



Transcript from AACIPM Fall Symposium

Equity in Access to Comprehensive Integrative Pain Management for People with Pain - September 24, 2020

19 minute transcript - accompanying video can be found [here](#).

Presenter: David Elton, DC, Chief Strategy Officer, United Health Ventures

Data about Access to Pain Therapies Based on Zip Code

Cindy Steinberg, Moderator (00:00):

So, our next speaker is David Elton. David is the Chief Strategy Officer at United Health Ventures, which is a part of the United Health Group. And David's done some really intriguing work with data that identifies barriers to multidisciplinary pain care that we may not have thought of, and that could really point the way to some possible solutions to expand access. So, Dave, welcome.

David Elton, Panelist (00:29):

Yeah, Cindy, Amy, thanks for the invitation to contribute today, and just some quick opening context comments is, as Cindy mentioned, I'm positioned within United Health Group, and specifically within our research and development area where we're focused on making the healthcare system work better across a range of conditions. And, one of the benefits in the environment I'm in is we have a one-three-five year time horizon, not the typical quarterly or annual horizon. So, we can think a little bit longer term, which is healthy, and for us disparities and pain are our high priority areas of focus.

David Elton, Panelist (01:08):

All that being said, my comments today are really personal insights and are not the formal positions of UHG. And the last opening thought is, there's always risks in these kinds of discussions, or sharing this kind of data that people walk away with. Everyone needs X, or opioids should never be used. And, so I think the context comment I would leave people with is, we really are advocating for a patient centered pragmatic approach to pain management to help people live their most fulfilling life, and that can in many cases include responsible use of opiates. So, we'll just get that on the table first Cindy, and let's dive into the next slide.

David Elton, Panelist (01:52):

We're going to go through a series of pictures here, just looking at what I interpret to be disparities, but it's really a variation in treatment across the country. And many of us might be familiar with the image in the lower right, which is the 2000 Dartmouth MSK Atlas demonstrating variation in spine surgery. And the unit of measurement there, the colors are aligned with what's called a hospital referral region. So, it's in many cases can be quite large, particularly in the rural areas. And that was an important study, and it revealed variations in spine surgery exists. Number one, it's national, it's local within cities, and there's some relationship with number of surgeons per hundred population and use of MRI scans. And the bigger map of the US is our data looking at about 2 million complete episodes of back pain in 2017 to 2019. And this is

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pushed down to a zip code level, and we're looking at variation in percent of back pain that received surgery by zip code.

David Elton, Panelist (02:57):

Interesting, it actually, when you get into it, it aligns pretty closely with the Dartmouth Atlas then 20 years ago, which is fascinating. But, for today, we want to look at use of RX and non RX treatments for back pain. And so, let's go to the next slide.

David Elton, Panelist (03:15):

Same data, about 2 million episodes of back pain in a commercially insured population looking at zip code level, in this case, use of opiates for back pain within zip codes. And in the lower right, you can see a map from 2018 that the CDC put out on overall opiate prescribing rate by county, and concentration in the Southeast US. Our map, specific to back pain, has a similar concentration in the Southeast, which really shouldn't be a surprise than that about 50% of MMEs are prescribed for back pain, and about 75% of opioid MMEs are prescribed for musculoskeletal conditions. So, seeing that alignment in map is not surprising. And while not covered today, what we find is almost exactly the same distribution of use of INSAIDS and skeletal muscle relaxants for back pain is heavily concentrated in the Southeast. It was really pretty dramatic regional variation. Let's go to the next slide.

David Elton, Panelist (04:21):

As we unpack this, we wanted to replicate that surgical look, and at the top map of the US and the upper left, looks at the number of chiropractors, physical therapists, and acupuncturists per 100 population by zip code. Interestingly, what we find in the Southeast is there's relatively lower number of these non-prescribing providers than the mid Midwest, West, and Northeast regions of the country.

David Elton, Panelist (04:51):

This area of the Southeast starts to get a little bit interesting when we look at even availability of these non-prescribing providers. And then the map in the lower left is same data, this time looking at number of PCPs for a hundred population, and you can see PCPs are relatively evenly distributed throughout the United States. So, to this issue of disparities, and equities, and pain management in the role of non-prescribing providers, foundational to that is, these providers need to be available, and that's quite variable across the country. And, let's go to the next slide.

David Elton, Panelist (05:31):

The second element then of non-prescribing provider use, this case we're looking at what percent of back pain patients start with a chiro, PT, or acupuncturist by zip code. And this aligns pretty closely with availability. No surprise. Where these providers are more available, consumers are using them more. And where these non-prescribers are less available, we're seeing less use. Less patients are going to chiro, PT or acupuncture. What's interesting is the PCP map, down below, recall that PCPs are pretty much universally available in every zip code across the country. And yet, back pain patients are more likely to start with a PCP in the Southeast. And that aligns pretty closely with the lack of availability of non-prescribing providers in the Southeast, fewer patients go, and as an alternative, patients are presenting to their primary care physician for back pain in the Southeast. And let's go to the next one.

