Research Article

Misguided medical insurance and government policies in the opioid epidemic: A chart review and NARX score analysis

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Abstract

Background: Despite the investment of significant effort and resources, our country remains exposed to an alarming risk of opioid overdoses due to opioid addiction.

Objective: This study demonstrates the impact of misguided medical insurance and government policies on the opioid epidemic.

Methods: This is a retrospective chart review study of 142 patients who were denied access to care by insurance companies (CareSource, Molina, Aetna, government regulators, and contractors). The study provides a systematic analysis of the risk stratification of these patients based on the NARX score, prescribed medications, and OARRS report analysis.

Results: Patients who were denied access to care by the major insurance carriers in Ohio, CareSource, Aetna, and Molina had an average high NARX score of 309.8–310.5 range. The review of the prescribing provider lists on Ohio Automated RX Reporting System reports showed that, in most occasions, patients had significant difficulty in finding a qualified pain provider for 3 months or more.

Conclusion: Review of denied-care patient NARX scores shows, conclusively, that very high-risk patients were affected the most. These misguided medical insurance and government policies have exposed the most vulnerable and high-risk patients to significant risk of mortality and morbidity.

Keywords

opioids, SBIRT, nerve conductive studies, drug screening, prescription drugs, health care law and regulation, pharmaceutical industry, insurance, medically necessary

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Background

From 1999 to 2022, nearly 727,000 Americans died from opioid overdoses, with the economic impact of the opioid epidemic exceeding $20 trillion since 1999. Ohio has been hit particularly hard, consistently ranking among the top five states for drug overdose mortality. In 2020, Ohio recorded 47.2 unintentional drug overdose deaths per 100,000 residents, with 86% involving opioids and 81% linked to fentanyl or its analogs. The burden of opioid overdoses in Ohio is immense, with over 500,000 years of life lost between 2010 and 2016 alone. These staggering statistics underscore the urgent need for safe opioid prescribing and robust screening for substance abuse, especially as high-risk patients are often denied access to essential care due to financial and systemic barriers.[1]

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The role of SBIRT in fighting opioid crisis

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based intervention recognized by addiction professionals and the Substance Abuse and Mental Health Services Administration (SAMHSA) as effective in preventing opioid mortality and improving patient outcomes. SBIRT consists of three components: screening to assess risk, brief interventions to raise awareness and motivate change, and referrals for additional treatment when necessary. SBIRT is particularly crucial for pain management clinics serving high-risk populations, such as those in Ohio, where law mandates stringent screening and monitoring of patients prescribed controlled substances.[2,9] A large study found that SBIRT reduced illicit drug use by 68% and heavy alcohol use by 39% at 6 months follow-up.[3] SBIRT also leads to significant cost savings, including fewer emergency department visits, hospitalizations, injuries, arrests, and motor vehicle crashes. For every dollar invested in SBIRT, $4.30 is saved in future healthcare costs, and the net savings per person screened is $254.[3,4,27,29,30]

Ohio's opioid prescribing guidelines and SBIRT requirements

Ohio's opioid prescribing guidelines for chronic, non-terminal pain set an 80 mg morphine equivalent daily dose (MED) as a trigger threshold for additional evaluation and monitoring. Prescribers are required to use the Ohio Automated Rx Reporting System[5] to track prescriptions and identify high-risk patients. The guidelines recommend non-opioid and non-pharmacologic therapies as first-line treatments and mandate regular reevaluation of patients on high opioid doses. SBIRT is specifically cited as a recommended intervention at key checkpoints, such as at 12 weeks of opioid therapy or when patients reach high MED thresholds. State law and CMS policies make SBIRT services mandatory for pain management clinics treating high-risk patients. The OARRS Manual instructs clinicians to use NARX scores in daily workflow to identify patients who may benefit from SBIRT, ensuring compliance with state and federal regulations.[5] Peer-reviewed research by Dr Margolin and colleagues at CPMI and the Cleveland Clinic Foundation further supports the medical necessity of frequent SBIRT services for chronic pain patients with high NARX scores, who are 10–12 times more likely to overdose.[6,7] CPMI services and protocols follow ASAM guidance, using SBIRT to screen, intervene, and refer patients with pain or SUDs.[8] Universal precautions are essential for all pain patients to reduce opioid misuse risks.[7,9] Evidence-based protocols recommend careful opioid use and monitoring for chronic pain.[10] Ohio supports integrated crisis and addiction response.[11,15]

