**M.Sc. Thesis in-depth interview-20230808\_153203-Meeting Recording- Head of PEU**

0:02  
Start recording.

0:04  
Yes, yes, you can send being recorded.

0:06  
That's fine.

0:07  
Yes, good.

0:08  
Yes, yes.

0:11  
OK.

0:11  
So I will open this questions, I'll I'll share the screen.

0:21  
Thanks.

0:30  
OK, I can see that.

0:33  
Yeah, I will.

0:34  
I will.

0:34  
The first three-part of it is like is what I'm going to explain to you and based on this I think I will ask the questions to get things clarified.

0:46  
I had I heard another question which I will add it at the last based on the discussion I had with Royce in SO based on the census data which which she had prepared right.

0:57  
So I just had one one more question, I will ask that in the last.

1:01  
So yeah, first thing is like the overall overall design of the project, right?

1:06  
So I will open the 2nd.

1:38  
Yeah, I've just opened the information leaflet just to explain to you on the objectives of this research and yes and the sampling and primary research methodologies which have which I'm doing.

1:52  
So the objective is like I have divided it is 111 common objective like one umbrella of objective which are divided into 3 different batches in in data analytics perspective one is 1 batch is for the descriptive statistics just to identify the variations of colonoscopy for each gender and age groups and all that.

2:16  
And then there there is a bit of hypothesis testing which I'm doing that is again based on the outcome of this primary research in depth interview which I'm doing like as part of this right I have, I think I have a question just to understand if if like I I think in participation wise we know that the the male participation is less compared to woman but in terms of colonoscopies in the same case.

2:45  
So when I did a primary the data analysis right like just just by comparing the numbers and just plotting the graphs, I couldn't find much of a difference.

2:55  
I found more or less male and female number of colonoscopies are more or less the same.

2:59  
There is no substantial influence on gender on this.

3:04  
So that is where it is.

3:07  
But then I will be doing a hypothesis testing to see like if if the male population is actually less based on the average, right.

3:13  
I'll take an overall average and then I'll take male and female population separately and then I will do an hypothesis testing there.

3:21  
OK, so yeah, so that is the first objective and the second objective is to see the the correlation studies between the features.

3:32  
Like I will as part of the in depth interview, I will try to explore the the features, features like what I mean by features is like the gender, the age, the deprivation areas and all that like what is the amount of influence they have And I will try to plot that and in terms of correlation metrics and to see like with the existing data do does it really show this correlation between the numbers.

4:02  
OK so that is the second objective and the third objective is to build a machine learning model which is again based on these these features.

4:12  
I'm I'm trying to do 2 different type of models.

4:15  
One is using a time series analysis sort of things like I will I'm trying to do a quarterly or even weekly kind of quarterly, weekly or monthly kind of data with each colonoscopy numbers for each.

4:31  
Yeah.

4:31  
I think if I try to separate male and female, the numbers will be very small.

4:35  
So I'll club together and then I will, yeah, weekly my time is small, but yeah, quarterly or monthly might be better.

4:41  
Yeah.

4:42  
Quarterly, yeah.

4:43  
Quarterly, monthly I will be just doing that.

4:45  
Like I, I, I, I made two step to that.

4:47  
So I need to see like which data set will fit appropriately to my model because if the data is too less than I will I will not get the proper accuracy or yeah, if it is too more than there will be like I don't want to get 100% accuracy also.

5:02  
So, yeah, I mean, yeah.

5:05  
So, yeah, So, yeah, yeah.

5:07  
I, I, I I'll try to build such a model, but I'm not really sure like how much like there there there might be some open areas as part of the research.

5:19  
It is like because of this like I'm not considering the deprivation areas even in the data set which are OK because I've got to ask you that question.

5:28  
Yeah.

5:29  
Yeah.

5:29  
Because the deprivation area like based on like work work part we did earlier, we know that many of the things are tagged to default.

5:36  
Yes areas.

5:37  
I didn't want to have that again one more third party come in there and then it will essentially take up lots of time.

5:42  
I think we can park it for a little later for analysis.

5:45  
Yeah, there would be a, there would be a cost associated with that.

5:48  
Yeah, that wouldn't be the cost of the project.

5:50  
It's the cost for the program.

5:51  
Yeah.

5:52  
Yeah.

5:53  
So I thought like for this right for my thesis at least I will stick to the the data which we have primarily with the colonoscopy numbers.

6:03  
So I think based on what I have seen, the only influential factor that where I can predict the the the the model is 1 is the census number and then the the the actual colonoscopy number.

