

ORIGINAL ARTICLE

Weekly opioid shared medical prescribing appointments to remediate issues of chronic pain patient adherence, aberrance, and noncompliance

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ABSTRACT

Objective: This study evaluated the efficacy of weekly shared medical appointments (SMAs) for opioid prescribing in addressing adherence, aberrance, and non-compliance in chronic pain patients receiving long-term opioid therapy (LTOT).

Design: A retrospective observational study.

Setting: This study was conducted as a structured intervention within a community pain specialty clinic that introduced a monitoring system over 12 months.

Participants: A total of 355 patients on LTOT were included, of whom 70 were identified as high-risk (Red status) due to noncompliance with opioid use policies.

Interventions: Patients attended monthly telemedicine shared medical opioid education appointments delivered by pain specialists that aimed to increase adherence to practice standards. A stratified risk management approach was used, with patients categorized as Green, Yellow, or Red based on adherence behavior.

Main outcome measure(s): Primary outcome measures were changes in compliance status (Red to Yellow or Green), opioid prescription changes (morphine milligram equivalent, MME), and overall patient adherence improvement.

Results: Of the 70 patients in Red status, 54 percent transitioned to Green status after weekly SMA participation. The median MME was reduced from 200 to 32. The most significant changes occurred among Red status patients, with 54 percent tapering off opioids completely. Compliance improved from 80 to 90 percent across all LTOT patients.

Conclusions: Weekly shared medical appointments significantly improved adherence and compliance among LTOT patients. The program highlights the utility of frequent touchpoints in managing high-risk patients and offers an adaptable model for other pain management clinics.

INTRODUCTION

Long-term opioid therapy (LTOT) for chronic pain presents a complex challenge, requiring prescribers to balance pain relief with the risks of misuse, increased morbidity and mortality, and regulatory scrutiny.^{1,2} Patient education can improve outcomes and is recommended by the Centers for Disease Control and Prevention (CDC) in the CDC Clinical

Practice Guideline for Prescribing Opioids for Pain and the Department of Health and Human Services (HHS) in the Pain Management Best Practices Inter-Agency Task Force Report. These guidelines recommend high levels of assessment, monitoring, and patient education to ensure patient safety.³⁻⁶ In response to the challenges of interpreting and implementing the 2016 CDC guidelines into practice, the CDC revised them in 2022 to emphasize

individualized treatment and patient–provider communication.⁷ The HHS Best Practice Inter-Agency Task Force Report recognized that this is critical to support patient-centered and individualized care.⁸

Patients with chronic pain on LTOT face difficulties discontinuing therapy, especially without alternative pain management options.^{9–12} Nonpharmacological treatments that encourage independence have been effective.¹³ Patient outcomes, such as pain levels and disability, can improve when opioid deprescribing is accompanied by a multidisciplinary approach to pain self-management.¹⁴ Patients typically acquire the knowledge and skills needed for pain self-management by participating in an interdisciplinary pain program. However, access to comprehensive programs is limited by logistics and geographic barriers. Post-pandemic telemedicine has improved access to opioid-related education.^{15,16}

Enhancing LTOT management requires a multidisciplinary approach with regular assessments, patient education, and active monitoring.^{17,18} Physicians with strong patient relationships can teach pain self-management skills, such as understanding chronic pain, maintaining exercise routines, setting goals, and employing self-regulation strategies to navigate pain flare-ups.^{1,19,20} Research consistently highlights the value of individualized risk management in opioid therapy, showing its potential to reduce misuse and improve adherence.^{21,22} A structured intervention was implemented in a California-based pain practice, incorporating weekly telemedicine shared medical prescribing appointments and monthly opioid education sessions for LTOT patients.

Managing LTOT patients is challenging, especially when addressing safety agreements, aberrant behavior flags, or making treatment decisions—even without such flags.^{23–26} Confrontational interactions can undermine trust, often due to inadequate education.^{27–29} Education was selected as a risk stratification variable because of its nonconfrontational, nonjudgmental nature and minimal patient risk.^{30–32} Effective LTOT decision-making requires patient education on side effects, dose management, tolerance, dependence, hyperalgesia, respiratory depression risk, systemic health effects, and future pain management.^{9,33} Education empowers patients to navigate the lifestyle implications of LTOT, such as maintaining safety at home and adhering to zero-tolerance driving under the influence.