Challenges from insurer policies

Despite its proven effectiveness and regulatory support, SBIRT is frequently denied coverage by insurers, who often classify it as an "unallowable cost." These denials put both patients and providers at risk, leading to insufficient screening, inappropriate opioid prescribing, or patients seeking dangerous alternatives outside the healthcare system. The cost of SBIRT is minimal compared to the astronomical expenses of hospitalization, emergency care, and long-term treatment for opioid misuse.[12] Insurers' cost-cutting policies have drawn criticism from public officials, including U.S. senators who urged Ohio's largest Medicaid insurer, CareSource, to revise policies that restrict access to non-addictive pain management options. Similar restrictive practices by Molina and other insurers have exacerbated the opioid crisis in Ohio, as documented by patient complaints and warnings from hospital administrators.[6,7]

The need for policy reform

The persistent denial of SBIRT and other CPMI program treatments and services by insurers undermines public health efforts to combat the opioid epidemic. Without adequate coverage for evidence-based interventions, providers are forced into difficult choices, risking patient safety and increasing societal costs. Until insurers are incentivized to support comprehensive screening and non-opioid therapies, opioid-related morbidity and mortality will remain high.[13] This analysis highlights the importance of aligning insurance coverage with best practices and regulatory requirements. By improving access to SBIRT and related services, Ohio and the nation can make meaningful progress in reducing opioid misuse, saving lives, and lowering healthcare costs. Policymakers, clinicians, and public health professionals must work together to ensure that life-saving interventions are accessible to those most at risk.[6,7,12]

Materials and methods

Patient population and data sources

This study was based in the comprehensive pain management clinic in Columbus and Cleveland, Ohio, serving urban and rural populations (Figure 1).

NARX score analysis. NarxCare is an application that provides a set of tools to support clinicians' analysis of controlled substance data from government managed and regulated Prescription Drug Monitoring Programs (PDMPs). NARX Scores were designed to increase provider awareness of a patient's controlled substance exposure (score ranges from 000–999). Generally, a lower Overdose Risk Score is associated with a lower risk of overdose. In a typical state-wide population of patients, the distribution of Narx Scores on any given day is such that: 75% score less than 200; 5% score above 500. This score is validated at the state and national level and was provided as part of the PMD OARRS report. The score was generated objectively by a third party—the state of Ohio prescription monitoring system based on the objective criteria and cannot be influenced neither by the researchers nor by the patients.[5] Therefore, it is a fully objective parameter that increases the quality of the study.

The NARX overdose risk can be correlated with the prescribed medications (MME score). When there is no such correlation, the overdose risk can be attributed to other factors.

In the past, studies indicated in general terms that insurance denials based on the unjustified financial interests for services have exacerbated the opioid epidemic by restricting access to necessary care.[6,7,13,21] The government sources acknowledged lack of the proper insurance coverage for the vulnerable patient populations on government insurances.[6,7,14] This is the first clinical study that studies the specific patients that were denied access to care, stratified the risk of overdose based on the NARX score and daily morphine equivalent (MME) analysis and exposed the specific mechanisms and policies of the insurance plan providing a beyond reasonable doubt evidence of the risk to the public and the impact on the opioid mortality.

Study design. This is a retrospective review of patients with high overdose risk as reflected by the NARX who were referred for SBIRT evaluation and treatment to the comprehensive pain management clinic but were denied coverage by their respective insurance plans. We have obtained a Prescription Monitoring Data (PMD) report for each of the 142 patients. The charts were selected randomly from the database of the denied referrals available. There are one-hundred forty-two (142) data points. We excluded the patients who got the insurance denial overturn and were able to obtain access to the services.