6:17  
Based on the past colonoscopy figures I can predict the future ones.

6:21  
I did don't find any major difference with the age as well as with the, with the, with the gender.

6:31  
So yeah, because we only have two age groups as well.

6:34  
So it's difficult to to get a trend or anything with just two points.

6:38  
Yeah, yes, yes.

6:41  
So these are the objectives there is.

6:44  
And next is the sampling strategy like I what I'm trying to do is I'm trying to have two different population, one is for male and this is for statistical analysis.

6:54  
I'll have statistic analysis done separately for male and female that there'll be two different populations.

7:00  
And then I will sample the data based on for the hypothesis testing primarily.

7:07  
So I will sample the data like we have the existing data from 61 to sorry 60 to 69 years old.

7:15  
So this 60 to 69 years of old data will be the sample and the overall population which I am considering in mail is from 55 to 69 okay and then based on the average I have for 60 to 69 I will do the hypothesis testing on the number of to predict like I'll I'll I'll what I will do is like this.

7:44  
This is again part of the design.

7:46  
So I think I'll explain the design also parallelly.

7:48  
So what I will be doing is from 55 to 60, I know that this is the census numbers.

7:53  
And from 65 to 60, from 60 to 69, I have the census numbers as well as the population.

7:59  
So I know what is the percentage of the census.

8:02  
Who has done the holoscopy.

8:06  
Yeah.

8:07  
So I will apply that percentage like they're based on my analysis.

8:13  
I couldn't find any major variations in the percentage of people The Who has done, The Who has done the colonoscopy.

8:20  
So I'll apply the same percentage into, yeah, 55 to 69 and I will use that data, right, Like I will like, I will, I will assume like just to see if that same average is applicable from 55 to 69.

8:33  
So, yeah.

8:36  
Yeah.

8:36  
So that that is that is what I'm planning to do for the hypothesis testing.

8:46  
I think that is that is in summary, I think I have explained it a little more.

8:49  
Yeah.

8:50  
Yeah that's fine.

8:52  
That's fine.

8:54  
And then primary research is again primary research I have identified as in depth interview because though I have the data, I I have the data for both sensors as well as this one because luckily by the time I started my thesis, I got 2022 data.

9:09  
Yeah.

9:10  
Yeah.

9:10  
So I am I am working on that like I'm I'm.

9:15  
I'm trying to like get the percentage variations like based on the interview with Royce and I understood like there is like I I she went through the excel sheet which she prepared and then she showed me like what is the variation she saw between Cor and yes this one and then she was like like those percentages which which was there in that I I am not really sure like if I can if I need to apply in this one because we are we we have done our analysis like so far everything was based on like the the horoscopy numbers the invitations everything is based on to the census data of 2016.

9:57  
So when you say the there is a 16% increase in the population in 2022, yeah.

10:02  
Do we need to apply this 16% population in the coronoscopy numbers as well because this is prediction model, right.

10:08  
So maybe you should be using the register numbers because those are the actual people will be inviting and screening.

10:17  
OK, we know that there is a discrepancy between the population but those are populationist for some reason we're not able to reach currently that we don't have the the details for them or we have too many details.

10:29  
I think we might be 5% over the census, but I think you're analysis should be based on our register because the register is used to invite people to screening and then they come and have the positive fit or whatever it is.

10:42  
So all of your data that you have is based on register, register produced data, you know, Yeah, yeah, yeah, yes.

10:54  
So currently currently what I'm doing is like I am I'm just having the colonoscopy numbers that only I yeah am not using the register anywhere.

11:04  
Only place I'm using census data is to to one is to identify the percentage between this 155 to 69 and also to so predict the numbers.

11:17  
Like not not to predict to estimate the numbers.

11:20  
Had there been from 2014, had we invited people from 55, what would have been the numbers from 2015?

11:29  
Right.

11:29  
So okay that, yeah, it was something around I think 4 extra 4 extra clients per week or something.

11:37  
OK, OK, Gotcha.

11:39  
Yeah, so I'm just just to build the model.

11:42  
I'm using it.

11:43  
I'm not using it for any statistics or anything.

11:46  
You're not using uptake rate or fit positive rate.

11:49  
You're only using colonoscopy data from the program index colonoscopies either.

11:56  
Yes, I'm just using that because that is I think that is one that that is one of the question I had for you in the in, in the questionnaire.

12:05  
Like my assumption is that the, the census numbers is proportional to the optic numbers, which is again proportional to the.

12:12  
Yes, yes, exactly.

12:13  
It would be the same rates applied across.