This study models improved patient–provider communication through monthly opioid

telemedicine shared medical education appointments. Noncompliant patients attend weekly visits with shorter prescription durations. To optimize convenience and efficiency, telemedicine visits were conducted as shared medical appointments (SMAs), also known as group appointments. SMAs are Health Insurance Portability and Accountability Act compliant and effectively enhance self-care, patient satisfaction, and outcomes.³⁴ This study evaluates the structured model’s effectiveness in improving safety, adherence, and outcomes in LTOT management through education-based risk stratification and telemedicine SMAs.

MATERIALS AND METHODS

Participants and setting

This study was conducted in a California-based community pain specialty clinic treating 355 LTOT patients with a goal of achieving compliance with the CDC guidelines and the Medical Board of California Opioid Prescribing Guidelines.³⁵

Study design and interventions

An intervention was implemented to increase adherence to practice standards. Monthly telemedicine shared medical opioid education appointments were introduced and required ongoing for LTOT therapy. Education visits were delivered as telemedicine SMAs. Patient privacy concerns were ameliorated with consent documents and technology tools that revealed patient identity only to the education session providers, with the provider able to see and hear all patients, while patients could not see, but could hear one another. Patients were able to ask questions to the provider and engage with the questions of others. Patients had the option for in-person education and continued to be seen in person for prescriptions at appropriate intervals.

Participants were given 12 months to adopt monthly educational appointment participation. Chart and California’s Prescription Drug Monitoring Program (PDMP) review identified LTOT patients who did not participate consistently and demonstrated no unresolvable physical, language, technical, or functional barriers to participation. Multiple patient outreach scheduling attempts via telephone and email were made each month to identify and remove any barriers to patient participation. Practice

LTOT patients with unresolvable barriers were excluded from the telemedicine SMA group and received in-person, individual education. Practice patients with red flag aberrant behaviors for diversion or substance use disorder (SUD) were also managed separately. Practice patients with flags for compliance with practice opioid prescribing requirements, such as lack of urine drug test, appointment cancelations, or PDMP records indicating use of multiple pharmacies, as well as patients with risk assessment-based risk factors, such as adverse childhood events, were included in the participant group.

A risk monitoring model that shifted noncompliant participants from 30-day prescriptions and a monthly pain specialty appointment to weekly prescriptions and a weekly telemedicine shared medical appointments was established to increase patient and physician communication, evaluate risk factors, and adjust treatment plans to initiate patient behavior change and improve compliance. Participants were required to attend these additional weekly monitoring shared medical appointments coupled with reduced length of prescription (7 days) until compliance with educational shared medical appointment participation was established. Three patient risk status classifications were established based on adherence likelihood (Table 1).

In the medical decision-making process around opioid prescriptions, a traffic light system can help classify patient risk and guide tailored interventions. In this framework, *Green* represents compliant patients who adhere to prescribed guidelines and require standard monitoring. *Yellow* indicates patients showing early signs of noncompliance, such as inconsistent adherence, suggesting a need for increased observation and intervention to prevent escalation. *Red* designates patients with high-risk

behaviors or significant noncompliance, necessitating frequent monitoring and potentially more restrictive prescribing practices, such as weekly check-ins. This approach helps clinicians efficiently allocate resources, ensuring that those at higher risk receive the most intensive support. Validated medical indication for opioid therapy and functional benefits from LTOT were demonstrated by all patients as a requirement for LTOT.

Opioid education treatment plans were established for each patient. A chart review was undertaken to establish patient education compliance. PDMP records were used for morphine milligram equivalent (MME) calculations, as well as to track prescriber information and controlled substance fill dates. Patients in Red status were mandated to participate in weekly telemedicine-based monitoring SMAs. These appointments focused on risk assessment, prescription review, and education on adherence requirements. Opioid prescriptions were reduced to 7-day durations, from the standard LTOT of 28-30 days, and adjusted as needed based on risk stratification and MME calculation.

Participants classified as Red would be reclassified as Yellow, medium risk, once they had attended one education session. The participants would be reclassified as Green, low risk, once they had attended two sequential monthly education appointments. Participants would continue to have weekly medication monitoring appointments and receive weekly prescriptions until they achieve a low-risk, Green, status. The education appointments were offered weekly so the minimum amount of time to resolve a participant's status from Red to Green was 6 weeks or about 45 days. Participants who achieved a low risk status, Green, could be reclassified as Yellow or Red if they did not maintain compliance with the attendance requirements.

