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Transcript

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Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 0:06

Welcome to the Public Health Network Cymru's webinar. My name is Cerys Preece and I'm from the Wider Determinants of Health Unit and I'm going to be overseeing today's session.

Today's webinar will give an overview of the Wider Determinants of Health Unit's work in relation to education as a determinant of health. Programs and ambitions to raise school standards and educational attainment are not new in Wales and over the last decade Welsh Government have called for action and improvements to raise literacy and numeracy standards. However, health inequalities persist in Wales, and the GCSE attainment gap between pupils eligible for free school meals and those who aren't have continued to widen. Research by the Health Foundation shows a good education, and those of the highest level of education, are likely to access good, fair work, have a good quality of life and develop lifelong healthy habits.

Today we're joined by Christian Heathcote-Elliott and Cathrine Winding, who will describe how they've used a participatory systems mapping approach to understand the complex pathways which influence educational achievement outcomes in Wales. They will give an overview of the map and how they've used it and discuss their learning from using this approach as a tool for working with others to understand and manage complex public health issues.

Christian has a wealth of experience in Public Health Intelligence and Health Improvement and has worked for the Wider Determinants of Health Unit since 2020 and is currently the programme oversight lead for the Shaping Places for Wellbeing in Wales programme, which seeks to apply a systems approach to influencing the wider determinants of health in the context of delivering public service board wellbeing plans.

Cathrine joined the Wider Determinants of Health Unit in 2021, where she's worked on various topics such as Fair Work and Educational Achievement. Cathrine also supports the management of a Wider Determinants of Health Unit Community of Interest. So before I hand over to Cathrine and Christian, just a couple of things. After the presentations, there's going to be a chance for you to ask questions and please use the chat bar to type in your questions in English or Welsh. The webinar is being recorded and will be made available along with any presentations on the Public Health Network Cymru's website, and lastly, if you have any technical problems, please let the team know through the chat and we'll do our best to help. So over to Christian and Cathrine can I ask you to share your screen so I can check that.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 2:23

Diolch Cerys thank you. Bore da, hello to everyone this afternoon who's joined us and thank you Cerys for that really great introduction. So you've covered off some of the bits I was going to introduce, so that's great.

But so yes, we work in a Wider Determinants of Health Unit. This is a relatively small team in Public Health Wales that was founded in 2019 and as Cerys said, our interest in education is a determinant of health and wellbeing outcomes throughout the life course. As we started this journey it was fair to say that this was an exploratory area for the team so we were really trying to focus on where we could add to existing work in this area. And we started by starting to think a little bit more about how we could approach this area as an exploratory area through looking at the issue through a systems thinking at lens in addition to some of our more traditional ways of looking at the situation in terms of data and evidence. So next slide please.

So we would like, before we do the rest of the presentation, I'd like to just express my thanks and acknowledgments to a number of people who contributed to this piece of work, including the participants in the Systems Mapping Workshop, the Program Board we had around this piece of work and some expert advisors who gave us expertise in around systems mapping and particularly around education. Next slide.

So today I want to just recap a little bit more about why we did this work, framing the issue of education achievement. Cathrine will pick up talking about work that was done in parallel to this around looking at education and health pathways, and then we'll be talking you through systems mapping, the particular approach we took to systems mapping, and I guess perhaps the most important bits is to share the learning we have from undertaking that experience. Next slide please.

So as Cerys set the scene really nicely, the context for us was that we know education is a building block to health and wellbeing and a major contributor to health inequalities in Wales and across the UK. We knew at the point of starting this work, there were lots of systems actors and there were lots of Public Health work, particularly within the school setting, focusing on health interventions which were improving learners and having an impact on education achievement. So for example, there are programs around the Welsh Network for Healthy Schools and Preschools Schemes, and a Whole School Approach to emotional and mental wellbeing. So for us, we really wanted to understand the context more, what issues were particularly important at the moment in relation to educational achievement and the attainment gap, what else was happening across Wales and across the system, and what might be further opportunities for points of intervention. And in particular, where our team could add additional value. Next slide please.

So from a systems thinking perspective or lens, one of the key thing to start out considering is how we might frame the issue and when we started this work, we probably didn't do this ostensibly, but through our various dialogues I think that's where we did approach this. So

within the kind of systems thinking and broader literature issues can be characterized as simple, complicated, or complex. So for example, a simple issue might be if we're cooking something for our tea tonight, we can characterise what that recipe might look like, that it would be a relatively smaller number of ingredients and with a reasonable degree of prediction, we could probably predict the outcome. For those issues that are complicated, so for example, if we take our car, that has many hundreds, probably thousands of components in it, and those components work with each other. So there are relational aspects to it, but once again, if a part fails, we can probably predict the impact of that on the other parts of the car. But as we move to complex, these are some of those kind of societal very often public health issues, sometimes we call them knotty issues, that are much more difficult to grasp and define and there's not necessarily immediate solutions to these. In the literature, there's a distinction that Rimmel talks about which is between tame issues and wicked issues, and Ackoff refers to difficulties or messes. So in that complex lens, you might hear complex, wicked or messes, but broadly they are talking about the same types of issues which I think many of our issues that we're contending with in public health would fit under this.

