

**ACP OPEN MEETING 10 JULY 2002**  
**TEMPEST ANDERSON HALL, YORK**  
**3.30 – 5.00**

Nick Bateman

... these are treated very seriously in the health service. Patients' names are confidential to them so it's often very difficult to get further follow-up information. But wherever possible that information is provided and it's a regular requirement from the HSE to come to us for information. So we try and provide it where we can but it's not universal.

Alison Craig

So you don't consistently provide the ACP from all 6 regional centres, of pesticide incidents which could be fatalities?

Nick Bateman

That's not what I said – I said we do it wherever we possibly can, we produce a consistent report – the report may not be as thorough as we would wish because of our limitation of follow up data. And so therefore I think there is a data gap; we will discuss this later in today's meeting I suspect. But there is a data gap but the data gap is not the fault of the NPIS itself which is what you're suggesting I feel. It's the fault of the system and the confidentiality of patient's material within the health service as much as anything.

Alison Craig

But Dr Bateman with respect it could be a very serious data gap. If you did not receive and the ACP did not receive the report for example of the little girl Sharna Richardson who died on the 8<sup>th</sup> of August 2000 – they did not receive that report until we sent them the report in May of this year.

Nick Bateman

Well I'm not involved in that particular case, I can't comment on that case today. All I can say is if that patient had been – if there'd been a call in of data for that particular product it would have been provided.

Alison Craig

So the ACP do not even know how many people are dying from accidental pesticide poisoning because that data is not reaching them.

Nick Bateman

I think that the data will go through HSE rather than to ACP direct. And where HSE are aware of it, it will come to ACP but if you want to comment on that . . . David, I mean am I confounding things further than I ought to? But I'm trying to make a clear distinction between information that we're asked to provide which is a call in when there is a licensing query. And you're I think asking about a regular feedback on a regular basis from us of all cases? Is that so – because we're not asked to provide that and indeed we cannot provide it.

Alison Craig Well I think the public would have the right to expect an urgent alert to the ACP if people are dying of accidental pesticide poisoning.

Nick Bateman If we had any deaths we would certainly send them. I'm not aware of a death from pesticide poisoning in Scotland since I've been there, but if there were deaths we'd obviously report them.

Alison Craig But there was a death and it wasn't reported.

Nick Bateman Not in Scotland.

David Coggon Information about mortality from pesticide poisoning does come to us from national death statistics, which I have been involved in analysing. The number of deaths from pesticide poisoning is extremely small. In farmers, if you're looking at deaths from occupational accidents it's smaller than the number of deaths caused by accidents with animals, and an order of magnitude smaller than the number of deaths caused by accidents with machinery. So we're talking about a tiny number of accidents. But information does become available to us – the particular case that you're referring to, Shana Richardson is a very unusual case which we're looking into at the moment. It's not clear whether this was caused by the pesticide because there was no pesticide

detected when it was looked for in the blood. And the basis for the diagnosis was really a dubious one, but it's a bit difficult to get into that here and now. I think there is an issue that people need to be aware about. About the limitations on information that can be obtained at the moment from epidemiological studies and through registers, because of issues about patient confidentiality and this has been a major problem for us. It's something that as an epidemiologist I've been involved in, trying to persuade government that we have to allow access to this information. But there is a very strong privacy lobby in this country at the moment; it's making it difficult for us.

Alison Craig

Okay well perhaps we could go back to that 'cause that's a very serious point. We would like to make one main point about PIAP, that is in '94 they had a review a short review paper of PIAP. In that paper it was recognised that there was under reporting, very substantial under-reporting, because they weren't receiving any reports through the local authorities. And Dr Osmond was aware at the time that that was a problem. He told me a couple of months ago (unclear) that they received just one or two reports from local authorities a year. And there are around 400 local authorities in the country. So there is very gross under-reporting via PIAP. And obviously the work of the ACP depends upon PIAP figures and

it is skewing government policy on pesticide safety. That's the main point about PIAP.

We're also very concerned that PIAP is not in-line with current notions of open, accountable government – not by a long way. There's no basis of decisions in their annual reports, nobody – not even the people affected by pesticides, can track their cases through the system. There's no way we can have confidence in the decision if there's no transparency. There's not even a website, there's no register of member's interests, we don't know how much PIAP's decisions are influenced by chemical company research funding for example. There's no lay members, there's no published recruitment criteria. We think it's a seriously flawed system.

This is an example of PIAP administration. Philip Browns is very ill with organophosphate poisoning. PIAP wrote to him in February last year. Sorry this is the next slide – this is another point that there doesn't seem to be any minimum data requirements that PIAP have worked out. So although the GP records and the EMAS doctor records are so crucial to PIAP decisions, even if you don't give consent to PIAP to access them, they will go ahead anyway and make a decision about your case. We think this is perhaps unethical.

