## Title

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# Cross Disciplinary Role Agreement is Needed When Coordinating Long-Term Opioid Prescribing for Cancer: a Qualitative Study

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***BACKGROUND:*** Cancer pain is highly prevalent and often managed in primary care or by oncology providers in combination with primary care providers.
***OBJECTIVES:*** To understand interdisciplinary provider experiences coordinating opioid pain management for patients with chronic cancer–related pain in a large integrated healthcare system.
***DESIGN:*** Qualitative research.
***PARTICIPANTS:*** We conducted 20 semi-structured interviews with interdisciplinary providers in two large academically affiliated VA Medical Centers and their associated community-based outpatient clinics. Participants included primary care providers (PCPs) and oncology-based personnel (OBPs).
***APPROACH:*** We deductively identified 94 examples of care coordination for cancer pain in the 20 interviews. We secondarily used an inductive open coding approach and identified themes through constant comparison coming to research team consensus.
***RESULTS:*** Theme 1: PCPs and OBPs generally believed one provider should handle all opioid prescribing for a specific patient, but did not always agree on who that prescriber should be in the context of cancer pain. Theme 2: There are special circumstances where having multiple prescribers is appropriate (e.g., a pain crisis). Theme 3: A collaborative process to opioid cancer pain management would include real-time communication and negotiation between PCPs and oncology around who will handle opioid prescribing. Theme 4: Providers identified multiple barriers in coordinating cancer pain management across disciplines.
***CONCLUSIONS:*** Our findings highlight how real-time negotiation about roles in opioid pain management is needed between interdisciplinary clinicians. Lack of cross-disciplinary role agreement may result in delays in clinically appropriate cancer pain management.

*KEY WORDS:* pain; opioids; cancer; qualitative research; veterans.

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*An early version of this work has been presented at the Society of General Internal Medicine's Annual Meeting in April 2018 in a presentation entitled: Challenges and Elements promoting collaboration for managing cancer pain. A more current version of the findings was presented to the Organizational Theory in healthcare annual meeting in May 2019.*

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## BACKGROUND

More than 17 million Americans live with cancer,[1] many with co-morbid pain.[2] In cancer, pain is a distressing and disabling experience;[3] undertreatment is a persistent concern.[4, 5] The incidence of cancer-related pain is high; 64% of those with advanced cancer report pain as do 53% of patients at any cancer stage.[4] Recent reports suggest pain is prevalent in 74% of cancer cases,[6] illuminating the critical importance of effective cancer pain management.

Cancer pain can be appropriately managed with various pharmacological and non-pharmacological methods,[7] among which, opioids are an important modality.[8, 9] While opioid risks should always be weighed, opioids have clinical benefit, and timely treatment for cancer pain is paramount.[10] Opioids are sometimes under-prescribed; 23 to 31% of physicians delay strong opioids until cancer is terminal or until patient pain is intractable.[7]

Lack of integrated care for people with cancer is a failing of today's healthcare systems, and cancer pain management exemplifies the problem.[11, 12] Some posit that cancer pain care could be improved with better coordination between oncology and other providers.[11, 12] Of note, a recent study found that

primary care providers (PCPs) often described communication from oncology as less frequent, timely, and informative than desired; both PCPs and oncology providers expressed concerns regarding the other's ability to play their role.[13]

With increased scrutiny around opioid prescribing,[14] providers may be less willing to prescribe opioids,[15] creating patient difficulty in obtaining therapeutically appropriate opioid prescriptions.[16, 17] Additionally, providers may fear legal action and struggle with logistical and technology demands associated with opioid prescribing.[18] To facilitate appropriate opioid prescribing despite these barriers, some chronic non-cancer pain studies have suggested expanding the roles of pharmacists and specialists, but also point to the need for provider coordination to incorporate these providers into the opioid prescription process.[19, 20] When managing cancer pain specifically, PCPs and oncology-based personnel (OBPs) may differ in their willingness and intent to prescribe opioids.[21] As a result, while navigating care across multiple settings, cancer patients may struggle to find someone able and willing to care for their pain.[15, 22–25] Hence, improving coordination of appropriate cancer pain management and opioid use is a concern.

