Past Event: 2024 NCSBN Scientific Symposium - Scope of Practice: Emerging Regulatory Issues in Home-based Care Provided or Led by Nurse Practitioners Video Transcript

Event
2024 NCSBN Scientific Symposium

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Presenters
Monica O'Reilly-Jacob, PhD, FNP-BC, FAAN, Assistant Professor, Columbia University School of Nursing;
Alex Hoyt, PhD, RN, Associate Professor, Massachusetts General Hospital, Institute of Health Professions

- [Monica] Really, in research, I think what makes our research more powerful, more impactful, more rigorous is when we engage in team science. So I'm really delighted to have my colleague with me here today, Dr. Alex Hoyt. He can perhaps introduce himself when it is his turn to go.

But we received this funding from NCSBN in the middle of the pandemic. So grateful for their funding. I was a co-PI with Dr. Jennifer Perloff, who is at Brandeis University. And we also worked with a student at Boston College. And Dr.

Perloff also has an appointment at the Institute for Accountable Care. So we're able to really take advantage of their rich, rich data source, which you'll hear about in a minute. So I'm hesitant to say that home-based primary care is an emerging innovation, because we all know that house calls and being seen in the home really has been around for centuries.

But sometime in the 1800s, the American Hospital Association became powerful, and suddenly care shifted more conventionally into offices and into hospitals. But now it seems like receiving care in the home and not in an office space setting is making a resurgence. So home-based primary care visits billed to Medicare between 2012 to 2019, so pre-pandemic, increased by 42%.

Some of this is really driven by the aging population. There's just a growing population that is really home-bound, where it's cumbersome for them to seek care in the office. And we also know that they've been receiving more primary care in skilled nursing facilities, and in assisted living facilities where primary care providers have been going to those facilities, which is really driving a lot of this growth.

But there's also this expansion of this dedicated workforce. And nurse practitioners seem to be really driving a lot of this increase in volume. You can see here the comparison between physician decline in visits, that top line, the dark gray, and that slight increase or a stable line is nurse practitioners, the blue line on the bottom.

And this is COVID, right, where care really dipped pretty low. So it's not surprising that that blue line is plateauing, it's pretty stable. But physician visits really decreased at about 35% between 2017 and 2021. And NPs increased by 10%.

- [Dr. Hoyt] Thank you. I'm Alex Hoyt. Monica's colleague. Like Monica, I have my Ph.D. in social policy from Brandeis University. I'm now at the School of Nursing at the MGH Institute of Health Professions. And I do work for a research focused on APRNs.

Thanks for having me here today. So if you are a nursing regulator whose mission is to protect the public from substandard nursing practice, you can be heartened by a large and growing literature showing the safety and quality of nurse practitioner care.

However, the population of folks receiving home-based primary care is older, and frailer, and sicker than the general population of older adults. And the home environment is not structured as a healthcare setting.

And finally, most nurse practitioner students don't get a clinical experience doing home care, or advanced practice home care, which has a unique combination of primary care, and sometimes acute care, and sometimes morphing into palliative care.

Right? So the conundrum for regulators is that regulation can have a protective effect for a vulnerable population. And it can have an unintended consequence of restricting access for a valuable service. So our research questions are organized around the regulators' concerns.

So the impact of the scope of practice on access to home-based primary care, basically is that unintended consequence there? How does the home-based primary care of nurse practitioners compare to that of home-based primary care delivered by primary care physicians?

And then finally, how is that influenced by scope of practice regulation? So to answer these questions, we're using all Medicare claims from 2018 and '19, and attributing Medicare beneficiary to a provider based upon the number and proportion of visits with that provider.

We're measuring provider type in three categories. So some beneficiaries had all of their home-based primary care with a nurse practitioner, some had a mix of physician and NPs, and then some were entirely cared for by primary care physicians.

And the access question is assessed, looking at the number of visits done by NPs in the state, as well as the proportion of NPs in the state who are doing home-based primary care.

The care delivery question is addressed by looking at measures of acute care events, prevention, composite measures, as well as end of life care.

