

Let's talk e-cigarettes podcast series  
May 2023 episode with Professor Matthew Carpenter

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MC – Matthew Carpenter

## Transcript

Musical intro

“If asking your mate down the pub about vaping is what they probably say, no one agrees if it's safer or not, so you might as well smoke anyway. Now what your mate needs is a Cochrane review. All the facts have been checked at least twice. They find there's a lot that the experts agree on and might give you different advice.”

NL: Hi, I'm Nicola Lindson.

JHB: And I'm Jamie Hartman Boyce.

NL: We're both researchers based at the University of Oxford, where we work with the Cochrane Tobacco Addiction Group. Welcome to this edition of let's talk e-cigarettes. This podcast is a companion to a research project being carried out at the University of Oxford, where every month we search the e-cigarette research literature to find new studies. We then use these studies to update our Cochrane Systematic review of e-cigarettes for smoking cessation. This is called a living systematic review. In each episode we start by going through the studies we have found that month and then go into more detail about a particular study or topic related to e-cigarettes.

JHB: So from February to May this year, we found five papers linked to studies previously included in our review. One new ongoing study and two new studies, my lovely colleague Nicola will tell you about the first of these two new studies. In a nutshell.

NL: So we discovered the first new study in February 2023. It was led by Millie Kanobe of Reynolds America Incorporated, which is a tobacco company who also funded the study. This was a randomised study where people were confined to a lab and given one of three types of e-cigarettes, or were told to stop all cigarette use. However, this paper only reports data on the group that received one of these e-cigarettes, which was the VUSE solo original participants used that e-cigarette as they wished for seven days, and over the seven days the investigators measured by a markers of potential harm to see if there were any changes. Over time, they did end up reporting reductions in some of those biomarkers in the group that they studied.

NL: Now some people sometimes raise concerns about us including studies in our review that are funded by the industry that manufacturing cigarettes, which in some cases is the tobacco industry. The reason why we do include these is because Cochrane's policy is to be very inclusive and transparent about these studies that investigate the interventions that we're interested in, in this case e-cigarettes and then flag up these things afterwards. So our policy basically is to include these studies but we do look at who the funders are of the studies that we include, we note this in the review and if the study is included in one of our analysis then we also re-run that analysis, removing the study that has been carried out by the tobacco industry, or studies, and that just gives us the result when we include the studies, but also the result when we don't include the studies and that allows us to compare our results to see if we think that those studies that have been carried out by the industry are giving us a different result to the ones that haven't been carried out by the industry or if they're skewing our result in any way. So we kind of feel like this gives us the best of both

worlds. It allows us to say, look, these studies exist and that they've been carried out by the industry, but it all, but it allows us to look at our results, including those studies and not including those studies, so that it gives basically the whole picture. What we have found so far is that by including these studies, we aren't seeing any big differences in the results we find, but a lot of the studies that are carried out by the industry include small samples and they're carried out over a very short period of time.

JHB: Thanks, Nicola. So we're actually going to cover the second of the new studies by Professor Matthew Carpenter and colleagues at the Medical University of South Carolina in this month's Deep Dive. This was a randomized controlled trial funded by the National Cancer Institute in the US I had the pleasure of speaking to Professor Carpenter about his study at the US E-cigarette Summit in Washington DC earlier this month. It was a bustling conference, so apologies for the background noise, Right, so could you start by just introducing yourself to us?

MC: Sure, Matthew Carpenter. I'm the professor in the Department of Psychiatry and Behavioral Sciences at the Medical University of South Carolina, where I also serve as Co leader of the Cancer Control program of the Hollings Cancer Center.

JHB: And what got you into studying e-cigarettes?

MC: Well, so I kind of do research in different areas and my other line of research is in smoking cessation in clinical trials. And I've always been interested in finding pragmatic options for smoking cessation. So I did a few studies and I'm still doing a few studies around medication sampling, just giving products to smokers with very minimal instructions. Evidence based strategies to see if it sort of stirs the pot, get something about quitting and I thought, well, this is the design that would work very well for testing of alternative products. So instead of giving out cessation medication, I'm giving out alternative products again with minimal instruction, sort of a very naturalistic setting and to see sort of what happens to their behaviour, do they use it? Do they like it? Do they go on for more and more importantly, does it change their smoking.

JHB: And can you just explain to us a little bit what you mean?