12:15  
Yeah, I agree, yes, yes.

12:16  
So yeah.

12:18  
So that is where that is the reason I did not mess up with too many numbers.

12:22  
So unless, unless you looked at the uptake and FIT positive rate of 65.

12:29  
No, I don't.

12:30  
It doesn't matter.

12:30  
No, it doesn't matter because it, it's all factored in.

12:33  
Yeah.

12:34  
Yeah.

12:34  
So yeah, your rate of colonoscopy by age group is proportional to the uptake rate and the FIT positive rate for those age groups.

12:42  
Yeah, that's fine.

12:43  
Yes, Yeah, yes.

12:44  
And one more thought which had come to me during the design is like to use the FIT positive rate, the uptake numbers like and then apply the percentage of colonoscopy on this uptick number and then use it for the lower range.

12:57  
But I did not do that because when you say the, the I've I've used the overall colonoscopy numbers only the not only the index one like it, there will be surveillance colonoscopy.

13:08  
Yeah, there will be, yes, colonoscopy also That is the.

13:11  
Yeah reason I use shifts, Yeah.

13:13  
That eats into the colonoscopy capacity which is the issue.

13:15  
Yeah, the surveillance and the repeats, they all take off the slots that we have, Yeah.

13:21  
Yes.

13:22  
And especially when we are reducing the age range from 55 to 69.

13:30  
So it's like every, every age will have that extra year, right, Because yeah, we have that 14, what is that, 14 months surveillance.

13:37  
So yeah, every year that will get added up.

13:40  
So that is why.

13:42  
But I've not added that percentage anywhere.

13:44  
I will just mention it as shortcomings in the, in the thesis saying that this is something which is there which needs to be considered.

13:53  
Yeah.

13:53  
The in the limitations.

13:54  
Yeah.

13:55  
In the limitations.

13:56  
Yeah.

14:00  
Yeah.

14:01  
And now if I go back to the questions, I think I have explained the overall design, primary research and some data.

14:07  
OK, thank you.

14:12  
Is the census numbers for an age directly proportional to the uptake rate you think you said is there should be enough?

14:20  
I would probably need to look into that.

14:23  
I should have maybe looked at this question before.

14:27  
When we look at initial uptake.

14:33  
So that's the people who are getting their first invitation.

14:38  
I think we find that younger people come greater than older people.

14:44  
The younger age groups attend more.

14:53  
However, then when those people have comes for screening, they become subsequent and then the subsequent people, they're always older anyway and they come at very high age.

15:03  
Uh at very high uptakes, there's over 80% for subsequent people.

15:08  
So it's kind of there's two types of population really when we're looking at screening uptake, there's initial and there's subsequent, yes.

15:18  
So initial has a lower uptake and subsequent has a higher uptake.

15:21  
And now I could send you, you know, I might just share it here.

15:28  
If, oh, I have it open, great.

15:30  
But I have it on a almost open.

15:34  
So my RAID has done up around 4 program report, draft.

15:42  
OK, OK.

15:42  
And if I if maybe if you start sharing, I might share there is sorry to interrupt is if it is OK to be shared like because this is recorded and it'll go to the CCT website.

15:54  
If it is not published that I think we will not share it.

15:58  
OK then let's go to round three.

16:00  
Yeah.

16:02  
Where's that Round four just go back upper level then round three report which is is online just look and see the dates to see which is the final.

16:14  
This looks like almost final.

16:18  
Okay.

16:18  
So this you will find as public data and is available on the website.

16:25  
Oh sorry, I just oh, can you see that the bottom screen round three program report.

16:33  
Yes, I can.

16:34  
All right, that's great.

16:36  
There's still comments and stuff, but there it is available online.

16:39  
I'm going to make you small so I can scroll Okay.

16:43  
Usually the first section is uptakes of the program.

16:50  
That's great.

16:51  
It's flying okay.

16:56  
So round three, the overall uptake was 41.9%.

17:02  
And then we look at uptake by age and gender.

17:05  
So these are initial clients.

17:07  
Table two is initial clients.

17:09  
So these are people receiving their invitation to have their first screening appointment.

17:15  
And you can see that for female, there's a higher uptake.

17:19  
And for younger people, there's a higher uptake, not very brilliant uptake.

17:24  
It's only 19% overall.

17:27  
And there's a kind of a reason for that is these are people who are being invited for the very first time, but it's also includes people who were invited before and didn't come and are still awaiting their first screening appointment.

17:40  
So um, that's kind of diluted.

17:43  
It's kind of diluted.