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David Elton, Panelist (06:40):

Now we'll layer in some social determinants type of data. Same look, zip code level. In this case from the IRS, looking at household adjusted gross income by zip code in the upper left. And we can see the Southeast generally has a concentration of lower AGI zip codes. And then, in the appendix we have some additional looks at race and ethnicity. This one, we're focusing on percent black population by zip code. In the Southeast, you can see a fairly heavy concentration of higher percent black population by zip code.

David Elton, Panelist (07:15):

At a macro in US level view, the story that starts to emerge here a little bit is, opiate use heavy in the Southeast, availability of non-prescribers relatively low. Access to the non-prescribers relatively low. More back pain goes to the PCP, and these same zip codes also tend to have lower adjusted gross income and higher nonwhite population. As we put this whole story together, how do we unpack this, and the next slide, we'll try and summarize this a little bit.

David Elton, Panelist (07:49):

A little bit of an eye chart, so let's get oriented. There's four charts in here. Each one has the same horizontal access. And on that access, what we look at is the number of non-prescribers, in this case per 1000 population in a zip code. And the left, no non prescribers in the zip code. None. There's not a chiro, not a PT, not an acupuncturist. Then as we move to the right, there's more of these providers available in a zip code per 1000 population. As we move from left to right, it goes from zero non prescribers to really pretty abundant availability of non-prescribers. And the N in there, as you can see, the number of zip codes in each of these segments. And so we're dealing with two, 3000 zip codes, generally in each of these segments.

David Elton, Panelist (08:47):

The chart in the upper left, what percent of zip codes and what percent of the population are in each of these segments by availability of non-prescribers? In 18% of zip codes, 7% of population have no non prescribing providers in their zip code. Let's just look at that one in the other charts, and moving to the upper right, what you can see here then is the percent of back pain that has an opiate prescription, and then the percent of back pain that receives a spinal injection. And we put injection in there just as a baseline, and we can see that's relatively consistent or independent of the availability of non-prescribers. It's between seven and 8% in each of these segments. But in the zip codes that have no availability of non-prescribers, we see the highest rate of opiate use for back pain. And then, as more non prescribers are available in a zip code, the rate of opiate use for back pain comes down, and the lowest is when we have the most abundant availability of non-prescribers.

David Elton, Panelist (09:55):

Then in the lower left, same segmentation, zero non prescribers to abundant non prescribers on the right. In this case, we look at household average adjusted gross income. In the zip codes with no non prescribers are also those with the lowest household adjusted gross income. And in zip codes with the most abundant non prescribers have the highest household adjusted gross income. Interesting relationship.

David Elton, Panelist (10:27):

And then the lower right, we look at a population, race and ethnicity focusing on black non-Hispanic, black Hispanic, non-Hispanic Asian, and native American. And you can see that the

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zip codes that have the fewest number of non-prescribers tend to have a higher percent nonwhite population. So, to the theme of today around disparities, and equities, and access to non-prescribers, there seems to be some relationship with income level of the zip code, and the race ethnicity within those zip codes. Let's go to the next slide.

David Elton, Panelist (11:08):

But this story, it's really much more complex than time permits to unpack here. But, one factor that is fascinating in that it's an industry gap, and yet it's one that we think is really important to understand, is the race, ethnicity, gender of healthcare providers. And so in this case, what we're looking at, this came out of Department of Health and Human Services, which was a survey of various healthcare professions and their gender, race, ethnicity mix.

David Elton, Panelist (11:42):

Let's start over on the very right most two bars, which are benchmarks. The US workforce generally, and the US population by gender, race and ethnicity. You can see we've drawn some dotted lines across percent white male, and then percent total white population. And now, let's flip over to the very far left, chiropractors, least diverse of all the healthcare professions included in the survey.

David Elton, Panelist (12:10):

You can see the buildup from the bottom of the top white male, white female, Hispanic male, Hispanic female, black male, black female. Chiropractors of the profession are almost 90% white, very much under represented, both in terms of gender and race ethnicity to various other groups. And as we move from left to right, there are the psychologists, optometrists, physical therapists. And so, these non-prescribers tend to be among the least diverse of the healthcare professions.

David Elton, Panelist (12:42):

I think this is an important dynamic. One that would be interesting to study. However, as noted below here, the industry gap is there's actually an absence of a reliable source for provider level, race ethnicity data, to be able to match up with claims data and other data sources to understand the influence this may have on disparities and inequities.

David Elton, Panelist (13:11):

And finally, before leaving this chart, there's a little orange arrow in the upper left pointing to black female chiropractor, and just make a mental note of that. We're going to come back to that in a moment on why we think that is important. Let's go to the next slide.