MC: So naturalistic is so first off, it's a randomized trial, so randomized, as you know. Is very important. We're getting rid of a selection bias as to who chooses and not chooses to use a product, and that's very common in the literature. Clinical trials randomized clinical trials are obviously a little bit stronger evidence, I would say. So it's a randomized study, but it's naturalistic in the sense that there's no requirement to quit. There's no quit date, there's no support to quit, and in fact, we take in a broad range of smokers, whether they do or don't want to quit. So we give it out and I'll say first off that giving it out for free is not naturalistic but devoid of that were price is not a barrier. We really don't say much at all we say. You know, here's a product. It may be do this. It may do that. You may use it for this. You may use it for that. It's entirely up to you. You don't have. To use it, it's your choice. Do what you want.

JHB: And what did the different groups in your trial receive? So if I was a participant, what? Would I be getting?

MC: So it was a randomized clinical trial of two groups. One group got a tank-based device that is commonly available in the US or at least it was a few years ago in multiple flavors. So we offered a menu of flavors And they could choose one or several of those flavours and they got enough product to use as they wish for 30 days, after 30 days, we stopped giving it to them and we followed them up

for another six months. That was one arm of the study, the other arm. Was basically a no product. So this is not a placebo comparison. We're not testing the pharmacology of the product. We're testing the sampling of the product and the control group for that is not free saving anything.

JHB: And what did you find?

MC: So it was pretty interesting. Well, first, let me talk a little bit about uptake. So as a naturalistic study, we were first interested in, would they use it? So there was pretty robust measures of use upwards of 70 to 80% of participants in that group use the product with some degree of frequency and magnitude amount.

JHB: That's pretty impressive, yeah.

MC: Yeah, so now we're giving it to them for free. So we expected them to use it, but. Even the persistence of use at four weeks when we stopped giving it to them, even six months after we had stopped giving it to them for quite some time, uptake was very robust. So that's one outcome. Obviously, we were very interested in behavior change. We saw marked decreases in cigarettes smoking, we saw marked increases in motivation to quit confidence to quit, but really at the end of the day, the most important finding is that we found that uptick in quit attempts and an uptick in smoking cessation of combustible cigarettes.

JHB: Fantastic. And did you interview participants or talk to them at all about their experience.

MC: No. So this is a large scale remote clinical trial. So it's all based in the US, 638 adults who smoke cigarettes and it was all remote.

JHB: OK.

MC: So we never saw them, we never brought them into our lab. We recruited from cities all across the country and we didn't have that sort of one-on-one contact with folks.

JHB: Makes sense. So light touch in some.

MC: Very light touch.

JHB: And did anything about what you found surprise you?

MC: Well, I'll tell you. So I don't know if it surprised me, but one of the things that really struck us was that the effects of receiving a product versus not receiving a product, sort of that group difference, if you will. Those effect sizes were roughly comparable among people who told us at the outset. I don't want to quit smoking versus I do want to quit smoking. Now the overall rates of quitting were higher. They had higher rates of abstinence, higher rates of quit attempts. But the difference between the groups was roughly similar that in terms of the effect size, so that told us that and this is important is that we weren't just moving the needle for people who wanted to be moved, OK, we were moving the needle for people who told us at the outset. I don't want to do anything. They told us I don't want to quit smoking. I want to keep on going. Even for those people, we changed some behavior, yeah.

JHB: That's incredible. And what research would you like to see done next, or are you planning to do next on the back of this?

MC: So I thought hard about this question obviously. Well, I hope might be obvious is I think replication is the most important thing. So this is what I think is the largest naturalistic study of e-cigarettes done. I might be wrong about that, but I think it's the largest naturalistic study. It might be the first naturalistic study.

JHB: I think it might be, yeah.

MC: I think it might be. I don't ever want to say that's so positive, because someone's gonna prove me wrong on it. But so I'd like to see some replication.

JHB: No, it could be something else out there.

MC: You know, one study showing one thing is great, but to do it again in a different group by a different group, I think is critically important. The other thing I would say. Is that it's. I would like to dig into a little bit more of the subgroups of participants in our study and perhaps recruit adults who smoke, who are enriched with among a higher sample of lower socioeconomic status, education, morality, income, other indicators of social inequity, and you know, we have the ability to look at those data in our study, but you know the study was primarily focused on that. So you know now we're digging into small numbers and things. So I see a study that kind of focuses on the smokers who need it the most?

JHB: Is there anything else you wanted to say that you haven't had the opportunity.