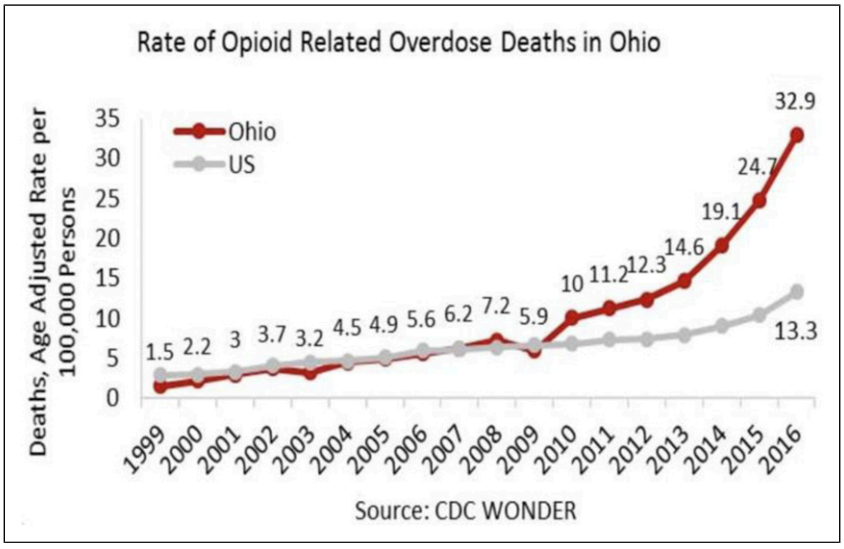
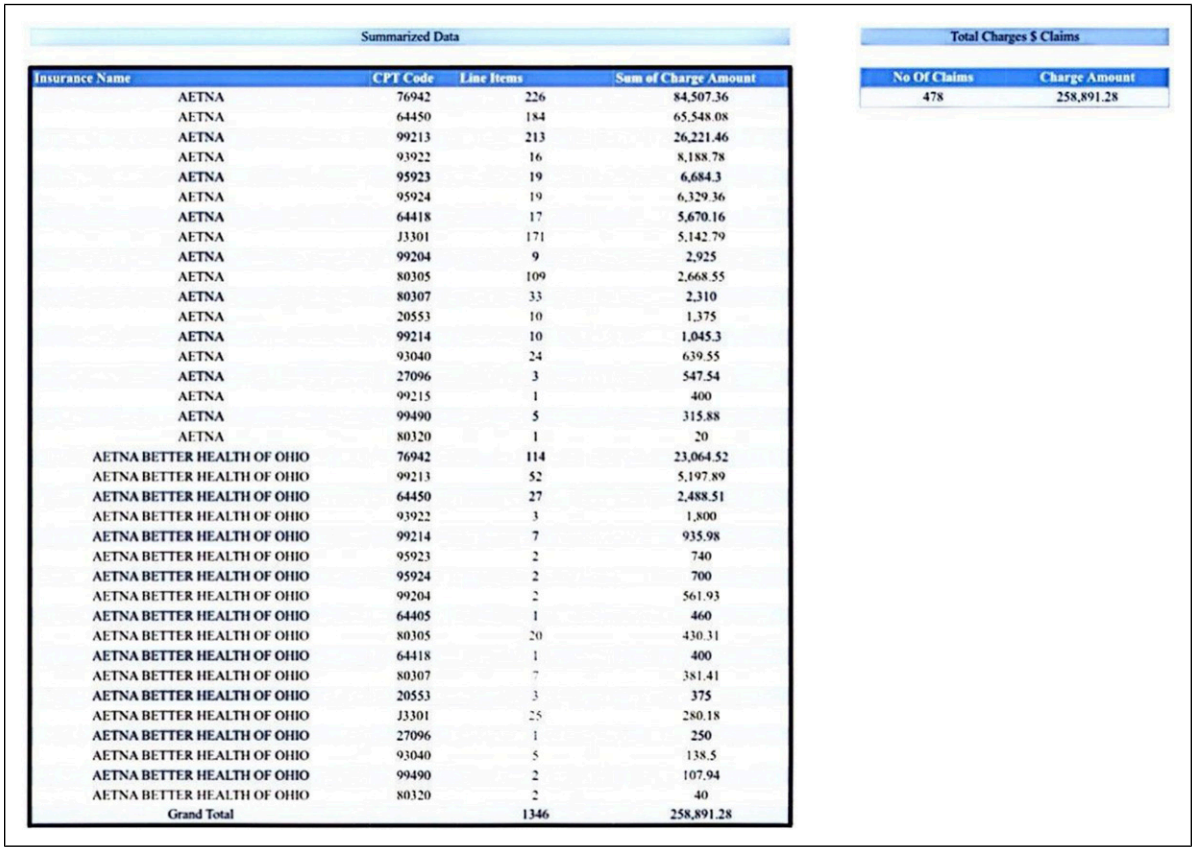


Figure 1. Rate of opioid-related overdose deaths in Ohio.



