HOUSE OF COMMONS

Science and Technology Committee

Oral evidence: Evidence-based early-years intervention, HC 506

Tuesday 20 February 2018

Ordered by the House of Commons to be published on 20 February 2018.

Watch the meeting

Members present: Norman Lamb (Chair); Vicky Ford; Bill Grant; Stephen Metcalfe; Neil O'Brien; Graham Stringer; Martin Whitfield.

Questions 1 - 98

Witnesses

I: Professor Mark Bellis, Bangor University and Public Health Wales; Professor Eamon McCrory, University College London; Professor Rosalind Edwards, University of Southampton; and Professor Sue White, University of Sheffield.

II: Dr Marc Bush, Chief Policy Adviser, YoungMinds; Kate Stanley, Director of Strategy, Policy and Evidence, NSPCC; Associate Professor David McDaid, London School of Economics and Political Science; and Professor Leon Feinstein, Director of Evidence, Office of the Children's Commissioner.

Written evidence from witnesses:

- Association of Child and Adolescent Mental Health
- Professor Rosalind Edwards and Professor Sue White
- YoungMinds
- NSPCC
- London School of Economics and Political Science
- Office of the Children's Commissioner

Examination of witnesses

Witnesses: Professor Mark Bellis, Professor Eamon McCrory, Professor Rosalind Edwards and Professor Sue White gave evidence.

Q1 **Chair:** Welcome, all of you. Thank you very much for attending today. I would like to start by asking you to introduce yourselves briefly. We will start on the left-hand side.

Professor Edwards: I am Professor Ros Edwards. I am from the University of Southampton.

Professor White: I am Sue White. I am professor of social work at the University of Sheffield.

Professor Bellis: Hello. I am Mark Bellis. I am director of policy, research and international development at Public Health Wales and professor of public health at Bangor University.

Professor McCrory: I am Eamon McCrory, professor of developmental neuroscience and psychopathology at UCL. I am also a consultant clinical psychologist with expertise in working with maltreated children.

Q2 **Chair:** That is brilliant. We will all be asking questions. Where there are questions to all of you, you do not all have to respond if you do not feel that you have anything specific to add. We have quite a lot to get through.

I want to start by addressing some questions directly to Professor Bellis. Mark, will you briefly outline the evidence base linking adverse childhood experiences to negative impacts later in life? If others want to add to your comments, they are welcome to come in as well.

Professor Bellis: Certainly. There is now a series of studies, both retrospective and prospective. Retrospective studies ask people now about what happened to them in the past and link it to their health conditions now. Prospective studies look at cohorts that have been studied, so that we can understand what happened to them in terms of abuse, neglect, exposure to domestic violence, alcohol and mental health problems, and having an incarcerated family member in the household, and then look forward across their lives to see what their health outcomes were.

There are considerable increased risks associated with those adverse experiences in childhood. Often there can be five or six times the risk that people will have a problem with alcohol in later life. There is much more risk that they will have problems with criminal justice. There are also some health outcomes that people may not necessarily link to what happens to you as a child—risks of cancer and cardiovascular disease. Some of the things that are implicated in that, as well as alcohol, are higher levels of smoking and problems with diets. In fact, the first ACE studies looked at things around diet and problems with weight.

As well as those associative risks, we are increasingly getting biological markers. We are looking at people who have had adversities as a child and whether that has affected some of the markers that we would expect to see if they were developing what I often describe as a heightened state of alert, in which their body is expecting trauma because that is what they experienced as a child. If your body is in a heightened state of alert, it wears out more quickly. There is a higher level of immunological markers associated with things like diabetes and cardiovascular disease. Some of the proteins that the liver has developed are associated with those sorts of outcomes as well. Even some of our markers of how fast cells age are higher and worse in children who have had these adversities in childhood.

I know that we are short of time. Does that give you—

Q3 **Chair:** That is helpful. The witnesses will all have an opportunity to give their particular perspective, but are there any brief comments on what we have just heard from Mark?

Professor White: I do not think so. We will just wait.

Q4 **Chair:** You are happy to come back to it. Mark, what criteria are used to decide what constitutes an ACE and what does not?

Professor Bellis: Most people probably use a list of ACEs that have been described jointly by the Centers for Disease Control in Atlanta and the World Health Organisation. There is a list, which varies, but it typically includes things like abuse and neglect as a child. That can be physical or verbal abuse. It can be emotional or physical neglect—withdrawing support from a child or not providing something that could otherwise be provided. There is then a range of factors—sexual abuse is another that I should have mentioned—that happen typically in the childhood environment: things like exposure to domestic violence and living with someone who has severe mental health problems or an addiction to alcohol or drugs.

Q5 **Chair:** How do we deal with the problem that a particular adverse experience may be much more significant in one case than in another?

Professor Bellis: There are a couple of factors around that. First, it may well be true that one is more problematic than another, but that may depend on circumstances, of course. Take physical abuse and verbal abuse: somebody might say that physical abuse was worse, but if physical abuse was suffered once every month or so and verbal abuse was every day, that may change things.

Another thing to bear in mind is that these things often co-occur—more often than you would expect. It is not a random mix. More often than not, people exposed to physical abuse are exposed to verbal abuse. They may live in a family more frequently with domestic violence. That is one of the difficulties in disentangling these factors, but one of the benefits of looking at them together, to see the total level of ACEs that people

experience, is that it gives us a good and predictive measure of many of the poor health outcomes that people suffer across their life.

Q6 **Chair:** It is often said that the evidence suggests that an increased number of adverse experiences results in increased harm later on. Do you also accept that a single adverse experience—a sexual attack, for example—may in itself be much more significant than four lesser traumas? Does that make sense?

Professor Bellis: Yes, it does. There is a distinction between that and the epidemiological studies that I am often involved in, where you are looking at the factors on average. For instance, we count as an ACE any sexual abuse, no matter how often it happens to someone as a child. It may well be that some of those things are having a much bigger impact in some people's lives; the combinations will be different in the lives of others. However, as a tool to describe, on average, what is happening to people who are exposed to certain things, and their increased risks of certain outcomes later in life, it works relatively well. When you are dealing with things on a clinical basis, of course, people want to drill down into the details.

Q7 **Chair:** Why is socioeconomic status not part of the mix? I imagine that a lot of the identified adverse experiences are related to socioeconomic status in one way or another. Why is that not identified as a significant factor in itself?

Professor Bellis: In some papers, socioeconomic status is included in the mix with ACEs. In many of the pieces that I have been involved with—most commonly, certainly, in the reviews that we have done—socioeconomic status is included as a separate factor. In other words, you include ACEs and socioeconomic status in the models that are trying to explain what is happening to people. Typically, you get independent effects of both. You find out that there is a problem related specifically to socioeconomic status in early life, but actually, if you are exposed to ACEs, it does not matter whether you were poor or wealthy—your outcome in life is worse than it would have been if you had not been exposed to those ACEs.

Q8 **Chair:** You have talked about the non-health impacts—for example, in employment, educational attainment and involvement in the criminal justice system. Are those by-products of health impacts? In other words, if you suffer from mental or physical health issues, do they have knock-on effects in other, non-health-related, areas?

Professor Bellis: There seems to be a combination of direct and indirect effects from ACEs. One of the things we are looking at is employment and whether, exactly as you describe, that is mediated entirely by your poor uptake of education and difficulty concentrating, which are the outcomes that you often get in classrooms from ACEs. There seems to be an effect of both. There is an effect related to educational performance, but there is also an independent effect related to the changes that are happening

to people, which may give them problems in holding down a job and being able to engage in order to get a job in the first place. Those changes may not just be about the educational success that they have.

Q9 **Chair:** What are the benefits and the downsides of considering the basket of experiences together, rather than looking at individual adverse experiences?

Professor Bellis: One of the key benefits is that it creates a field of interest across the public sector. That may relate to a policy element, but it is because everybody—criminal justice, education, social services and health—can see their role in addressing ACEs. They are looking at a basket of things, which allows people both to understand what bits they may be able to tackle, as part of reducing the ACE load that people are carrying, and to see the benefits of what they are trying to do themselves. Reducing ACEs may well improve educational outcomes, but at the same time it might reduce the level of criminal problems, so you are getting benefits across the piece by addressing those things together.

I agree that, by looking at them together, you do not disentangle all of them, but you are looking at a measure of the total number of problems that people often experience. For many people, that may be a more realistic way of looking at it, because these things do not often happen individually.

Q10 **Chair:** Do any of the other witnesses want to contribute on what we have heard so far?

Professor Edwards: I would like to talk about the bringing together of a whole load of different things. That may be very useful for establishing a field of intervention that lots of people could key into, but methodologically, in trying to identify issues, their effects and so on, it is a chaotic concept. It is conflating a lot of issues, so that you cannot place much in the way of explanatory weight on them. You drew attention to the fact that we do not know about severity, timing or duration. It assumes that they all work in the same way and have this end state. We have to be very careful methodologically to talk about associations and correlations rather than causes, which is the explanatory thing.

I would like to broaden out the background a little, to provide the context into which this enters. Bad things happening to children is bad. We do not want that to happen, and we look for ways of preventing it, but we live in a very complex and dynamic social world. Because of that, evidence is often uncertain, qualified and provisional. It is often difficult to replicate studies, for various reasons.

Another thing to take into account—I am sure that my academic colleagues will speak to this as well—is that we have a publication bias. What gets published are positive results. It is very difficult to get negative or null results published.

Chair: We are doing another inquiry on that.

Professor Edwards: It means that, when you gather together evidence, you are gathering together a certain biased set of evidence.

Q11 **Chair:** Sue, do you want to come in?

Professor White: Mark has talked very eloquently about the public health angle. One can see that, when you are trying to make decisions about resourcing and so on, this is a useful acronym, but it is powerful because it has been created to be powerful. It has been designed to be powerful, to persuade people like you and others that this is something worthy of investment and activity by the state. But it is not entirely and straightforwardly a good thing, in the sense that it conflates a range of things—I am sure that Eamon will talk about those later—that might be considered to be a clinical population, or a very at-risk population, with documented histories of things that I, as a social worker, would call abuse of one sort or another.

I am sure that people try to disambiguate this ACE category when they talk about it, but it includes a very wide range of life experiences. We have access to technological biology, brain imagery and so on, so they are tending to be written about as biological scars of various sorts. That is all fine, if you think that you can get in really early and stop all this. It is not a particularly hopeful and helpful story for young people, or indeed adults, who have already had ACEs.

Q12 **Chair:** That is not a reason not to seek ways of addressing the problem and preventing things from becoming entrenched, is it?

Professor White: No, it is not a reason to stop looking for those things, but it is an unintended consequence of the fact that all the cards are ACEs at the moment. Everywhere I go, everybody is talking about ACEs—often in very helpful ways, to do with building resilience and having careful conversations—with children in schools; in the criminal justice system. They could probably have had those conversations without the concept, but if it helps, that is a good thing.

The other issue is the level of explanation. I do not have any problem with anything that Mark has said. Having worked in the child protection system for 35 years, I am not particularly surprised that there are these outcomes, but—to address your earlier question—there is a very complex relationship between these kinds of intrafamilial activities and social deprivation. One does not straightforwardly cause the other, but there is a relationship. Having more than four ACEs—there is a problem with counting them as well, but we will leave that for now—is more strongly correlated with social deprivation.

You can leave it like that and say, "Actually, it's all very mixed up. It's something to do with ACEs and social deprivation," or you can hold one or the other more responsible. You can say, "There are more ACEs because people in complicated, socially deprived circumstances really struggle to parent—they do not have support networks and so on—so we

will deal with the community-based resources that communities and families have," or you can say, "It's not the social deprivation. People are socially deprived because they had ACEs. An intergenerational cycle of ACEs is causing it."

That decision—what you do about that thorny, absolutely tangled mess of explanation—is a moral thing. Do you deal with the ACEs, and/or do you deal with people's material circumstances?

Q13 **Chair:** Your "and/or" is key, isn't it? It does not have to be one or the other.

Professor White: It does not have to be one or the other, but the way I am watching the narratives go—

Q14 **Chair:** Am I right in characterising your position as being not to reject this, but to say, "Be careful. Don't make assumptions. Secure more evidence before you reach fixed and firm views on it"?

Professor White: Yes—and be careful what stories you tell people, because they have an effect.

I will make one final point and then I will shut up. There is a problem of net-widening—of the system pulling more and more children into it, which the system then cannot cope with. That is what has happened with children's social care for years and years. People try to gate-crash the system because they are worried about children; social care tries to keep them out by gatekeeping; and the thresholds get higher, and children get less safe. That is another possible unintended consequence if it is not handled with a little bit more sobriety in places.