MC: Now I'm really excited about the study. You know, I'm hopeful that it gains some interest both in the US and around the globe. You know, I think it has both clinical implications and policy implications, but I'll just focus on the clinical implications. I'm not here to say that e-cigarettes should be touted as, you know, smoking cessation products for everybody. In fact, I would be the first one to say that adults who smoke should use evidence based FDA approved products as their first line of strategy to quit. That includes a number of nicotine replacement products, other pharmacotherapies that's where everyone should start. But at the end of the day, we know some people won't use those things, or if they do some won't succeed. And what do we do for those. So for those folks, I think that we have to think about other alternatives because we can't let them continue on with their combustible cigarette smoking.

JHB: Yeah, I love this trial for a number of reasons, but one of them is that almost all of the studies we've included, or all of them in our review have a heavy component of support and how to use the e-cigarette and behavioral support. And so one of the criticisms is, but yeah, that's not what it's like in the real world.

MC: So yeah, Jamie. So you know that that we designed this study at the outset with this philosophy in mind, but it does resonate. So what happens when a consumer walks into a store and sees a number of products on the shelf and says hmm, maybe I want to use this? I don't know. I'll use it. I'll use this one and not that one I'll use this flavour, not that flavour, and they decide if they're gonna use it, how they're gonna use it, for what purpose, how much, how often, and perhaps our design is a little bit more reflective of that real world where people are deciding on their own. Not to dismiss those studies that are cessation focused and supported. They're very important. They have added a lot to our literature and our knowledge about e-cigarette products, but I think there's value in a study like this where it can show, you know, what is it like devoid of all that, yeah, support and instruction. You know, how will it be used quote "In the real world".

JHB: Thanks so much.

NL: It's really great to hear Professor Carpenter talking about this study as he said it being a kind of naturalistic study, because that's really what I think we need in our review, Jamie. And often I think that's what people are a bit worried about, that whether those kind of randomised controlled trials, which can seem very artificial. Whether they're actually reflecting what we would see if people use e- cigarettes in the real world and it looks like what Professor Carpenter's team has done is really try as much as possible make it kind of match that scenario where if someone were to kind of decide themselves, I want to use an e-cigarette and went into a shop, then it kind of emulates that kind of situation.

JHB: Absolutely. It's definitely a criticism that comes up about our review in the trials and something we call for in the review are more trials like this that reflect might what might happen in the "real world context".

NL: And it sounds like people were having a lot of fun at the EIGC Forum in the US and makes me feel quite sad that I wasn't there myself. How did that all go?

JHB: It was wonderful, Nicola. I think we have to try and find a way for you to come next year as well. It was a great conference. A lot of really interesting speakers. There was good representation from the FDA, so there was obviously a lot of discussion about U.S. policy. What we're seeing going on with youth vaping and smoking in the US and elsewhere and then also coverage about what's going on in Canada from a policy perspective, what's going on in New Zealand from a policy perspective, what's going on in the UK so it's a really nice mix of a lot about policy, which is very active at this moment and a lot about the research that informs that policy. So I left it feeling really good about what we do.

NL: And you gave a talk on our e-cigarette review.

JHB: I did give a talk on our e-cigarettes review. Yes, which people at least clapped for.

NL: I'm glad you had a good time and it sounds like people were enjoying your interview with Professor Carpenter.

JHB: I think they might have been enjoying their drinks and we just happened to be in the background, but hey, we'll take it. Well, I think that's it from us this month. Thank you guys so much for listening. Thanks so much to Professor Carpenter for the interview. And we'll be with you again next month. On 'Let's talk E cigarettes'.

Please subscribe on iTunes or Spotify and stay tuned for our next episode.

Musical outro

"Vaping is safer than smoking may help you quit in the end. But remember to mention the findings we have can't tell us what will happen long-term, even though we know vaping is safer than smoking, we may still find cause for concern. If you're thinking of switching to vaping, do it, that's what the experts agree. Smoking's so bad for you they all concur that vaping beats burning there's much to learn of effects long-term yet to be seen."

JHB: Thank you to Jonathan Livingston-Banks for running searches and to Ailsa Butler for producing this podcast and to all of you for tuning in. Music is written with Johnny Berliner and I and performed by Johnny.

Our living systematic review is supported by funding from Cancer Research UK. The views expressed in this podcast are those of Nicola and I and do not represent those of the funders.