Summarized Data

Insurance Name	CPT Code	Line Items	Sum of Charge Amount
AETNA	76942	226	84,507.36
AETNA	64450	184	65,548.08
AETNA	99213	213	26,221.46
AETNA	93922	16	8,188.78
AETNA	95923	19	6,684.3
AETNA	95924	19	6,329.36
AETNA	64418	17	5,670.16
AETNA	J3301	171	5,142.79
AETNA	99204	9	2,925
AETNA	80305	109	2,668.55
AETNA	80307	33	2,310
AETNA	20553	10	1,375
AETNA	99214	10	1,045.3
AETNA	93040	24	639.55
AETNA	27096	3	547.54
AETNA	99215	1	400
AETNA	99490	5	315.88
AETNA	80320	1	20
AETNA BETTER HEALTH OF OHIO	76942	114	23,064.52
AETNA BETTER HEALTH OF OHIO	99213	52	5,197.89
AETNA BETTER HEALTH OF OHIO	64450	27	2,488.51
AETNA BETTER HEALTH OF OHIO	93922	3	1,800
AETNA BETTER HEALTH OF OHIO	99214	7	935.98
AETNA BETTER HEALTH OF OHIO	95923	2	740
AETNA BETTER HEALTH OF OHIO	95924	2	700
AETNA BETTER HEALTH OF OHIO	99204	2	561.93
AETNA BETTER HEALTH OF OHIO	64405	1	460
AETNA BETTER HEALTH OF OHIO	80305	20	430.31
AETNA BETTER HEALTH OF OHIO	64418	1	400
AETNA BETTER HEALTH OF OHIO	80307	7	381.41
AETNA BETTER HEALTH OF OHIO	20553	3	375
AETNA BETTER HEALTH OF OHIO	J3301	25	280.18
AETNA BETTER HEALTH OF OHIO	27096	1	250
AETNA BETTER HEALTH OF OHIO	93040	5	138.5
AETNA BETTER HEALTH OF OHIO	99490	2	107.94
AETNA BETTER HEALTH OF OHIO	80320	2	40
Grand Total		1346	258,891.28

Total Charges $ Claims

No Of Claims	Charge Amount
478	258,891.28

Figure 2. Services inappropriately denied by Aetna (all codes and services across the board).

Ethical considerations

All data was collected and processed in compliance with the Comprehensive Pain Management Institute (CPMI) HIPAA and CFR 42 part2 policy, state, and federal regulations. All data were analyzed in a deidentified manner.

Statistical analysis. We first conducted descriptive analysis to determine the NARX ranges and distribution of scores for individuals denied treatment. Since the denials were done by the insurance companies and cannot be influenced neither by the researchers nor by the patients, we wanted to analyze the NARX score and the MME to provide objective evidence for the high risk status of the patient denied for overdose death and morbidity. To determine if there is a significant difference in NARX score based on Morphine Milligram Equivalent MME, a t two sample t-test was used. For each insurer, the t-test compared the average NARX score for low MME patients (≤15) and high MME (>15) patients.

To measure the efficacy of participation in the treatment program, patients were measured in terms of Functional Improvement and Pain reduction. Patients were compared based on their length of participation in the program (less than 2 years, vs 2 years or more) versus their degree of improvement. A chi-square test was used to measure efficacy

Table 1. Average NARX scores and associated overdose risk among patients denied care by insurers.

Insurer	Average NARX score	Number patients
Aetna	310.5	43
Caresource	309.8	59
Molina	310.0	34

Table 2. Functional improvement by duration of participation in SBIRT-Based pain management program.

	Moderate	Significant	Very	Total
Less than 2 years	16	7	6	29
2 years	5	1	20	26
	21	8	26	55

versus treatment length. The actual p-values are shown (not just whether the value exceeds a threshold value, such as .05).

Medical legal literature review. The authors utilized state news and press release archives, state, and federal government websites (including those pertaining to opioid statistics and the opioid epidemic), medical journals, medical insurer websites, professional organization websites, state and federal regulations, and medical records to investigate the impact of medical insurance and governmental regulators policies on public safety and the opioid epidemic. Point-of-care (POC) urine drug screen studies (UDS) testing was performed in compliance with state and federal guidelines as part of the patient monitoring program, using the risk stratification scale discussed above. Data shows a significant impact of the testing on the patient treatment plan and compliance. Ultrasound-guided procedures (peripheral nerve blocks, trigger-point injections, and others) are minimally invasive procedures that are cost-effective alternatives to opioid medications required by the guidelines. All patients received the informed consent and the medical necessity forms. Statistical analysis shows these procedures had a strong impact on patient treatment plans and compliance.