Outcome measures

The primary outcome was a change in risk category from Red (noncompliant) to Yellow or Green (compliant) status. Secondary outcomes included changes in MME dosage and LTOT discontinuation or practice disenrollment.

RESULTS

All participants who were noncompliant with the monthly education sessions (n = 70) were included in the noncompliance group analysis, starting in the

Table 1. Initial risk status classification for long-term opioid therapy (LTOT) patients

Color	Status	Description
Green	Compliant	Patients complying with adherence requirements
Yellow	Early signs of noncompliance	Patients showing early signs of compliance in the last 30 days
Red	Noncompliant	Patients exhibiting noncompliant behavior requiring frequent monitoring

Red category at baseline (day 0). Compliant participants in the Green category at baseline (day 0) maintained their compliance and were excluded from the analysis. Over a 6-month observation period following a 12-month adoption phase, participants transitioned into one of the four categories—Red, Yellow, Green, or Unenrolled—representing distinct trajectories from their initial state. This analysis examines the distribution of elapsed days since the initial state across these categories, along with potential relationships between elapsed time (in days) and a key metric, MME (Table 2). The analysis is supported by descriptive statistics, density plots, violin and box plots, and correlation testing.

Descriptive statistics and overall group differences

At the 12-month mark, 80 percent of participants (n = 285) were in compliance with the education class requirement and 20 percent (n = 70) of participants were not in compliance. Among the 70 patients identified in Red status, 54 percent (38 patients) resolved from noncompliance and moved to Green status after participating in weekly SMAs over the 6-month study period. Another 19 percent (13 patients) transitioned to the Yellow status, demonstrating moderate improvement in compliance. A total of 26 percent (18 patients) of the Red status patients remained unresolved at the study's conclusion. The remainder of the participants elected to either discontinue LTOT and pursue other nonopioid treatment options or leave the practice during the study period, accounting for 19 percent of patients (13 patients). For the patients who opted out of the practice, it was their decision. No patient was asked to leave the practice because of nonparticipation. This Unenrolled

group initially exhibited higher opioid use by MME and made faster treatment decisions in one treatment cycle (45 days). These patients opted for different treatment plans, with 54 percent (seven patients) of these patients tapering off opioids completely. The median MME dosage for all patients was reduced from 200 to 32, and the maximum was reduced from 960 to 133. Across the broader LTOT patient cohort (n = 355), overall compliance improved from 80 percent (285/355) to 90 percent (310/342), reducing practice prescriber and patient-related LTOT risk.

The initial summary measures indicated clear differences in the average number of days across the four groups. The Red group, which served as the baseline category and category of no change or return to noncompliance in the study period, exhibited a mean of approximately 175 days from the initial time point to the time of initial analysis. This suggests that participants who remained or returned to the Red category over time were characterized by a relatively prolonged association with the original state. The Yellow and Green groups, with means around 151 and 167 days, respectively, occupied an intermediate temporal position, indicating that the transition to these categories generally required a more moderate duration. By contrast, the Unenrolled group demonstrated a markedly shorter average duration of about 45 days, suggesting that individuals who left the system entirely did so comparatively early.

These raw means alone point toward distinct temporal trajectories for each category. Red, Yellow, and Green groups tended to be observed at later time points, whereas Unenrolled participants diverged more quickly, reflecting an early departure or termination related to the compliance requirements.

Table 2. Summary statistics by group, showing the number of days and morphine milligram equivalent

Group	N (days)	Days: Mean (SD)	Days: Median (IQR)	N (MME)	MME: Mean (SD)	MME: Median (IQR)
Red	18	175.1 (18.9)	176.0 (158.5-187.0)	18	100.4 (70.4)	68.5 (42.5-143.5)
Yellow	14	150.9 (25.4)	153.0 (131.5-157.5)	14	128.3 (183.7)	62.5 (33.3-105.0)
Green	24	167.0 (16.5)	166.0 (153.0-184.5)	24	103.4 (117.3)	60.0 (30.0-120.0)
Unenrolled	13	44.9 (50.0)	27.0 (0.0-89.5)	13	200.4 (283.4)	97.0 (30.0-225.0)

SD: standard deviation; IQR: interquartile range; N: number of observations; MME: morphine milligram equivalent; Green: compliant patients; Yellow: early signs of noncompliant patients; Red: patients with high-risk behaviors or significant noncompliance.