Although the Veterans Health Administration (VA) has been a leader in enhancing primary care and coordination, multiple studies suggest that the VA still faces challenges coordinating care for cancer patients.[26–28] However, these challenges are not unique to the VA; young adults with cancer share difficulty in navigating survivorship care between PCPs and oncology providers,[29] and PCP integration into cancer care is increasingly recognized as necessary to provide continuous and personalized care.[30] Understanding coordination mechanisms between PCPs and OBPs in the VA may highlight important lessons for improving cancer care and opioid prescribing more widely.

To better understand why some cancer patients' opioid pain management concerns may be falling through the metaphorical cracks, we turned to interviews with interdisciplinary providers, from both primary care and oncology, to discuss their experiences providing and coordinating pain management for patients with cancer pain.

## DESIGN

We undertook this analysis within the Opioid CHOICE Study which aimed to improve prescribing practices for long-term opioid therapy (LTOT) for cancer pain management in the VA.[31, 32]

We used semi-structured interviews to query providers who were involved in prescribing long-term (defined as greater than 90 days) opioid pain management for cancer pain about the following: how providers executed and coordinated tasks involved in prescribing (i.e., shared decision making with the patient, informed consent, information about tapering and disposal, prescription drug safety monitoring, response to changes in a patient's underlying condition or pain, use of non-opioid alternatives), challenges providers faced, and potential solutions to overcome these challenges.

## SETTING

In the VA, primary care serves as a coordinating hub for patients. Undertaking this inquiry in an integrated system allows us to minimize insurer reimbursement–related factors, focusing solely on where cancer pain management coordination failures occur even when providers share responsibility, access to a common electronic medical record, and within-system instant messaging and email. These factors are likely to be even worse elsewhere where there is less baseline coordination.[33]

## PARTICIPANTS

We interviewed 20 multidisciplinary providers in two large academically affiliated VA Medical Centers in California and Connecticut. We identified potential respondents according to their active engagement prescribing LTOT for patients with cancer; this is defined as having at least one patient with cancer currently on active LTOT. Primary care and oncology clinic leadership at both sites facilitated recruitment using emails introducing the study and encouraging anonymous participation. We approached 93 providers by email, scheduled 25 interviews, and completed 20: 10 PCPs (MDs, PAs, and NPs), and 10 OBPs (7 oncologists, 1 palliative care physician, and 2 palliative care advanced-practice nurses). Interviews occurred from March through June 2017 and lasted 20–60 min.

## APPROACH

A single investigator (KFG) with social science expertise in qualitative methods and organizational behaviorconducted the interviews. A semi-structured interview guide was developed iteratively by experts in pain management, ethics, primary care, oncology, palliative care, and qualitative methods. All interviews were audio-recorded, professionally transcribed, and de-identified.[34] We developed an initial code list using dual coding of two transcripts.[35]

A team of investigators (KFG, AA, MJS, KAL) reviewed preliminary codes and revised codes iteratively using 3 more interviews until a consensus was reached on a set of parsimonious codes and criteria for their use. Two investigators (KFG and AA) applied the agreed-upon coding scheme to all transcripts, with AA as the primary coder and KFG reviewing all coding and using the memo function of Atlas.TI[36] to note divergent application of codes.[35] Team meetings reconciled discrepancies.

The code list included many codes, only one of which (care coordination) is used for this analysis. The code "coordination processes" captured all mentions of communication and collaboration between any providers about opioid pain

**Table 1 Qualitative Analysis Steps**

| | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 |
|---|---|---|---|---|---|
| Overview | Interview sample | Develop initial code list | Make dataset for this secondary analysis | Open code dataset to identify themes | Evaluate differences by sample type |
| Parent study | x | x | x | | |
| Secondary analysis | | | x | x | x |
| Team member | KFG, MZ | AA, KAL, KFG, MJS | AA, KFG | AA, KAL, KFG, MJS | AA, KAL, KFG, MJS |
| Description of task | Use quota sampling to identify 20 participants (10 PCP and 10 OBP). Conduct interviews in 2 healthcare systems. Transcribe interviews and upload to Atlas.ti. | Identify codes through team review of 3 transcripts. Codes include coordination processes,LTOT risks, LTOT benefits, and signature informed consent. | After systematically applying codes in Atlas.ti. to all transcripts, extract text flagged as "coordination processes." The output of the 94 mentions (on 20 interviews) forms the new dataset for secondary analysis. | Using an open coding approach with constant comparison. Conduct four rounds of comparison on coordination processes output until reaching consensus on 4 themes. | Under each of the 4 themes look at quotes by role and note similarities and differences by provider category. |

