Podcast series: Let’s talk e-cigarettes

October 2023 podcast #26 with Associate Professor Natalie Walker

Speaker 2 Nicola Lindson

Speaker 3 Jamie Hartmann-Boyce

Speaker 4 Natalie Walker

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 might give you a different advice.

Speaker 2

Hi, my name is Nicola and I'm a researcher based at the University of Oxford in the UK.

Speaker 3

and I'm Jamie and I'm a researcher based at the University of Massachusetts Amherst in the United States.

Speaker 2

We are both members of 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. This month we ran our searches on the 1st of October 2023. In a nutshell, we found two papers linked to studies. Previously identified the 1st is the main write up of Matthew Carpenter's trial, funded by the National Cancer Institute, where participants were randomised to receive an e-cigarette or not, which is published in the Journal of E Clinical Medicine. We discussed this study with Professor Carpenter in our May 2023 episode of this podcast. The 2nd is the protocol for a trial which hasn't yet been completed being carried out by researchers at the University of Auckland in New Zealand. The study is funded by the Health Research Council of New Zealand and Jamie discusses it with lead investigator Professor Natalie Walker in this month's deep dive.

Speaker 3

Thank you so much for coming on the podcast. I wondered if you could start by. Telling us about your background and what you got you into research in particular?

Speaker 4

OK well my background is quite diverse. It's in public health, so I initially started working in infectious disease environmental epidemiology. And then I moved into the cardiovascular disease epidemiology. So New Zealand is quite a small country, so it pays to have quite diverse skills. And the research group I work with at Auckland University consciously moved into the tobacco control research space probably around 2004. Maybe a little bit earlier and this move was initiated by our work on the global burden of disease and risk factors report that was put out by the World Bank and this report identified the leading modifiable risk factors for death and disease diseases such as heart disease, cancer and respiratory illness, and, of course, tobacco, was consistently at the top of the list, and so we decided to do something about that, so coincidentally, around that time was when e-cigarettes started to appear. And prior to this time, we had just started investigating the very novel idea of text messaging for smoking cessation. So it seems so long ago doesn't.

Speaker 3

It it does.

Speaker 4

And so when we moved into this tobacco research space, we wanted to focus on two areas. One was increasing uptake of existing smoking cessation interventions. And the other one was to investigate the effectiveness and safety of new interventions. So that's where the e-cigarettes came in. And so our group specializes in large pragmatic clinical trials and they're designed specifically to inform practice. So we want them to be able to be incorporated into the Cochrane. View which it then informs evidence-based treatment guidelines. Our trials typically involve people living in the community and we have to focus on Health Equity, so we make sure we engage with priority populations. And the trials are also designed to inform policy. So we work very closely with New Zealand policymakers to understand what information they need to make decisions, and in 2004 the government had a really urgent need to know what role do e-cigarettes play as a reduced harm nicotine product. What's their role in New Zealand's tobacco control environment? And so that's where we undertook our first trial of e-cigarettes for smoking cessation. And that was the one led by Chris Bullen. Yeah. So the issue for us is it takes about a year to get research funding and then three years to run a large trial. Yeah. And then it, by which time the vaping devices had evolved. And of course, that's why we have done more than one e-cigarette trial. And so to date, we've probably completed about 70 studies in the field of tobacco control and that's 19 randomised trials, so reaching almost 20,000 participants.

Speaker 3 It's phenomenal. As Cochrane reviewers, I can't tell you how much we appreciate your trials too. Much better for you. Thank you. So can you tell us a little bit about your new study, what you're setting out to look at? Why in particular you're choosing to look at these treatments?

Speaker 4

So, so every study we do, we build on the previous research. So we're just trying to fill the evidence gaps and. Is constantly building, building, building and that the the sole aim is to find that perfect intervention people's quitting journey. So we have done quite a bit of research on. Cytisine. So Cytisine is very similar to varenicline.