David Elton, Panelist (13:29):

Some additional data that's not yet factored in that we think is really quite important, is the issue of literacy and numeracy. And this looks at county level view, percent of the population below level one literacy and below a level one numeracy, and the definitions are to the right. And, you're approaching functionally illiterate or functionally innumerate in these zip codes, which interestingly start to roll up in the Southeast region again. But this whole issue of looking at disparities and trying to make sense of the variation we're seeing, depends on pushing this data down below a county level in that county level data is just too high level.

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David Elton, Panelist (14:14):

I'm up here in Minneapolis in Hennepin County, for example. And this view of numeracy and literacy rolls up to a Hennepin County view, and yet those of us who live up here in the Midwest know very well that Hennepin County is a wide range of economic, race, ethnicity zip codes that carry with it really important distinguishing features that, when we're going to address equities, we need to surface. So, even this county level view, I think, is too high level, but it's an industry gap on being able to push this down to a zip code.

David Elton, Panelist (14:52):

Watching the clock, I committed to Cindy I'm going to make a little time back, so we've got a couple of slides to wrap this up in the remaining five minutes or so. So let's go to the next slide.

David Elton, Panelist (15:02):

This is pretty high level interesting macro trends that healthcare is local. The actions we take need to be local. They need to be within a zip code, and probably more importantly within a neighborhood within a zip code. So, let's bring the plane down into Atlanta. Here's a map of Atlanta, downtown Hartsfield Airport down on the South. And, let's go to the next slide.

David Elton, Panelist (15:26):

For the data wonks, we had a lot of nice pictures so far. But here's a little data for us to consider for a moment, and we'll look at a picture again to close out the presentation. But in Atlanta, about 258 zip codes with at least 25 episodes of back pain. And in the regression model, for those of you that know what such things are, on this model, just looking at the handful of factors we talked about today, can explain 58% of zip code variation and opiate prescribing for back pain.

David Elton, Panelist (15:56):

And those factors were, what percent of patients start with a non-prescriber? What percent start with a PCP? And then, what's the household adjusted gross income within the local zip code? And starting with a chiro, PT, or acupuncturist are highly protective of use of opiates for back pain. By far, the largest avoidance benefit. Not that opioids should never be used, but all things being equal with back pain, if we can avoid it, that's a good thing. And when patients start with a chiro, PT, or acupuncturist, large protective effect on opiate prescribing and opiate use.

David Elton, Panelist (16:39):

In those zip codes where patients are more likely to start with a primary care physician, we see the rate of opiate use goes up quite a bit, and that's reflected in the little, the scattergrams up above where use of opiate for back pain is on the vertical axis. Now on the left, in purple, the more patients start with a non-prescriber in that zip code, the rate of opiate use goes down, and in those same zip codes, the more episodes that start with a PCP, zip code opiate use goes up. It's pretty strong relationships, and given the equity data we looked at earlier, there's an important story in here. End of the story, we'll just close out with one final slide coming up here.

David Elton, Panelist (17:27):

Let's get oriented to what the heck is this, and it's the same map of Atlanta. You can see downtown in the middle. You can see Hartsfield Airport down to the South. The colors now represent the rate of opiate use for back pain by zip code in Atlanta. Red means basically more

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than 40% of the back pain episodes in that zip code receive an opiate. And then the light gray, it's approaching 0% have opiate use.

David Elton, Panelist (18:01):

Atlanta's an interesting city in that the North part circled in green is 90% white, high adjusted gross income, and has abundant availability of chiro, PT, accu. The areas outside green are largely approximately 90% black population, low adjusted, gross income. And, in our remaining minute and a half here, let's just look at zip codes one and zip code four. Adjoining zip codes, 90% black population, low household adjusted gross income. Zip code one, 42% of back pain have an opiate. Zip code four, just to the South, 6% have an opiate.

David Elton, Panelist (18:49):

We went deep and we can't unpack it all here, but what I'll share with you is, the one factor that emerged is in zip code four, there was one black female chiropractor in a low income zip code, 90% black population, that almost single-handedly is driving the lowest opiate rate in Atlanta. And so, this issue of disparities, inequities, and role in non-pharma providers, it's real. The point here is, one provider can make a difference, and how many zip codes in the US are missing that one provider? And why is that? And, that's what we'll all be exploring together in the years to come, I'm sure.

David Elton, Panelist (19:30):

With that, Cindy, thanks. I'll hand it back to you, and look forward to the questions later.

Cindy Steinberg, Moderator (19:37):

Thank you. Thanks a lot, David. I told you all that he had some really interesting observations, and I think that's one that we just don't think of. I think we automatically go to cost, and it's fascinating to understand how the provider and the ethnicity of that provider affects care. And, it's just a great way to use data to come up with a solution. So thank you, David.