Professor McCrory: I will try to be brief. I support what the other panellists have said. It is important for the Committee to remember that ACE is simply one explanatory model. It is one tool that researchers have developed to try to capture the longitudinal impact of early experience.

I see ACEs as having a number of advantages and disadvantages. One of the really powerful aspects of the work of Mark and others has been to demonstrate that many adult mental and physical illnesses are developmental problems—they have their roots in childhood. That has been incredibly helpful in shifting people's understanding of where substance abuse problems, depression and schizophrenia come from. These things have their roots in early experience. It has helped to galvanise a societal conversation about the need to think about investing in early care and in support and resources for vulnerable children.

There are a number of disadvantages, which have already been articulated; you have noted them yourself—not all adversities are the same. As Sue said, my own work focuses on children who have documented experiences of maltreatment and abuse of a level of severity sufficient to bring them to the attention of social services. We know that, within the ACE categories, maltreatment and having a parent with a

severe mental health problem are significant predictors of later outcome—so not all adversities are the same.

Another difficulty with ACEs for me, as someone who tries to understand developmental mechanisms, is that they really obscure the way in which these early adversities might unfold over time, to lead to a problem in adulthood. Having a parent who divorces, being caught up in a hurricane or experiencing severe sexual abuse will have very different underlying mechanisms in terms of how they impact on later development.

Finally, there is the question of the total number of ACEs, which is likely to be confounded by severity. As Mark said, these things generally co-occur. If you have a high ACE score, it is more likely that the ACEs that you have experienced will be at a high level of severity.

Within an epidemiological framework, I think that it can be incredibly helpful. I agree that taking it into a clinical context, as some kind of tool, or trying to have a conversation with individuals about ACE scores, is problematic. As a clinician, I personally do not think that it is helpful to bring that kind of number into a complex set of experiences that an individual might have had.

Q15 **Bill Grant:** Are there any specific areas where the evidence of correlation between ACEs, or adverse experiences, and negative impacts is still unclear or uncertain?

Professor Edwards: I would say that it is all unclear, because we have such different definitions of ACEs. They are very much based on the child-parent situation, but more and more are being pulled in. Having a disabled mother is one that I have seen added in. Another is moving home. All these things get pulled in. You have a basket of different definitions.

You may have certainty within a study, but you have no certainty between studies as to timing, severity or whatever. You have different methods for studying them—retrospective, prospective, experimental and so on. Then you have the rash of outcomes that you look at. You just do not know what is going on there.

Professor Bellis: You would almost be led to believe by the number of things that we do not know that there is nothing in there worth knowing. The reality is that the results across countries and populations are remarkably consistent. What they tell us across most mental, physical and criminal justice outcomes is that we are seeing consistent results from the number of ACEs that people are exposed to in different countries. Of course, as I said, it does not give us a clinical insight into an individual, but it does give us an insight into the fact that people's life courses are heading in the wrong direction in part because of things that happened to them earlier in life. The evidence on that is cumulative and consistent.

Professor McCrory: Mark's recent paper in *The Lancet* demonstrates that there are differential associations. For example, there is weak evidence in relation to obesity, but stronger evidence in relation to mental health as a possible outcome.

Q16 **Bill Grant:** I will take this question a wee bit further. I have noted three phrases: "all unclear"; "not a good thing"; and a "chaotic concept." Is there a sufficient body and diversity of evidence to overcome any methodological challenges in some of the studies? In other words, where a study may not be overly confident in the methodologies used, can that be compensated for by other evidences? Is there a compensatory factor?

Professor White: I kind of struggle with these questions about the evidence base. It is obvious that adversity in childhood is a bad thing. We have had a vocabulary to describe this for a very long time. It is just that it has now been turned into a concept, with very good intentions—to try and draw attention to adverse experiences. There has not been a lot of mention—not as much as you would expect—of adverse environments, and there has been a heavy focus on intrafamilial stresses of various sorts. For example, we have not focused on how scary it is to live in a particularly scary place, with lots of violent crime. That is nothing to do with your parenting; it is stressful for your parents and it is stressful for you. ACEs are a concept that does particular things.

I do not find it remotely surprising that there are strong correlations between childhood adversity and mental health problems, for example, but you have to remember that this is backwards reasoning. There are lots of people who have these experiences and who, for various reasons to do with their own resilience or biological make-up, are fine-ish. They can tell a story about it, they can make sense of it and they have perfectly fulfilled lives. It is totally unsurprising to find an overrepresentation of children with adverse experiences in a clinical population. It is interesting scientifically, but it is not surprising.

Q17 **Chair:** Are you not suggesting that we should be trying to do something to reduce the impact?

Professor White: Yes, and that is the thing—what?

Chair: Sure.

Q18 **Bill Grant:** You may have answered my next question, which is directed primarily, but not exclusively, to Professors Edwards and White. Your written submission fell somewhere between criticism of and advising caution on the methodologies that have found a correlation between ACEs and problems in later life. Do you contend that exposure to poor or bad childhood experiences is not necessarily linked to problems in later life?

Professor White: Not necessarily.

Professor Bellis: I think everyone would agree with that.

Professor McCrory: It is not a deterministic relationship—it is a probabilistic relationship. The ACE methodology is based on that.

Professor Bellis: And there are protective factors that we are starting to understand, such as drawing resilience from having another stable person you can turn to, or being well embedded in the community and supported from other sources that provide some support, particularly for those people who are suffering more ACEs in the home environment.

Q19 **Bill Grant:** It was suggested earlier that people who suffer four or more ACEs in the home environment progress through life and find their way due to their own resilience or other circumstances. So, they are not necessarily constrained by ACE experiences.

Professor White: Yes. A lot of people get quite angry about the deterministic tone. We are not hearing it here, but there is a terribly fatalistic, deterministic tone to some of the training materials. "My doctor tells me that my brain is damaged," says cartoon little boy. It is not useful for young people who have had those experiences to be told that kind of story.

Q20 **Bill Grant:** Are you suggesting that they may inadvertently be drawn into this system when they could possibly have escaped from it?

Professor White: It could be a self-fulfilling prophecy. This is a quaint, rather old-fashioned sociological concept with no brain imagery, but it is important. If people are told that they are damaged, they will have lower expectations of themselves.

Q21 **Chair:** Is there not a danger that if a child has suffered sexual abuse, for instance, but that is not explored or identified, and nothing is done about it, it will emerge in later life, potentially, as a diagnosis of personality disorder or psychosis? Not doing anything is not the answer, is it?

Professor White: People having sensitive conversations and what we used to call taking a decent social history when people are struggling is absolutely the right thing to do. We should pay attention to building sources of resilience in communities and between families. There are community mobilisation-type ways of working that, for a lot of children, would make life better, even if you cannot do anything about the circumstances and the families they are living in.

It is absolutely right to be sensitive to the possibility that a child has had a traumatic experience—by which I mean a genuinely traumatic experience, because the word "trauma" is also being flung around all over the place—and that that has produced a susceptibility to problems in later life. The ACEs concept might have sensitised people in the system to that a bit, but it might have over-sensitised them to it. That is the thing that will be really difficult.

Q22 **Bill Grant:** Are there problems with imprecise definitions of ACEs? Parallel with that, are there inaccurate returns or evidences when you ask

somebody at a relatively young age—perhaps not an overly young age—to self-assess their adverse childhood experiences? Are there risks associated with self-assessment?

Professor Edwards: If you do a retrospective study, the ACEs come out higher than if you just look at a cohort. In some of our excellent cohort longitudinal studies, the prevalence in the population is lower. People may overestimate. They may underestimate as well. Looking at it methodologically, you have to take account of the fact that they may overestimate as much as they may underestimate in retrospective accounts or in self-assessment.

Professor McCrory: Notwithstanding those limitations, the evidence from prospective and retrospective studies is unequivocal that extreme forms of childhood maltreatment—sexual, physical and emotional abuse and neglect—have a demonstrable impact on outcomes in adulthood.

Professor Edwards: The problem is that ACEs are not all—

Professor McCrory: This is why it is important for the Committee not to get too hung up on the issues. Of course, childhood maltreatment deserves important scrutiny, and that is not the same as having parents who divorce. I think it has been a helpful tool to look at a broad range of co-occurring risk factors from an epidemiological point of view, but that is quite different from thinking about policy and practice at an individual level. I think we could all agree on that.

Professor Bellis: Absolutely. Retrospectively and prospectively, those sorts of methodological issues broadly come out with the same results. How people are being asked is not the problem.

Q23 **Bill Grant:** You do not feel there is an issue with self-assessment; you are comfortable with it.

Professor Bellis: There is an issue in both directions. It is true that retrospectively people may forget the odd thing; prospectively, people may not want to tell you at that time, or parents may not want their child to disclose it. Therefore, in both directions you can get underestimates, but good pieces of work out there have looked at what happened at the time and what people remember in the future, and they correlate reasonably well.

We should not make assumptions about what people with ACEs think about what is being discussed about them, because it is very easy to do that. For instance, people mentioned a little video. Fortunately, that little cartoon was tested out on people with ACEs. They liked it more than people without ACEs, so it is easy to make assumptions about how these things are perceived.

Another thing to bear in mind is that most other people we talk to about ACEs have never had an opportunity to talk about those things at all. There is a question at some level about leaving these things entirely

unaddressed or recognising that this tells us something about what needs to be done early in life and identifying exactly what those interventions are.

Q24 **Bill Grant:** A study was done in Wales involving 2,500 individuals. Are you comfortable that that was a sufficiently large number to be confident about the outcomes?

Professor Bellis: Yes; and we repeated that study with more people and the results were consistent with the first wave. A larger study was undertaken in England and the results were reasonably consistent across the piece as well.

Q25 **Bill Grant:** Is there a common denominator between different areas?

Professor Bellis: There are similar but not identical—you would not expect that—levels of ACEs and outcomes in the medium term in terms of self-harming behaviour, such as smoking and drinking, and in the longer term in terms of some outcomes.

Q26 **Bill Grant:** They are both relatively small samples, are they not?

Professor Bellis: The total sample now available across England and Wales from only those sorts of studies is about 14,000 to 16,000, but there are also available in the UK birth cohort studies that have followed people through life and they find similar results.

Q27 **Neil O'Brien:** I would like to explore a little more the question of causation rather than correlation, because we have jumped around between the two so far. First, will you talk a little bit about what we think is the causal mechanism between ACEs and adverse outcomes later in life? Obviously, not all the ACEs work in the same way. What might the different causal links be?

Secondly, given the evidence base, how satisfied are you of your ability to control for confounding factors such as socioeconomic status—because bad things tend to go together—and pull other effects out of it when you are talking about causation?

Professor McCrory: I am happy to answer in relation to childhood maltreatment: physical and sexual abuse, neglect and exposure to domestic violence. We know very little about pure causation. Our understanding of the developmental mechanisms remains limited. My work has focused on trying to look at the neurobiological, social and psychological impact of early adversity and maltreatment in particular. We have found that maltreatment leads to a set of structural and functional changes in the brain.

Contrary to previous narratives, which I entirely agree have been unhelpful, we believe that these are not reflective of damage but rather that children are adapting to live in chaotic and neglectful home environments where they need to survive. They need to regulate; they need to cope; they need to find a way to survive in those very atypical

early environments. But those adaptations at the neuro level become maladaptive when the child goes into a normative school context or a safe foster placement.

Our understanding of what we are calling latent vulnerability in terms of causation is that there can be, as Mark says, both direct and indirect effects. If you imagine a child experiencing domestic violence and physical abuse in the family home, they may become hyper-vigilant to threats in their environment. We know that that can lead to an allocation of potential resources to threats used in the environment, even at a subliminal level, and so they have less resources to attend to typical social and educational tasks.

That can have a direct effect, but there can be indirect effects over time. If you have a heightened hyper-vigilance to threat, you are more likely to have a hostile attribution bias; your interactions are more likely to be conflictual. You can imagine how that might play out for a child in a school, where they are getting into more fights with peers. They may end up being excluded from school and that can have long-term effects on their economic productivity.

More importantly, the adaptations can actually make it more difficult for the child to elicit, cultivate and sustain the kind of protective relationships that can help buffer them from future problems. Our idea of causation is that children adapt in these early environments to survive, but those adaptations become maladaptive, particularly in relation to being able to access and make use of factors that could promote resilience. So it is almost a double hit, because the very things that could help them become more difficult to access. We know that these children find it difficult to trust others; they are in constant placement changes; they have a constant turnover of social workers, so they find it difficult to make use of protective relationships that could help promote a resilient outcome.