management. We identified 94 examples of coordination from the 20 provider interviews. We extracted all text related to this code and used it as the data set for this analysis. KFG, KAL, MJS, and AA open coded to determine themes relating to the primary research question using team-based consensus methods.[34] There were four rounds of comparison[37] until consensus was reached on themes (Table 1 displays steps in our qualitative analysis). The range of perspectives from both provider types (PCPs and OBPs) is noted within themes.

## RESULTS

Below we report four themes; as we provide example quotes, we indicate if the sentiment came up once or more than once. The interviews included 94 examples of coordination (42 examples from the PCPs and 52 from OBPs). Participant details are summarized in Table 2.

**Theme 1: PCPs and OBPs generally believed one provider should handle all LTOT prescribing for a specific patient, but did not always agree on who that prescriber should be in the context of cancer pain.**

In the case of cancer, PCPs felt they should handle prescribing opioids with support and direction from other specialties:

> *I would prefer one provider dealing with the pain medications, and I would suggest that it be the primary care provider, certainly. You can ask for directions from the oncologist… in regards to what other things we could do to help with the pain, but I think one prescriber should be dealing with the narcotics.* [PCP]

**Table 2 Sample Characteristics**

| Provider (*N*=20) | | |
|---|---|---|
| Sex | | |
| Male | 6 | 30% |
| Female | 14 | 70% |
| Location | | |
| California | 11 | 55% |
| Connecticut | 9 | 45% |
| Type of provider | | |
| Oncology-based personnel | 10 | 50% |
| Primary care | 10 | 50% |

However, other PCPs felt that their ability to manage their patient's cancer pain is logistically limited by decreased access to the patient during the time they are being treated for cancer. One PCP described losing their role as the "primary" especially when the patient's clinical needs become mostly cancer-related:

> *… my patients end up going to oncology and their oncology problems start to dominate and* [the oncology providers] *start to be the primary care provider.* [PCP]

In the case where the OBP is the provider seeing the patient more frequently, PCPs acknowledge OBPs prescribing of opioids improves patient convenience. One PCP highlighted that it could limit delays related to inter-provider communication, improving the consistency between care planned and received.

> *…it makes sense for the person who they're seeing the most regularly to be the prescriber of the opiates and if there's ever a change in that, for there to be a very warm provider-to-provider handoff of what the plan is and what's been done.* [PCP]

One PCP said that the primary opioid prescriber should be the person who is responsible for the patient's treatment plan.

> *The way I think about it is who owns the treatment plan related to the issue. So, in this case* [cancer patients], *oftentimes oncology would be following the patient. If they coordinate the biopsy…they're prescribing the chemotherapy; I think that would be a part of that bundle of care.* [PCP]

Multiple OBPs described accepting the responsibility for opioid prescribing by justifying that opioid prescribing

through oncology can be more efficient and more convenient for the patient.

> *I take care of prescribing the opiates as best I can, I don't think it's fair to the patient or to the primary care doctor… A patient is one person and I don't think it's fair to them to split them up.* [OBP]

> *They see oncology extremely frequently, every two, three, four weeks. They're not seeing their primary care provider a heck of a lot during the active stage of treatment. So, a lot of the oncologists are managing their cancer-related symptoms* [including pain] *during that time.* [OBP]

However, OBPs may question their involvement when the pain is chronic and not cancer-related; for example, one OBP shared:

> *I wouldn't want to manage non-cancer pain that is chronic that they've been dealing with long before our relationship. I'm not saying it doesn't need to be managed and certainly not necessarily with opioids. But I don't want to be the one managing their chronic non-cancer related pain.* [OBP]