Next slide please.

So characteristics of messes are that often they're hard to pin down, so seemingly they might seem relatively straightforward on the surface of what the problem is, or what the root cause is. But actually when we involve other people, people have quite differing perspectives on the nature of the issue. With messes they're not amenable to simple solutions, and very often in some of the systems literature we actually move away from the language of solutions to resolutions. So these are things which are not easy to fix. They often are issues which relate to uncertainty in the future and even if we know a lot of the parameters of the issue, it's still difficult to predict. They involve many multiple interrelated factors, and this is where systemic or systems relational thinking can be helpful in helping us without understanding and managing what might be characterised as messes. And so I think this was one of the kind of roots as to why we went down the systems mapping approach.

Next slide please.

So if we consider educational achievement as a mess, one of the key aspects once again is different views on what the role of education might have in society and if we actually look at the roots of the word education it has two different meanings. One meaning is around reproducing existing culture and learning and transferring this, and the other meaning leading out is actually to equip children and young people with more inquiring minds and tools that enable them to deal with the uncertainties and adapt their life to the future.

As Cerys meant, what we do know from the data is there's been a persistent educational attainment gap in Wales and more broadly across the UK, and that attainment gap in recent years has been slightly greater than in England. And it's particularly related to social economic disadvantage and intersects with other factors, including gender and race. Where there's added complexity in this is that education is a pathway to both health and conversely, in reverse health is also a pathway to educational achievement and attainment. So this adds to that layer of complexity and trying to unpack this mess.

So I'll hand over to Cathrine now.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 10:06

Thank you.

I'll take you through the evidence review that we did before we got into the nuts and bolts of system mapping. We carried out a rapid evidence review to look at the relationships and the pathways between education and health outcomes because there's lots of work going on in Public Health Wales looking at how a healthy child can achieve better in school, and we wanted to look at it from the opposite or the other lens. And what we found were three broad pathways linking educational achievement to health outcomes and I'll go into that a little bit more on the next slide, but they are work and income, psychosocial environment, health knowledge literacy and behaviours. These are interconnected pathways and influenced by many other factors. They're not sort of separate pathways. You have to think about how they relate to each other as well. And we also found that the literature traditionally looks at educational attainment rather than achievement due to accessibility of data. So literature would look at things like the grades you've got and the years of education that you've obtained rather than potentially quality of education, other life skills and knowledge, social and emotional wellbeing that you get through education. And before I move on as well, this was quite a broad literature review. There's many possible health outcomes that you could look at in more detail. So with the broad scope of this literature review, it included things like chronic pain outcomes and musculoskeletal conditions, social wellbeing, self-rated mental health, so there's a whole range of different papers that were included in this review, but it was meant to give us an overview of these broad pathways.

This is a fairly simple diagram. It's taken from one of the papers included in the literature review. We've got education on the left, the three broad pathways that lead to health outcomes later in life, and here's a slightly more detailed diagram that was included in our briefing of the literature review. It's adopted from the models and diagrams that we've included in the literature review, and as you can see, there's quite a lot going on, but you've got educational attainment on the left-hand side, the three main pathways in the colours in the middle, so psychosocial environment relates to both sense of control, your social standing, your social support, the people you surround yourself with. Work can include working conditions, work related resources, income and then your health-related knowledge literacy and behaviours include things like nutrition, risk, behaviours, and use of healthcare services. That also includes understanding healthcare information.

And what we tried to represent then was there's a reverse causation as well. It looks like quite a linear diagram, but it's not meant to be linear just because a lifetime is linear, but you're affected by different things through the life course. So at the top we've got wider economic, social and political context and at the bottom, gender, ethnicity and age that all affect both your educational achievement, the three pathways in the middle and health and wellbeing outcome independently as well.

So there's quite a lot of information, but this is all in the briefing that's located on our website as well if you want to have a further look and it's available in Welsh.

Some of the things that came out of the literature review was the focus on individual level factors and future research really should try, it's hard because of the data available, but should try and focus less on the specific grade or years in education of pupils and more

levels of numeracy and literacy, the quality of education and those structural factors. Education and achievement is very contextual, historical, and political so it's likely to differ from country to country. It might even differ from one region to another region in the same country and one of the papers included in this review suggested that education may improve health and mortality less in Europe, where healthcare tends to be universal and compared to, for example, the United States, where healthcare isn't universal.

