Past Event: 2024 NCSBN Scientific Symposium - Scope of Practice: Influence of Provider Type and Patient Characteristics on Chronic Pain Management in Veterans with Lower Back Pain Video Transcript

Event
2024 NCSBN Scientific Symposium

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As she said, my name is Jacqueline Nikpour. I am currently finishing up my postdoctoral fellowship at the University of Pennsylvania, but I actually have the distinct pleasure of doing this work that I'm going to share today while I was still a doctoral student at Duke University School of Nursing. NCSBN funded this work as part of their Centre of Regulatory Excellence in engaging predoctoral scholars, early career folks in getting involved in some of their work.

So, I am extraordinarily grateful to NCSBN for their support. And I also want to just acknowledge some of the folks, both from Duke and from Penn, who have been part of my training, been part of my research, and have been colleagues at the Veterans Health Administration, which is a big part of what I'm going to be talking about today.

So, as Daisy mentioned, I'm a primary care researcher pretty much for 90% of the work that I do. And I'm really interested in the nursing workforce and how nurses can be a part of this whole era of primary care transformation and healthcare reform that we're part of. I have spent a lot of time in the nursing world and a lot of time in the health policy world, and I've seen how little the two of them talk, and it's a problem.

So, I'm hopeful that this will be salient to folks on, kind of, both sides of that aisle. So, I want to just quickly acknowledge my dissertation committee and co-authors, Dr. Marion Broome, Susan Silva, and Kelli Allen as well as some of my colleagues from the Veterans Health Administration as well as my funding from the Center for Health Outcomes and Policy Research.

I have the pleasure of working with Dr. Aiken who you all heard from yesterday and Dr. Brooks Carthon who you heard from this morning, and it's been really wonderful. As well as the Robert Wood

Johnson Foundation Future of Nursing Scholars, which also funded me during my PhD program and throughout my post-doc. So, a little bit of background about what I'm going to talk about today.

We're really going to focus on chronic pain and the role of nurse practitioners in caring for chronic pain patients in the U.S. So, chronic, non-cancer, musculoskeletal pain will impact about 100 million adult Americans at some point in their lifetime, so that's a third of the U.S. population.

And this is one of the fastest growing reasons why people are seeking healthcare. Chronic pain is the third highest category of all healthcare spending in the U.S. And as we've, kind of, come out of this era of pain is the fifth vital sign, and we don't want to just prescribe an opioid medication for every person who comes in saying they have chronic pain for three months or more, the guidelines for treating patients with chronic pain in primary care have really evolved over the last decade.

So, not only are we thinking about treating patients with opioid medications where clinically indicated inappropriate, but we're also thinking about non-opioid medications, things like NSAIDs that are prescription-based, anticonvulsants, muscular relaxants, even antidepressants. We're also thinking about the physical and emotional and mental, genetic, environmental components of chronic pain that make it a particularly difficult condition to treat.

It's not like there's a simple cause or a simple solution. It really is, kind of, a full body and mind connection and experience for the people who live with chronic pain. Chronic pain care can be really difficult to access. One of our speakers earlier talked about health professional shortage areas, and many patients, especially in rural areas, who may or may not have access to a primary care provider, often don't have access to a pain specialist or other resources.

Or other providers like a physical therapist, or a chiropractor, or acupuncturist, or non-pharmacologic modalities of care can be really hard to access in areas, especially where you can already barely access primary care to begin with. And again, chronic pain is most often seen in a primary care setting. It's where it often presents itself or where patients often go for their first line, kind of, treatment.

And if there's no one else to refer these patients out to, then a lot of the times primary care providers are the ones responsible for managing these patients' chronic pain over an extended period of time, often months or even years. All right, so chronic pain is a particularly difficult issue amongst the veteran population. So, veterans compared to the general population have higher rates of chronic pain as well as higher rates of opioid overdose and associated mental health conditions.

We are in this era where we've got a rapid expansion of younger veterans who are returning from overseas conflicts. And the VA is an interesting kind of institution because it's not like the private sector where you cannot see patients who are Medicaid-insured or not accept certain types of insurance. They have a legal obligation to care for all patients who qualify for VA care regardless of their background or insurance status.

VA also operates on a fixed budgetary model that results in lower salaries for providers compared to the private sector and, as a result, has a real difficulty expanding to or adapting to these rapid patient increases. And so this is where nurse practitioners really come in. As we're thinking about not only the provider shortage and the role of NPs in treating patients who are in health professional shortage areas, but as we think about chronic pain and what it is and how we experience it, all of the various biopsychosocial elements of chronic pain require a really holistic approach to treatment, which is exactly how NPs are educated, and trained, and practiced every day.