Other OBPs believe that it is their responsibility to manage chronic pain, especially if they are already managing cancer pain. One OBP describes the importance of "avoid[ing] multiple people managing different pains in the same patient":

> *in the oncology patients, who I see with some regularity, I'm more than happy to take on that responsibility… I'd like to remain the central prescriber of the opioid, meaning the prescriber whose pain is causing the most symptomatology and needs the closest management.* [OBP]

**Theme 2: There are some circumstances that warrant multiple prescribers (e.g., post-operative pain on top of chronic pain).**

Providers understand that there are situations where multiple providers are needed to appropriately manage a patient's pain. In the case of a pain crisis; for example, one OBP said:

> *We see people all the time who only one person can prescribe* [due to a VA policy] *their pain medicine and they suffer because everyone goes, 'No, I can't prescribe your medicine because only one person can, because you have a contract with that one person and they're managing your pain'. And for whatever reason, their pain is worse and that's the nature of cancer pain, it [pain]actually gets worse and then they need more* [opioids]. [OBP]

Multiple providers across both provider types noted that cancer pain is highly dynamic and often changes. Coordinating care in a cancer pain crisis is something that should be "planned for" as it is not unexpected.

Another situation that might warrant prescribing involvement from multiple providers is post-operative pain. One PCP noted:

> *I believe there should only be one prescriber, in general, except that if I have a patient who is on chronic opiates, then they get a surgery, I do want the surgeon to prescribe those opiates, because I don't want to try to be a surgeon and figure out how long this needs opiates. I want them to take responsibility, because a lot of times if that's turned to the primary care doc, then you end up with an infection that the [surgeon] might have picked up on sooner, if they had been more engaged in the care.* [PCP]

**Theme 3: Providers support a collaborative process for negotiating roles and identifying the best opiate prescriber for an individual patient.**

Which provider type handles prescribing may be determined on a case-by-case basis because some patients will prefer to work with the PCP due to the rapport already built through having a relationship over time. As one PCP shared:

> … [PCPs] *have this relationship with the patients, so they want to keep you as their primary. I guess that's a negotiation that has to be done between the two providers* [PCPs and OBPs]. [PCP]

PCPs wanted the opportunity to negotiate who should be the main prescriber. This quote from one PCP suggests that PCPs would like this negotiation to occur prior to prescribing opiates.

> *I think that the primary care doctor should work in conjunction with the oncologist and decide who is going to prescribe the opiate, because it seems common that once the oncologist is kind of out of options for improvement or treatment, they kind of turn it back to the primary care doctor. I think there should be some communication first between the two specialties and decide who is going to do it.* [PCP]

One PCP described using real-time communication to negotiate which provider is handling prescribing when there is a combination of both cancer and non-cancer pain.

> *Often the oncologist will say well, 'it's* [opioid] *no longer for your cancer, you need to follow up with*

*your primary care'. The gentleman with the back pain and the prostate cancer, urology has started him on the opiate. Initially I* [PCP] *was sort of uncomfortable with it, but then he [patient] relapsed anyway, I instant messaged the PA* [embedded in oncology] *who had written for it* [opioid] *and said 'I'll take over from here, just because he* [patient] *really should only have one person writing', and now he just gets it all from me* [PCP] *and it's just simpler.* [PCP]

OBPs described that escalating dosage is a window where it's appropriate for them to take over the prescribing, but one OBP highlighted that it should be done as a conversation with the PCP:

*I have one patient right now who the primary care is still managing the pain and we actually do not interfere with that. And even though he has Stage 4 disease, I've counseled him to taper down his narcotics, because he isn't having any cancer-related pain and I think it's making him less functional. But in that circumstance, where patients need more narcotics that's cancer related, then we would take over the prescribing. But that would be a conversation, a lot of times, the primary care physicians are happy for us to take it over.* [OBP]

Multiple OBPs highlighted that roles around who will handle opioid prescribing and under what circumstances are not clearly defined. For example, one OBP stated:

*The pain management is something I have to deal with, the primary care doc will help and it's not clearly delineated whose role it is, because if it's someone actively getting chemo, it would be my role to take care of their cancer related pain, but when it's someone who's on surveillance or someone who has non-cancer pain, that is not clearly laid out. If the patient was on chronic opioids before the surgery, prescribed by the primary care doctor, then they will usually continue managing the patient, perhaps with help from us for a period that we thought was reasonable to deal with post-operative pain. But, if this patient was in my clinic, I would address the pain.* [OBP]

**Theme 4: Barriers to collaboration between disciplines for managing long-term opioid therapy for cancer pain.**

PCPs highlighted barriers to collaboration between disciplines around cancer pain management. PCPs had experiences with OBPs not wanting to handle prescribing due to the burdensome nature of prescribing requirements; one PCP emphasized this perceived burden:

*Now because of the [opioid prescribing] regulations, I've heard people* [OBPs] *say, 'Oh, our solution is we're not going to prescribe it. We'll have them see their primary care doctor'. That's not what we're looking for. I've had specialists say, 'Oh yeah, we don't have to do it anymore. We'll just put it to the primary'. I'm like, 'Well, that's a part of your treatment plan, if it's appropriate* [PCP]

One provider noted inadequate documentation about prescribing decisions as a barrier to understanding appropriateness of patient requests for opioids.

*I'm looking through their* [OBP] *notes, trying to figure out if it's a reasonable request, has he had any complications, but then their notes don't say anything. So, it would be nice if we were all in communication, but that's hard to mandate.* [PCP]

Furthermore, PCPs may not be aware of patients' cancer treatment details unless patients prompt them to investigate OBP notes. One PCP stated:

*What happens is if the specialist is a communicative type and takes the time to make me a signer on their notes when they see the patient, then I get all their notes routed to me and I can keep up with what's going on. If they don't remember to do that, I have no idea what's going on unless the patient comes in and tells me I'm being treated for cancer, and then I look it up. So, there's no phone calls, there's no real coordination going on.* [PCP]

One OBP described barriers when primary care provider assignments are changed:

*One of the problems is the patients often don't have a primary care provider, or the primary care providers get switched. So often in oncology when we're doing our six-month follow-ups or three-month follow-ups, we find that the patient either never had a primary care provider, never had one assigned, got one assigned and they left, they're not happy with their primary care provider and they switch. And so often, their primary care provider actually isn't managing this* [pain] *issue.* [OBP]

## DISCUSSION

In the context of cancer pain, PCPs and OBPs often agreed that one provider should typically manage opioid prescribing. They also agreed that the designation of that provider should be negotiated by the respective clinicians who manage patients' pain. Which provider is responsible depends on factors including the nature of the pain (e.g., cancer vs. non-cancer pain), providers' willingness to prescribe opioids, and the

patient's context (e.g., active chemotherapy) and sources of care. The stories providers told, however, belie a reality in which there is little actual coordination and in which providers make fluid decisions about their own pain management roles as cases evolve.[38] Such uncertainty risks individual cancer patients being caught in the middle of the ambiguity, facing under or overtreatment for their pain.

Respondents felt that the conversation about the appropriate prescriber requires effective communication and collaboration between disciplines. Coordination challenges and variation in provider prescribing preferences within disciplines require dynamic, flexible coordination around specific patients' pain care needs. Our results also highlighted that there are times when multiple providers are needed to adequately treat a patient's pain with opioids (e.g., when surgeons are part of the clinical picture, during pain crises, or in instances of multiple chronic conditions/pain stimuli).

In an integrated system, there are many potential strategies for facilitating collaboration. One common strategy is care management; the uncertainty surrounding coordination is probably why care management is an important feature of cancer care. In addition to care managers, creating expectations around coordination may require collaboration from leadership, as providers may not be able to navigate cross-disciplinary role agreement or address complex barriers (i.e., provider willingness to prescribe, time-restraint) on their own.[39]

The need for mechanisms that help providers coordinate and negotiate who is doing what comes into focus on the subject of cancer-related pain because it is so dynamic.[40] Pain may start as acute and change over time where the link to cancer is less clear.[6] This can foster differing interpretations on who is the appropriate manager, while preexisting relationships and visit frequency complicate decisions. We found that individual providers used various rules (i.e., the provider treating pain causing the most symptomatology, the provider who sees the patient most frequently, the person who has been treating the pain the longest, or the person whose skill set matches the treatment such as OBP for cancer and PCP for chronic non-cancer pain) to determine who the managing provider should be. As the clinical situation evolves, the most appropriate provider to manage pain might also change.