And...to go back to their maladministration, John Osman contacted Philip Browns 31<sup>st</sup> of January. It took almost a year for him to be told the simple fact that as his incident was related to sheep dip rather than a pesticide, or what's classified as a pesticide, he should go to a different committee. It took them almost a year to tell him that fact.

So to conclude, our recommendations are that hazardous pesticides including acutely toxic OP's, should be very seriously restricted or banned near residential areas. There should be the right to a buffer safety zone – and if this is achieved through organic agriculture so much the better. And there should be restrictions of suspected carcinogens and endocrine disrupting chemicals. There should be mandatory notification to people who are already ill that spraying is about to take place. And there should be mandatory notification on rights of way, what is being sprayed and exactly when. Thanks.

David Coggon

Okay, again are there are questions of fact relating to that presentation? Alan?

Alan Boobis

I just wanted you to expand a little bit on the mandatory notification of those who are ill. I mean how do you envisage that working in practice - just what sort of area would that cover and how would they identify the people to notify?

Alison Craig I would classify anybody under medical care, either of their GP or any other medical care, should be told by their doctor that they had a right to – that they have this right and that anybody using sprays should be informed that they had a responsibility to do that. At the moment the green codes are extremely weak, they say it's good practice to notify vulnerable groups but it's not mandatory.

Alan Boobis These are the people living within a certain area that is sprayed?

Alison Craig Yeah – anyone.

Alan Boobis The problem with that is that there are huge numbers of people under medical care, and there is a lot of spraying, as pointed out, so what is the sort of zone of notification so to speak?

Alison Craig Well that's to be discussed today isn't it?

David Coggon Can I just ask, do you seriously think that people are going to want a farmer to know that they're under medical care? Do you think it's right to ask people to give away their confidential information to a farmer?

Alison Craig That's entirely up to them, if they want to be protected. I had a call yesterday from a lady she said – We just want to be told

when it's going to happen so we can take precautions.

Georgina Downs

And most people aren't even entitled to know (unclear)

Enfys Chapman

I was notified for several years because I'm at the risk of death from further exposure to organo-phosphates. I was notified by my Health and Safety Executive. I am no longer notified. So I live a perpetual life of risk.

David Coggon

Now we have a third paper which Paul Hamey produced but I'm keen that we have as much time for discussion as possible and what I suggest is that rather than asking Paul to give a presentation, I could just ask if anybody has any questions that they would like to address to Paul about the paper at this stage, again questions of fact but then we'll get into a more detailed discussion? Georgina?

Georgina Downs

Yeah I haven't got the paper in front of me actually Paul, but somewhere in there it says about the 5 minutes for inhalation – where is he? Sorry 5 minutes for inhalation exposure I think, whereas when I asked the PSD for stuff to be sent over on the bystander calculations it was one minute. So what first of all I want to clarify whether it's one or five, not that it really makes much difference in the context of what I was

putting forward. And is five the maximum for the calculations of the models?

Paul Hamey

I think the colleague that told you that it was one minute was referring to some early assessments we'd done. Now it's rather complicated but I should explain that this – this is a value that is used to convert or convert back the exposure measurements that were originally measured as intakes per person, that in the documentation we use have been converted into air concentrations. So we then have to convert them back to intakes per person.

And we've taken a stab because we don't have from the original arable spraying report the exact durations that the spraying operation took. But I would point out that the conversion that we get for the arable situation, we don't have to make for the orchard situation, where we expect the level of drift to be about twenty times greater than in the arable situation. And actually the conversion we use in the arable situation gives us a higher value than we get for the orchard situation anyway, so it's showing that the arable conversion we use is quite conservative.

Georgina Downs

Yeah but can I just ask that you're still basing it on the fact that it's sort of clear visible spray drift of roughly five minutes exposure and you're not taking into account

the fact that the chemicals persist in the atmosphere for some time after spraying has been applied and the length of time that the people would be exposed to the inhalation.

Paul Hamey

If we look at the data we use for the orchard situation because that comes from, treating a whole orchard. In twenty minutes which as I've said we would expect a higher level of drift there and in fact the estimate we...

Georgina Downs

Sorry...specifically you're talking about visible drift not the invisible particles that remain in the atmosphere that's what I want to be clear on?

Paul Hamey

No, we're not just talking about the large particles, it's the small particles as well.

David Coggon

I think this is a very important point and it's one I want to come back to in the discussion, so perhaps if we could get the committee back up at the front now and see if we can structure the discussion to get something useful out of this because there are a lot of strands to this.