We, as nurses, see the full patient. We see all the different kinds of factors that can influence a patient's health status and their perception of pain, and we treat these patients accordingly. So, NPs are really ideally aligned, especially in the VA and especially in rural areas, to care for patients with chronic pain experiences. But despite all this, as we all know, there are still major barriers in a lot of states, especially in the private sector in regards to what a nurse practitioner is legally obliged or allowed to do and what the practice that they work in will allow them to do, what we call scope of practice restrictions.

So, in the VA, which is where we're going to be talking about today, nurse practitioners since 2016 have had full scope of practice, meaning they are not required to have physician oversight or physician sign-off on the care that they deliver. But in the private sector, many states still have a patchwork kind of regulatory environment for the care that MPs are able to deliver.

So, if you live where I live, which is in a semi-rural area that's on the border of three states, you can go to three different states within a five-mile radius, depending on where you're practicing, if you've got multiple employers, and the care that you are allowed and able to deliver is going to vary tremendously. So, we know that this is bad for patients.

We know that this is bad for NPs, creates an undue administrative burden, and ultimately results in time and resources taken away from providing high-quality patient care. And so one of the things that we wanted to look at going into this study was one of the barriers for nurse practitioners in the private sector to achieving full scope of practice.

Is this concern of policymakers and legislators and lobbyists who fund policymakers and legislators that nurse practitioners receiving full scope of practice from a policy standpoint would result in overprescribing opioid medications and contributing to the ongoing opioid overdose crisis? I hear a couple, like, groans in the crowd because you and I know that that isn't what's happening and that's not what nurse practitioners are doing, but this perception of NPs as being less qualified or unable to deliver effective high-quality and safe care is really, kind of, manifesting itself as we exist in this ongoing opioid overdose crisis.

And it's, kind of, presented an opportunity for detractors to degrade from the value of the profession. But we really didn't have the evidence when this concern first started coming out around 2017, 2018, to say, yeah, NPs are prescribing more or less opioid medications compared to a physician colleague.

And so we wanted to address that evidence. And thinking of the theme of our conference today from data to policy, we really wanted to address a timely and salient policy issue of will expanding nurse practitioner scope practice result in this influx of unnecessary opioid overprescription.

I should give a disclaimer that this was pre-COVID and obviously things have changed a lot, but this is still a concern that's remaining, and we'll talk about what that looks like. So, our aims for this study were, first, to take data from the VA, which again, full scope of practice, exists and say, okay, in a national health system where NPs are able to deliver high-quality care without oversight of a physician, are there differences in the amount, and the dosage, and the length of an opioid prescription between a physician, a nurse practitioner, and with your physician assistants in there as well?

We wanted to see not only are there differences in how these different types of providers are caring for chronic pain patients in terms of opioids, but also were there differences in how long a patient was prescribed an opioid medication for and the actual dosage that they received on a daily basis? So, CDC

says that 90, what we call, morphine milligram equivalents or more is considered a high-dose opioid and should be used in extremely sparing conditions.

We also wanted to see if there were differences in non-opioid medications, which are increasingly being recommended, again, by the CDC guidelines, the National Academy of Medicine, and other governing agencies, to see, okay, are there differences between these groups and how we're caring for chronic pain as, sort of, a whole. So, that was our first goal.

Our second goal was to see are there differences between these groups of providers in some of the demographic and clinical characteristics that might be interacting with how a provider would treat chronic pain. So, for example, if there's maybe one provider group that's caring for sicker patients or more complex patients, what does that look like? How is that impacting how these providers are caring for these patients?

So, we wanted to look across the groups and then within the groups to see how are we managing chronic pain in this national health system. This was a descriptive correlational study of chronic pain patients in the VA nationally and their primary care providers. We used what was called summary records or what we dubbed summary records.

So, what we did is we took data from clinical databases across the VA which are stored in, what they call, their corporate data warehouse. And for each patient, we took all of their visits for the year and, kind of, collapsed them down into one summary record. So, each patient that we were looking at, we were, sort of, looking at the full, kind of, year-long care that they received, including multiple visits, potentially with multiple providers.

We'll talk about that in a minute. This was a study that took place from...with data from October 2015 to September 2016. VA operates on an October to September fiscal year schedule. And you'll note that, within this time, this is around the time when NPs were starting to have been granted full scope of practice around, I think it was, March of 2016. So, kind of, right smack dab in the middle.

Before this date, there were already a number of VAs that were expanding scope of practice for NPs and who this regulatory change didn't really affect because NPs were already, kind of, practicing independently. But as this regulation, kind of, took hold over the coming months, more and more practices were adopting policies so that NPs did not require additional physician oversight.

And so the amount of change that took place, kind of, varied, but overall in the VA compared to the private sector, NPs had significantly more autonomy during this time period. Our primary outcomes, again, were the prescriptions of opioid and non-opioid medications, and we looked at opioid dosage and the length of prescription for those medications.