While barriers to opioid prescribing in primary care are well-documented,[41, 42] there is limited evidence on how best to coordinate opioid prescribing between PCPs and multidisciplinary providers. Post-operative pain management has shed some light on interdisciplinary coordination practices; both surgeons and PCPs may view prolonged post-operative opioid prescribing as outside of their scope of practice, pointing to utility in early communication between providers and clear role delineation.[43, 44] Although the need for coordination between surgeons and PCPs echoes the need for coordination between OBPs and PCPs,[45] acute opioid prescribing cannot always be generalized to chronic cancer or non-cancer pain.[46] In chronic pain settings, clinical coordination through EHR has led to safer and more appropriate opioid prescribing.[41] Our findings add to the literature on care coordination for pain management by highlighting PCP perceptions of their role in interdisciplinary cancer opioid prescribing and may help PCPs navigate LTOT prescribing for other chronic pain conditions.

Our results also brought into focus that although having one prescriber is ideal, there are times when multiple providers in coordination are needed to adequately treat a patient's pain with opioids. Such is the case during patient pain crises or following procedures that exacerbate pain requiring that opioids be suddenly escalated. Having multiple prescribers underscores further the need for provider agreement about roles and dynamic coordination between different providers. Indeed, almost all providers in the study felt that difficulty communicating with their colleagues from other disciplines was a barrier to their patients' pain management. Our results indicated that providers do not want to tread on the territory of another provider if not necessary.

Strategies to improve coordination processes for VA cancer patients are timely and warranted as inadequate care coordination and interdisciplinary communication have recently emerged as root causes of many oncology-related adverse events in the VA.[47] Future studies should explore strategies to help oncology and primary care to work together as a team around a specific patient' cancer pain management needs. Strategies to establish cross-disciplinary role agreement,[39] providing clear guidance around when and how co-prescribing can occur, and minimizing provider resistance to therapeutically appropriate prescribing may be helpful.

## LIMITATIONS

A limitation of our study is that it was conducted within the VA health care system alone. However, the VA, while not fully generalizable to other settings, cares for populations with high prevalence of cancer and pain and has an extensive history of managing chronic pain in primary care, making it a strong setting in which to investigate interdisciplinary pain practices. Furthermore, the obstacles we found to cancer pain management in an integrated system are likely to be worse elsewhere where there exists greater structural incoordination, allowing us to highlight behavioral challenges to coordination. Conducting this study in an integrated system made including perspectives of diverse providers caring for cancer patients feasible, but this strength limits the generalizability of potential solutions. In the future, this work could expand to less integrated networks and also by incorporating patient perspectives. This work can also be expanded beyond cancer pain to address coordinating pain management across disciplines generally. Finally, our sample has the strength of representing both primary care and oncology perspectives, but we lack the sample to distinguish further within category (e.g., provide distinction between medical and radiation oncologist perspectives or the palliative care perspective).

## CONCLUSION

Challenges in coordinating between disciplines can be a barrier to patients' cancer pain management. As team-based approaches are evolving there are yet to be formal criteria for who should be responsible or mechanics for how coordination across providers should occur. Processes for interdisciplinary collaboration and communication between primary care, oncology, and other specialty services will be essential to successfully navigate who does what for cancer pain. We emphasize that interdisciplinary challenges benefit from interdisciplinary solutions and our findings support the need to explore how cross-disciplinary role agreement can be negotiated, measured, and facilitated.

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***Declarations:***

***Ethics Approval:*** *Qualitative data was collected as part of the Opioid CHOICE project, approved by the VA Palo Alto/Stanford University Institutional Review Board (IRB) [protocol number 35889].*

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