17:44  
So maybe if, yeah, I'll just stick with this for a moment and then I'll go back a bit and then we can see for subsequent clients.

17:50  
So these are people who are being reinvited.

17:52  
And you can see it's just really high across the board, but it's again higher for females than for males and it's a little bit higher in the younger age groups than the older age groups.

18:04  
And there's a bar chart in there that shows age and gender, whether they're initial or subsequent.

18:10  
But actually, I'm going to stop sharing that and I might go back and see, is this the right one?

18:15  
Stop sharing.

18:17  
I might go back and see if I can find the round one report.

18:19  
Actually, you know I should probably look online, but this is expected, right?

18:26  
That is because it is expected, yes.

18:28  
But it's just to show you, you have you have evidence for it.

18:30  
I'm going to go down and see if you can find round one report.

18:33  
And the reason I'm going to look for round one report is because it was a Greenfield site.

18:38  
There was no initials as everybody was initial.

18:41  
So I'm going to look for health professional resources, just see if I can find it.

18:45  
The website is really bad for finding information.

18:48  
Okay, round one, it has opened.

18:56  
I'll start sharing.

18:58  
Let's just go through it because everybody was initial and I'll give you a feel for what would be like if things weren't diluted by these previous nonattenders.

19:16  
It would have been a lot of information in the first report because everything was new.

19:28  
Okay, there were over 70s in this, and the reason there were over 70s is because it took so long for the program to do the first round that some people who would have been eligible for screening had turned 70.

19:41  
So they decided to invite people up to 73 who they felt had missed just because we were so slow getting out.

19:48  
So all other things being equal, if everybody was the same and had never been invited before which is what happened here, you can see that the uptake among males 6064 was 35% for females 44 and a little bit lower.

20:01  
Oh no, it's actually higher in this Sixtyfives to Sixtynines.

20:05  
I don't know if that is useful to you, but it takes out.

20:08  
I think it takes out the effect of those previous nonattenders who are diluting round three reports initials.

20:14  
And I don't know if you it's too complicated to get into in your because you don't want to get into the invitation strategy in your I think.

20:21  
I think.

20:22  
I think that my when I mention like if it is like based on my based on my statistics, right.

20:29  
If I don't see any significant difference or rather if I see any difference, I yeah can mention like I can compare it with how the optic is.

20:37  
I can give reference this as a I can yeah use this as a reference.

20:40  
Yeah.

20:41  
But optic but then was is higher than males.

20:43  
Yeah, yeah.

20:44  
But then I think, I think this proves it, right.

20:47  
Because to the one with 2012 to 2015 is when the program started.

20:52  
Yes.

20:52  
That is where that is where we saw because everybody are new.

20:56  
And that is why from 60 to 69 there are, I mean in fact they are higher.

21:01  
But then the second round it has like people would have already been invited in the 60 to 64.

21:07  
So I mean they would have crossed the 65 age.

21:10  
Yes.

21:11  
So, yeah.

21:12  
So you can explain that.

21:14  
Yeah.

21:14  
Yeah.

21:15  
Yeah.

21:15  
Does that help you or does it confuse you?

21:18  
It doesn't, I think.

21:18  
I think it helps me with this one.

21:20  
Like I'm though I'm not using this data for, for predicting anything, but I think when I explain the statistical significance, I can refer this and I can say like though the uptake is this way, but the colonoscopy is not exactly the same way.

21:37  
Yeah.

21:38  
Yeah, exactly.

21:40  
Okay.

21:41  
That's good.

21:41  
And you know where those information they're all up on the bottle screen websites.

21:45  
Yes, I will.

21:45  
Yeah.

21:50  
Yeah.

21:52  
OK.

21:52  
So there is a, there is an effect of gender on uptake and there is an effect of age on uptake on uptakes.

21:58  
Yes.

21:58  
Yeah.

21:59  
Yes, I will share the screen again.

22:04  
Yeah.

22:04  
Thank you.

22:06  
Yeah, this is again this one.

22:10  
If there is a like like we we have seen that the uptake had well like uptake was increased, uptake had actually increased for 60 to 61.

22:23  
But then when we are reducing it further from I think from 55 to 69 again based on the studies within the program like within Ireland or maybe outside.

22:35  
Did we see that any hesitancy or something like was there any such kind of study done like no not but again round one report will inform you there it appears that so when all things were equal and you have all age groups the same under the exact same circumstances, you saw that there was a slight reduction with the younger people both male and female compared to the over 65.

22:59  
So again, I think the round one report 2012 to 15, that table, table two can answer that question for you.