The third point is that while education provides opportunities and increase the opportunity to live a healthy life, it can also perpetuate cycles of intergeneration on socioeconomic disadvantage where if we go back to the previous slide, the left box you've got intergenerational factors which can play a huge role in the education that the child gets.

And then the last point was simply that the evidence shows there are ethnicity and gender differences in the effect of education on health outcomes. Some studies from the US have found a difference of those with Hispanic ethnicity compared to white Americans and there are some studies from Australia that looks specifically at women and how women with higher education invest more in healthy behaviours and social capital, which then impacts their social and emotional wellbeing more. But that wasn't the focus of this review and that's something you could go into more detail if that's what you're looking for.

And then moving on to systems mapping, so we took the evidence review, a sort of a contextual background knowledge, leading into this second piece of work and systems mapping really is a device for learning about a situation and making improvements and there are many ways of doing systems mapping. We chose to do a participatory systems mapping as it's a way of developing a shared mental model with others using causal loop diagramming. So you typically develop your participatory systems map with either partners and stakeholders, or if it's an internal piece of work you might do with your team and your colleagues. And it's kind of a well, it's a collection of tools and methods. There's lots of different ways of doing it.

You could do rich pictures, you could do an influence map, there's context maps, network analysis, social network analysis and some of them require specialised software, but a lot of them you can do either just in person and by hand, or there are lots of free software as well that you could do.

Developing assistance map is based on boundary judgements as well. So what's within the scope of your map and what's out of scope sort of depends on what you then focus your mapping workshops on. And for our mapping workshop, our approach was we had to do this online due to various things. I think it was still kind of COVID situation and people weren't allowed to be too many people in a room, and we also wanted to include people from all over Wales rather than having people travel far. So we did three online workshops using Miro boards and that image in the top right corner is a screenshot of one of the Miro boards.

So we started off with five free identified factors, sorry, themes. We had education, child and family, economic, social and community and an other box simply so the participants didn't have to start with a blank page, but we started filling out those five predetermined themes of factors affecting educational achievement in Wales. The second part of the

workshops was then to connect those factors to each other, how they relate to each other, how they affect each other, and that's what the image in the top right corner is. So you've got in the middle educational achievement and then all the factors around them that affect each other and educational achievement. We ended up with five maps looking like that. So the next part was to take it back to our team. We synthesised the maps, the draft maps into one big map, and then we took that back to validation workshops which included a smaller group of the original participants. And then we took it back to our team after that, did some more work on it and the final thing we did as well was get feedback from children and young people in Wales to sense check with them, if that makes sense to them because this was all made and developed by adults. So that was quite an important part of making sure we had it right and I know this looks like a really linear process.

It's not, there are some steps that you can do, but throughout the whole process we went back to the draft map, and we iterated it and we changed it and we developed it and then we got more feedback and more engagement with stakeholders. And so yes, I don't want you to think that this is a really step by step linear process because it's not.

And what we ended up with is the map on the left. The colours represent the subthemes that were slightly different from the predetermined ones we started with in the workshops. So over the course of iterating the map the subthemes kind of changed and they had a different name. And what we really wanted to do was make sure we told the story of the map to the audience because you might see this and think, great I don't even know where to start, there's a lot of information on there, so it's important that we try to find out how to tell that story and hopefully there's a video. There was video, there it is.

OK, please do stop me, the sound should be included, but stop me if the sound is not included and I'll fix it.

VIDEO PLAYING

Education is a fundamental building block to health and wellbeing.

When we don't have a good education, this affects our chances of getting a decent job and income. It also impacts on the choices we make about our health and wellbeing, our sense of control and access to social support. In this short video, we will guide you through a systems map which looks at the factors and the relationship between factors which affect educational achievement in Wales up until the age of 16. The systems map was developed over a series of online workshops with over 30 partners representing a broad range of perspectives and as part of validating the map, we've talked to children and young people about what they think is important. The systems map can be used with the partners you work with to look at their role in the system and how different parts of the system connecting influence each other, and to identify gaps in activities which aim to improve educational achievement and reduce the attainment gap.