Distribution of days by group. To understand these differences more completely, we visualized the distribution of days since baseline for each group using violin and box plots (Figure 1). The violin plots capture the median, quartiles, and density distribution of days for each category, while the overlaid box plots highlight medians and interquartile ranges.

In these plots, the Unenrolled group's distribution is shifted toward lower day values. The violin shape for the Unenrolled group is narrower and concentrated near the lower end of the day scale, indicating that most individuals in this category exited the system well before the others reached their intermediate or later states. The Red, Yellow, and Green groups, on the other hand, show distributions that extend further into higher day values, often beyond 150 days, with medians and densities suggesting a relatively balanced spread of observations over a longer follow-up period.

When comparing the shape and spread of these distributions, the Red and Green groups show a more concentrated distribution of days, while Yellow's distribution is slightly more dispersed. No single group forms a distinctly bimodal pattern, but the subtle differences in spread and shape show that the processes leading to remaining Red, transitioning to Yellow or Green, or becoming Unenrolled are not uniform. This may reflect variations in underlying clinical factors and patient understanding affecting long-term trajectories.

Density plots and relative temporal patterns. To further illustrate these differences, kernel density estimates for days by group were generated (Figures 2a and 2b). By overlaying the density curves of all four groups on the same axis, it becomes evident that the Unenrolled group's peak density lies far to the left (at a much lower day count), confirming