23:14  
Yes, and it mightn't be significant.

23:17  
I mean if you did a significance test on that, you might find that it isn't significant.

23:21  
I don't know, we didn't actually test that.

23:25  
Yes.

23:26  
So this, yeah, the next one is like the the probability like again we have all our data based on based on the uptake or based on the program participation.

23:42  
But for colonoscopy, again is there any like like is there any difference in the probability of men and women to undergo colonoscopy?

23:55  
Like we haven't we looked into it in particular, however we have the data to support that but I don't know what the answer is.

24:03  
I think there isn't much of a difference.

24:06  
However, I can find you that information because when we present the program data, once we get to colonoscopy, we don't divide by male and females.

24:16  
We're just given the overall rates.

24:18  
And when I first did the program reports, I asked the clinical director, do you want this data presented by male and female?

24:24  
Because we have it when we run the reports and he said he didn't think it would make much of a difference.

24:29  
And certainly as regards the program targets, they weren't interested in the breakdown by male and female.

24:35  
However, I can find you that information for round one, round two, and round three very quickly.

24:41  
I mean, I just have to go back to the reports we ran.

24:44  
I have in an overall figure of something like 84%, whatever it is.

24:48  
But I know that the report that gave me that data has it by male and female.

24:52  
So if you want me to take that as an action, I can take that and get you off the top of my head.

24:59  
I don't think there was.

25:00  
But wait until, wait until you see the data.

25:03  
So it's colonoscopy uptake.

25:08  
Yeah.

25:08  
By mate, By gender, yeah.

25:11  
That's just again to this is again to support my analysis because based on the past numbers when I, I think I, I the the report is not ready to be shared.

25:24  
But I think I showed you last time that I couldn't see much of the difference in the graph.

25:30  
It is, yeah.

25:30  
And I wasn't surprised because that was my memory that there wasn't much.

25:34  
Yeah difference.

25:34  
So I didn't even question you or follow that statement because I thought that sounds OK Yeah so but but I will get the evidence to see if that is the case from the the data behind those reports by gender.

25:46  
Yes okay.

25:52  
So the next one is like, are there any other measure or feature I need to consider?

25:58  
Like as of now I'm I'm only considering the census and census and actual colonoscopy numbers.

26:07  
Uh, this again goes back to that.

26:09  
Uh, uh, question #4.

26:10  
Like do I need to, um, consider the uptake numbers?

26:14  
Because we know everything is proportional.

26:16  
So I is it it is sufficient to use only the formoscopy numbers for predictions, right?

26:21  
I think so, yes.

26:23  
For male and females, I mean you have age and gender, yes.

26:27  
Can you?

26:27  
Yeah.

26:28  
And we don't have anything further like deprivation.

26:33  
We have don't have any other available information for you to do another field or what's the word variable.

26:40  
We have no other variables available to you.

26:42  
However, just when we're here at this bit, because I made a note on deprivation, it might be worth your while to look at NCRI publications because I think it might have been late last year or earlier this year they produced a report on cancer instance by deprivation status.

27:02  
So it might just be useful background for your report.

27:05  
We don't, we can't support it with any of our data, but it might be useful contextual information for you.

27:11  
And if you're kind of saying about maybe further work in the future, that would help prediction models.

27:16  
You know, another limitation might be that we don't have indices for deprivation.

27:21  
And you could say, and I can't remember, most of the cancers, especially the major cancers, did show a trend with like more deprivation having higher instance.

27:33  
And I think that might be applicable to bowel because of the diet of people who are in deprivation who tend to be unhealthier and stuff.

27:41  
So I could be wrong because I was just going to call with Nick Clark and he said, oh, we saw the census and they said there's no effective deprivation.

27:49  
And when he said that, I was very surprised because I thought there was.

27:52  
So please have a look at that.

27:54  
But it would be very good for the context if you're saying what would help.

27:57  
Or another limitation is we don't have deprivation and the NCRI showed a link with deprivation, if that exists, yes, I don't know off the top of my head because there's so many cancers and you know, you read things and the the main facts don't stick in your head.

28:11  
There's just too many facts.

28:12  
But that is on the website and I think it'd be good for the context anyway of your report and your background and all that.

28:19  
Okay.

28:20  
So that would be the only other one.

28:22  
But we don't have clean, uh ded linked data to the individual's address.

28:28  
So we can't assign a deprivation status to each individual.

28:32  
So we can't do this particular analysis currently.

28:36  
But maybe in the future, as you mentioned earlier, we could, you know.

28:40  
And so that's kind of a limitation again, maybe of your study.