And then finally, we use multi-level modeling to parse out the separate influences of beneficiaries at one level, providers at another level of data, and then state scope of practice at the highest level of data.

- So we wanted to know if NPs are doing a little bit of this, or a lot of this, and how that compared to physicians. So here, you can see the dark gray is physicians. I imagine that's really hard to see in the back.

And the blue is nurse practitioners. And across the bottom are 1 visit, 2 to 5 visits, 6 to 10 visits, all the way up to more than 500 visits. So you can see that physicians are really predominating in 1 to 2, up to 51 visits per year. So this is like a hybrid thing.

This is an add-on to their office. They go out and they see a patient at the end of the day. Maybe they have a day a week that they dedicate to it. But the nurse practitioners on the right-hand side of the screen are really predominating in this, over 100 visits per year area, where they are sort of working out of their car most of the week.

And they are the dedicated home-based primary care provider. And this I know you can't see in the back, but this is all 50 states. And you can get a sense of the gray is the amount of home-based primary care that's happening in that particular state. And the blue is the proportion that is provided by nurse practitioners. The first thing I want you to notice is the wide variation, right?

So there are some states, like on the left, South Dakota, North Dakota, Vermont, Mississippi, where not a lot is happening. On the right, we have North Carolina, Michigan, and Florida. Florida, not surprisingly, God's waiting room, as my parents, who are residents there, call it. That's where there's a lot of home-based primary care happening.

So the variation is also how much is happening at the state level, but also how much is provided by nurse practitioners. You can see Kentucky. Let's see if maybe... Where is Kentucky? Right here. See how much of that is blue? Almost all of the home-based primary care happening in Kentucky is done by nurse practitioners.

But other states, like right here in New York, much less so, and definitely in California, a much lower share of the total volume of care is provided by NPs. So I think this is really important, as those of you who are here to represent your states. This isn't a one-size-fits-all situation.

You really have to understand what the utilization is like at the state level. And fortunately, we have a paper that's published that has all 50 states with their measures in an appendix in the "Journal of Gerontological Nursing." Come see us afterwards. We can give you access to that paper. My apologies that...we thought about the QR code this morning.

So we took all of those states and we grouped them according to AANP's category. You all know their famous map, the red, yellow, green map, right? So we have full reduced and restricted. And this is looking again at how state scope or practice impacts the volume of care using two different measures.

One is the visit rate, and the other is the share of home-based primary care visits done by NPs. And you can see that there's really no discernible pattern using either of these measures. In fact, there's less volume happening in full practice states than there is in reduced states here. And here, this is almost the same, right?

So scope of practice doesn't seem to be impacting the volume of NP-provided home-based primary care. However, none of our results were statistically significant. So important to know. This is still me. So this takes a look at those different types of providers that I talked about before.

This is all nurse practitioners that ever did a home. And even if they did one visit in the entire year. And this is those that did 10. So these are more dedicated home-based primary care providers, albeit not much. It's still just 10 visits in the year. But again, you can see there's not much change.

Scope of practice really isn't impacting the volume for either the people that do a little bit, or the people that do a little bit more than a little bit. It's the same. And again, these results are not significant. So moving on to our quality question, does the home-based primary care by NPs differ much from that provided by physicians?

And we first wanted to look at our patient population. Are they sicker? How do they differ? How is that going to impact what their quality outcomes end up being? So here, the green is all Medicare beneficiaries, regardless if you're a home-based primary care patient or not. So think of it as a comparison to the general population. Dark gray is still physicians, blue is nurse practitioners, and the light gray is a team-based approach.

So a little bit by NPs, a little bit by physicians. And this is age. So you can see that their age is about the same for NPs and physicians, but much higher than the general population. In terms of disability, there's not that much difference. They're definitely more disabled than the general population, and NPs maybe still a little bit fewer, but not much.

In terms of frailty, I think this is really important to think about when you hear our later results. The NP patients are more frail. Definitely, all of them that are receiving home-based primary care are more frail than the general population, but the NP patients are a little bit more frail than the physician patient, which echoes Dr.