That is the theory. It is a theory that has not been tested because in this field we really lack robust longitudinal studies that follow up children with documented experiences of abuse and neglect. There are a number of studies at an epidemiological level that are very general, but in terms of mechanism you need much more precise ways of measuring how a child is processing the world. Currently, we are conducting a longitudinal study; there are one or two others in the States, but our evidence remains limited. We are trying to test a model of how we think vulnerability might be embedded following these early experiences and how they might unfold overtime, and a longitudinal frame is essential in order to clarify that.

Professor Bellis: I would agree with all of that. I would add that it is not just relationships with individuals. Some of the work we are looking at means they are less trusting of services that are available to support people, for similar reasons. The more longitudinal studies we get the

better, but the evidence is still consistent with that idea that the brain is developing for a different set of circumstances. The tools needed for the brain are ones that are expecting trauma, but equally other parts of the body are responding in similar ways. That the immune system and other parts are preparing a child for a more traumatic life may well be an adaptive advantage in that situation, but it means that certain systems are going to wear out quicker; it means that people are less trusting and see a neutral face as a hostile face, and those sorts of things limit life chances and cause long-term heart and other health problems later in life.

Professor McCrory: I want to re-emphasise the importance of the narrative being about adaptation rather than damage, which I think is pejorative, and also about a relationship that is probabilistic and not deterministic, because ensuring a sense of agency is really important. Some work has, unhelpfully, created a narrative around determinism and damage, and our work, Mark's and others' has sought to shift the focus much more on to adaptation and a probabilistic relationship.

Professor White: I agree with that. I have a problem with the ACEs thing, as I have said before. Eamon has just been talking about children who have been abused. I have worked in child protection for a long time. Children do get abused and go through some terrible things. The clue is in the title: abuse—it is harm.

The problem with this concept, not necessarily in its design but in its operation in child protection and the general child welfare system, is that it is in danger of stretching the category of what are harmful experiences and where the state can tread to ameliorate them. We can debate that as a society, but you do not want a form of function-creep where everything becomes an ACE and it becomes more and more problematic for people to make different choices about how they parent their children. Everything that we do not necessarily approve of is not abuse, and the human organism is actually pretty resilient. Probably a lot of people are experiencing a whole range of different life experiences, and it might be affecting their biology—if you look, you will probably find something—but it is not affecting their functioning.

We have to be careful about producing a fatalistic, pessimistic narrative about children. We cannot possibly be more traumatised than any other previous generation; it is just not plausible, so something is going on culturally about the concentration on intrafamilial harm. That is in a context where there are lots of other harms that are also affecting other members of the family: mothers, fathers and siblings.

This is not a criticism of the ACE concept, which is doing a particular thing in a public health context; it is a cautionary note about what happens to these things when they get out there, and what kinds of expectations become set up about what the health service, schools and so on should

do, and when families can say no. We have the debate about the named person in Scotland, which is rehearsing similar things.

Professor Edwards: I totally accept what Eamon is saying, but it is not just children who suffer abuse whose brains adapt. Our brains adapt. Everybody's brains adapt.

Professor McCrory: I think that is what brains do.

Professor Edwards: Everybody's brain adapts. It would be wonderful to put children and young people who have been brought up in affluent, privileged circumstances, into the FMRI scanner and see what their brains look like. Are they more prone to taking risks with other people's lives and money and so on? It is not that these people are different; it is a biological process that we all go through.

Q28 **Chair:** Are you saying you disagree with Eamon's description?

Professor Edwards: No. I am saying that brains adapt, as he said.

Q29 **Chair:** But sometimes with damaging consequences. I think that is his point.

Professor McCrory: I think the distinction is that brains adapt in very specific ways that can give us important clues as to why vulnerability becomes embedded in the longer term. That is why we do this research. I entirely agree that all of our brains adapt to all of the experiences that we have in our lives. That is what brains are there for—it is a learning organ. But the neuroscience of early adversity is there to help us understand the mechanisms whereby this may play out as a vulnerability factor.

Professor Bellis: It is worth bearing in mind that they are particularly adaptive in the early years. These are critical formative stages. It may be that brains are adaptive, but that certain things can be laid down in these early stages that are more difficult to overcome.

Professor McCrory: Sue and Rosalind are absolutely right to raise a concern about the huge remit that ACEs have, but the advantage of something like ACEs—I am not saying "ACEs"—is that there has been a problem in the field where people like me study maltreatment; other people study bullying; and other people study the impact of parents' mental health problems. There has been a problem that these different domains, which are all relevant to later outcomes, have been studied in a silo-based system, and there is a way in which it will be important to bring together the range of early adversities that we think may affect development over time, and bring those together in thinking about causal mechanisms.

Q30 **Neil O'Brien:** My question is mainly for Eamon, but I would be interested in others' views. How good is the evidence that ACEs can cause significant changes in brain structure and function? Your first answer was in the language of psychology or psychiatry—maladaptation to a hostile

environment—rather than biology or neurobiology. There are some famous examples of pop science where people show the brain scan of a Romanian orphan as an extreme example of these things. When you look at the neurobiology of the brain, how do you go about measuring these changes—which obviously are real things—psychologically? What are you measuring? Is it dopamine? What are you looking at on the MRI scanner? Could you ever use any of these things as a diagnostic test? Could you say, "Two children have been exposed to terrible abuse. Looking at this child's brain, they have been more profoundly affected by it and we should be more worried about them"? It is speculative, but would you discuss those kinds of questions?

Professor McCrory: The picture of the Romanian orphan is where some of this difficulty arose. We do not know who that child actually was, but we presume that they experienced severe emotional abuse, neglect and deprivation, and some of the damage could have been physical due to malnutrition.

Q31 **Neil O'Brien:** And perhaps sensory deprivation.

Professor McCrory: Yes. The degree to which those early studies were relevant to thinking about children in this country was very limited. In the past five or 10 years a significant number of studies have recruited children from North America and the UK with documented experiences of abuse and neglect. FMRI and MRI have been useful in looking at structural and functional brain differences. We know that in terms of brain structure there are changes in areas involved in learning and memory, such as the hippocampus, and the frontal cortex, which is involved in behavioural and emotional regulation. People have looked at differences in volume and cortical thickness as markers of difference relative to peers. In all our work we match for peers, matched on socioeconomic status and e-HIQ, so we are pretty confident that these differences are related to the experience of maltreatment.

FRMI looks at functional activities, so we can see how the child processed the world. How did they process security-related threat? How did they process reward? Our recent work has focused on other biographical memory functioning. It is really important to note that it is not all about threat vigilance. On how a child thinks about their own past, we see profound differences in the scanner in relation to how they think about everyday positive and negative memories. It is strikingly similar to what you see in adults with depression, essentially.

This is where we combine the psychological and the neurobiological. The bit of the brain involved in memory specification is much more active for negative memories than positive memories in these kids. They also have more activation of the salience network when they recall negative memories. They seem to privilege negative memories over positive memories, and that is the pattern that you see in adults with depression.

For me, neuroscience has been helpful because that has prompted us to do a new set of behavioural studies to explore the way in which a child might have developed a different memory-processing style that could lead to more rumination and greater risk of depression later on, and we are following up these children longitudinally.

Q32 **Neil O'Brien:** How fuzzy is this diagnostic tool as a way of thinking about it? Is the correlation incredibly fuzzy when you look at it?

Professor McCrory: We do not need brain science to carry out diagnoses. We know these children have experienced abuse and neglect. Brain science generally to diagnose a clinical disorder is not very reliable. These findings are on a group level, not on an individual level, but we are using brain science to identify areas that could be developed into psychological tools that could be helpful in clinical screening. The NSPCC has funded a study that is looking at short computerised tasks that have been based on the neuroscience evidence—games that children play to see how significantly they adapted to the early environment, and their threat vigilance or their other biographical memory functioning. That could be one way to index their underlying vulnerability.

That is a medium to long-term ambition—can we develop a routine clinical screening tool to identify those children who are most vulnerable? It is not the neuroscience, but the neuroscience is the theoretical empirical driver to develop those tools. Whether they are going to be psychometrically valid, whether they are going to be predictive in practice, is just an empirical question. We are doing this study now. We can tell you in four years' time.

Professor White: Again, it is the problem of a clinical test trying to understand with the clinician what the neurobiological structures and functions are that underlie a child who is presenting with emotional or behavioural difficulties, or who is particularly at risk of them. In terms of developing a policy to help people—let's just move away from exclusively children, because they do live with adults as well—we are talking about building resilience in communities and families. Would these experiences be okay if there were no biological damage to the children?

Professor McCrory: Of course they would not be, Sue, but the point of the neuroscience is not to provide another level of evidence that this is a bad thing, although for some people that actually has been necessary to realise that emotional abuse is serious. The neuroscience is there to provide our understanding of the underlying mechanisms that we simply currently do not understand. If we do not understand the mechanisms by which disorders unfold, we are in a very limited place to develop preventive models of health.

Q33 **Neil O'Brien:** Let me put to you a proposition to see whether you agree. Could you imagine a future in which you might use neuroscience to suggest, in a sense, different types of treatment for people who have experienced abuse?

Professor McCrory: People are using that in trying to think about the best treatments for depression and for anxiety disorder. I think we are a very long way from that. I think it is a possibility. My experience is that for most children who have experienced abuse and neglect, the problem is that they receive no support or help of any kind, so this is just an arbitrary question. They wait until they have significant clinical problems and are referred to CAMHS, who feel they cannot help them because the problems are so complex. At the moment there is very little preventive work to help these children at that early stage before problems have evolved.

Q34 **Chair:** May I make a plea? This is an absolutely fascinating discussion, but all of you are talking for England.

Professor McCrory: Or, I have to point out, Northern Ireland.

Chair: We are horribly over time, so may I make a plea that you try to keep your answers as tight as possible?

Professor Bellis: From the public health perspective, much of the issue with ACEs is about de-escalation, not escalation. Multiple people are suffering different levels of ACEs. It is about what support can be provided and what can be avoided, because parents understand the impact it will have. It is about what support communities can give. Of course, there is the heavy end, when some really severe things are happening, but much can be done if people understand that lower-level intervention, which does not necessarily have to be delivered by highly trained professionals but by people contacting these children every day, can avert some of the more longer-term problems.

Q35 **Vicky Ford:** I find the suggestion quite challenging that just because somebody has had an ACE it can lead to their brain developing in a different way. We need to be really careful about that causality.

Professor McCrory: No, it is not causality. There is no need to be careful. It is a fact. If you learn how to play the piano, your brain changes; if you learn a new language, your brain changes; and if a child's family experience is characterised by extreme abuse, or sexual abuse, or severe neglect, it has a profound impact on that child's behaviour and psychological development, and it would be strikingly surprising if that was not represented in the brain. What is important to realise is that that is not damage. We know that when soldiers are exposed to combat, when they return their brains are different.

Q36 **Vicky Ford:** That is why I say we have to be incredibly careful about the language you use. I speak as someone whose father died in childhood, so be very careful if you are suggesting that somehow that leads to some sort of damage to the brain.

Professor McCrory: But I have already pointed out that my entire—

Vicky Ford: I am sorry. I just wanted to pick up on what Sue or Rosalind

were saying. Were you suggesting that if you label someone as vulnerable they are at risk of becoming more vulnerable and the risk self-perpetuates? Is that what you were trying to warn us about?

Professor McCrory: May I just respond, first of all, to the question?

Chair: Sue and then Eamon.

Professor White: My father died when I was a child as well, so I have a similar reaction to the net-widening aspect of it. Eamon is talking about children who are presenting clinically, so it is about trying to understand what might be going on behind that. I completely agree with you. I think we are seeing some very troubling precautionary behaviour by the child protection system in getting children out in case their brains are damaged, which is the unhelpful narrative that has been flying around.

It is problematic. The language is really important. At the moment I am concerned that there are aspects about the way ACEs are being described which could do two things. What Mark said about the reaction of people with ACEs to the video is interesting. It could mitigate behaviours in such a way—it is actually said in the video—that people say, "It's not me; it's my ACEs that have done whatever it is," and it can become a self-fulfilling prophesy, not necessarily because the child is thinking it but because the teacher is—or whoever.

Professor Edwards: You might be growing up in extreme poverty; you might be hungry and live in bed-and-breakfast accommodation in one room with three siblings and your mum and dad; you might not be able to go out to the toilet because the other people living in that accommodation are very damaged and unpredictable. There is the stigma of growing up in poverty. All of these things are going to have an effect and they are going to include health. So, if we are going to talk about adverse circumstances, I think we have to take those social factors into account.