What I really want to try and get at here this afternoon is first of all what can we say about the scale of this problem 'cause undoubtedly there are some problems occurring from bystander exposure. Even if you only believe the PIAP reports, there are

some cases that are reported and evaluated by PIAP which are classified as being probable, or likely, or definite pesticide related incidents. So there is a problem, it's not a perfect system but there is an issue about what is the likely scale of the problem. And then I also want to think about what further might be done to try to reduce the problem. And there are two areas to that – one is the way in which the risk assessment is carried out, which is what we have a particular role in here on the ACP. But also the enforcement of good practice that is assumed when the risk assessment is carried out. Because whatever sort of risk assessment you do, you're going to assume that a farmer behaves in a certain way. There will be certain things that you expect he will do and certain things that you'll expect he won't do. How often do farmers actually stick to what is expected of them and we've heard the example of overspray of a footpath just now as one area where there may not be very good compliance with the assumptions that are made.

And what can be done to deal with that problem? It may be that it's a question of better enforcement or it may be that actually you can't enforce better and that you have to think about other possibilities. But that's the way I'd like to structure the discussion and I'd like to break that down into the

exposures that occur to people who live next to areas that are being sprayed because that's a major issue that's been raised by Georgina. And I also want to look separately at the issue of people walking on footpaths that have been oversprayed because I think there are special issues from that.

Georgina Downs

...I think it'd be also helpful when you said that it was probably possible during the discussion to actually answer some of the questions that I put in my paper. Because we're talking about the fact that pesticides are approved before they've been shown not to pose unacceptable risk to human health, because there has not been a risk assessment for the type of exposure scenario that I'm putting forward. Therefore that goes against what the remit of the ACP says.

David Coggon

The points that you made are – I've actually got them listed down here so that we can deal with them – so that will come up and it will come under the heading of risk assessment primarily.

But before we do that, let's just think about the scale of the problem because we've heard just now some criticisms of the monitoring systems and there's been some attempt to explain to people that it's not simple running these monitoring systems. It

sounds very straightforward – well you co-ordinate all the information from the National Poison Information Centre and you send it on a regular basis and everybody will know what's happening. But there are obstacles to doing that – information does come through from the poisons information centre but there is also the pesticide incidents reporting scheme, PIAP scheme, which is intended to provide information particularly about short term adverse effects of exposure to pesticides. It's not a sort of system that will work very well in relationship to the longer term effects and we recognise that and there are alternatives that have to be considered for that.

Now it's been said this afternoon that that grossly under reports. We would expect it to under report because people don't always complain, they don't always recognise that their illness is going to be related to something in the environment. They may not always bother to complain about it even if they do, but does anybody have figures to back up what they're saying about the under-reporting?

I mean on the face of it the number of reports is tiny – what's in Paul Hamey's paper – Alison, you said there's gross under reporting. Have you had hundreds and thousands of people complaining to Pesticide Action Network? What sort of

numbers of people have actually come forward and said – yes, I've got a problem?

Alison Craig

Not hundreds of thousands but I certainly am aware that we receive many more reports in direct relation to the publicity and outreach that we do and though we never have no new reports they come in and . . . If there was a bigger organisation we would – the bigger we were the more...

David Coggon

I mean just by what sort of factor would you estimate that PIAP is under ascertaining – are we talking about a factor of ten or what? Based on your experience what's the under ascertainment you think that might be going on?

Alison Craig

Well I would expect each local authority to have certainly 10-20 incidents a year, that would be a reasonable assumption. So why aren't they being fed through to PIAP?

David Coggon

Well can I – no I think...

background talk

(This is David Buffin saying he'd like to make a point)  
(unclear)

David Buffin

...numbers and we have an estimate of fifteen hundred calls coming into the line that Alison operates, so that's sort of the...

David Coggon

Fifteen hundred per year?

Alison Craig Yes.

David Coggon And are they all related to bystander exposure?

David Buffin Maybe Alison might like to just say, characterise, what that number involves.

Alison Craig No they're not all related to bystander exposure.

David Coggon Right. So we're perhaps talking...

Georgina Downs Can I just very quickly add something to that. That is, that what I said in my paper is how can things get through to PIAP if the HSE aren't even investigating it anyway and the HSE may not even investigate for various reasons.

David Coggon You're jumping ahead, I'm coming to that in a minute but I'm just trying get an idea of the under ascertainment at the moment. But it sounds to me from what you're saying that we're talking about possibly hundreds of cases per year. But not, you know, not thousands of cases per year. Just trying to get it into proportion, into relation to the quarter of a million people that you say might live next to land that's oversprayed. Because it's a very important in terms of – how...

Laura Potts But that's only one Agency though.