When looking at complex issues such as why some children and young people do better at school than others, systems mapping allows us to develop a simplified version of reality. A systems map is a tool which shows a network of factors and the cause-and-effect relationships between factors. The key features of the map are labels representing factors in the educational achievement system, arrows showing

the links between factors, the direction of the arrow shows which factors causes others and colours. Factors have been grouped into 6 themes; each has a different colour. In this presentation, we will take you through each of the thematic areas on the map. We will start by considering what are the most direct pathways affecting educational achievement. Educational achievement is affected by four key pathways, the child's mental wellbeing, the child's engagement with the school, the home learning environment and the availability and quality of support available for their learning needs. The child's mental wellbeing is essential to effective learning and affects their ability to engage with the school. In turn, the child's home learning environment also affects their mental wellbeing. The child's mental wellbeing is affected by individual level factors such as their self-esteem, traumatic life events, caring responsibilities, and health related behaviours. These factors also affect the child's engagement with the school through their attitudes towards education and aspirations for the future. A child's ability to learn is also influenced by their family circumstances. Important factors include the primary caregiver's health and wellbeing, their ability to form a secure attachment with the child, their engagement with the school and their employment status and working conditions.

These family circumstances are in turn influenced by the primary caregivers, childhood experiences for education or traumatic life events. As educational achievement is strongly related to work opportunities, support networks and health literacy and behaviours, the impact of low levels of educational achievement can be intragenerational. The child's home learning environment includes their housing conditions, digital resources, and time to support learning from the primary caregivers. These are influenced by family factors like income and flexible working hours. The education system in itself can be divided into different pathways of impact. Firstly, educational factors affect a number of individual level child factors, including the child's mental wellbeing and pupil engagement in the school. These educational factors include bullying, presenteeism and quality of early years childcare. Secondly, school leadership and pedagogy affects the availability and quality of support available for different populations of learners. Teaching methods, school staff understanding of disability ableism, and behavioural management methods also have an impact on mental wellbeing and pupil engagement with the school.

Thirdly, wider factors such as the curriculum and school infrastructure also contribute to the ability of a child to learn. Wider community and social economic factors also play a role. This includes access to safe and active travel, access to extracurricular activities, and availability of positive role models. The social economic context also influences the home learning environment through household income and housing conditions. Factors within the education theme are also affected by those in the wider community and social economic theme. For example, through the quality and terms of conditions for teachers, teaching assistants and support staff, and the level of investment in relation to population need.

In summary, the systems map shows educational achievement is the result of complex causal pathways which start before a child is born. Good health and mental wellbeing are intrinsically connected to learning and educational achievement.

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Addressing factors outside the school is fundamental to improving educational achievement and reducing the social economic gap in attainment and education and health outcomes can be a part of an intergenerational cycle of disadvantage.

Working together, there is an opportunity to disrupt this cycle and bring benefits for future generations.

To find out more, contact PHW.determinants@wales.nhs.uk

I don't think we need to listen to where you can find that information because it's all in the chat. I'll just maybe go to the next slide which just revisits those key messages at the end of the video that educational achievement is a result of causal, complex, causal pathways and good health and mental wellbeing are intrinsically connected to learning and addressing factors outside of schools fundamental. As you can see in the map, there's lots going on outside the school environment that will affect educational achievement and disrupting those cycles of disadvantage can bring benefits to future generations.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 27:58

Thank you.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 27:58

And back to you, Christian.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 28:00

Thank you, Cathrine.

And so through undertaking this process, I think we've reflected on number of the value of the systems map. So I'm hoping that the video showed that one of the key values for us has been the story it tells. Now, as you would appreciate from the video, we did quite a lot of curating and really thinking about how to present that story because the map can look quite unwieldy in itself. What we really found was important and that's been reflective from other experience I've heard with undertaking participatory mapping is the richness of the conversations which took place between participants in the workshops.

So as we said at the beginning, we brought quite diverse perspectives together from education and health partners and through actually undertaking this process, it brought some really rich conversations and actually made connections that were not necessarily apparent beforehand. So what we've really valued is that by using the map, we've used it to work with our colleagues, particularly within Public Health Wales who are also contributing programs and areas of work which contribute to improving both health outcomes in children and young people and also educational achievement and towards reducing that educational attainment gap. In particular what we did was we took the overall systems map and we overlaid that with those different programs and areas of work that Public Health Wales, through working with others, is working on and this allowed us to look at the alignment of particular programs. So from our internal kind of planning and alignment

perspective, we really found that map really useful and from a public health perspective it also helped us to identify where there was less activity in terms of the organisation towards this and we identified that the home learning environment was a particular area where we felt that there could be further work and to look at the context of the home learning environment and how that impacts on learning within that school environment and within the learning environment, home learning environment itself. The additional benefits we've used from the map and some of these have been spin off and unintended consequences is we've started some conversations with Welsh Government colleagues and community focused schools and it's really by using the map helped them to also identify where Public Health Wales might contribute more to their work and supporting their work.