Professor McCrory: I completely take Vicky's point. My work in the field of neuroscience from the outset has focused on the narrative around how vulnerability becomes embedded and around adaptation. The damage narrative in terms of brain development was one that was prevalent in the first five years of the 2000s. I think people really have to grasp that because something is biological does not make it deterministic. The brain is there to learn, and we all learn through experience, and therefore the brain will change. It is completely unremarkable to me that that occurs. Somebody from a wealthy environment will have a different brain; if they learn to play the piano they will have a different brain. Your brain changes.

You are absolutely right that language is crucial. The SRC has recently funded me and my group to develop a set of materials for professionals and foster-carers, in which we hope there will be a helpful and

constructive set of language that young people are willing to support to describe the way that this unfolds.

Q37 **Martin Whitfield:** If we turn it round, not all children who have suffered ACEs, to use that language, subsequently develop problems. How much research has been done, both at an epidemiological level and maybe a more localised clinical level, on them? Why do they not fulfil the common story?

Professor McCrory: If you are talking about resilience and learning from those individuals who do not develop these problems, I think because so much research has been organised around the medical model, people have tended to look at those groups presenting with difficulty, and we know remarkably little about how resilience unfolds. I do think there is a major gap in our understanding of resilience and what it actually means. It is really important to understand what we mean by resilience. It is not something that is in the child or individual; it is how the child is able to elicit help and use it from around them, but it is also about the social and physical resources around the child. Do they have access to supportive and cultural opportunities they can use? It is a transaction with the child. To take social support as an example, there is good evidence that that is associated with a resilient outcome, but people may have access to social support but not be able to use it. We basically do not understand well how resilience unfolds at an individual level.

Professor Bellis: That is absolutely right. We tend to focus on the people where the life course has gone very wrong. We are looking at resilience factors. There has been a review by Harvard of resilience factors, and some of the things that come out of that are routine access to a trusted adult and community engagement. Those sorts of issues seem to provide some protection for individuals who, as I mentioned, may be suffering from adverse experiences elsewhere in life. Of course, there will be biological differences as well, but, in essence, it is not a deterministic outcome, as people have said, and there are things we are starting to understand around resilience that might provide protection for certain individuals.

Q38 **Martin Whitfield:** There is no real way of identifying people who have suffered ACEs who do not go on to experience negative impacts. The only people who are presenting are those who have suffered, obviously enough, because they are seeking help.

Professor McCrory: There are studies where people have looked at individuals who self-report ACEs who are fine. The problem is that those were generally large population-based studies where we do not have the granularity to understand what the developed mechanisms might be. You really need a longitudinal study that is observational, and that has a theoretical framework behind it to think about what those mechanisms might be and measure them as we go along.

Professor White: Mark said before that, certainly in children's social care, there has been a shift away from community support activities and building resilience in communities, partly because of things that happened in communities that make it harder to do that, but partly because it has been very unfashionable. Part of that has been a discourse of child-centeredness; that is, "I am only here for the child; I am the child's social worker." This has very profound unintended consequences, in that people are not looking at their social and environmental factors. Self-evidently, if you cannot go out of your house because you are scared, that is going to affect your ability to look after your child. And is it okay for adults to live in cold houses but not okay for children? There is something very contemporary about this preoccupation with adverse childhood experiences, which makes complete sense clinically in trying to look at what might be vulnerabilities coming from childhood; but in policy terms, what do we do? It skews conversations; it impoverishes vocabularies. People do not talk in sufficiently complicated ways about what can be done to help people, and what people need is what we all need: somewhere to go and somebody to talk to.

Q39 **Martin Whitfield:** Sue, are you concerned about the fashionable and—I use the word carefully—simplistic nature of an ACE? It sounds easy, it looks good and you can throw it about in a child protection meeting. I am getting the understanding that you are concerned that the language is being used far too widely to describe an extremely serious and identifiable matter, although there are arguments about it, and it is being adopted as a cover-all to explain everything.

Professor White: That is the problem with concepts, particularly when they have been designed by a frameworks institute, which this one has in part—it has been augmented by its work. It is packaged to persuade and it is persuading people, and it is not necessarily persuading people in predictable ways. Because we have this panic about children as atomised things that do not live in families, or where families are toxic to them, it sometimes leads to quite expensive interventions that are very time-limited and are treated almost like a drug; that is, "Go on this programme. Do this; do that." It is interesting that the NSPCC is working in ways to build community resilience. That needs to be looked at. It is about doing things that are sustainable and that make people feel potent and hopeful, not victims.

Professor Bellis: This sort of thing is in all sorts of areas. People look at socioeconomic status, and people who are clumsy with language would say things like, "There are much more likely to be criminals in that area than this area," but the reality is that the vast majority of people in that area were never likely to be criminals at all. But we should not get rid of the concept just because people are clumsy with language. The thing about ACEs is that it is a powerful epidemiological tool for explaining how impacts in childhood affect people across the life course. It does not mean that it affects everybody that way, in exactly the same way that

poverty does not mean it affects people in that way, and we do need to be careful about how we frame it.

Professor Edwards: Children are embedded in families, not just parents. There are wider networks: extended families; friendship networks; the wider neighbourhood; local service provision; and national policies. There are social attitudes such as racism and homophobia and so on. These are all things that we might want to look at as well as ACEs. We might want to say that it is very good to look at factors that promote resilience, but we might also want to think about stopping the things that people have to be resilient to because they are bad.

Q40 **Martin Whitfield:** To look at the factors that improve resilience, how much research do we have about what works in improving resilience? I was reading somewhere that sport is always held up—"Do sport and you will be more resilient." You have talked today much more about community-level resilience and factors that have to feed into that. What evidence is there with regard to factors that improve resilience? Is there any evidence?

Professor McCrory: I think there is evidence. When you think about promoting resilience, it is about promoting the child's ability to engage and use the resources that might be around them. Lack of trust and a hyper-vigilant approach are adaptations that can be unhelpful in the child's using resources that might be around them, but there is evidence on resilience in terms of the availability of supportive families, wider families, peer networks and a supportive community that a young person may belong to. Those factors are all important. There is good evidence that those social factors are protective, but there is also the availability of cultural and sporting opportunities where a child can develop a sense of agency, self-esteem and a way to build a more proactive sense of having control over their life. You need those physical resources and social opportunities, and there is good evidence that both can act in a resilience-promoting way.

Q41 **Bill Grant:** That is fascinating. Does a child with adverse childhood experiences think it is the norm, or are they capable of benchmarking it against a friend's, auntie's or neighbour's house? How does that come into the equation, or does it not?

Professor White: It is a matter of degree and of the cultural context in which people live. Dogging the whole discussion is the issue about severity and what we mean by an ACE. To take a child who is experiencing severe sexual abuse, there might be a period when they do not realise that not everybody is having to endure this, but they will surely soon find out. There are other situations like the ones Rosalind has been talking about, where everybody is living in very difficult circumstances and it probably does feel quite normal. It is not nice; it is probably quite horrible, but it is normal.

Q42 **Graham Stringer:** I am not sure whether the Committee is witnessing a

turf war between two professions. I would ask Professors White and Bellis to say briefly what the argument is, and what the policy consequences are of those two different approaches. That would help me.

Professor McCrory: There is a lot of agreement across the panel that early experience matters. ACE represents one framework that people have developed where a disparate array of risk factors have been grouped together. I think the debate is about the appropriateness of widening that net in terms of a policy and level. Epidemiologically, it has been helpful statistically to look at these things, but you are mixing lots of apples and oranges and things that are not even fruit, potentially, within that mixture of what an ACE is. ACEs have been helpful in shedding light on the need to look at adult outcomes through the lens of childhood experience, but the difficulty in terms of policy and practice is that different kinds of early adversity have different impacts and effects, and they will need to be thought about differently. We cannot simply reduce it to one underlying score. A child experiencing sexual abuse will be quite different from a child caught up in a terrorist attack potentially, and we need to consider how early adversity can be thought about in terms of treatment and prevention.

To come back to the point about resilience, the factors associated generally with resilience are access to stable, trusted adults; having stable peer relationships; and having environments that are rich enough with cultural and sporting opportunities that children can use to develop and increase their sense of agency and self-esteem.

Q43 **Chair:** Does anyone on the panel disagree with that?

Professor White: No.

Professor Bellis: No. On the "turf war," most of us do agree. It is partly to do with whether it is at the clinical end of what we are talking about or the population end. At the clinical end, putting everything in one basket is not necessarily helpful. At the population end, if you are a teacher or frontline police officer, thinking about how to deal with people or understanding the relationship, having an awareness of how adverse experiences might have an impact and being able to deal with some of those things at a lower level yourself, or the skills to understand when you need to escalate them and understand more about them, that might be an important thing, which means most people potentially who have ACEs get access to some sort of support earlier.

Professor Edwards: That is actually the problem. This is all at the aggregate level. A teacher cannot look at a child and say, "You have ACEs and you need this intervention in order to prevent it." It is very good for alerting attention to an issue for us to think about in broad policy terms, but it is not good when people start to tick this, this and this ACE and say the child needs intervention.

Professor McCrory: I agree with that.

Q44 **Graham Stringer:** What is the evidence of early interventions undoing the physiological or psychological damage you have told the Committee about?

Professor White: It depends. It is mixed, as you would expect. Parenting programmes have some modest effects that tend to wane over time. It is not particularly surprising because you have them for only a short time and they are probably quite helpful. I do not think it is a turf war, but that is certainly part of what I am arguing. There has been a shift towards particular slices of help being provided for short periods, usually focused on parenting practices. That would be all right if it was as well as a range of all the other important things we have just talked about in relation to communities and hope and that kind of thing, but it has shifted quite dramatically. There is evidence that going on programmes of various sorts—there are many competing ones—has some impact, but is it going to cure all social ills? No.

Professor Edwards: It also depends on what you are expecting the outcomes of those interventions to be. The intervention may do nothing to prevent smoking behaviour or whatever, but the person who is receiving it, usually mothers, feels really good because there is someone who is interested in them and who comes round once a week to have a chat with them. I say that is a good enough outcome if someone who is living in difficult circumstances feels better about themselves, but that is not what the programme would be judged on because it is not considered an outcome.

Professor Bellis: There are a number of programmes. There are things like Safer Environment for Every Kid, which start early on. They are about identifying and working with parents who are expecting children, or parents who very early on have children and might have a history of mental health, alcohol problems or domestic violence in the house. Some trials around that have been fairly good at preventing ACEs.

There are interventions that other people here have spoken about, such as family-nurse partnerships, PPP and others. They are about supporting parents.

There are others that work on things like pre-school enrichment, which are working with the child and parent to give enhanced support early on.

A number of programmes are largely supportive. I do not know of many as you go on later in life that have been available, but there are some examples of schools adopting ACE programmes successfully, not necessarily in this country—the most famous one being a school called Walla Walla in the USA.

Chair: We may hear more about these in due course, but I am conscious that we have to get to the second panel so we need to keep it tight.

Q45 **Graham Stringer:** How reliably do you identify those in need of early

intervention?

Professor McCrory: I think this will raise an important question about what you regard as early adversity. There is a need for the field to develop a more preventive approach. At the moment there are interventions that seek to reduce the likelihood of significant adversity, such as family-nurse partnerships, and interventions designed to treat children presenting with clinical-level problems—ADHD and conflict disorder—but we know remarkably little about how you can prevent the emergence of disorders in children who have been exposed to what we all might call a significant level of abuse or neglect. It has been a remarkably neglected field because generally these children have not been seen as a public priority and do not get significant resources.

Q46 **Graham Stringer:** I take it from what has been said already that there would be agreement across the panel that the earlier the intervention the better.

Professor Edwards: It depends on what you are trying to do. The family-nurse partnership is a really good example. It takes a category—young mothers living in difficult circumstances—and says, "Let's intervene early before anything happens." The randomised control trial of the family-nurse partnership showed that most of the outcomes it was supposed to achieve were not achieved. One explanation for that is, in contrast to the United States where the programme came from, we have a universal health service, health visiting and so on. It did have some effect in terms of mothers' feelings of confidence, but it did not have the other measurable outcomes.

Q47 **Chair:** What is the response to Graham's question about the importance of early intervention?

Professor Edwards: What is the intervention for?

Professor McCrory: There is a risk of thinking that intervention can only be early. We know from our brain development studies that the brain continues to develop into early adulthood. Adolescence represents another important window of opportunity. I think there is a risk at times that the narrative has been the first two or three years. The child continues to develop; the brain continues to develop. Of course there are windows of sensitivity and vulnerability, but there are also windows of opportunity across the child's life, and, as Rosalind says, it depends on what your aim is. Of course, early intervention, if you can do it, is best, but it is important and valid throughout the lifespan of the child.

