

Resident Decision Making: Opioids in the Outpatient Setting

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Pain represents the chief complaint for nearly half of all emergency department (ED)¹ and outpatient clinic² visits in the United States, and as much as it pains the first author to admit it (being a resident physician himself), residents are the frontline clinicians who encounter these patients. Despite available resources,³ residents often are ill-prepared to manage these patients, particularly in regard to the use of opioid analgesics.^{4–6} Compared to other providers, residents are more likely to overtreat abusers of opioid analgesics⁷ and refill opioid prescriptions more quickly.⁸ The reasons for this behavior deserve further scrutiny. In this Perspectives article, we ask why residents may be more likely to prescribe opioids for pain,⁹ and we provide recommendations for educational interventions to address this.

Managing the Patient in Chronic Non-Malignant Pain

Two major differential diagnoses for chronic non-malignant pain (CNMP) include organic (tissue-based) pain¹⁰ versus malingering pain, and residents are often unprepared to distinguish between the 2 and manage them.^{5,6} The risks and rewards of prompt prescriptions for opioids can be described for both patients and providers along a temporal continuum (FIGURE). For the resident, the benefits of prescribing opioids (upper right quadrant of FIGURE) are largely immediate (eg, reduced stress during the clinical encounter). The resident who defers opioid analgesia encounters a different set of risks and benefits (upper left quadrant of FIGURE). An immediate risk is that patients may become confrontational while in clinic and/or consume additional provider time with frequent phone calls due to unrelieved pain. In contrast, future health care costs would likely be lower if patients managed without opioids required fewer CNMP-related visits to the ED and primary care clinics.¹¹

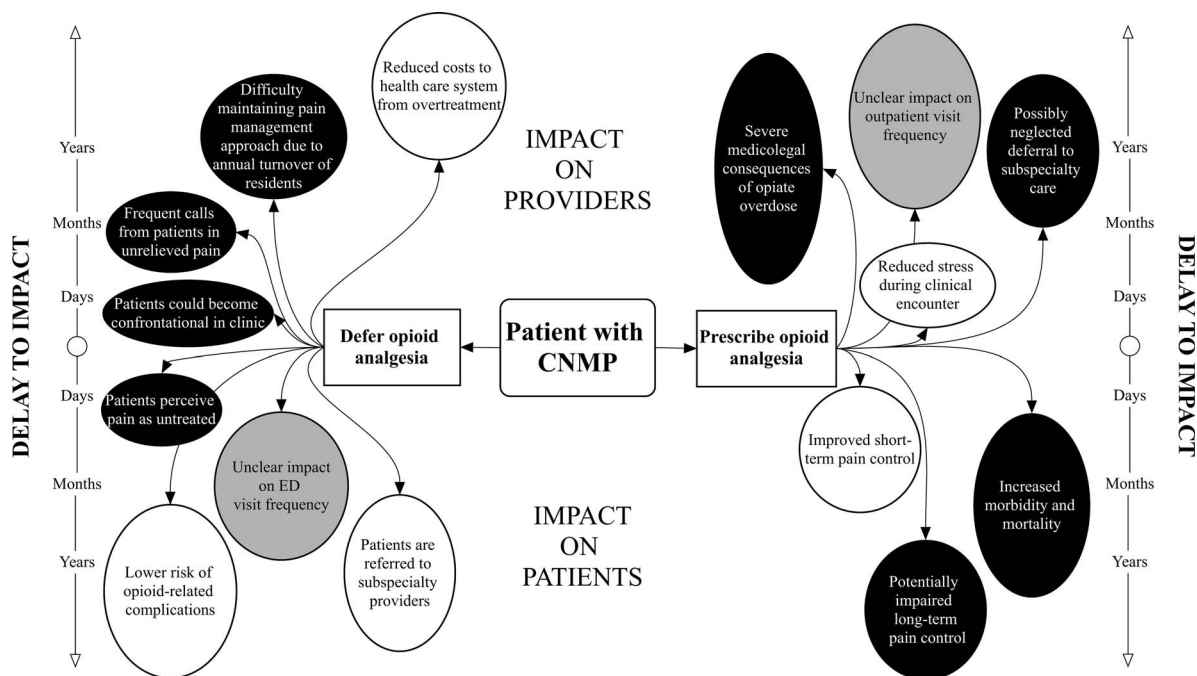
The temporal profile of risks and benefits is important. Individuals tend to place greater importance on immediate risks and benefits than on delayed ones, a phenomenon that behavioral neuroscientists and economists call “temporal discounting.”¹² We discount (undervalue or underestimate) long-term benefits and risks. The farther into the future these benefits or risks accrue, the greater the underestimation.¹² Simply put, we would rather have smaller benefits now than larger benefits in the future, and we would rather accept what we perceive to be a smaller risk now even if it is likely to become a larger risk over time. As shown in the FIGURE, the benefits of prescribing opioids to the provider and the patient tend to be more immediate, while the risks for both are delayed. Temporal discounting predicts that both providers and patients will favor immediate benefits. The discount factor for longer-term benefits and risks is further increased by the time horizon of residency, with little incentive for investment in the patient relationships needed to realize the long-term benefits of deferred opioid analgesia.