28:44  
Yeah, I'll just put that as a limitation then then a possible limitation if the data show, you know, depending what the answer I report shows, yeah.

28:58  
And the next one is like, yeah, this one is just to support my literatures, like if there is any results done.

29:05  
In the past I had gone through a couple of literatures, one is for Sweden and another is for Scotland.

29:12  
So I think Scotland had some some solid data which which showed that effect of I think even they had they had gone with only gender and age and what did they find when they they did the population extension did they do over 70s.

29:34  
I think they had gone for the like I I was focusing on the lower age population.

29:40  
OK sorry.

29:40  
Yeah, yeah, yeah.

29:42  
Because I didn't want to create more of more of work.

29:47  
So.

29:47  
So in in bottle screen there hasn't been research done.

29:51  
There may have been what you call the back of an envelope exercise where somebody says what would you expect and I go and I say, you know, but we haven't done anything formal.

30:00  
So what we would use would be census estimates of the population.

30:06  
We would then estimate uptake rates and we would from literature, if it's an age group, we do not screen and an extension is an age group we don't screen.

30:19  
We would look at a comparable population and Scotland would be very comparable to Ireland.

30:24  
They're just as unhealthy as the Irish if not just a little bit more.

30:28  
And we would maybe apply their rates as estimates to what we would expect in terms of uptake or positive fit and we we would give a rate for yeah, positive fits and index colonoscopies, you know, but um, it hasn't been done formally but that is how we would do it and that's how we did it for breast.

30:46  
When they did the age range extension, we looked at international literature for countries that would have similar demographics and populations to Ireland and we applied theirs their take rates and or their positivity rates.

31:00  
OK.

31:01  
But I think I like are the the standards which we had right that what is that HB greater than 6MM6MG we had right like for fit, fit positive.

31:15  
Yes it does it.

31:16  
Yes.

31:16  
We'd also have to for population with the same cut off.

31:18  
You're right.

31:19  
Yeah.

31:19  
Cut off.

31:19  
Yeah, yeah, yeah.

31:20  
The the threshold or the fit cut off.

31:22  
Yeah.

31:24  
Because I I think last time, sorry, progress to see that's not applicable.

31:28  
Yeah, yeah.

31:33  
Yeah.

31:35  
Fit cutoff is actually very important in your study.

31:39  
When you think of it like we have the threshold we have now and you'll have that in your UM because you can manage the fixed positivity rate by changing your threshold.

31:52  
And actually, I don't know if you're aware in Ireland when we started, we had 100 milligrams per mil as a threshold and then we changed it because we were getting 8% positivity and the program couldn't sustain 8% positivity.

32:06  
So um, we changed the cutoff rate.

32:09  
Now I think I wasn't.

32:12  
Was I sick?

32:13  
I certainly wasn't around when that was changed.

32:15  
And I suppose this is being recorded, but I wasn't 100% confident in how they picked the new threshold.

32:23  
But it works.

32:23  
So I think it's from 100 to 125, like whatever our one is Now it depends if you're using namograms per gram or milligrams per mil.

32:33  
And if you just double check with Paul Carney, he'll tell you exactly what our threshold is in two different formats because there's two ways of looking at the fit threshold.

32:44  
Ready this if you want me, Maybe want it?

32:47  
Won't it vary from age?

32:48  
Like, is it fixed for all the ages?

32:50  
It's fixed for all ages.

32:52  
However, there's increasing evidence to say that women should have a lower threshold.

32:59  
They're talking about in the future, changing a different threshold for men and women because women have a lower positivity rate.

33:08  
But it's all just, it's been discussed in international publication circles.

33:14  
Yeah, yeah, yeah.

33:15  
OK.

33:16  
So I think you and then like when we, I don't have to actually think about the free threshold at least for for for this prediction I think because as of now we are having the same threshold and we are having that same this one for any ages.

33:34  
OK.

33:35  
Well, maybe you need to consider that you might have to eliminate people from your study who were on the old threshold.

33:44  
So maybe you need to get the date that we changed to the current threshold and not and exclude people before that okay, because they're they're not really applicable to your modeling because they were under a different system.

33:57  
So I think you need to ask somebody in the balance screen program, what date did we change from 100 to 225?

34:05  
Okay, I have a meeting with Mary tomorrow.

34:07  
So yeah, so that would be a really important question for her.

34:15  
It wasn't too long into the program.

34:16  
I think it was 2014, but you would need the exact date really because the the program switched, you know who was positive changed and we started getting from it went down from 8% to 5%.