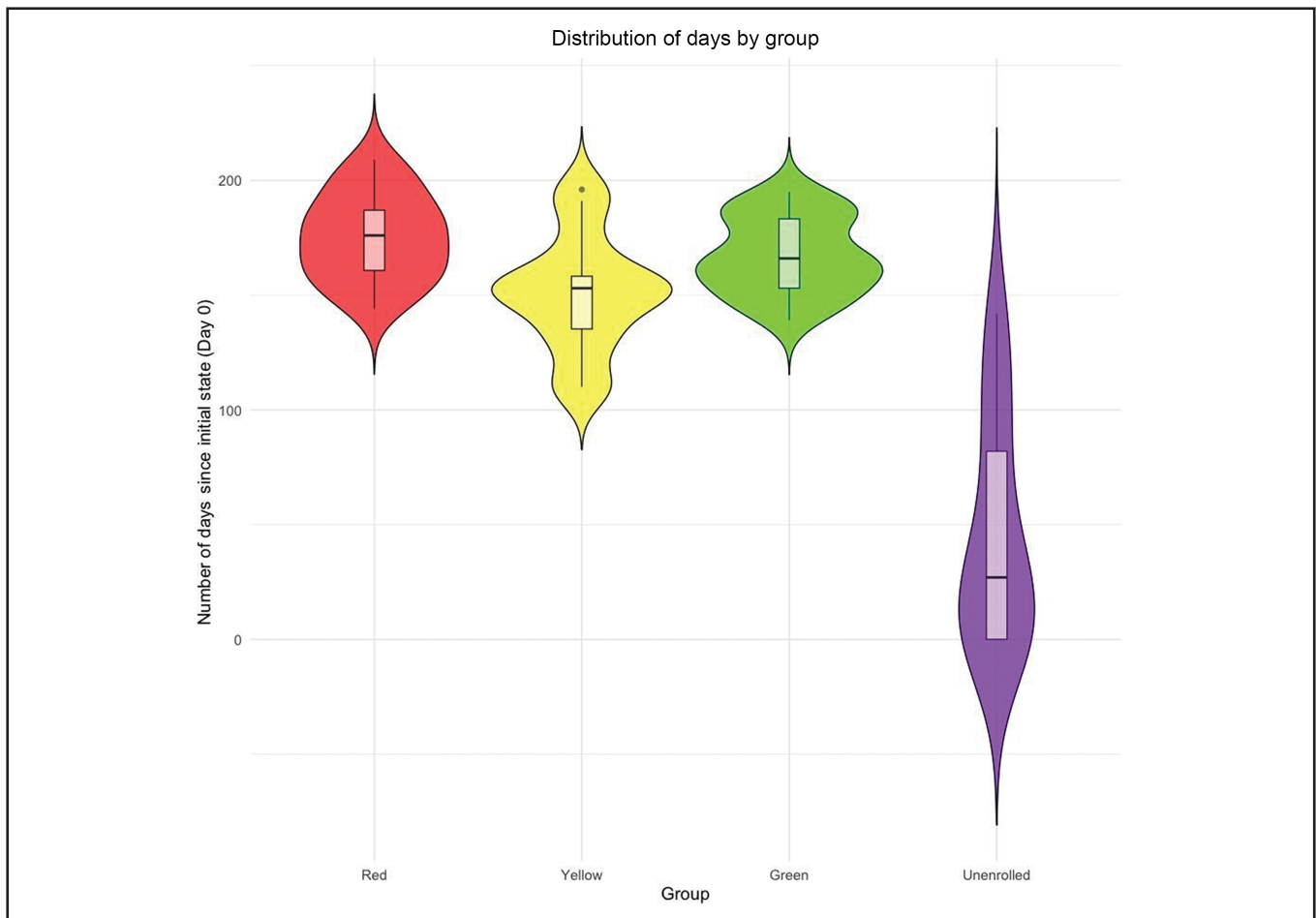


Figure 1. Violin and boxed plots showing distribution of days by group. Green: compliant patients; Yellow: early signs of noncompliant patients; Red: patients with high-risk behaviors or significant noncompliance; Purple: Unenrolled patients.

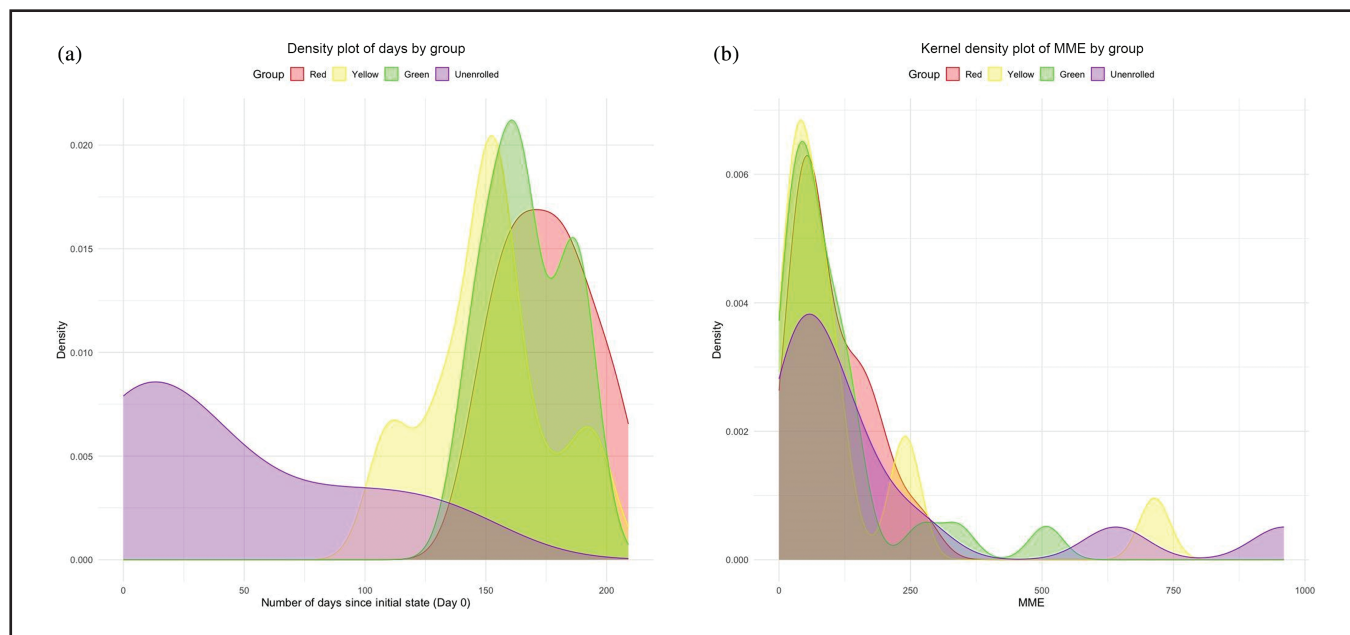


Figure 2. (a) Density plot of days by group showing the number of days since the initial state (day 0). Green: compliant patients; Yellow: early signs of noncompliant patients; Red: patients with high-risk behaviors or significant noncompliance; Purple: Unenrolled patients. (b) Kernel density plot of morphine milligram equivalent (MME) by risk status classification groups for long-term opioid therapy (LTOT) patients. Green: compliant patients; Yellow: early signs of non-compliant patients; Red: patients with high-risk behaviors or significant noncompliance; Purple: Unenrolled patients.

that most individuals who unenrolled did so relatively early.