Professor Bellis: There is a tendency to think about clinical intervention immediately, and I would as a public health person. A lot of those interventions will be by families themselves and people around them. Take the word "ACE" out of it. The more they understand the importance of support and how they can give resilience in earlier life, much of that can be delivered by non-professional individuals so long as they understand the importance of addressing those issues.

Q48 **Stephen Metcalfe:** Where do we go from here? Do we need more research, and if so, what should that research look like and what will it tell us that we do not already know—or is it now about agreeing on some practices and getting out there? You said that bad things happen to kids; they always have. We know that. Knowing more about that will not necessarily reduce the level of risk, so what should we be doing from here on? Should we be investing in research, or do we know enough about what to do?

Professor White: I think it depends on what you are researching. There are some things of clinical importance that biomedical research will research. Before I came today, I did yet another search on Google Scholar to determine how many papers there are on the response of the HPA axis to stress. There are 170,000 hits. There is a lot of research going on. I am a researcher, so it is a bit paradoxical for me to be saying this, but there is a danger that a lot of money is being spent on research that is scientifically interesting but is not necessarily going to solve this, whereas there are some quite simple things that could be done that just require us to be reflective about what we need to treat people in adverse circumstances, because they usually accompany severe situations, which we might call ACEs. They need ordinary help, which I prefer to intervention. Intervention sounds a bit like being poked with something. Often people need something simpler. That is what early intervention would be for most people. There will be babies and children who are, frankly, in abusive situations, and that is what the child protection system is for. It is creaking badly, but that is what that is focused on, because as a society we have thresholds of what is considered to be acceptable and unacceptable parenting, but they are very contestable and they shift.

Professor Edwards: In terms of research, it is worth making a shift from persisting with ever-increasing refinement in measures to thinking about and looking at a whole range of support—for example, at the level of enabling you to get by. If you have a neighbour whom you can pop in to see to borrow £5 to see you over, and vice versa, that is really great. We are at risk of forgetting these are people by keeping on measuring them. Speaking to families and talking to parents and children about what would make their lives better is worth while alongside the other sorts of research.

Professor McCrory: First, prevention requires significant focus. We do not really understand how disorders develop over time. There is massive research needed to think about how problems evolve and unfold. So much research is focused biomedically on medical disorders, such as ADHD, conduct disorder, autism and that kind of thing. If we do not understand how disorders unfold, we are limited in optimising our approaches to intervention and support.

Secondly, young people and children need to be meaningfully engaged in decisions about their care; they need to be seen as active agents who are engaged in making decisions. For those children who experience

maltreatment, their difficulties should not be reduced to a list of symptoms. They have a holistic set of needs socially, educationally and in terms of their relational development. They need to be thought about as whole people with a complex set of needs, and often at the moment they are referred to CAMHS and their difficulties are reduced to a symptom and diagnosis.

Thirdly, an important thing to come out of these debates, despite the mixed views we have, is that we need to help others understand that early adversity and traumatic experience can have an effect on the way children behave and the difficulties with which they present. Teachers understand that a child may be behaving in a certain way because they have experienced domestic violence, so there needs to be greater education and training for professionals, carers and teachers.

Professor Bellis: I think there is enough evidence to merit action. A lot more has been done with a lot less evidence than there is at the moment. Of course, there will be research questions to answer along the way. There are 700,000 births a year in England and Wales. A large proportion of those will have some form of exposure to ACEs, and, the more that happens, the more problems you have for those children at this time and in the future.

It is a public health problem because it is a large population issue. The availability of information to people is critical. That can be done. We can work more on prevention. There is a range of services that can cover that. There is a range of other services that can help with support on resilience within that framework, and there is a trauma-informed system about ensuring that the people who see people who have got through understand some of the impacts of ACEs and the life course approach.

While people debate the research and evidence, if you approach ACEs and try to tackle them, the worst that can happen is that you just tackle adversity and childhood abuse, neglect and domestic violence. If people agree with the life course approach, there is also a benefit to those individuals for the rest of their lives in terms of health outcomes.

Q49 **Stephen Metcalfe:** Eamon, in your written submission you suggest setting up the equivalent of a Harvard Center for the Developing Child. How would that differ from the Early Intervention Foundation that we already have?

Professor McCrory: The Early Intervention Foundation largely collates information and research and helps to disseminate it. There is the Harvard Center but also the National Council in the US, which is a multidisciplinary group of academics and disciplines that bring together an understanding around these different areas in a much more proactive way. At the moment the field is very fragmented. People look at these different aspects of childhood development. There is need for a greater leadership role than the Early Intervention Foundation provides, led by clinicians and researchers in the field involved in social work and

education. That is a multidisciplinary group that can help inform policy and practice and translate what we know about the science into a language that can be understood.

Professor Edwards: But, hopefully, it does not run the danger of being so invested in its concept that it cannot find negative—

Professor McCrory: That is why it needs to be multidisciplinary in structure.

Chair: We have reached a point of agreement. Thank you all very much indeed for an absolutely fascinating discussion. I appreciate your time. I am sorry we have taken up more of your time than we had expected.

Examination of witnesses

Witnesses: Dr Bush, Kate Stanley, Associate Professor McDaid and Professor Feinstein gave evidence.

Q50 **Chair:** Welcome, all of you. Thank you very much indeed for coming and for your patience. May we begin with very quick introductions?

Professor McDaid: I am David McDaid, an associate professor in health economics for health policy at the London School of Economics.

Professor Feinstein: I am Professor Leon Feinstein, director of evidence at the Office of the Children's Commissioner, and I was at the Early Intervention Foundation.

Dr Bush: I am Marc Bush, chief policy adviser at YoungMinds.

Kate Stanley: I am Kate Stanley, director of policy and evidence at NSPCC.

Q51 **Chair:** As you have noted, we have run heavily over time and we will try to keep closer to the schedule in this panel, if we may. I make a plea to you to keep your answers as tight as possible.

How can evidence linking adverse childhood experience, however we define it, to negative impacts later in life inform efforts to improve children's and adults' wellbeing? Who wants to start? Do not feel you all have to answer every question.

Kate Stanley: In a way, we can answer that by looking at what is already happening. We have a fantastic example of what could be done, if we wished to do so, in Alberta, Canada. They have gone wild for the ACEs agenda. With the help of philanthropy as well as the provincial government, they have rolled out a programme of understanding the ACEs tool and research and how it might be used across the public and voluntary sector. Teachers are training to understand brain development and childhood development; medics are doing the same; and policy makers are also engaging in learning about early childhood development.

You can start to see the galvanising power of that approach in play in Canada already. You can see policy makers making decisions that say, "In order to provide this service, you need to have this understanding of early childhood development." What you can see essentially is a galvanising shift where people have a common language in which to talk to one another, a common understanding of what children need to thrive, and an awareness of how that can be adversely impacted by experiences.

Q52 **Chair:** Do you think that the approach taken in Alberta avoids some of the risks that the first panel talked about?

Kate Stanley: I think there is some of that. People there will sometimes describe it [the ACEs insights] too simply. They are learning as they go, but it is putting adverse childhood experiences front and centre; it is making it an issue that is talked about in a way that, for example, child abuse was never a public health issue before. Now it is. You cannot get away with pretending it is not. Suddenly, it is putting a lens on things that were given no attention earlier.

Q53 **Chair:** How long has this been under way in Alberta?

Kate Stanley: It has been a programme of investment over the past nine to 10 years.

Q54 **Chair:** It is not a trial; they are just doing it.

Kate Stanley: Yes; it is being done.

Q55 **Chair:** Is there any emerging evidence yet of the impact other than the galvanising effect?

Kate Stanley: Yes. They have collected rigorous process evidence to understand how this programme is rolling out, what the kinks and problems are, where it has been too blunt an instrument and where it is working. They have amassed a strong body of evidence. The most profound thing it discovered was that using the ACEs tool gives people a way to talk about what has happened to them, and it gives professionals a way to ask the right question, which is not, "What's wrong with you?" but, "What happened to you?" That sets up services in a different way.

Q56 **Chair:** You do not think there is a risk of the self-fulfilling prophesy that people then define themselves by the fact that this is their experience.

Kate Stanley: That sounds a bit like psycho-babble to me, if I am honest. They are having a conversation about their lives and what is important to them. That opens up a conversation with services and then services are being commissioned in a way that responds to what people say they need.

Q57 **Chair:** You would prefer that to abuse being ignored or not talked about.

Kate Stanley: Absolutely, and I think giving people a chance to talk about their needs and experiences is not a bad thing.

Professor Feinstein: The previous panel gave a very good summary of the different views. I would add two things. One is that I think the approach, where it is useful—I have seen it in Blackpool and other towns—enables a whole cadre of professionals, who are not as experienced as Professor McCrory in talking about early trauma, to engage on the question of trauma. Therefore, getting police officers to think about why people are behaving the way they are, and that it is trauma-related rather than criminality, enables a whole series of different interventions, and that is very useful.

I think the risk, which was slightly understated, is the overselling of it. I do think there is a risk around overselling, because I see a lot of figures about how we are going to identify 80% of children who need help from this method, and the numbers are inflated because of the methodology of the studies that have been done and the difficulties of understanding trauma and who has actually experienced it. I think this set of checklists and these tools are useful, but there is a danger of overselling. The result is that people get disappointed and they throw the whole thing out.

Chair: It underlines the case for doing something.

Dr Bush: I agree with Kate. There is a compelling reason to talk about these terms, not necessarily to be totally married to them but to use them as a framework for convening public mental health interventions, thinking at a population level, but also starting to think about what multidisciplinary interventions look like. When we get down to service-level interventions, there is no great data and evidence. We do not know what the best impact looks like in terms of trauma-informed schools in England. We have compiled—I know it has gone to you—all the evidence relating to England; we have seen evidence emerging from both Wales and Scotland. We have a sense of what that is, but the best place we can get to is that we have a sense, from where the evidence sits, of what the shared principles of both adversity- and trauma-informed care look like—and they are well-evidenced across a range of adversities and interventions.

It is important to think in those terms because the interventions we are trying to do here are talking about multiple populations. What is buried in your conversation with the previous panel is that we want to reach out to children and young people who face adversity and experience emotional distress, like 100% of us do, but actually have no traumatic stress as a consequence, and will not go on to develop diagnosable mental health conditions.

We also want to reach out to that population with pre and sub-clinical levels of emerging mental health needs. They are children and young people who, for instance, act out and become aggressive because they do not have a different way to communicate. For instance, they might take substances as a way of coping with high levels of agitation or stress; they might get involved in a circle of violence because that is how they survive

in their community. We want those behaviours to be interpreted in a different way. If we learn from youth justice interventions and from early interventions at a community level, addressing those behaviours and understanding them as arising from adaptation, which Professor McCrory is talking about, is a helpful starting block.

We also have a third group: children and young people who have a diagnosable mental health condition that will endure and they will manage for the rest of their lives. The evidence shows that at least one in three enduring adult mental health conditions relates directly to adverse experiences—all the experiences of traumatic stress—and that it is a compounding factor in the rest.

As a consequence, all the evidence base needs to be about how we intervene in those three different groups and what are the general principles working across a range of adversities, because, whether you are a teacher, nurse or police officer on the frontline, there are some simple, practical evidence-based things you can do not to re-trigger or re-traumatise someone, and to improve outcomes, whether or not they go on to have enduring mental health problems or traumatic stress, and these are cheap, not expensive, interventions.

Q58 **Chair:** Leon, how does the ACE framework compare with the Office of the Children's Commissioner's vulnerability framework? What evidence has your framework uncovered so far about the impact that adverse experiences can have on children's lives?

Professor Feinstein: In answering that question I have to distinguish four uses of data. I talk a lot about this. These get conflated and that causes confusion. We need data to understand four different things as social policy work. One is the strategic overview of the levels of need in a place or the country. What are the issues that policy needs to address? It is a kind of aggregate analysis of need.

We need data to be able to target individuals who might benefit from specific interventions or services; we need data to monitor activity and understand whether it is being delivered well; and we need data retrospectively to evaluate the overall impact. Those four are very different.

The work we are doing at the Office of the Children's Commissioner is very much about the first thing, which is trying to understand aggregate levels of need. We are not developing tools that would enable a frontline practitioner to interview somebody who was in a particular situation and work out whether they had experienced some form of vulnerability. The aim of the work is to understand, working across the interests of different bits of Government—local and national departments—all the different groups of children who might be considered vulnerable, what we know about those levels of need and what services those different groups are getting. It is very much an aggregate analysis.