34:30  
Like do I still have round one open, I can just check and then they don't even have to share it with you.

34:34  
But I think I think I have started using from 2014.

34:39  
I did not use 2013 because it was showing very the numbers were like very less, very small colonoscopy numbers.

34:48  
So that is the reason I changed it.

34:50  
I did not okay because it was giving me inconsistent numbers when I predict.

34:56  
So yeah, when I look at this report, because it's still open in the background, in 2012 and 13 big positivity was 8% and that was unsustainable.

35:04  
We could not send all those people to colonoscopy.

35:07  
And from 2014, it's 5%.

35:09  
But maybe you'll get the exact date.

35:10  
There could be still a small number of people on the old.

35:12  
It might be in February 2014, but I'm not sure the exact date.

35:16  
So you're close anyway.

35:18  
So that's good.

35:19  
Yeah, when you look at the round one report, you'll see that it just the program would have crashed.

35:24  
It couldn't.

35:25  
And actually, we're not alone in doing that.

35:26  
The Netherlands did the same thing.

35:28  
They found that they had an unsustainable number of people coming through for colonoscopy.

35:35  
Okay.

35:36  
Yeah, I mean this is, are there any screening predictions?

35:47  
It's not colonoscopy done in the past for any of the programs like other than I think we what what specifically I was I was asking is like based on any artificial intelligence or machine learning models.

36:04  
Was there any predictions done in the past for any other programs, any other international programs or any other Like it could be us or I'm afraid I don't know.

36:16  
You might have to do a bit of a literature search for that.

36:19  
Yeah.

36:19  
So modeling colonoscopy screening or something like that and you might find something for the Netherlands, we haven't found the screen in Ireland hasn't done that.

36:30  
But you may have to do some kind of literature to.

36:33  
Yeah.

36:33  
To back up that and there might be something useful in there that you haven't thought of, you know.

36:37  
Yeah.

36:40  
This is useful.

36:41  
Yeah.

36:41  
I'll do some.

36:42  
Yeah, yes.

36:47  
I think the, that I think we're going to the last one now is the population across different ages in total.

36:54  
I think this question I had actually worked in detail with the Roy Sin the other day.

37:01  
Yeah.

37:01  
And she sent you that document.

37:04  
She did.

37:04  
She had given me that pyramid which you sent me the other day.

37:08  
Like she explained that pyramid to me what exactly we are doing like one point adding adding that this one.

37:15  
So I think like I said you there is one one question I had based on that right.

37:19  
Like so like I could see that in the pyramid we have, we have added only one age at a time.

37:27  
Like are we planning to extend one age every year?

37:31  
Yes and that's the plan currently.

37:35  
I haven't really been involved in the rule out of that.

37:37  
That's they are looking at the numbers a bit like you to see what resources will they need if they do that.

37:44  
So they're looking at how many people be screened and how many colonoscopies will that give rise to and will they have enough capacity.

37:51  
They can't do a Big Bang and go out overnight because, you know, to all ages because it's a service will need to be increased gradually to accommodate all the extra people coming in.

38:00  
And also there's quite a lot of younger people coming of age.

38:04  
You know, there's kind of a bulge in the population coming forward.

38:07  
So there's quite a lot of new people coming on.

38:09  
So, um, they have to manage the rollout of the age range extension.

38:14  
So that's what they're doing.

38:15  
They're trying to manage it to gradually increase the number of colonoscopies they can get from the clinics.

38:21  
And they have to say, look, when we do the age range extension, we're going to need 20 more sessions from you or what are, you know, from each of the the clinics to say so they can.

38:30  
There's no point in doing an age range extension and then not having the follow up services available.

38:35  
So this is just part of the planning.

38:37  
Yes.

38:38  
Yeah.

38:39  
So they're planning to do it one up, one year down one year until the whole thing is done.

38:45  
And that's how the breast was done as well actually.

38:47  
But it was easier because they were only going upwards.

38:50  
So what happened was when you turned it was 65 at the time, you didn't fall off the end, you stayed on.

38:57  
So it was very much easier to to predict those.

39:00  
But each year we just took one year extra women for five years and then it was you know, level, we were doing all the age groups and then we maintained that.

39:09  
So it's kind of just, it can't all be done at once.

39:11  
You can't extend by 10 years.

39:13  
Expected to be.

39:15  
Yeah, that expected to be a success.

39:18  
Okay.

39:19  
Okay, yeah, yeah, okay.

39:22  
Yeah.

39:23  
I think one more this one like for this question only I have noted it out.