It's also brought together colleagues in community focused schools with the leads on the healthy promoting schools' programs within Public Health Wales. We've also shared the map with other Welsh Government colleagues in education and they've used and shared the map to have rich discussion and using the insights to support their work around reducing the attainment gap. And particularly, they've set up a tasks, a group that is really focusing in on attendance and we've shared this map with them as well.
Next slide please.

So this is just a diagrammatic representation. So what we did was once we overlaid the programs within our organisation onto the map, it really did quite get an unwieldy and quite messy map. So we decided that we would produce a simple coloured visual that shows the subsystems in the map and then proportionally the degree of effort and programs. So for example, the yellow is programs in the organisation through working with others that focus on education, we have other programs that work specifically on the child at an individual level, programs which work on, for example, first thousand days programme which focus on those kind of early experiences and family experiences. So as I said we've used different visuals for different audiences. And the quotation from the left was from a colleague in Welsh Government who's been using this map, and they've really, it's helped them to kind of show the importance of the complexity of the landscape and to also reflect on that education cannot resolve the education of achievement gap issue itself. This is multifactorial involving cross-partners to really work on this issue.
Next slide please.

So we just wanted in our concluding remarks is to share some of the learning through undertaking the mapping process. And I think one of the kind of key aspects to really consider if you are going to take a systems mapping approach in particular participatory systems mapping to really think about that, why are you doing the mapping exercise? So is it for example for mapping out the complexity for your own internal planning processes? Is it to help work with partners to identify their contribution to particular areas on the map and getting them to think about how the particular areas in the map that they focus on, how that then impacts and influences on other areas of the map? So it's almost allowing them to zoom out and really take that kind of big picture perspective.

What these maps can be really good to look at as well is to really think about determining points of leverage for change as well, to really look at where can we change? So points of leverage relates to where we might make small changes, which actually ripple out across the

whole different nodes of the map. It can also help us to consider where our kind of current policy and initiatives are focusing. Are these focusing on event initiative level? Are they focusing on transforming structures within the system? Are they focusing on changing the system's goals, or more deeply, are they actually trying to really change the paradigm of the system itself? So it can really help you explore those different levels of points of intervention. It can also help you to think about the likely intended and unintended consequences of making changes through implementing an initiative. So you can obviously use these as a blend. You might look at all these different purposes, but I think it's important to say to really start an ask that question. What is it I'm using this mapping exercise for? And secondly to that is matching the purpose to the types of systems map.

So although we've shown you a participatory map as Cathrine and Cerys mentioned earlier, there are different types of mappings. So there are for example rich picturing exercises which are particularly good for eliciting different perspectives and world views on an issue and individual. And these can be really helpful at the start of when you're bringing partnerships together.

Then there are more computational types of mapping exercises which are for example, systems dynamics modelling where we can actually look at predicting how a system will react by implementing an initiative or intervening in that system. So when you think about the systems interest like our educational achievement map that's a conceptual tool and as we've talked about, we have to make some judgments about boundaries. What is within that system and what's in the external environment and what are subsystems? So these are judgments that you make when you're producing the map and when you're starting out this process and if you're doing a participatory process, you have to really think about who are the stakeholders that this map is producing? What version of reality do we want to produce? So these are some of the kind of things that you have to ponder and really think about.

Another issue that comes up a lot in discussions around these maps is the kind of so what factor. We've produced a complex map that looks very unwieldy, and it can be quite off putting to people we might work with. So we need to consider about actional complexity, and this relates to boundaries of actually just how complex you want that map to be. What level do you want it to be? A broad map? Or do you want it to be a very detailed map? And then think about how you're going to translate the findings of that map into action for change and creating transformational type change activities.

And I think for us as well, once you start to use the map outside of the audience that produced the map, then you've really got to think about how do you tell that story to a wider audience in a way that's digestible that can be interpreted. So it's that fine balance between demonstrating complexity and communicating those core messages.

Next slide please.

So I think on a more practical end we would really say, seek advice from people who do this a lot. And I think our experience taught us that this is actually harder than it looks. It took a lot of iterations, a lot of effort to really get to that kind of final map, and the final picture. Although we did the mapping online and we do know that other people have done this as an online exercise, I think we would probably suggest doing it in person if you can do it. And

in actual fact, you know, sometimes the very simple kind of paper pen techniques, stickies, post-it notes can actually get you to where you need to be without using fancy software. There's no right or wrong look for these systems maps. So it links to that point of what's the purpose of that. What do you want it to do? And who do you want to communicate it to? To do what? Make sure the technology is right for you. So the end map we produced in some software called KUMU which it particularly if you're doing the participatory system map as an ongoing process where you might keep iterating the map, that's when perhaps the software can be really useful because it's easier to update and change the map if you're using this with a group of partners over time.