Nick Porter's [SP] message that NPs actually, yes, in some settings, there seems to be consistent evidence that we're providing care for more complex patient populations. And that's consistent with other papers that have come out specific to the Medicare population.

- So these are forest plots showing the relationship between provider type and care delivery, specifically acute care events. We're going to spend just a moment talking through some interpretation here.

The physician-only group is the reference category, and they're represented as the dot at the line representing basically no relationship. They're at one here.

Okay? And the nurse practitioner-only, and the mixed groups are represented by the dot, and then the error bars. The error bars showing the confidence interval of the point estimate. So the dot and...

Oops, sorry. The dot and the error bars sort of make those look like the TIE fighters from "Star Wars." Right? So you can distinguish a significant result by seeing if the wings of the TIE fighter cross the line of one where the reference category is.

If they do cross that, that's not a statistically significant result. So the models here also demonstrate an interaction term with the beneficiaries whose home was in skilled nursing facility.

And we sort of showed their estimates separately. And the models control for age, and sex, and race frailty, and 30 different co-morbidities. And these models hold state constant. So what this is showing is that the beneficiaries who had NP-only home-based primary care had about 26% higher odds of acute care admission, and about 13% higher odds of an avoidable ED visit.

Here you see that this slide shows the preventive care composites by provider type. Beneficiaries with NP-only care had 22% lower scores in the prevention composite, 24% lower in the chronic care composite, and 4% higher odds of influenza immunization compared to the reference group, again, which is physician only.

So in a population who are older, and frailer, and sicker than the general population of older adults, it appears that NPs prioritize end-of-life care.

Beneficiaries with NP-only care had more than twofold higher odds of having their advanced care directive counseling done. They had 45% higher odds of being in hospice at the time of their death, and 33% more hospice visits in the last 3 days of life.

So to assess the influence of scope of practice, it's helpful to first recognize that the data sort of exists in a nested structure.

So you have these visits. The visits are done by providers who have...that's a level of nesting. And the providers, of course, are working in states. And so that's another nested level of the data. And as a first step, it's helpful to know if there's variation in the care delivery, which of those levels is that variation happening at?

With the beneficiary being the sort of bottom level, and provider type, and then state, okay? So how much variation is happening at the state level? Not much. Ninety percent or more is happening at the beneficiary level, 5% or less happening at the provider level, and 5% or less happening at the state level.

So when we model full practice authority amongst the home-dwelling recipients of home-based primary care, so not the facility folks, just the folks residing at home, we see that full practice authority had a minimal effect.

Among the significant relationships, there was a 1.9% higher odds of an acute care admission, lower odds of access to preventive care, but also lower odds of an avoidable ED visit.

- So you've heard a couple of times today the limitations of using Medicare claims to study provider practice.

And even you heard about incident-to billing. So nurse practitioners receive 85% of the physician rate if they bill under their own NPI. If they bill under their physician NPI, they receive 100% of the physician rate, but that renders their care, if billed incident-to invisible in the claims data. Recent studies have shown about 30% to 40%, we believe of NP care is billed incident-to, and therefore invisible in the claims.

So that is a major limitation. We have some tricks that hopefully will be advancing research in the future, but we're not quite there yet. We couldn't account for... So there's many different home-based primary care practice models out there. If those of you in the room are on the ground doing this, you know this really well. And some work better than others.

And in billing data, we couldn't really capture the processes, or the team composition, or how the schedule works to then see how that really affected our outcomes. And then we're using 2018 data, which is pre-COVID. We're not quite out of the slump. Home-based primary care hasn't rebounded yet, but care in general seems to be shifting to the community, whether that be in the home via telehealth.

And this seems to be an area that we anticipate will continue to grow. So let's just recap quickly. NPs may be caring for sicker home-based primary care patients and physicians. We see this because the frailty was higher, they had higher mortality.

So the complexity seems to be higher. There is comparable quality. However, they didn't do so well on their traditional primary care measures, prevention, access, immunizations, and those quality of care...well, they did do well on immunizations, but the other ones, they didn't do so well on.