Results

The NARX score average above 300 is associated with a very significant risk of accidental overdose and aberrant drug-seeking behavior (15–20 times higher than an average person). Review of the prescribing provider lists on Ohio Automated RX Reporting System (OARRS) reports show that, on most occasions, the patients had significant difficulties in finding a qualified pain provider for 3 months or more. There are one-hundred forty-two (142) data points. Based on the review of NARX score of patients denied care, it is abundantly evident that the very high-risk patients (i.e., NARX score above 300, which indicates they are more than 25 times above average risk of overdose) were affected the most (see Figure 2). The systematic denial of SBIRT services resulted in a higher risk for overdose and death which was about 10 times higher than average (Tables 1–2).

As demonstrated in a previous publication, the SBIRT services, which were unjustly denied by the insurers, often results in a very significant functional improvement and pain reduction over 1–2 years of treatment.[6] Moreover, SBIRT services can help prevent aberrant drug-seeking behavior and opioid use disorder.[6,7,14]

Functional improvement analysis

Based on previous data,[6,18] the table compares Months in Program versus Functional Improvement (based on the PADT and other tools). Given the low number of patients in the less than a 2-year group, these 3 groups are combined.

For example, of the 26 patients with 2 years of treatments (for whom we also had data on Functional Improvement), 20 of them (76.9%) showed Very Significant Improvement. Performing a chi-square test in Table 3 (combining the first two columns to enhance the test) shows there is a significant difference in months of Treatment ($p < .01$).

Table 3. Proportion of patients achieving functional improvement by length of treatment.

	Moderate, %	Significant, %	Very, %
Less than 2 years	55.2	24.1	20.7
2 years	19.2	3.8	76.9

Note. % of Row Totals for the table above.

Table 4. Pain reduction by duration of participation in SBIRT-Based pain management program.

	Moderate	Significant	Very	Total
Less than 2 years	22	4	2	28
2 years	17	5	4	26
Total	39	9	6	54

Functional improvement analysis results. Based on previous data,[15,16] there is a significant relation (at .05 level) between Months in Program and Functional Improvement. The SBIRT protocol and other treatments in our program showed a strong statistically significant impact on the patient's functional improvement—which is the main outcome measure of the pain management program (Table 4).

Pain reduction analysis

Most patients had only moderate pain reduction (72.2%). Of the patients in the program for 2 years, 15% (4 out of 26) had Very Significant pain reduction while 65% of the 2-year patients had Moderate Pain Reduction. Performing a chi-square test on Table 5 (combining the last 2 columns to enhance the test) shows there is a statistically significant difference in "months of Treatment" ($p = .02$).

Pain reduction analysis results. Based on previous data,[6,18] we could demonstrate a very significant pain ($p = .02$) reduction over time in our program. As time and participation in the program increases (more than 2 years), the pain reduction becomes more significant.

Discussion

Our findings demonstrate that patients who remained in our program for two years or more achieved markedly higher rates of very significant functional improvement (76.9%) and more consistent pain reduction when compared with those treated for less than two years ($p < .01$ for function; $p = .02$ for pain). These outcomes underscore the clinical value of sustained adherence to evidence-based chronic pain protocols — particularly those incorporating Screening, Brief Intervention, and Referral to Treatment (SBIRT) and neurodiagnostic evaluations — in mitigating functional disability, reducing aberrant drug-seeking behaviors, and lowering opioid-related risk.[10,14,32] However, the benefits demonstrated in this cohort are threatened by systemic coverage denials and regulatory barriers that prevent high-risk patients from accessing essential components of these protocols.

Insurer denials of SBIRT, nerve conduction studies (NCS) with or without EMG, autonomic testing, procedures, office visits and related other CPMI chronic pain management services directly contradict consensus medical guidelines, state and federal regulations, and established opioid-reduction strategies.[2,7,8,10,12,19,20,28–30] Academic and specialty organizations, including the American Board of Physical Medicine and Rehabilitation (ABPMR) and the American Academy of Pain Medicine, endorse these interventions as medically necessary for mitigating overdose risk, detecting substance misuse, and documenting organic pathology in high-risk patients.[6,7,10,12,28] Ohio law (HB 93; OAC § 4731-11-11; § 4731-11-14) mandates frequent monitoring, substance misuse screening, and the use of non-opioid alternatives, aligning with CMS coverage guidelines for SBIRT and NCS.[4,6,11,17–26] Scientific evidence further confirms that autonomic dysfunction is common in chronic pain[28–30] and that interventions such as SBIRT and NCS are cost-effective measures for improving function and preventing opioid morbidity. Denials thus force providers into non-compliance with legal mandates, heighten the risk of overdose and diversion, and undermine the U.S. HHS's Five-Point Opioid Strategy.[6,7,13,18,21,32]

Table 5. Proportion of patients achieving pain reduction by length of treatment.