In contrast, the Red, Yellow, and Green density curves peak at higher day values, with Red and Green showing somewhat similar distributions that are shifted to the right. The Yellow distribution sits somewhat in between Red and Green but still indicates transitions occurring substantially later than Unenrollment. These density plots provide a clear visual depiction of the temporal stratification among the groups, reinforcing the conclusion that time since baseline is a critical element in understanding how individuals diverge into these categories.

Relationship between days and MME. A key question was whether the time spent since the initial state (days) related to changes in MME. If a positive correlation existed, for example, one might expect that more days since baseline corresponds to higher or lower MME levels consistently within a given category.

Scatter plots and correlation analyses were conducted separately for each group to explore this potential relationship (Figure 3). Across all categories, there was no statistically significant linear or monotonic relationship between days and MME.

Pearson and Spearman correlation tests for each group produced correlation coefficients close to zero, with p-values indicating no meaningful association. For instance, in the Red group, the Spearman's rank correlation coefficient was weak and nonsignificant, suggesting that even within the original category, MME did not predict the day to compliance.

This lack of correlation held true in the Yellow, Green, and Unenrolled groups. In all cases, MME appeared to vary independently of how long it had been since the initial state. Individuals who remained or returned to Red status showed no consistent trend of increasing or decreasing MME with more days. Similarly, those in the Yellow or Green groups did not demonstrate a pattern where higher day counts correlated with different MME levels. The Unenrolled group also failed to show any linear or monotonic trend between these variables. This suggests that time (days) and MME may be influenced by different sets of factors, or that MME is not primarily driven by elapsed time since the initial categorization.

Implications of category-specific temporal patterns. Starting the analysis with all Red participants at day 0 that were later reclassified into Red,

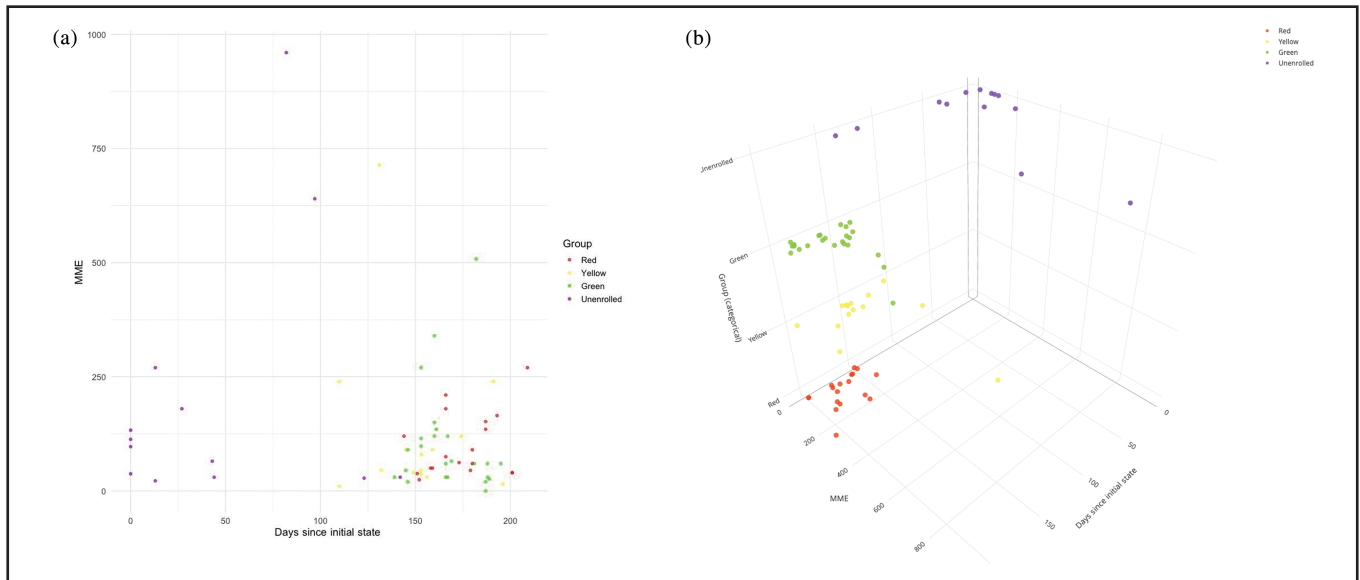


Figure 3. (a) Scatter plot depicting the relationship between time (days) and morphine milligram equivalent (MME) by group. Green: compliant patients; Yellow: early signs of noncompliant patients; Red: patients with high-risk behaviors or significant noncompliance; Purple: Unenrolled patients. (b) 3D-Scatter plot depicting the relationship between time (days) and MME by group. Green: compliant patients; Yellow: early signs of noncompliant patients; Red: patients with high-risk behaviors or significant noncompliance; Purple: Unenrolled patients.