These next couple of slides are really fancy ways of describing our methodology, but I'm going to simplify it as much as I can. So, we took these two major data sources. So, we took the clinical data from this corporate data warehouse that had prescription data for the year that had comorbidities and patient characteristics.

And we merged that with what's called SHEP, or the Survey of Health Experience of Patients. This is basically for non-VA folks, HCAHPS or CAHPS for the VA. It's a patient satisfaction survey. But what we got from this survey was, number one, the patient ID. So, we were able to connect it along with the

type of provider that was their assigned primary care provider and who they had a visit with, which is why they got that survey for that patient.

So, at least one visit with their assigned primary care provider. They may have had other visits with other providers during that timeframe, but the person who they're getting these surveys for is really the person who's responsible for managing the majority of their care. And they may have someone step in for them if they're not in for an appointment, but that's really the person that holds decision-making responsibility for the long-term for these patients.

We got patient demographics, we got VA, facility, and state, and we also had patients self-reporting their overall health and their overall mental health as part of the survey. So, these two data sources were merged together, and we took from all these different smaller databases within the corporate data warehouse, brought these all together, created this merged analysis data set, merged that with the SHEP records, and we ended up with about 275,000 patients who had an assigned primary care provider, some of who did and did not have chronic pain.

We further then whittled that down based on some of our inclusion and exclusion criteria, so patients who had no pain diagnosis were removed. We had four pain diagnoses that we were looking at, osteoarthritis, back pain, neck pain... or, I'm sorry, upper back pain, lower back pain, neck pain, and osteoarthritis. And then we took away patients who had a comorbidity of kidney failure, of liver failure, and of cancer, because these are diagnoses that are going to substantially impact the patient's course of treatment beyond just what type of provider is caring for them.

We removed patients who were in, I believe it was, nine states where NPs did not have authority at the state level to prescribe Schedule II medications, which includes your opioid classes. And this is something that isn't governed by the VA. The VA, kind of, covered in their regulatory changes physician oversight, but the ability to prescribe certain medications is still determined by the state.

So, patients who were in states where NPs or PAs could not prescribe these medications were taken out because there's really nothing to compare it to. And then, if they had missing comorbidity data or it was not clear who their assigned primary care provider was, these patients were also removed. So, we ended up with just under about 40,000 patients who had a chronic pain diagnosis and were cared for in the VA in this time period between 2015 and 2016 by a physician, a nurse practitioner, or a physician assistant.

Within our data, we had the majority of patients being cared for by a physician, and about 8,400 patients being cared for by an NP, and just under 3,000 being cared for by a PA. Again, we looked at different patient characteristics and outcomes in terms of opioid and non-opioid prescriptions.

Demographics we looked at included age, race, ethnicity, assigned sex at birth, and their education level of whether or not this is a person who had secondary education or not. We can talk about that a little bit more, but we were interested to see if there were differences among, let's say, patients who may be more likely to be employed in a manual labor field and may be at higher risk for receiving a chronic pain diagnosis and certain medications.

This is a very simplified way of looking at our sample characteristics. So, within each column, you'll see the patient characteristics that were statistically significantly more likely to be found amongst that provider group. So, physicians were more likely to see patients who were age 65 plus, who had some post-secondary education, who self-reported fair or poor health and fair or poor mental health, who had

a comorbidity of hypertension, and who had certain mental health conditions like psychoses or substance abuse.

Nurse practitioners were more likely to care for female veterans, veterans who were non-Hispanic White, patients who had five or more comorbidities, and comorbidities like congestive heart failure and hypothyroidism. So, one of the things I thought was really interesting here is we hear this argument all the time of, "Oh, physicians treat more complex patients than NPs."

Well, these are patients who are more like...or these are providers who are treating patients with all these, you know, long lists of comorbidities. So, that isn't necessarily the case all the time. And then PAs were also statistically more likely to care for White patients and patients who had a diagnosis of osteoarthritis.

And if you take one thing away from my talk today, I want it to be from this slide. So, this was after adjusting for all of our covariates, all our demographics, and clinical characteristics. We wanted to know is there a difference in physicians and NPs in terms of who is prescribing higher or more amounts of opioids and are there differences in dosage and length.

So, we actually found that compared to physicians, nurse practitioners had lower odds of prescribing an opioid. They had about 12.8% lower odds of prescribing opioid medication compared to their physician colleagues, and this was statistically significant. Physician assistants also had lower odds of prescribing an opioid compared to physicians.

About 16.3% lower odds, but there was no difference statistically between nurse practitioners and physician assistants. And across all three groups, there were no significant differences in the amount of high-dose or long-term, long-term meaning 90 days or more, opioid medications between the three provider groups.

So, again, thinking of our conference theme from data to policy, this is a clear, actionable piece of evidence that can be shown to policymakers that we have been taking to policymakers, to say, "Hey, if you're concerned about how NPs are caring for patients who have chronic pain and this opioid crisis that we're in, we found on a national level that this is not happening. In fact, they have lower odds of prescribing an opioid."