Speaker 2

Obscure science term definition. Cytisine and varenicline are two pill based medications that have been found to be some of the best treatments for helping people to quit smoking. They both work by blocking nicotine receptors in the brain to help make nicotine less rewarding and reduce cravings for tobacco products.

Speaker 4

So we have done big trial to to show that cytisine is more effective than nicotine replacement therapy and more acceptable. We've also shown that cytisine is at least as effective as varenicline, but more acceptable and with fewer side effects. And it's also lower cost. We've also done a lot of work around e-cigarettes or reduced harm products. So combining nicotine e-cigarettes with nicotine patches, looking at the impact of nicotine free e-cigarettes on quitting. We've also done a lot of work around text messaging for smoking cessation. So building on all of that research we're kind of kind of combining all that knowledge. And so how can we optimise our quitting? So we want to have the best of the best and to us that site dosing plus text messaging plus e-cigarettes. And so our new trial is designed to investigate that. So it's a single blind pragmatic community based trial. So it's 3 armed. And people are randomised to 12 weeks of e-cigarettes and that's the closed pod system. So 3% nicotine salt gone for tobacco flavour and it is is combined with cytisine. Second arm gets the E cigarettes alone and the third arm gets the cytisine alone, and so you know, that's our best of the best we think so it's a big community based trial, large sample size, we actually we've just finished recruitment and we've just reached. Yeah, it's just a couple of days ago. So we've got our 800 sample size, yeah.

Speaker 3

Fantastic. Ohh, we were really excited to see this study is on its way because it is very sorely needed. Did you encounter any challenges in getting it funded and getting it off the ground, or was it all smooth sailing?

Speaker 4

Ohh, no trial is smooth sailing, so once it's funded getting it off the ground is reasonably easy. We've kind of streamlined, we know what works, we know how to recruit people, we know the quickest way to recruit people and that the most cost effective. We've got good systems in place and things like that. So usually you know, once we get through the funding part, we're usually pretty good. The funding or designing the trials with the challenges that how to get a trial that matches as closely as possible real-world access to these products. Yeah, and the challenge there is then is getting the design also to match what reviewers expect for a good clinical trial design and then also matching the regulators requirements. And ethics. So, there's that tension and we also don't have a very big budget. So, the budget is very constrained about what we can afford. So. So it's all of those tensions. And that's why when I write my protocols and publish them, I always state what budget we had. Yeah. So that people understand the context and also the other challenges that we had. So, for me, I would always prefer to do something like a cluster randomised trial.

Speaker 2

A cluster trial is a randomised controlled trial in which pre-existing groups, otherwise known as clusters of individuals, are randomly allocated to treatment arms instead of randomising people singularly. For example, clusters may be GP practices.

Speaker 4

Or schools. That's a better design because it seems inappropriate to go and just randomise 1. person per household when you know that there's another smoker in the house. And so, cluster randomized trials are much bigger. Yeah, and we just don't have the money to do them. So, it's again a tension working away or, you know, working through those processes. Other challenges we have of course. Because it's a pragmatic trial, we try not to interfere too much. It's very light touch. So, we don't have multiple, you know, hundreds and hundreds of assessments. It's just light touch every. With very quick assessments. So, retention is always an issue. We don't pay participants to stay in the study. We do give them free treatment at the start, but we don't pay them further on. So, trying to really mimic that real world as much as we. Yeah. And verification of smoking status is quite difficult. So, people are spread throughout the country and anyone that's been to New Zealand will know that know it's quite, quite rural in places. So, it can be a long you might, you might drive 2 hours to find somebody and then you get there and. They're not there. So it's quite hard to do that verification, yeah. Yeah, it's pretty difficult. Things like some people coming into the trial cause it's a new intervention and there's something like the e-cigarette research when we first started everyone wanted an e-cigarette, so you're trying to compare it to, say, a nicotine patch. We would get dropout post randomization because people wanted the e-cigarette and they didn't get it and so we've had to adapt to that. And now a key entry is that you have no preference. So, we really, really push that thought that you know, you can't come into the study if you only want these. So, every trial we learn ww get the better and better and yeah, so those it's always challenging.