And I think one, I suppose one thing which I reflect on quite a bit is that sometimes we need to be careful about systems maps, almost seen as things or objects.

They are one version of reality, particularly if you do it in this kind of participatory and I think the image is showing that you know, we often have very different world views and different perspectives and depending on who we bring in to create that map, we will generate a different map. And it is likely that map and as we go through time and it being dynamic, it will change over time.

So I think that's our kind of final learning and reflections that we wanted to give to you. In summary three kind of words that I would use when considering using this technique, it would be firstly that purpose for the mapping, practicing this and practicing the techniques and really preparing for it, it takes quite a lot of preparation time. So that would be my three passing points that I hope you found that useful and insightful if you're considering undertaking this and using this tool.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 39:17

Ah, thank you so much, Christian and Cathrine for going through that and sharing your learning with us. We've already had some questions in the chat, so I'll go through them now and if anybody else does have any further questions, please pop them in because we have a bit of time.

So Cathrine, I'll just go to you first because we've had a couple of questions around the content of the actual map. So the link is in the chat and hopefully people can take some time and go and have a look at the map in a bit of detail, but one is around from Russell asking if what environmental factors, if any, were identified in the systems mapping, particularly around outdoor learning and green space.

And then Debbie as well, asking if menstrual health or any health related symptoms featured in the discussions during the workshop.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 39:57

Yeah, really good questions.

So in that community, wider social and community, it was the dark grey box in the map. We do have things like access to green and recreational space, access to safe and active travel, community safety. But that being said, the group of people that were in the room were health and education professionals, so it's really their perspectives and you might get a different outcome if you had a group of environmental health officers in the room, but it was mentioned and it is in the map because it's quite an important part, but it might have

been more featured if it was a different group of people. And in terms of menstrual health, we did have an endometriosis patient advocate in the group but in narrowing down the factors, because we ended up with almost 200 factors and we had to sort of go through a selection process and narrow it down. Because it was only coming from one person and one voice, in the process of developing the map, it didn't feel like one of the most important factors, and it sounds harsh, but it didn't make the cut. So yes, it obviously is part of what would affect educational achievement, but



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 41:24

Yeah, and I think what we did is with some of the factors, we actually subsumed them into a like a high, almost like a higher-level factor. So I think there is a factor around kind of specific health related or gender related health issues.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 41:37

Yeah.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 41:42

So there's a broader factor and that's where sometimes you have to make some of these judgment calls because as Cathrine said, we ended up with over 200 factors and it really does become unwieldy. So there are judgment calls made on this, but yes.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 41:56

Yeah.

And I think in our in our map in KUMU the software, you can add a description underneath the factor so it's probably featured in our KUMU map but you can't embed a KUMU map on the Public Health Wales website and with then just a PDF it's quite hard to add that level of detail, going into detail about what housing condition means or what living conditions mean.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 42:15

Yeah.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 42:21

I hope that answers the point or the question.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 42:26

Brilliant. Thank you.

And there's just a couple of questions around how long did the project take? So including developing the systems map bit, the kind of participatory workshops and then the storytelling and putting that all together at the end. So yes, Christian, what's the kind of timeline there?



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 42:43

Yes. So it did take over a year in total for every aspect of the work. The actual workshops, the initial workshops done in Miro were done within a week, they were done quite quickly. The bit that took, probably because we were learning and feeling our way through this, so we did get advice from an academic colleague who works for CECAN and I can never fully

expand on that abbreviation but we got their advice who did a lot of participatory systems mapping so we did spend a lot quite a lot of time on that reducing that 200 factors and how you did that in a way of justifying what was being either condensed or removed or duplicated. So that took quite a bit of time. Then there was a validation process which took quite a bit of time, and then there was the production of the video. So I think you know with reflection and learning I think you could condense the amount of time it took, but yes, we were, it would be fair to say we were finding our, we were navigating through something which was a new way of working for us.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 43:58

Yeah, absolutely. And just in terms of the stakeholder workshops, we have a question from Sara wondering if you had any stakeholders representing early years. So just tell us a little bit about the stakeholders who were involved. Cathrine, you mentioned it was health and education broadly.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 44:13

Yeah, and you're testing my memory, because this was December 2022. I believe we did have someone from first thousand days Christian, from the first thousand days team.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 44:23

We had, yes, we had consultants from first thousand days, and I do believe we had some other early years people. I'd have to go back to the list, but yes, they were involved with that process, yes.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 44:34

OK. And I imagine that will be captured on the on your documents on the web page somewhere.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 44:36