The other difference is that we are deliberately descriptive. We are not trying to determine the causes of those problems. There are big issues about what is causing different levels of vulnerability and need, and what the solutions ought to be. My criticism of the ACE in a sense is that it is trying to do a multitude of different things and it is not always clear which of those things it is. Where it is a descriptive exercise, I can see that the business of having a set of 10 indicators to tell you about a possible trauma is useful, but those descriptive variables very quickly become seen as causal, and we are trying to avoid that. We are descriptively asking how many children have different levels of need on different definitions.

Dr Bush: You saw the playout of a debate over the use of concepts, and this is perhaps an area where we part ways with the Office of the Children's Commissioner. That is because within a vulnerabilities framework it is making two fundamental mistakes. Probably the first one relates to how Public Health England usefully categorises both vulnerability and adversity. It talks about identification of need, which is about behaviour sets visible among children and young people who experience different things; it talks about primary prevention in terms of adversity—the circumstances in which people find themselves; and it also talks about primary prevention related to vulnerability, which I wish PHE, the Office of the Children's Commissioner and Professor McCrory would not use, which describes characteristics that might relate to biological features or particular characteristics under the Equality Act.

It is important not to conflate those things because, first, some of them are not about the inherent vulnerability of the child. A narrative that is using the term vulnerability is abdicating responsibility from the circumstances around them and not taking a public health holistic view. In conflating all those things, we are saying that the intervention level is all the same. That is not quite true. I think that vulnerability was a useful term in the 1980s and 1990s; it was a way of talking about the inherent vulnerability of a child, but, with the advent of children's rights and a more complex way of thinking about interventions, vulnerability is probably, as Public Health England has come to realise, one of three or four ways you would describe things.

Q59 **Chair:** We are focusing in this inquiry on early intervention, but how would you define "early"? What should we helpfully understand by that?

Kate Stanley: In terms of age, soon on in life, but, as was mentioned earlier, just because it does not happen soon does not mean it is not valuable later. Early is best; later is acceptable, if that is all you can manage.

Q60 **Chair:** Why is it best?

Kate Stanley: Building brain architecture is like building a house. Getting the foundations right is a good thing to do rather than make modifications later on. Building a brain is similar; it is built from the

bottom up. Therefore, it is early in terms of chronological age but also early in terms of the sooner the better.

I would like to turn to a point made by Professor White earlier, which seemed to imply that the ACEs agenda had caused child protection services to rush in too soon. There is no evidence at all to substantiate that claim. We are seeing child protection services cut to the bone and very often they are waiting to the very last moment.

Q61 **Chair:** I was also slightly confused by the suggestion that there are lots of prevention services emerging all over the place. I have not really witnessed them, certainly from my experience in my area. Do you want to add anything on that?

Kate Stanley: That, and also community support. There was also a lot of talk about the importance of community and family support and preventive services. All these things are excellent to have, but part of the reason we are having the conversation about ACEs is that we are talking about what to do once it has happened. That is not really the conversation we want to have; it is about how to stop ACEs happening in the first place.

Professor Feinstein: The Early Intervention Foundation's definition of early intervention is upstream activity, so it is preventive activity and, critically, targeted activity. I want to distinguish early years activity, which might be universal; it might be dealing with maltreated children, or it might be targeted. Early intervention is the targeted element. Therefore, we make the distinction between early and late intervention. Late intervention is what happens once children are in the acute or statutory system and services have to intervene for statutory reasons.

The Early Intervention Foundation estimates that the immediate fiscal cost of late intervention with children up to the age of 18, never mind long-term or social costs, is £17 billion a year in England and Wales. That is the cost of activity for children once key thresholds have been crossed: they are in the criminal justice system, they have been taken into care, the police have been called out, or they are receiving tier 4 mental health support. The total cost of that is £17 billion a year. We know that the social, economic, intergenerational and the long-term costs go way beyond that. This is just the immediate fiscal cost. The point about early intervention is that it is upstream of those thresholds.

The reason I do not agree it is always best to intervene early is that the key to success in early intervention is accurate identification of need and meaningful response, and it is not always the case that you can identify the mental health difficulties of a two-year-old.

Q62 **Chair:** If you can meet the two thresholds you have just described, you do agree with it.

Professor Feinstein: It should be "early" as in upstream of crossing the thresholds, not "early" as in early in life necessarily, because early in life

it can be very hard to identify accurately what the actual needs are, so there is a danger of very inefficient forms of identification.

Q63 **Chair:** Do current support services reflect the evidence base on adverse childhood experiences?

Professor Feinstein: No.

Kate Stanley: No.

Professor Feinstein: I do not come at this as somebody who thinks the evidence base on early childhood experiences is altogether the relevant evidence base. There is a lot of evidence in psychology and economics and a certain amount in neuroscience, although not at all necessary to the case for early intervention. There is a lot of evidence in the literature on programme evaluation and what is known when people try programmes, test them and they learn and adapt. We know a lot.

I wanted to comment on the business case in relation to early interventions. Having advised on this for about 20 years with different Administrations, it always comes back to the question: do we know it works? We know that if you deliver high-quality services to people who need them—the right features of quality, delivered at the right time—they can be transformative in most circumstances. Early intervention describes a very wide array of different sorts of activity. We do not know enough about what works for whom and when.

My point is that we know enough to understand it can work, we have to get the barriers out of the way to make it happen, and we need more testing and learning, but the question is not whether it works; the question is when it works and how to make it work more.

Q64 **Chair:** I do not want Professor McDaid to feel left out of this discussion. Your time will come a little later on the economics of intervention, but, from your written material, I think you would say there is plenty of evidence of early intervention programmes that work and deliver an economic return. Is that right?

Professor McDaid: Absolutely, from pre-birth and the perinatal period, in terms of interventions to help mothers and children, all the way through to young people leaving school and the transition to university and work and other outcomes. There is an increasingly strong evidence base. I agree with Professor Feinstein that there is a strong economic case for many of those interventions as well. One thing I would say, at least from my view of the economic literature, alongside the literature on effectiveness, is that sometimes we still rely on interventions where the primary evidence is from a different context. We have to be a little careful about that. That is not to say we should not do that, but we need to be mindful of how it needs to be adapted and whether or not there are factors at play. Indeed, this was said in the previous session as well.

Q65 **Chair:** You mean translating what might be happening in Alberta, for

example.

Professor McDaid: Absolutely. We should be a little bit cautious or consider what differences may be at play.

Q66 **Martin Whitfield:** Who is best placed to spot the need for early intervention? On whose shoulders should it rest?

Professor Feinstein: Frontline practice.

Q67 **Martin Whitfield:** Frontline practitioners. I take it you all agree with that.

Kate Stanley: I would say families to seek help; that is usually where it begins.

Professor McDaid: It also depends on what you mean by practitioners, because I would see a role for schools, kindergartens and so forth.

Q68 **Martin Whitfield:** That is what you meant by practitioners, so it is those who come into contact with the children—obviously, families right from the start, but those at the earliest opportunity. If families are not the best place to spot it right at the beginning, is it not almost too late when we come to the nursery teacher?

Dr Bush: Not in situations where the adversity relates to the community or the family. We think that the missing piece of the jigsaw is very much an understanding of how you create an adversity and trauma-sensitive and informed practice across the board, and that is where you do not need specific, expensive service lines. When the Government's big strategy on this, Future in Mind, was being created there was an aspiration to look across all these groups and say, "How do we intervene early? How do we identify need? How do we upskill all frontline workforces, including parents, to understand how to intervene?"

What happened was that when DH and others brought people together they said, "This is far too complicated. We should go back, because of evidence reasons, to single adversity and think about interventions guidance in that." We have had great progress on looked-after children, care leavers and child sexual exploitation, but there is practice translatability, not policy transfer, across those groups. There is good, well-established evidence across a range of fields that if you create any frontline practice that understands adversity and trauma—the consequences, how people present and what a good response is—you de-escalate need, divert people away from specialised services and prevent an escalation of mental ill health and other physical health consequences.

For me, that is an important way of stepping forward; otherwise, what we do is to say constantly. "The threshold of evidence has not been met. We need to go back into silo working and there is nothing to be learned across these adversity groups."

Q69 **Martin Whitfield:** To extend that, would you say that different early

interventions need to target the whole population—communities, families and all the way down to individuals—and we need the diversity of toolkit to draw on and knowledge in frontline individuals to be able to identify what works well where?

Dr Bush: You are absolutely right, and that is why Professor White's intervention was a bit of a red herring. We have been calling on directors of public health to champion interventions across all workforces at local level. You keep the integrity of looking at a population base split across the three different groups of children and young people I was talking about. But they are also well placed with no particular investment in any model, or in any of one of those adversity groups, to say, "Look, if you are a police officer, you might come across any of those groups; if you are a teacher, you might have children who are falling asleep in your class because they are taking on adult responsibilities." On that basis, they are very well placed to think about what a co-ordinated response will be. Yes, it is about upskilling all frontline practitioners, but it is also thinking about co-ordinated pathways and support that are sensitive to this.

If I may comment quickly on the definition of early intervention, we should remember that the reason we need to think about it in a co-ordinated way is that, as we know after the terrorist attacks, there is good reason why the NICE guidance specifically says, "Don't intervene straightaway; leave the moment that people are able to reintegrate into their community, and have a sense of the impact of witnessing those events." Actually, by intervening too early you might exacerbate the trauma they are facing. That is why we want it to be held at public mental health level, because it can think about incidence pathways, they can think about whole-workforce plans and they can think about embedding a trauma and adversity-informed culture across the board.

Professor Feinstein: Yes, frontline service providers will in different ways be very important, as will families, teachers and others, in the identification of need. The challenge for government is what systems are constructed through which that information gets communicated, and how that works with the huge diversity of structures of service that we have, which are different in every town in terms of how and who you are going to work with. That is definitely a role for government.

There is also the challenge of understanding strategic levels of need. The kind of information you get from a frontline practitioner is very different from what you get from an aggregate analysis. I want to emphasise that part of the purpose of the work we are doing on measuring vulnerabilities is to get an aggregate framework in relation to which you can set some kind of funding formula. That is the context in which those frontline services will be operating.

Q70 **Martin Whitfield:** It almost reflects the challenge we heard from the first panel about the value at an epidemiological level of ACEs and the reality of it being against individuals. On the back of that, do you think

there is any value to an ACE-based screening tool, or, as I mentioned in the first session, is convoluted language being used to tick boxes when it is actually more complex?

Kate Stanley: Generally, the ACE tool has not been used directly with children; we do not have enough evidence, so it would be adult-facing. That has some signs of being useful in terms of people's feedback of their experiences of it, and it is something we are exploring as part of Blackpool Better Start, where we are the lead partner. We will see how that goes.

People seem to be getting into quite a lot of conceptual and language debates here today. I want to make one tiny contribution to that. Let us call it early help rather than intervention, because that reminds us it is not necessarily about a statist response; it is about thinking about how people are equipped with the tools to identify what is going on in their family, or the family that lives next door, and offer help.

The value of ACEs as a tool or the body of research is that it has been translated into very simple terms that are meaningful to people; it can be used as a common language and has explanatory power to help people to understand what is going on in their lives, and talk on a level playing field with practitioners. That has tremendous value—more so than anything that is a screening because you are not really sure: what then? It is not helpful as a triage tool; it is more a starting point for understanding what is going on.

Dr Bush: And what is being screened. Lancashire came up with a routine inquiry that has been really successful in child sexual exploitation and child abuse, and it has been extended to other areas. They have issues with translating it to under-14s. When they are trying to roll it out to the rest of the NHS and other children's services they are trying to tackle that problem.

ACE as a concept, as translated in those screening tools, has some fundamental problems for children and young people. For instance, in the ACE definition of sexual violence and sexual abuse the perpetrator has to be older than the individual, so harmful sexual behaviour between peers would be screened out. The most important premise of this, in terms of routine inquiries as a screening tool, is that you are asking people about their experiences; you are recognising that the way they are saying it might not be story-based; it might be aggressive; it might be withdrawing; it might be falling asleep; it might have different manifestations, and that is used as a basis for action. I am using action rather than intervention, because it might be systemic community and school-based co-ordinated support about communities of violence, or stopping the integration, as happened in Barnet, Enfield and Haringey, of pregnant girls back into gang culture. Action can come once you have identified something, but we would not want it all limited to ACEs because it is too much of a blunt tool.