And if you take a second piece away from my talk today, I want it to be from this slide. So, we not only were interested in the provider group, but all the characteristics of patients within and between those provider groups. So, we found that patients who were more...who had higher odds of receiving an opioid were about middle-aged in that 41 to 64 age group and had no post-secondary education.

So, we may be thinking, and this is, kind of, me just speculating, of these middle-aged White adults who are potentially in a rural area, may not have a ton of pain specialists who can provide them with all these resources to treat chronic pain in a holistic manner, may be working in manual labor fields.

But the thing that I really want you to take away from this slide is that we are still seeing racial disparities in prescriptions of opioid medications, and this is across provider groups. So, in the physician literature for a number of years now, there's been documentation of racial disparities in who we're prescribing or who physicians are prescribing an opioid medication to. And the evidence has suggested that Black patients compared to White patients, Hispanic patients, and patients of a different race or

ethnicity, are less likely to get an opioid medication, even if they're of the same clinical status and other demographics as White patients or patients of a different race or ethnicity.

And so really to me what this says is that we're asking the wrong question. We're asking, are NPs overprescribing opioids? We should be asking, are NPs equitably prescribing opioids? Because remember, in our sample, we had nurse practitioners as the provider group that was more likely to see White patients along with PAs compared to physicians.

And so this is really a problem that we need to be thinking about as we educate and train the next generation of primary care nurse practitioners is providing chronic pain care in an equitable manner and focusing less, again, on are we overprescribing. So, asking the right questions is really key for us going forward.

And then looking at non-opioid prescriptions, we found pretty similar patterns. So, I thought it was interesting that not only did physicians have higher odds of prescribing an opioid, but physicians also had higher odds of prescribing a non-opioid medication for chronic pain. So, these are your anticonvulsants, your antidepressants, because there are certain antidepressants like Cymbalta that have pain management properties, and there's that, you know, link between mental health and chronic pain.

Prescription NSAIDs, prescription acetaminophen, muscular relaxants, things along those lines, physicians actually had higher odds of prescribing these medications compared to NPs and PAs as well, and there was no significant difference between NPs and PAs. I will add the caveat that with the tens of thousands of patients that we had, these effect sizes, these statistical effect sizes may not really be clinically meaningful in the day-to-day, kind of, practice.

And so this just may be us looking at something with a microscope, but nevertheless, it is interesting. And I'd be curious, and unfortunately, we weren't able to get this data in this study, if NPs or PAs were more likely to refer patients to physical therapy, or to a chiropractor, or an acupuncturist. And I know, from some of my separate qualitative work, that NPs who we interviewed to see how they're managing chronic pain patients, especially in rural areas, I would hear from NPs who would say, "Well, I'm the only healthcare provider in my county, and so we don't have a lot of resources to manage chronic pain, but you know what, the pool at the senior center has free swimming classes on Saturdays if you're over age 65, and that's a really good way to, kind of, get their mobility," or our physical therapist or our massage therapist works on a sliding scale.

So, really, kind of, using the resources in their communities to effectively treat chronic pain in accordance with how we as healthcare professionals and our governing bodies like the National Academy and the CDC are saying we should be treating chronic pain, that's really what we're seeing.

And I'd be interested to see if this will come up in a national database as well for a future study. And again, with our non-opioid prescriptions, we're seeing that Black patients compared to all of our other patients were at higher odds of receiving a non-opioid prescription compared to White patients, Hispanic patients, or patients of a different racial or ethnic background.

So, again, we're not asking the right question of, are we treating chronic pain patients by overprescribing opioids? We really need to, kind of, look within ourselves and say, "How can we provide the most equitable pain care to all of our constituents possible?" So, just to, kind of, recap, patients who were cared for by physicians had higher odds of both an opioid and a non-opioid prescription compared to

those of nurse practitioners or physician assistants, but these effect sizes might be pretty small in clinical practice.

And so for a policymaker, this is evidence, again, that nurse practitioner care is equal or, in some cases, you're seeing higher satisfaction, or it may even be better than the care that's delivered by other providers. So, key evidence to, kind of, support the case for full practice reform. Patients who were non-Hispanic, White, middle-aged with no post-secondary education were some of the most likely patients to receive an opioid compared to patients who were non-Hispanic Black, and younger, and female were more likely to be prescribed a non-opioid medication.

So, again, how are we taking steps to ensure that we're treating pain patients equitably? And dosing and length of prescription for opioid medications did not differ amongst provider groups. So, I think this is a great way to think about our theme from data that policy and, kind of, take this with us as we go forward and I'm happy to take any questions and engage in a dialogue for the next three minutes.

I'm sorry, Monica. Thank you so much.