Yeah. So there's a document that lists the stakeholders in the systems mapping approach document that's on our website.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 44:45

Perfect. So another question from Fatima asking if you've got any practical tips or key reflections on that facilitation element of the mapping during the workshops. I know you're both involved, so yes.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 44:59

One thing I'll say about the online, online facilitation takes a lot more facilitation than in person facilitation, if that makes sense. When people are in the same room, the conversation seems to just happen a little bit more naturally or you can go and look at someone sticky and say, oh interesting. OK yes, I see. And that doesn't really happen online. So it takes more facilitation.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 45:28

Yeah. And I think there's something about you have to be, perhaps more if you're doing it online, more prescriptive about the rules and really break it down. What are you asking

people to do at this point, then this point? Perhaps in a way that you wouldn't quite do it. It's more organic, more natural what you're asking people to do in the room.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 45:45

Yeah. And then you've got the tech, which again just adds another layer to online facilitation, if not everyone can access it or someone's laptop freezes. And yes, so it is very doable online, but just extra.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 46:04

It's more challenging and takes more effort, yes.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 46:07

Yeah.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 46:08

And how important is that kind of topic and knowledge? You know, do you have to be an expert in the topic to be able to do systems mapping or?



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 46:17

In systems mapping or in this case creation?



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 46:19

During yes, in the workshops for facilitating the mapping?



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 46:24

I Don't think so.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 46:24

No, I don't think you do need specific knowledge in that. It's more around the facilitation and almost knowing, so there'll be something about how you facilitate people to think about the connections between nodes which takes time as well. So it's more about that, you don't have to, you know the expertise lies in the room who are creating the shared understanding the mental model. It's more about understanding the process to get to that I think is where you need the expertise.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 46:54

Yeah. And it was a lot easier second time we did it for another project because education was the first time, we as a team did a map in workshop.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 46:58

Yeah.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 47:04

Yeah, and I think like you said, a P for practice, I think, you said Christian and somebody who's asking about the software that you've used. So you mentioned Kumu and thank you for putting that in the chat, but any other kind of useful places to go and have a look or any other tips?



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 47:17

Yes, there is. There's another free mapping software that's on the Cegan website. So this is, I've got to get this right now, Centre for Evaluation and Nexus and Complexity something like that. I think Cathrine is looking it up quickly now, I think. We can put that in, but they have free mapping software there that you can access as well. There's also another software that's free called Y it's capital Y e and d, YEd which you can search on Google for that as well.

So there's, I think there's three kind of free ones you can use and the only thing to bear in mind with the free ones is that those maps potentially are publicly accessible. So if you're going to use it for the purposes for, like personal identifiable, that was a concern you might have to pay for a paid version of it, which obviously has greater security potentially.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 48:10

Ok brill and I think hopefully the Network team can collate all of this useful information; we'll pop that on the web page.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 48:15

Yes. Yes, absolutely, yes.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 48:17

And another question just by myself actually, just earlier you were mentioning systems mapping is just one way of thinking in systems, and you talked about, you could also do rich pictures or system dynamic modelling and we've all seen rich pictures. So just wondering if you've got any reflections in terms of what context or when you might use rich pictures as opposed to mapping.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 48:40

Yeah, sure. So rich pictures comes from, so I'd say participatory systems mapping and rich pictures come from what's called a soft systems methodology and soft systems relates much more to the kind of public health, social issues that we're doing, these complex type things. So rich pictures is often useful when, as I said, I think I mentioned in the presentation, if you've got, if you're bringing partners together and you're really trying to get an understanding of the individual's interpretation of the issue, what's their kind of world view? And you can use it and quite quickly, you know, and people are worried, often worried about when you use that about the drawing to, it's not about drawing, it's about what important features do they put, what are the connections they put between, and you can give people icons to use as well. So I would say it's very much if you're at the start of either understanding an issue and you really want to understand those kind of multiple perspectives in a way that draws it out pictorially. You can then move to a more collective mapping exercise afterwards.

So it's kind of, they call it, there's a German word for it, but it means roughly worldview and that's the idea. You're trying to unpack someone's world view. Their kind of mental model of what the issue looks like, so that's when you might use it.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 50:00

And just building on that, Simon's asked in the chat about the systems modelling approach. And he's asking, did you consider the system modelling approach or is that perhaps part of the next steps or would that be a different context that you'd use that kind of approach?