Speaker 3

Fantastic. And the last thing I just want to talk to you about was more general. So, we have an international listener base who may have varying levels of knowledge of what the e-cigarette landscape is like in New Zealand. Would you mind talking us through that? So, if someone, let's say outside of one of your trials, wanted to access a nicotine e-cigarette, could they? Would they be encouraged to do so? How does it work in New Zealand?

Speaker 4

OK, so our government supports the use of nicotine e-cigarettes as a reduced harm product. They see that e-cigarettes should be as available and accessible as tobacco. Ideally the more harmful products should be less accessible. Yeah. And so, some of their new policy they're introducing is to try and address that about reducing the number of tobacco retailers. But within that context, we do have boundaries. So, you can go to what we call a dairy. I think that's like your corner shop or what I'm trying to think.

Speaker

OK.

Speaker 4

Yeah, of an equivalent in the US.

Speaker 3

convenience store, we might call it.

Speaker 4

Convenience store. That's right, yes. So, you can get your vapes there, but they would be restricted in flavour. So, there's a mint, a mint on a tobacco flavour only. And then there are specialist vape retailers and they will sell all flavours and much more sort of focused and talk. You know, helping people switch away from tobacco within that retailer environment. OK. Yeah. And so there's some restrictions around selling of tobacco and vapes within certain distance of schools instance and other locations. We have some restrictions on the nicotine content. So no ecigarettes. Are available, yeah.

Speaker 3

And I know what you are setting out an ambitious plan in terms of tobacco control and combusted tobacco, and from what I've seen, it seems like cigarettes are a part of that plan to transition people off of smoking.

Speaker 4

That's right. Yes. We're introducing a nicotine reduction strategy. So, it will be the first and this time in the world to do that and the modelling and from New Zealand, which is based has utilized data from one of our trials we did on nicotine reduction almost 10 years ago actually. That's informed that modelling and it's pretty dramatic drop, but you have to have cleaner forms of nicotine available to help people switch over. Yeah. And then we can start transitioning people off the nicotine. Yeah. Be that's nicotine from a vape. Or be that from a nicotine mouth spray. What other form of nicotine. So that's the sort of theory is to transition to a clean form of nicotine.

Speaker 3

Fantastic. I know the rest of the world is waiting with bated breath to see how that all goes. You guys are real trailblazers in this particular area.

Speaker 4

I was exciting and you know, it's come about by incredibly strong leadership, particularly from our indigenous Maori leaders. So tobacco. Was introduced to New Zealand and to our indigenous Maori as part of the colonising process. Just and so you know, it's not something that's always been here. And so that's caused incredible harm to our indigenous people. And so the leadership has been extraordinary from a political and grassroots level in that sense.

Speaker 3

That's amazing. That's really amazing. Alright, well, thank you so much. Natalie. Do you have anything else you'd want to add?

Speaker 4

Well, some people might be interested to know what our smoking rates. Are. Yeah, our. Vaping rates

Speaker 3

I would be interested, yeah.

Speaker 4

So we look at, look, we just look at daily use in those age 15 and. Over so the latest data. Basically the daily use of vapes is 8% and daily use of smoked tobacco is also 8%. OK. So smoking rates have been declining dramatically overtime, including across those traditionally higher smoking subgroups. They have been decreasing at the same time, vaping rates have been slowly increasing and they're just starting. They're just starting to cross those two, two pathways.

Speaker 3

Things I can picture that graph and I'm curious what it will look like in years to come.

