity claims attributable to excessive heat generated total costs of approximately \$5.9 million, reflecting higher per-claim costs due to wage replacement and longer recovery times. Medical-only claims, while more frequent, resulted in a lower total cost of \$1.49 million due to significantly lower average expenditures.

Combined, the 1,150 estimated heat-related claims over the three-year period resulted in total workers' compensation claims costs of \$7.4 million to New Mexico's workers' compensation system.

Table 3: Estimated 3-year Costs of Heat-Attributed Claims			
Claim Type	Estimated Claims	Avg. Cost per Claim	Total Cost
Indemnity Claims	300	\$19,688	\$5,906,400
Medical-Only Claims	850	\$1,752	\$1,489,200
Total	1150	\$6,430.96	\$7,395,600
Source: New Mexico Workers' Compensation Administration (2024); cost estimates based on 2023 systemwide averages from the Annual Expenditure Report.			
Disclaimer: Estimates shown are based on preliminary analyses with multiple assumptions and data limitations. This table is intended to be presented with the accompanying analysis and should not be presented in isolation.			



Table 4 estimates the potential cost savings to New Mexico’s workers’ compensation system from a reduction in heat-related injuries. Based on the total projected cost of \$7.4 million over a three-year period (see Table 3), a 33.3% reduction in injury incidence is applied based on findings from California following implementation of a heat illness standard (Park et al., 2021).

Applying this reduction results in an estimated \$2.5 million in reduced workers’ compensation claims costs over three years. This represents a **rough estimation** of the potential impact of a similar standard in New Mexico.

<i>Table 4: Estimated 3-Year Cost Savings from Heat-Related Injury Reductions</i>	
Total Estimated Cost (3 years)	\$7,395,600
Estimated % Reduction in Incidence	33.3%
Estimated Cost Savings (3 years)	\$2,465,200
Disclaimer: Estimates shown are based on preliminary analyses with multiple assumptions and data limitations. This table is intended to be presented with the accompanying analysis and should not be presented in isolation.	



Bibliography

Negrusa, S., Fomenko, O., Thumula, V., (2024). Impact of Excessive Heat on the Frequency of Work-Related Injuries. <https://www.wcrinet.org/reports/impact-of-excessive-heat-on-the-frequency-of-work-related-injuries>

New Mexico Workers' Compensation Administration. (2024). Annual Expenditure Report data, calendar year 2023 [Unpublished internal data].

Park, R. J., Pankratz, N., Behrer, A. P., (2021). Temperature, Workplace Safety, and Labor Market Inequality. Washington Center for Equitable Growth. <https://equitablegrowth.org/working-papers/temperature-workplace-safety-and-labor-market-inequality/>