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 50:13

That's a good point, I think as I said, the systems dynamics modelling, there's different versions of that as well. But one of it is it is using that kind of computational modelling, so that's not something we thought about for this because this was very much about sensing the landscape and trying to understand the context and different perspectives. But if you got to a point where this was, you were trying to maybe look at if you took this policy direction, what are the potential intended/unintended consequences for these different sets of actors? It would be perfectly possible to use that using some modelling, but yes, I definitely say you need some expertise in there. You know, and there are academic units that major on this, so yes.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 51:05

And also from Simon who's asking was it possible during the process to give certain factors like impact waiting to help discussions on, to focus resources or what to go to next? So did you consider waiting or evidence or impact?



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 51:20

Yes, we did. So we, this was very much as we said a kind of, I guess a first try. The next step which you can do on these types of matrices exactly what I'm saying is you could go and look at the evidence base then and start to look at the strength of those connections between people's perceptions and that then might lead you into thinking, OK, so in terms of our current policy and our current activities, are we majoring on where the evidence tells us is the strongest connections. That's not something we've done at the moment. It might be something that we move into as a next phase.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 51:59

Absolutely, thank you. And Fatima is asking, is there any follow up work to identify practical systems actions to address inequity in the educational attainment?



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 52:10

So in terms of our own unit's focus what we identified was that it was the home learning environment where there appeared to be less activity. So for our own unit's purposes, that's what we're starting to scoping at what might that look like in terms of looking at the evidence for what particular interventions are in place at the moment. More broadly speaking, as I said, the Welsh Government are using that map perhaps to look at that bigger picture, and the interconnections and what activities but other systems actors are being undertaken. So I think what we've done is we've used it to identify where we might add value to that overall set of different initiatives and policy landscape. And I know that as a side point to that, Cathrine also did another piece of work which we tried to start looking at the policy landscape over mapped and overlaid on the mapping and that was quite a complex exercise.

So we haven't, we didn't, we stopped that for a little while because it just was really difficult to look at it from a national, regional, local perspective. It became very unwieldy.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 53:18

Yeah, because we were trying to do it for the whole map, which was essentially all policies. So yes, if you if we did home learning environment, it would be.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 53:30

It be more plausible to do, yes, yes.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 53:35

Yes, to start looking at policies affecting that area. Your situation of concern or system of interest or whatever name you might want to call it.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 53:43

Brilliant. Thank you. And the last question before I kind of start rounding off is just Fatima's asking, would another participatory action scale mapping make it easier?



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 53:58

Not sure I know exactly where Fatima's coming from but in terms of so, one of the things I might not answer your question here, Fatima, but do contact me outside if you want to. So for our own in terms of the home learning environment, that's probably what we would also do is drill down into that subsystem, unpack that as a subsystem. Then we could use something like the action scales, which is an actual it's a level of intervention kind of measure that you can use to then map across where is the current initiatives, policy initiatives, what level is it occurring at? So I think if we were taking in particular subsystem, we could start to interrogate it more than we did with this really broad high-level map. If I haven't answered your question, Fatima, please get in touch.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 54:52

Brill and then yes, the chat will be live for a little while yet. So if anybody does have any questions after, I'm sure Christian and Cathrine can keep their eyes peeled and get back to people. So yes, thank you both.

I just wanted to ask, actually could people just give a thumbs up or a little smiley if you're planning to do your own kind of systems mapping or if any information from today has been useful, I think that would be really good for Christian and Cathrine to see. So any thumbs up or smileys if any of this information today you can use in your own work.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 55:23

Or thumbs down if you're not.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 55:24

Or thumbs down, I don't think there is a thumbs down option, but hopefully lots of information that you can digest and equally thank you so much for sharing your learning and there might be people on the call here that have gone through other projects that they might want to share their experiences and learning. So please do get in touch with the

team. Oh great I can see a couple of little icons saying people are definitely going to do something for sure so that's good.

So yes, please do fill in, we've got our quick evaluation questions. We have three questions. So the link is in the chat there and like I said earlier, the recording and the presentation and all the links that we've discussed will be available on the Public Health Network Cymru's website in the next couple of days. So yes, thank you everybody, and thanks for all your questions and yes.



Christian Heathcote-Elliott (Public Health Wales - No. 2 Capital Quarter) 56:10

Just quickly say Cerys, I'm just popping in the chat for people who are really interested in this, there's a really comprehensive free PDF book that was produced by Cecan Barbara Johnson and Alex Penn that's free to access. So I've just put the title in there if people really want to explore the whole different palette of systems mapping approaches, it's a really good starting point.



Cerys Preece (Public Health Wales - No. 2 Capital Quarter) 56:26

Fabulous, that sounds good. We all like something for free so yes, thanks for sharing that. Excellent. Thank you, everybody. Joywch gweddwch eich diwrnod, and we'll see you all again soon. Bye.



Cathrine Winding (Public Health Wales - No. 2 Capital Quarter) 56:44

Thank you.