39:28  
Are there any measure or feature I need to consider right like in in the census data we were also talking the other day about the immigrant and immigrant travelers and refugees.

39:42  
So we don't have anything of any any such data right data.

39:46  
And so that is another limit that would be part of deprivation and marginalized groups and we don't have that data.

39:54  
We don't have ethnic or even national background, you know.

39:58  
So we don't have travelers picked out.

40:00  
We don't have a flag that says some days members of traveling community, but we do have I suppose.

40:08  
Public health would link in with traveler organizations and maybe give talks and presentations and try and in some way facilitate them in doing you know, in coming forward for screening for all their screenings, you know, but we can't measure that.

40:23  
Yeah, like my my question was more more focused on the census numbers.

40:27  
There is so like census is the number and or at that night.

40:32  
So yeah, that night you'll have say 100 people maybe.

40:37  
So it's not necessary.

40:39  
Those hundred people are in Ireland.

40:40  
They are at that point of time, data rate they were at that point in time, which was the 3rd of April 2022.

40:48  
But that's a census.

40:49  
I know that on the census form, it does say are you resident in Ireland or are you visiting Ireland?

40:56  
But they're not taken out of those overall numbers that we have, and I'm sure they're probably small.

41:02  
They don't pick in time during the summer holidays when we might have an influx and also a lot of people leaving the country.

41:07  
I don't know if you remember the census in 2016.

41:10  
Were you here then?

41:12  
No, I wouldn't.

41:12  
I wasn't here.

41:13  
Well, there was a huge match in Dublin.

41:16  
Monster were in the European finals and there was so many Cork and Limerick people actually resident in Dublin that night.

41:22  
So the numbers were a bit off for some places, you know, there's just there was a a big yeah, because there was a huge match on.

41:28  
But there's nothing they can do about that, you know, but you Roshi, might have shown you there was a lot of inward migration in 2022.

41:35  
Now yes, not so much in the over 60s, but in in the under 60s it was in the over 60s.

41:41  
It's a number of thousands, but in the under 60s, it's 10s of thousands actually.

41:45  
But they are on the census and it just shows that there was a huge, the net migration was inwards.

41:52  
So they know that there's immigration and immigration and people come and go, but it is just a point in time.

41:56  
A census is a cross-sectional study at a point in time.

41:59  
OK, Okay.

42:03  
So I think it is worthwhile for me to for me to mention that as well, like because I don't have the data there.

42:09  
So I think if you want, I can send you the draft report on the okay census.

42:16  
It is just a draft, but there's a nice graph in there.

42:20  
I'll get the bottle screen one.

42:21  
I think it might have over 65.

42:23  
Whatever.

42:23  
I'll send you the draft bottle screen one anyway.

42:26  
OK.

42:26  
OK.

42:28  
Census validation, It is just a draft and you can have a look at it.

42:32  
But UH Roshin took a nice graph out of the census that shows the difference of inward and outward migration over the years and how there was a big, big peak in 2022, which, you know, mightn't be finished yet.

42:45  
And obviously what to do with the war in Ukraine especially, uh.

42:49  
But I mean, people are still coming, I guess.

42:51  
Yeah.

42:52  
Yeah.

42:52  
Yeah.

42:52  
So it could, it could be even more in 23 and 24, but we don't know.

42:57  
Yeah.

42:57  
Yes.

42:58  
Yes.

43:00  
Yeah.

43:01  
So is there anything else?

43:07  
So what I was going to do then I will provide you with the colonoscopy optics by gender for round one, round two and round three.

43:14  
And probably you're best to ask Bob, the screen about the 5th threshold.

43:19  
Yeah, you know, and the data changed and what changed from and to what the units you're looking at.

43:25  
I think it's micrograms per mil, but some programs give it in nanograms per gram, you know, so it's just very slightly different ways.

43:32  
So that would be nanograms per gram stool.

43:35  
And the for us, it's microgram.

43:37  
The micrograms, I think per mil of the buffer, you know, it's put into a buffer in the container.

43:43  
Yeah.

43:43  
So it's just slightly different units.

43:46  
And I will send you the the draft file screen census validation report, which is just a draft.

43:52  
Yep.

43:52  
So sure.

43:53  
Yeah.

43:53  
Yeah.

43:55  
Is there anything else?

43:58  
I think that's all I had.

43:59  
Let me stop the recording first, this one.

44:04  
OK.

44:04  
And I hope it was helpful.

44:06  
Yes, it was.

44:07  
There is.

44:08  
Yeah.

44:08  
And don't forget that that National Council registry.