Yellow, Green, or Unenrolled categories allows a clear temporal characterization of these groups. The patterns observed are consistent with an interpretation in which Unenrollment represents an early departure path, potentially due to dissatisfaction, clinical resolution, alternative care pathways, or external factors not captured in this dataset. In contrast, persisting in Red, or transitioning to Yellow or Green, seems to occur after a longer duration, suggesting a slower trajectory or progression through a set of conditions or criteria that take more time to manifest or to be recognized.

The absence of a relationship between days and MME within any group implies that simply remaining in a category longer or transitioning later is not associated with systematically higher or lower MME. If MME were a measure of medication usage or adherence, these results could mean that such usage patterns are not time-dependent in a straightforward manner. Instead, time to change might be influenced by other clinical variables, patient demographics, or interventions that were not the focus of this analysis.

DISCUSSION

This study introduces a novel telemedicine-based intervention model using weekly SMAs to improve

adherence among chronic pain patients on LTOT. Traditional approaches to opioid prescribing often struggle to manage patients with varying levels of compliance, particularly those who demonstrate aberrant or noncompliant behaviors.^{36,37} In this study, the introduction of weekly SMAs showed value in addressing these challenges, particularly by providing high-frequency touchpoints for risk assessment, adherence reinforcement, and patient education. The data showed that structured SMAs, coupled with risk stratification and telemedicine, can significantly improve adherence and compliance among chronic pain patients on LTOT. This is the first known study to evaluate a risk-based, education-centered telemedicine SMA model as a clinical mechanism for shifting LTOT patients from noncompliance to compliance, while also tracking opioid dosing trends over time. The use of education as a risk variable rather than punitive measures provides a replicable, patient-centered model for other pain management practices seeking to operationalize CDC and regulatory opioid guidelines in a supportive, nonjudgmental framework.

Prior research has demonstrated that interdisciplinary, group-based interventions combining behavioral therapy and education can significantly reduce opioid use and enhance pain self-management in chronic pain patients.³² However, these models have

often relied on in-person delivery formats that require substantial staffing and infrastructure. In contrast, our study shows that similar adherence and outcome improvements can be achieved through telemedicine-based SMAs, offering a more accessible and resource-efficient alternative for chronic pain management.

Similarly, other studies have shown that telehealth has been recognized as a valuable tool for expanding access to opioid-related care, particularly during and following the coronavirus disease 2019 pandemic.^{15,16} Building on this foundation, the current study introduces a structured telemedicine follow-up protocol specifically designed for patients with adherence challenges, providing a model that integrates improved accessibility with consistent accountability. Unlike other interventions that rely heavily on opioid dose tapering as a marker of success,¹⁰ our model focuses on education-based behavioral change as the primary mechanism for improving adherence—a critical distinction, especially given that MME was not significantly correlated with compliance improvement. This diverges from the dose-centric models seen in prior research and underscores the role of education and patient-provider communication as pivotal factors in improving adherence and safety in opioid therapy.

A key factor in the success of SMAs was the structured risk classification system, which categorized patients into Green (compliant), Yellow (early signs of noncompliance), and Red (noncompliant) groups. This stratification allowed clinicians to tailor their approach according to each patient's risk level, which is essential in managing a population with diverse needs. Patients in the Red category, who demonstrated the highest levels of noncompliance, received focused intervention through more frequent follow-up appointments, which fostered greater accountability and provided timely opportunities to address issues as they arose.

The telemedicine component of SMAs also played a critical role, increasing accessibility while reducing logistical barriers for patients. Many chronic pain patients face mobility limitations, and telemedicine appointments enable them to stay engaged in their treatment without the need for in-person visits.³⁸ This approach not only aligns with patient convenience but also facilitates real-time monitoring of compliance, as healthcare providers can assess behaviors and adherence more frequently than with monthly visits alone.