Challenges Posed to the Resident

Given the temporal profile, an inexperienced resident is likely to find it difficult to refuse to prescribe opioids when the alternative is drawn-out multidisciplinary care and regular follow-up treatment. Unfortunately, few patients with CNMP receive long-term coordinated care. According to a study of 600 000 patients, more than 80% had musculoskeletal or joint pain, yet less than 4% were referred to a rheumatologist; and although 35% had an underlying psychiatric illness, fewer than 10% were evaluated by a psychiatrist.¹³ It is not clear the extent to which this represents underreferral, a dearth of available providers, inadequate insurance coverage, or lack of knowledge of available resources.

While temporal discounting biases us toward courses of action with immediate benefits and risks, as physicians we should care about the overall balance of risk and benefit. Here, it is far from clear that prescribing opioid analgesia is best for CNMP.

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**FIGURE****Advantages and Disadvantages of Prescribing Opioid Analgesics**

Note: Black text on white background indicates advantages; white text on black background indicates disadvantages; and black text on gray background indicates unclear impact. The upper half of the image depicts the impact of decision making on resident providers, whereas the lower half depicts the impact on patients. The image is vertically graded from the central meridian to define the relative time point at which an impact from the decision making is noted.

Abbreviations: CNMP, chronic nonmalignant pain; ED, emergency department.

To the extent that the practice fosters overprescribing, it increases patient morbidity and mortality and constitutes wasteful spending in the context of escalating health care costs.^{14–16} As such, unnecessary prescribing of opioids is a poor model for residents, who will ultimately be co-responsible for guiding future health care practice and policy.

Future Directions

Programs, including preclinical seminars, clinical rotations, and focused curricula^{17–25} educate medical students and residents in countering temporal discounting of the long-term benefits of deferring opioid analgesia and the long-term risks of prescribing. It might be useful to intervene and include education for nurses and patients as well. In the clinical ambulatory setting, the standard practice of one-on-one mentoring post hoc (after the clinical encounter) might be supplemented by a rotation through the pain management service.

Several interventions have been suggested to reduce temporal discounting in vulnerable populations, and some of these may be applied in the medical education setting (TABLE). For example, contingency management has proven effective in several popula-

tions of substance abusers.^{18–20} Contingency management entails the repeated (often positive) reinforcement of appropriate behaviors, abstinence in the case of substance abusers, and appropriate pain management in the case of residents. In the simplest application of this technique, medical educators should continue to encourage and applaud residents for managing their patients in CNMP with non-opioid regimens or referring them to subspecialty providers when able. Using an alternative approach to temporal discounting, one study showed that a monthly review of personal budgets reduced temporal discounting in a small cohort of patients with psychiatric disease.²¹ Such an intervention is not unlike standard morbidity and mortality conferences held at most academic medical institutions. We encourage medical educators to tailor teaching conferences to address the difficulties inherent to managing patients with CNMP and the risks of temporal discounting when opiates may be prescribed.

Other methods that have had success in mitigating temporal discounting include the implementation of prospective thought, the provision of social influence, and the reduction of stressors among residents, where possible.^{18–25} These methods are summarized in the

TABLE

Recommendations for Addressing Temporal Discounting

Method	Description	Recommended Action
Formal instruction ²⁵	Providing residents with information about delayed discounting dynamics	Introduce the concept of temporal discounting into resident lecture series
Prospective thought ²⁴	Having residents imagine themselves in a future positive (or negative) scenario	Have residents “role play” cases of opioid management and long-term outcomes of decisions
Precommitment ²²	Having residents mentally precommit to a rule before the clinical encounter	Ask residents to precommit to a long-term approach to opioid management and be positively reinforced for this perspective
Contingency management ^{18–20}	Shaping behaviors with repeated (often positive) reinforcement	Incorporate discussion of pain management cases in clinical conferences (eg, morbidity and mortality) to provide positive reinforcement for appropriate management
Social influence ²⁵	Having residents imagine or observe a long-term approach to a clinical scenario	Pair residents with experienced clinicians managing similar cases
Reduced resident stress/distraction ²³	Stress, hunger, lack of sleep, or negative mood increases discounting behavior	Provide an outlet (eg, group discussions of residency stress) for residents to mitigate these often inevitable features of residency programs

TABLE, with recommended actions by medical educators.

Future research is needed to determine whether improved understanding of the principles of temporal discounting would be of benefit to resident decision making and to the patients. Advice from experts and peers²⁵ has been shown to diminish temporal discounting in other settings, as has preparation for decisions ahead of time (termed “precommitment”), rather than in the “heat of the moment.”²² Investigations in clinical settings will show if similar strategies are useful in addressing current inadequacies in managing one of the most common complaints that residents encounter.

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