Kate Stanley: There is an example in Boston in the States where ACEs are used as a screening tool when women join an employment programme. They use it as a way of having a conversation about what has happened in their lives, what is going on for them and some of the issues that they may have, but the rest of the programme, which is all about them getting a job, draws on that, but it is not because of that. It did not get them in the door; it is just a way of making sure that the help they then get is better tailored to the kind of life they have had. For example, if you have experienced multiple ACEs, you may have problems with emotional self-regulation, which means that when you are in work you might fly off the handle rather a lot; when someone annoys you, you might react. Therefore, they work with women to coach them on regulating their emotions. It is a really practical tool that helps them keep a job.

Q71 **Chair:** Is that practical tool routinely asking questions of each person?

Kate Stanley: Yes.

Q72 **Chair:** That is not too far away from screening.

Kate Stanley: No. I suppose that screening implies it is a route into something.

Q73 **Chair:** My worry is that if one does not do anything in a routine way it is quite haphazard, is it not?

Kate Stanley: Yes, but then it is a routine inquiry.

Dr Bush: I guess what we are saying is that the importance of a routine inquiry is inquiry, and then understanding what is being presented back and taking action; it is not screening for a knowable future mental health problem or knowable early mortality.

Kate Stanley: As a diagnostic tool it is not proven.

Dr Bush: Yes. It is about understanding the kind of intervention. What is great about the intervention base is that these things are super-practical; everyone can do them. The example I always give is, as a result of a good CAMHS inpatient service asking someone about their experiences of sexual violence, they understood that if they stood in front of the door when talking to a young girl, that would be a trigger of the violence they had experienced and they would become aggressive towards the member of staff. But until that inquiry had been done, they did not realise that was why they were becoming aggressive, so they were subject to increased use of restraint, which in itself is re-triggering, and possibly re-traumatising. Therefore, an inquiry gave really practical-based interventions, which are well evidenced and will have a positive outcome. This is not neuroscientific rocket science; it is about understanding what is there, understanding the intervention and the appropriate action to take, and every workforce can do it.

Q74 **Martin Whitfield:** Do you think there is a danger that those who are not on the frontline will start using language such as ACE screening as a shortcut to try to arrive too quickly at a decision that is not evidence-based?

Dr Bush: Yes, and even worse than that, because we have not even talked about the overlap between trauma and adverse childhood experiences. As there is an industry in the UK and the US for intervening in problematic and challenging behaviour, there is definitely an industry growing up to intervene in adversity and trauma. I guess that what we are trying to say is that, by taking a public health and practice-based approach, we can make sure that is about addressing people's actual needs rather than educating them in a possible conceptual framework over another conceptual framework, because, as Professor McCrory said, not all adversity leads to mental ill health and traumatic stress, so we would not want to conflate those things either.

Q75 **Neil O'Brien:** I want to ask about the cost-benefit analysis on interventions, starting with Professor McDaid. In your written submission you thought there was huge economic sense in investing in these programmes, and you gave seven different examples of that. Do you think those kinds of economic benefits are limited to mental health-type interventions, or are they likely to be broader than that? How confident are you in the evidence base that we will find net cost savings from some of these interventions?

Professor McDaid: On the question about mental health benefits, are you talking about the interventions or their consequences?

Q76 **Neil O'Brien:** The interventions of things other than mental health.

Professor McDaid: Addressing that first, there is a substantive evidence base on interventions other than mental health-related that have benefits in terms of mental health, physical wellbeing and mental wellbeing, and you can see a positive cost-benefit on those. Sport is a good example of those kinds of things, as is education. Professor Feinstein knows a lot more about that than I do, but education as an intervention per se has a benefit for an individual's health and wellbeing.

The evidence base not only on what works but what is cost-effective is pretty much all in the same direction, suggesting that there are substantive cost-benefits, but—and this is the but—these benefits tend not to fall in one sector; they tend to fall in different sectors over time, which can make it difficult to implement. It goes back to the issue about implementing and co-ordinating across sectors, because you have some sectors paying and some sectors benefiting; some sectors benefit in 10 years' time. There are all sorts of issues there.

We can be pretty confident that there is a good evidence base. We gave some examples in our submission, ranging from perinatal interventions all the way up to early intervention for psychosis. Since we submitted that evidence we have been working with the charity MQ to provide more

examples around mental health first aid as a potential intervention to identify people with mental health problems in schools, so there is an evidence base there.

Q77 **Neil O'Brien:** In terms of quality, are all these things based on randomised control trials?

Professor McDaid: Yes.

Q78 **Neil O'Brien:** On the qualitative aspect about what sort of interventions are likely to pass the threshold for being economically worth it, on some measures about half of the UK's population have suffered some kind of ACE. Do you think it is likely that interventions that are targeting that kind of broader population will be cost-effective, or is it always going to be things that are more clinical, more social work and more targeted?

Professor McDaid: Most of the work that I and some of my colleagues do is more on the population health side of things. Certainly, there is a strong case for investing in interventions that move the whole population a little bit away from developing poor mental and physical health over time. We see that with, for instance, recent work we did looking at interventions to tackle bullying in schools. You can actually see, drawing on longitudinal evidence, the long-term consequences of bullying, and we can see that these interventions make a difference now in schools.

To go back very briefly to the previous point that you made, that comes not only from a randomised control trial but from observed analysis on 90% of all schools in Finland, where this has worked. So it is not always about randomised control trials, although they play a very important role too; there are other sorts of evidence as well. But we can demonstrate and look at longer-term impacts and outcomes. Sorry, I have forgotten the first part of the question.

Professor Feinstein: May I just comment? It is a great question, and it is why it is really important to distinguish different sorts of benefit, and costed benefit. It really matters whether you are thinking about a fiscal return to the Treasury from a social benefit, which is different from an economic benefit; there might be benefits for firms and communities that will ultimately benefit the Treasury but will not lead to any money going back into the Treasury now.

The reason we focused on the costs of late intervention—the £17 billion that I talked about before—is that that is money that the Treasury, through different agencies, be it through local government, the DWP, the Department of Health, the police or others, is spending now. It is only by targeting services on the threshold of those activities, where children are at risk of passing over the threshold to drive the cost, that you are going to get close to having the chance to generate any element of that saving. Very often it will not be cashable, because those services are rationed—so you might create a benefit for the NHS that means somebody else can now get a service that otherwise they would not have got. It does not

come back to the Treasury unless you are closing a hospital, or something. But there are examples within that range of services. We looked at 16 thresholds whereby, by targeting activity for children of families who are close to the need that is going to trigger the acute or statutory intervention, you can deliver the capacity to generate the fiscal saving.

That is where I think real action is required. I hear a lot of places talking about early intervention to generate those services, but they are not targeting the services towards those people who are otherwise at risk of tipping over into need.

Q79 **Neil O'Brien:** Do you think that they are programmes that are closer to the threshold for generating some kind of cashable savings, as it were—the sort of gold dust that we are looking for, things that effectively pay for themselves?

Professor Feinstein: I do. It is difficult, for a number of reasons. The point was made about the length of time involved. Particularly when you are working in early years, you might be waiting 15 or 20 years, and it is very hard to know where exactly that benefit will fall. So that is, to my mind, an argument why Government funding is needed, because it does not sit with any single agency; it is a collective economic benefit.

There are programmes across the piece. David was talking about mental health, but in every terrain of human development people are working away on interventions at different levels of need—for children who have experienced severe maltreatment, or for those who may have experienced much less severe issues of neglect but may not have met certain developmental milestones. There is a whole range of speech, language and mental health services across the country that are very skilled.

The issue is not whether those activities can be made to be effective; it is whether they can be lined up in such a way that people get a high-quality experience that will ultimately generate a saving. Whether that saving happens or not is much more about how government is structured and where the benefit actually falls than about the quality of the provision.

That is the distinction that I want to make. Very often people are delivering high-quality services, but you still will not get a cashable benefit. You hear about this a lot—there are certain towns where people are doing very good work for children at the edge of care, and they improve and leave and go somewhere else. It is a social problem, rather than about the effectiveness of the intervention.

Professor McDaid: May I emphasise again the point about the time to benefit, which is really important? One example where I think there are genuine cashable savings is with violence prevention. We know that issues in early childhood increase the risk of being a victim and a

perpetrator of violence, and that is something that can potentially be avoided—the costs associated with violence itself.

I have one very brief example, which may not be the best example, but I like it because it looks across sectors. There is a programme in Canada called Better Beginnings, Better Futures, which has run for more than 10 years. It is an education and health intervention targeted at vulnerable children in Ontario. They have followed the children over time and identified benefits in the physical and mental health of children, but they have also identified benefits to the parents and the teachers in the schools where those children go. They have identified benefits to the education system because fewer children have special educational needs. A cost is avoided there, because special educational needs are incredibly expensive. There are also reductions in costs in what they call social welfare—the social care and social work-type system over there.

You can see those benefits. They have produced a very nice cost-benefit analysis that shows that, over a seven or eight-year period, there was a positive return on investment in terms of savings, but it certainly was not going to the health sector. It was going to the education sector and social welfare sector. So you have to bear in mind the time issue and the fact that different sectors will benefit and different sectors will often have to pay.

Dr Bush: Also, there is a kind of English contextual consideration, in that we have an additional £1.4 billion invested in the system, but, by the NHS's own admission, by 2020-21 the NHS will meet only one in three children or young people with a diagnosable mental health need. From an economic and investment point of view, it is best for us to think about what we do with the two in three children and young people who, through failure, demand and lack of investment, will end up elsewhere, and at a high cost elsewhere. If we are starting to think about prioritising investment, we should think about investing in sub and pre-clinical levels of need, so that they do not become an NHS casework load.

Q80 **Chair:** So it is a public health issue, rather than relying entirely on treatment once the problem is there.

Dr Bush: Yes, we need to take a preventive approach, but also to think, if the NHS is having to gear up to meet three in three needs and is doing only one in three by 2021, how do we reduce what that overall caseload is in future so that we do not need another £1.4 billion, or £3.4 billion or £10.4 billion settlement to meet it.

Kate Stanley: A good place to look to identify that need is among children who have experienced abuse and neglect, because we know that eight in 10 of those children are at a very high risk of having a serious mental health problem by the time they are 18. The odds are very poor for them, so if we target help in that direction we would be doing a good job at finding the two in three.

Q81 **Chair:** Do you know whether in Alberta they are doing work on the return on investment—on the economics of it? Is that part of the programme?

Kate Stanley: Yes.[1]

Q82 **Bill Grant:** On delivery mechanisms, what challenges confront those aiming to deliver early intervention? What is the key challenge, bearing in mind that we said that there could be a range of agencies involved? I think that we touched on nurses, teachers, policing and social services.

Professor Feinstein: I can give you three quickly. We talked about the complexities of the service structures and the range of agencies involved, and, therefore, how in every place in the country we have a different configuration of services that will be involved. It is very hard for people always to find their way through that very complex system. So, one challenge is the complexity of the service structure.

Secondly—this is the Science and Technology Committee—there is the question of data. I continue to be really shocked about how little we know about the pathways of children through our services. I am told sometimes that I overstate it, but maybe I am just very ambitious.

Bill Grant: Feel free.

Chair: It is a free zone.

Professor Feinstein: We ought to know how many children are in the secure estate in government at any point in time, and how they are, because they are very likely to go on to need other services, but we do not know. And that is an easy one. I could give you a lot of other examples—children in care, and levels of mental health support from CAMHS for children in care, for instance. There are no routine data on that. So never mind the actual levels of mental health need, strategically, to be able to rationally target services—we do not have the data and information, and that feeds through to the frontline, because people are making decisions on the basis of inadequate data. Again, data are something that politicians can do something about.

Lastly, if I may, we need political leadership. As I say, I have been around this for 20 years or so, and I am constantly asked why I cannot make the business case. I am saying that it is not really about the business case. We know enough to be able to say that; we cannot say that every bit of early intervention will work, but we know the principles—and if we can innovate and support innovation, and testing and learning, we will make this all much better. We need people who are prepared to stand up for the idea of innovation in this field of testing and learning.

Q83 **Bill Grant:** You mentioned earlier that you had worked with various Governments—I noted that, and that statement says to me that, while

[1] Note by witness: This has been subsequently corrected by me, a ROI evaluation has not been done in Alberta.

you have worked with various Governments, the progress has been—

Professor Feinstein: Very slow.

Professor McDaid: There is a very important role to be played by local government. From a public health point of view, it is a local government responsibility, and there are great challenges in working across sectors at the local level. I can anecdotally think of examples of headmasters or headmistresses, or whatever the right term is, holding the budget for the school and having to make decisions about what they are doing in terms of school mental and physical health-type issues when they have other things they could prioritise as well.