But they did really well on palliative care outcomes. And so this really raises the question of what kinds of patients are nurse practitioners working with in home-based primary care setting. So it's different from the kinds of patients that are physicians working with. And where is that line between what begins as primary care, and then slowly turns into end-of-life palliative care, where you have measures, you just use different quality of care measures differently, right?

In end of life, you're not so worried about an immunization or [inaudible 00:23:13]. You're definitely worried about that advanced directive. So this really presents a challenge for the home-based primary care research world. And what is quality in this setting? And do we need other measures that are really looking at the patient's experience, and patient-centered measures like quality of life, or something like that?

In regards to that regulatory question, we found no obvious effect on the state of practice, on volume, or quality of nurse practitioner home-based primary care. I'll follow up with that in a second. But we also saw that really the variation in quality wasn't even mostly influenced by the provider. It was mostly influenced by the beneficiaries characteristic, and how high-risk they were, and how sick they were.

So does this just mean that we give up on full practice authority, and we're just saying, "We're all fine." No, no, that's not what we want to say here. What we see in the state is that NPs are providing access to high-quality home-based primary care, where they need it, and when they need it, and how they need it. We can see that NPs are dynamic, and they're able to provide primary care and the palliative care, and they can shift with patient needs.

We also see that the scope of practice restrictions that we have right now are not actually harming home-based primary care. They weren't any worse. There's just no discernible pattern. So what's going on here? And I think something that's really important for us to consider is we know we have the state level scope of practice laws, but we all know that there's lots of other barriers coming from lots of other places, whether it be from the organization, from the payer, from somewhere else, from Medicare.

There's lots of other barriers. So it's really difficult to just rely on that state scope of practice variable to determine whether or not scope of practice policies are really changing the quality. So do we need to shift our focus then towards organizations, towards payers, towards insurance companies, towards Medicare to see if lifting those restrictions really helps to make a change to either the volume or the quality of care?

And then lastly, what's the role of regulators in this particular situation. Quality looks different. Does safety look different in this setting? Are you more concerned about diversion in the home if you're working with palliative care patients versus adverse outcomes in a healthier primary care patient? We don't have all the answers.

We're here to provide you with the data. But I hope that this has given you a really good overall sense of this resurgence of this unique setting. Thank you. Happy to take questions.

- [Female] Thank you so much for your presentation. I actually used to do home-based care, so your presentation really resonated. I was wondering about if you refer to this as home-based primary care? How does that overlay with the consensus model? Which looks at primary care and acute care separately for nurse practitioners.

And that your certification is in one area, or the other, or both if you're dual certified. But I'd just be interested in your thoughts on that.

- That's an excellent question. I'm going to turn to the expert on the consensus model for this.

- Yeah. The consensus model has these sort of two tracks in an environment where both skill sets are called upon, and that becomes really difficult. It almost seems like the ideal nurse practitioner has both their acute care certification, as well as their primary care certification.

- So they would do both educational programs?

- So the definition of primary care, especially according to the consensus model, it's longitudinal care has a lot to do with it. And you can provide primary care in an acute care setting in the traditional definition of the consensus model.

And in this particular situation, when care has been moved to the home, it's all gray, right? It's all subjective. And one can make a case one way or the other. But I could see how this could shift more towards primary care for a particularly complex acute population.

- Yeah. And the definition of acute care is that patients are unstable. Well, yeah, that's often the case. Did you have a follow-up question?

- No. That's fine. Thank you.

- Murky waters.

- Yeah.

- It is. It is. I'm acute care nurse practitioner, so I was practicing in the home, but the care I was delivering was very acute, in my opinion. Because as your study shows, there's less of a focus on prevention when you're caring for this patient population, and more focus on how do we prevent [crosstalk] how do we address their end-of-life needs.

- That's where NPs are shining in those particular quality of care measures, right? We don't know how much... And how would you define who's primary and who's end of life? It's such a continuum.

- Yeah, it's very murky, as you said.

- Great question, though. Thank you. Wonderful. Time for the boxed lunch.

- Thank you.

- Thank you, all.