	Moderate, %	Significant, %	Very, %
Less than 2 years	78.6	14.3	7.1
2 years	65.4	19.2	15.4

Note. % of Row Totals for the table above.

Case studies in Ohio illustrate how payers and contractors — including Molina, Aetna, CareSource, CoventBridge, and certain DOJ and Ohio Medicaid actions — have blocked credentialing, recouped funds without due process, misapplied "medical necessity" standards, and ignored patient complaints.[7,33–35] These policies disproportionately harm underserved and minority communities with opioid mortality rates 2.6× higher than national averages[33] restrict access to addiction screening, and delay indicated procedures for patients with average NARX scores around 310 (>25× average overdose risk). The consequences include preventable deaths, increased hospital utilization, higher public safety costs, and heightened provider safety risks due to destabilized patient populations.[6,7] Independent expert and legal reviews confirm that CPMI's protocols comply with all applicable laws and specialty guidelines[11–15,33] and that these coverage restrictions have wasted billions in Medicare/Medicaid resources.[6,8,12,35] Restoring coverage for evidence-based treatments, enforcing fair audit and anti-retaliation protections, and aligning payer policies with statutory and guideline standards could save hundreds of lives annually while reducing both human and economic costs of the opioid crisis in Ohio and nationwide.[6,7,10,18,21,33,35]

Comprehensive Pain Management Institute (CPMI) is a specialized pain management practice in Columbus and Cleveland, Ohio, serving hundreds of Medicaid patients and others, primarily through referrals from hospitals, primary care, and other pain-medicine practices. The patient population is complex, often medium-to-high risk, with multiple medical and psychological comorbidities. CPMI is licensed as a terminal distributor of dangerous drugs with a pain management classification by the Ohio Board of Pharmacy.[17] CPMI employs Dr Leon Margolin, M.D., Ph.D a pain-medicine physician, and several certified nurse practitioners. Dr Margolin coordinates narcotic prescriptions, ensuring appropriate screening and interventional pain management. Given the high-risk nature of the patient population, CPMI relies on SBIRT (Screening, Brief Intervention, and Referral to Treatment) services for compliance tracking and to minimize opioid abuse risk. CPMI also emphasizes non-opioid alternatives and provides free, evidence-based patient education. This discussion addresses the legal, regulatory, and clinical context in Ohio and nationwide, aiming to inform regulators, clinicians, public health officials, and a broad audience about issues and corrective actions necessary to save lives in Ohio and beyond.[6,7,18–21]

Please refer to the supplemental material for additional discussion.

Conclusion

This study demonstrates that sustained participation in an evidence-based chronic pain protocol — incorporating SBIRT, neurodiagnostic testing, and targeted interventions — leads to significantly greater functional improvement ($p < .01$) and meaningful pain reduction ($p = .02$) in high-risk populations. However, the full public-health benefit of these findings is undermined by insurer and regulatory actions that deny or restrict these essential services, in direct conflict with expert consensus, Ohio law, federal CMS guidelines, and the U.S. HHS Five-Point Opioid Strategy.[7,8,21,28,32–35] Such policies disproportionately harm underserved and minority communities with overdose mortality 2.6× higher than national averages,[33] waste billions in public funds,[6,7,8,12,35] and place providers at increased risk of violence and burnout.[6,7,18] Aligning payer and government oversight policies with statutory requirements, independent expert guidelines, and validated clinical protocols could save hundreds of lives annually, prevent diversion, and reduce healthcare costs — offering a clear path toward evidence-driven reform in both Ohio and similar high-risk jurisdictions. The review of denied-care patient NARX scores shows, conclusively, that very high-risk patients were affected the most. These misguided medical insurance and government policies have exposed the most vulnerable and high-risk patients to significant risk of mortality and morbidity.[6,7,18–26,32–35]

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Supplemental material

Supplemental material for this article is available online.

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