Speaker 4

Yes, and it's and it's across all. Of those subgroups so. By ethnicity or social class. So, we're seeing quite dramatic changes for our youth. So, we have a actually a teen survey which is 14 year olds. The smoking prevalence is 1%, that's daily smoking. But daily vaping is 10%. But we do know that are that not all the children are using nicotine, so some of them are nicotine free. Yeah. So it's that tension between helping people who are have been smoking tobacco for a long time and transition away to vapes. But we also don't want our youth picking up the vapes. So that sort of balance, that's what that we're still sort of fighting with a. Little bit.

Speaker 3

On the way forward, I think many countries are. Struggling with how to strike the right balance. In that regard.

Speaker 4

Yeah, yeah, yeah.

Speaker 3

Wonderful. Well, thank you so much for coming on. And we are very excited about your study and we know it'll be a while before it comes out. But we look forward to. Seeing it what? It does OK you.

Speaker 4

Should probably publish in about 7 months.

Speaker 3

That's very exciting. Alright. Thank you.

Speaker 2

So, Jamie, that was a really interesting interview with Professor Walker. And what really struck me was those smoking rates from New Zealand. They're just, I mean, I suppose it's worth for kind of comparison saying that our smoking rates here, I well when I say here I'm talking about the UK, I'm not used to the fact yet that you're in the US but in the UK they're now around 12 - 13%. I want to say so 8% is really low and that 1% in 14 year olds is really something.

Speaker 3

It's incredible to see New Zealand and what they're doing and one thing I've always been impressed with from them too. Over the past few years has been. How much they're emphasizing working with their communities, where the burden of smoking related disease is highest, including Maori communities, to really engage with communities, understand what's wanted, what might work, and be able to implement that. I think they're really trailblazers in a lot of areas, and I know that the rest of the world's tobacco control researchers are watching with bated breath to see what happens in New Zealand.

Speaker 2

Yeah, because at the beginning of this year, they announced their plans to raise the legal age for purchasing tobacco, and they were the first country to. To announce these kind of year on year increases and the age people need to be to buy tobacco and that will work further to trying to create this kind of smoke free generation and it's really current in terms of here because the government here have now decided that they're also going to bring that legislation in in 2027. Following in the footsteps of New Zealand, so I think it'll be really interesting to see how that works out in both New Zealand and in the UK, and it would be great if other countries follow suit as well.

Speaker 3

Well, that's right. And on an individual level, you know the studies that we look at it the way we're interested in e-cigarettes and our review is looking at their abilities to help individual people quit smoking. But it's nice to see policies that are coming about because e-cigarettes are available at a population level, right. So, they're considering, OK, we can crack down on cigarettes because we have these other, though not totally safe, less harmful nicotine delivery options that are available. So, it's really exciting to see that opportunity being harnessed. And yeah, I just wish we had a crystal ball and could look 10 years into the future and see what happens there.

Speaker 2

It was really interesting what Natalie said about their overall approach in New Zealand is basically that to make e-cigarettes more available than tobacco because we know it's a lower risk product and it's really interesting to hear it put in that way and it's just you know it kind of does bring home how different that is to the approach of you know some other countries and the differences in opinions around e-cigarettes.

Speaker 3

Absolutely. We have a great national experiment going on at the moment between nations and yeah, in 10 years or so, it'll be really interesting. To see how this all pans out.

Speaker 2

And then maybe can be applied to. To other things in the future. Exactly, exactly.

Speaker 3

All right. Well, I think that is. It from us this month. Thank you all so much for listening. Thank you to Professor Walker for coming on for that really interesting interview and we look forward to checking in with you next month on ‘Let's talk e-cigarettes’. Please subscribe on iTunes or Spotify and stay tuned for. Our next episode.

Speaker 1

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 about switching to vaping do it. That's what the experts agree. Smoking so bad for you they all concur that vaping beats burning there's much to learn of effect long term yet to be seen.

Speaker 3

Thank you to Jonathan Livingstone-Banks for running searches to Ailsa Butler for producing this podcast and to all of you for tuning. In music is written with Jonny 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.