Distinct temporal profiles emerged among the groups, with Red, Yellow, and Green categories

associated with longer durations since baseline, reflecting more prolonged or complex pathways toward resolution. In contrast, the Unenrolled category was characterized by early separation from the initial state, clustering at low day values (Figures 1, 2a, and 2b). Statistical analyses revealed no significant relationship between elapsed time since baseline and MME in any group, suggesting that factors influencing time to change adherence status are not directly tied to opioid dosage levels. These findings underscore the need to explore other demographic or clinical variables that may drive differences in adherence trajectories.

A correlation between higher MME and a longer amount of education needed to return to compliance was hypothesized. The lack of correlation identified implies that a prescriber cannot identify which patients may take longer to comply with the opioid requirements by MME or those who will choose a change in treatment plan. It is likely appropriate to increase the intensity of patient education and patient-provider communication in all noncompliant participants and not add an MME stratification element. The fastest resolution was for participants who broke off into the Unenrolled group. They either opted for nonopioid treatment, or left practice, when more stringent requirements related to their education noncompliance were introduced. While this Unenrolled group did have a higher MME noted on analysis, the analysis did not identify any factors that made them distinguishable from the other high-MME patients who were distributed to other groups during the study. These findings underscore the complexity of the underlying processes leading to these categorical outcomes. More detailed demographic and clinical factor analysis may later identify factors beyond MME that influence education-related time to change-related metrics in this population and will be a subject of future study.

In a 6-month follow-up review, all participants resolved their risk to Green or Unenrolled, but it took approximately 6 months beyond the timeframe of the study. Increasing patient and provider communication to a level that empowers patient decision-making may take a considerable amount of time.

Limitations

As with all observational studies, this study has limitations that should be acknowledged. Patients facing barriers to telemedicine participation, such as

language limitations, technological challenges, or disabilities, were excluded, which may limit the applicability of the findings to more diverse populations. Patients exhibiting red-flag aberrant behaviors for suspected diversion or SUD were also excluded. This exclusion may underrepresent a high-risk group that may benefit from similar interventions. Furthermore, while the study demonstrated improvements in adherence and compliance among LTOT patients, it did not examine long-term patient outcomes such as pain management efficacy, quality of life, or overall satisfaction with care. Future research should explore how increased patient-provider communication and education influence these broader outcomes.

CONCLUSION

Weekly SMAs represent a promising model for improving adherence and compliance among chronic pain patients on LTOT. This study demonstrated that frequent, structured medical appointments that utilize telemedicine can effectively address the complexities of managing high-risk patients by providing regular monitoring, individualized risk stratification, and targeted interventions. The time cycles needed to achieve opioid education compliance ranged from 0 months (prestudy 12 months) to 6 months after the study. The amount of time and education necessary for patients to show a change in adherence behavior, even with a nonconfrontational and universal variable like education, serves as a marker for understanding the time required for prescribers to implement the CDC and other opioid guidelines recommendations for increased communication when creating opioid therapy protocols that manage patient and practice risk. None of the study participants were identified as demonstrating SUD flags, but rather had difficulty maintaining adherence with one of the complex requirements of LTOT. Prescribers felt that participants who had some administrative adherence flags, but a willingness to learn even when demonstrated over long periods of time, were appropriate for LTOT in their practice, while those patients who were not willing to invest their time to learn about opioid safety were at high risk and may represent patients who are not a good fit for LTOT. Prescribers valued patient decision-making and felt patients needed the education to self-assess the benefits and risks of opioids and understand provider recommendations based on these factors.

The success of SMAs in transitioning a significant portion of noncompliant patients to compliant status illustrates the potential of this approach to enhance opioid prescribing practices within regulatory guidelines. The incorporation of telemedicine also underscores the adaptability of this model in diverse healthcare settings, enabling providers to overcome barriers associated with traditional, in-person care. Additionally, the observed reductions in MME and improvement in compliance rates suggest that SMAs can contribute to safer, more controlled opioid prescribing. Nevertheless, a substantial proportion of Red-status patients remained noncompliant, indicating a need for further research into tailored interventions that can address the underlying causes of persistent noncompliance. Expanding the model to integrate behavioral health support and alternative pain therapies may improve outcomes for this subgroup.

Future studies should focus on evaluating the long-term effects of SMAs on opioid dependency, pain levels, and quality of life, while identifying best practices for managing chronic pain in patients with complex adherence challenges. In conclusion, weekly SMAs provide an innovative framework for chronic pain management and opioid therapy compliance. By fostering consistent patient engagement and optimizing risk-based care, this model offers a scalable solution for clinicians seeking to improve adherence, reduce opioid misuse, and promote safer opioid prescribing practices.

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