This may sound heretical, but to encourage collaboration and better co-operation across sectors, as well as looking at the impacts in terms of childhood adversity, mental health and all the rest of it, perhaps sometimes we should look at the benefits specifically to those other sectors that have to deliver or fund the intervention. So, it may be about education-related issues, if it is in schools, or about violence if you are trying to get the police involved. It may be about the social work system if it is about very early years.

In a sense it is about going beyond the brief specifically around the benefits to children per se and about thinking about how we actually market this, in recognising that there are benefits that go beyond those children. We should not be ashamed about that; we should recognise that it is another way of creating the conditions in which to invest in those services.

Kate Stanley: There are three forms of sharing that are the biggest barriers that we encounter. One is sharing data.

Bill Grant: That is the data that we have to establish first of all.

Kate Stanley: Yes—but we do have some and we have to share what we have got.

Bill Grant: We can improve the data.

Kate Stanley: We would be a heck of a lot further on if we at least shared what we have, because bringing it together tells you a lot more than it does by itself.

Q84 **Bill Grant:** Who are the key players who would share the data?

Kate Stanley: We have just set up a data-sharing agreement in Blackpool between the council, the NHS foundation trust, ourselves and the police—they are the main bodies.

Secondly, there is sharing budgets. Again in Blackpool, we have set up the Bank of Blackpool to hold a pot of early intervention funding.

Thirdly, there is sharing language. If you are talking about early intervention, for example, you might have a health visitor and be talking about reciprocal relationships with parents and babies. Then you have social workers talking back and forth. Having a shared language about what we are trying to achieve together has proved very important in our work in Blackpool.

Q85 **Bill Grant:** Would you agree that when the contact is made with the parent or parents, there should be a consistent person there? You hear a lot of reports or read reports about there being a rotation of people, somebody this day and somebody else the next.

Kate Stanley: Consistent relationships are incredibly important, but, failing that, consistent language helps.

Dr Bush: And all the evidence shows that, irrespective of the intervention, the quality of the relationship is key to the success of any intervention.

I totally agree with the other three people on the panel. There is something about how we incentivise local leaders, both political and commissioners, and people with strategic oversight, to think about how to make this a priority in their area. The NSPCC has done some great analysis over a number of years of local transformation plans; we have a forthcoming analysis coming out of STPs—sustainability and transformation plans. Both show that there is a lack of ambition and local co-ordination in thinking about how to intervene on an inter-agency level and just get the principles of adversity and trauma-informed care throughout the workforce. It is then also about thinking about how you create a commissioning model that allows for greater flexibility and return in terms of benefits across the system, so that people do not become siloed and territorial.

Q86 **Bill Grant:** Further on training, I think that it was Kate who made the comment that, instead of asking the individual child, "What is wrong with you?", you should ask, "What has happened to you?" To me, that strikes me as a training need in the use of language. How should we train those who are tasked with identifying the person or persons needing the early interventions, and, having identified those people, how do you train them in the delivery of that help or intervention?

Kate Stanley: To bring it back to the ACEs agenda, that is a pretty good place to start—with those 10 questions. They tell you when something is not right.

Q87 **Bill Grant:** So it identifies a need.

Kate Stanley: Yes, it identifies a need for a conversation about what is happening. It does not necessarily tell you that there is a problem that needs a statutory intervention, but it tells you that something is not right, and that help might be needed.

Dr Bush: And, even further, the NHS in Scotland has embedded in the national strategy childhood adversity and trauma as a core public mental health priority. As a consequence, the body that was responsible for training in the NHS in Scotland has ensured that both low and high-level trauma-informed care are embedded in all its training models. Because of the good work that Professor Bellis is doing in Wales, it is also happening there. England is way behind that.

Q88 **Chair:** So, if you were giving advice to this inquiry and this Committee, you would say that we can learn quite a lot from Scotland and Wales.

Dr Bush: Scotland and Wales are not perfect, but their national leadership on the issue and also their want for local ambition, to address it on a population and individual level, is the kind of ambition that we need to see coming through to England as well.

Q89 **Bill Grant:** Is the Early Intervention Foundation performing a useful role?

Professor Feinstein: It was very well set up.

Bill Grant: That is a good start.

Professor Feinstein: Since I left, it has found better people to carry it forward, and they are doing a fabulous job. The challenge is that the range of issues on which they need to weigh the evidence is enormous, and it is a very small organisation. As an ex-member of staff, I would not claim that it covers the waterfront. It has set out some very useful structure for thinking about how to weigh the evidence and for making the cost-benefit case more rigorous than it has been before. We have to be both sceptical and realistic, and the Early Intervention Foundation is that. It is using that to try to make the case to support innovation that works with the grain of actual local services, but it is not the Education Endowment Foundation. It cannot then fund the hundreds of millions of pounds that are required to trial and test; it can only review the evidence that is there, which is not the fault of the Early Intervention Foundation but a weakness in the system.

Q90 **Stephen Metcalfe:** As I am sure you are all aware, the Government, in an attempt to tackle some of these issues, have published their Green Paper on young people's mental health. What is your take on it—good or bad?

Dr Bush: The whole Green Paper?

Stephen Metcalfe: Well, particularly the bit around transforming children's and young people's mental health.

Dr Bush: I think that there are some obvious gaps. One is around the early years, where there can be good-quality early intervention. Also, there is a question about what happens in expanding crisis care for children and young people, which is particularly relevant for those who need to acquire practical skills in self-soothing or managing emotional distress, but also those who have sub or pre-clinical levels of need who

have not yet been diagnosed. There was huge expenditure in adult crisis care that did not really benefit children or young people under 18, and we have called for an expansion within the Green Paper in that consideration.

There is a mention of childhood adversity and trauma, which you may have spotted in the Green Paper, and which we are delighted about. Does it carry the level of ambition and make it a national priority, with a public health priority and a commitment to co-ordinated commissioning across the board? No. Do we think that that should be there? Yes. Given the fact that there are questions about the future of the Troubled Families programme and the comprehensiveness of the mental health support teams that are proposed for schools in co-ordination with CAMHS, this is a quick win in starting to bring together all system players, coalescing around emotional distress and pre-clinical levels of need, and then really targeting specialist support where it should go for specific adversity groups or for those with diagnosable mental health conditions. Sorry—that was the consolidated version.

Professor McDaid: I would just add to that that the very good thing about the Green Paper is the emphasis on working across sectors, particularly between schools and health, which is badly needed. So that is very welcome.

Kate Stanley: We think that the direction is spot on, but I would describe it as meek overall. Some of the proposals are extremely modest in their scope and scale; testing a few things in a few years' time in a few places does not amount to a comprehensive response to the challenge that we face.

Q91 **Stephen Metcalfe:** Would you care to give a reason why you think the Government are being as timid as they are in their Green Paper? Why are they not being more ambitious? If you are going to do something, why not do it fully?

Dr Bush: It is because of the spending round, if nothing else.

Q92 **Stephen Metcalfe:** So it is purely money.

Dr Bush: The Five Year Forward View takes us up to 2020-21. Why would you make commitments beyond that time? In fact, the scope of the pilots in schools takes us up to that period. There is a serious conversation that needs to take place about the settlement for children's mental health across the board, and then some thinking about a co-ordinated strategy to take that forward. So, this builds on the really positive steps of Future in Mind; it takes us further forward, and we should celebrate this as a huge success. But is it comprehensive in scope? Are there gaps? It is not comprehensive and there are gaps.

Kate Stanley: If anyone tries to suggest that it is due to a lack of evidence about what we ought to be doing, that does not stand up. It is not that.

Q93 **Stephen Metcalfe:** That is very clear. The purpose of these inquiries is that we take evidence and make recommendations specifically to Government. What would you like us to recommend? This is your chance.

Dr Bush: Mine is probably the easiest. This should be a national public mental health priority, translated down to a local level, with directors of public health taking lead responsibility, but it being kept within LTP and STP planning, and there being a co-ordinated response alongside that and a robust programme of workforce development for all children's and young people's workforces, so they can do the practical interventions that stop this being an expensive intervention down the line.

Professor McDaid: I think it would be great if Government thought about ways in which they can help to facilitate, encourage or allow different sectors to work together. By this I mean, for instance, creating the conditions to allow pooling of budgets, sharing of staff and co-location of resources and services, because that can make a difference—and Government can nudge that.

Professor Feinstein: I agree with that. I told you about the Early Intervention Foundation and the £17 billion. We recognise that some of that need is never going to be eradicated. It is inherent to the human condition. Our view was that we could easily aim to take out 10% of that. Probably, based on what we know about human development, maybe 30% to 40% of it might be a reasonable ambition for what is avoidable and preventable, but let us start with 10%. So we are talking about roughly £1.7 billion. I absolutely agree that central Government could do more to incentivise the pooling of activity at local government level. We had the early intervention grant, and it was removed, but it was never tied to evaluation of impact. We need funds that are matched, so that different local agencies are pooling together and getting the support from central Government for that work, then making sure that there is proper testing and learning to allow for innovation.

My key ask is that, particularly as a Science and Technology Committee, you recognise the need for innovation. It is not that everything needs to test and work; that is the problem—that people are too scared to test and fail but then learn about what works.

Professor McDaid: Again looking to Canada, there is something called the innovation fund, developed by Public Health Canada, which provides funding for testing and, if the testing works, for rolling out a bit more, and then a third level of funding for implementation. The Committee might want to look at that model.

Chair: We are hearing an awful lot of good things from Canada this afternoon.

Q94 **Stephen Metcalfe:** Kate, would you like the final word?

Kate Stanley: Yes, I wanted to focus on one particular thing—to incentivise the development of trauma-informed services. In particular in

CAMHS, shifting to a needs-based model could be transformational. Within that, we need to incentivise local areas to take into account the needs of abused children when they are thinking about local transformation plans. In the last round, 30% did not even mention services for that population, which, given the high need in that population, is indefensible.

Q95 **Chair:** I have one specific question for David. There are other mechanisms to bring in money to services, with the social impact bond and so forth, and paying by the results that you deliver. Is there scope for that sort of approach? Are there any good examples of it actually working in practice? I know that it was recommended in Graham Allen's report as one option that could be considered. What is emerging on that front?

Professor McDaid: There are examples of effective use of social impact bonds in other areas—I do not know this area as well but, for instance, around dealing with issues of old age—where it is starting to work. One thing that I would say is that for the contract, in terms of how one gets paid, deciding on the key indicator is very important—getting the right indicator, one that can be delivered.

Q96 **Chair:** Is it a problem with payment by results that, often, the results are so far ahead that it is difficult to persuade social investors of the case for it?

Professor McDaid: It is—and it is also that it can sometimes mean missing out on some of the other benefits that have also been achieved by focusing on a specific, narrow, PBR-type of approach. But there is a place for it, and it encourages innovation.

Kate Stanley: In relation to the question about what we want to see, I wanted to echo Professor McCrory's call for a national scientific advisory council on early childhood development, not least so that we do not have to have this unfortunate squabbling, which obfuscates the areas of agreement that exist, as Professor McCrory demonstrated at the end. The national council in the United States has elevated what everyone can agree on, so people stop squabbling around the edges.

Q97 **Chair:** Is it fair to conclude from the evidence that you have given that you all agree that there is a need for something significant to happen at a national level—for it to be prioritised, as Marc indicated, for there to be some sort of multidisciplinary centre of that sort, and for it to be translated into local action, as in Alberta and, perhaps, in Blackpool, and so forth? Is that a fair summary—that this is the sort of thing that needs to happen but is not happening at the moment?

Professor Feinstein: My point is that we need better funding structures, not necessarily more money—but the money needs to be better spent and we need political leadership. I am not at all convinced that a multidisciplinary centre on the American model is any kind of answer to the British problem.

Q98 **Chair:** That was one element that was mentioned by Professor McCrory. But I wanted to focus more on the national priority that Marc mentioned and the need to translate it into local action, as appears to be happening in Alberta—and we have heard reference to the Blackpool example as well.

Dr Bush: In Scotland or Wales or in areas of England where there is local, national or regional leadership, what follows from that is good evidence and intervention and good local leadership. If we take that as a principle, yes, having the same form of leadership taken at a national level in England would spur on progress in this area and build the areas of agreement and consensus that can be reached quite easily.

Kate Stanley: I would say exactly what you have said, plus the political leadership.

Professor McDaid: There is also the issue of linking datasets better and having that kind of infrastructure.

Chair: Of course, I understand. Thank you all very much indeed. I appreciate your patience and the time you have spent with us.