Georgina Downs

Yes

Enfys Chapman

I ran PEGS before PAN UK took it over. And I did it for over ten years and kept faithful records and maps of where all the incidents took place. And I would be able to give you records that at least a hundred people were unable to get their complaints looked into by PIAP per year. And I have the records.

David Coggon

So yeah... but it sort of gives us a ball park in which we're working. Are there any members of the committee that have a point to make – Nick, what's your feel about the level of under ascertainment?

Nick Bateman

It's difficult to say isn't it? I mean we know from a parallel case which is adverse reactions to drugs that only about 10% of fatal cases are thought to be reported, or serious cases of adverse reactions to drugs reported through the yellow card system. And that's slightly different because one's asking a health professional to report about a patient and here the exposed individuals themselves could potentially report and therefore we won't expect a higher reporting proportion but 10% seems – between 10% and 100% seems a reasonable range. So between – so your reports of - I think PIAP look at about a hundred cases a year in my recollection. So if you multiply that by ten

you get a thousand which is about the estimate you've got from your phone line and other places.

From the point of view of the poisons inquiries and here we're looking at patients who have been exposed - and the majority in the home environment or at work to chemicals - not all of which are obviously covered by ACP. But there are our - I'm trying to think of some numbers in my head - we take on our website approximately 200,000 enquiries a year relating to about 400,000 different drugs and chemicals. Of those less than 5% relate to chemicals and the majority of those will not be covered by ACP. So we're looking at - in proportion about the same sort of numbers. So round about a thousandish would be my guess actually for the UK.

Of those, in terms of serious poisoning of course the numbers are (unclear) small as has been indicated in terms of, as I said, in Scotland a population of 5 million. In the last 4 years I'm not aware of any deaths and the UK as a whole very, very small numbers so we're not talking about a fatality here.

Laura Potts

Laura Potts York St John College. Can I suggest that actually we need not to be guessing as Nick Bateman has just said and speculating about these numbers and perhaps it would be within the remit of the

ACP to actually do some research to identify the number of incidents. We're not just interested either in mortality, we're interested in morbidity, in recurrent morbidity over a number of years related to pesticide exposure. If the members of the committee don't know the answers to these questions, surely it is your responsibility to find those answers – not by speculation, not by guessing. The replies that you're getting on this occasion are from a very limited number of NGO's– there are a number of other agencies whom it would be appropriate to ask. There are other methods of research which could be investigated if you genuinely want to know the extent of the morbidity associated with bystander risk.

David Coggon

Can I say that this is an information gap that has been a trouble to us all along. It's not something that we've only just thought about and come along today and – oh yes we don't know this – perhaps we ought to find out. I mean it's actually quite hard to get this information and you say there are lots of other techniques available. As an epidemiologist I'm well aware of those techniques and of their limitations, the difficulties of using them. You can't get a single source of information that will provide reliable estimates, you really have to pull together information from different sources and try to come to a view. It's not just an

issue in relation to bystander exposure, it's also in relation to operator and worker exposure. It is actually an item again on our agenda for our meeting tomorrow to look further because HSE has been asking us what else could be done. There is a new scheme being set up by HSE at the moment to try and ascertain cases through GP's - through a limited number of GP's.

So there has been activity for some time to try and improve this but believe me it's not just a simple job

Laura Potts

(unclear) is to cumulatively use data sources that are available – not to rely on a single source as you very well know too.

David Coggon

And that's what we're trying to do. I mean we did this – exactly this sort of exercise in relation to organophosphates. And it was quite a time consuming exercise and it still left a lot of uncertainties at the end of the day. So – you know we're aware of the problems – we're trying to deal with them. There are limits to what you can do but we will be trying to do more and it is on the agenda for our meeting tomorrow to look further at what can be done. But I think what we are getting at the moment is a picture of the sort of scale of problem that there might be out there. And it's important to get it in context in relation to other environmental hazards to health.

Georgina Downs

Can I just say that – I don't want to get stuck on this, you know you've got to show the health damage et cetera again. Well what I'm trying to put forward in the paper that I produced for this meeting is that if something is a significant risk to human health and whether the damage has occurred or not, then that is not supposed to be, the product is not supposed to be, approved for that use.

David Coggon

We're coming to that...

Georgina Downs

But you keep saying that but you know...

David Coggon

Well we are, well we'll get there if we don't have too many interruptions. We've got to go through this in a systematic way otherwise we won't come to sensible decisions. Yeah, are they specifically related to the statistics on frequency of incidents are they?

Tom Bals

Yes Tom Bals from Micron Sprayers again – sorry I've sat for the last few years on what they call a project called Chemag. And we were talking about ACP responsibility in doing this but in actual fact this was a tripartite for the HSE and CBI TUC which looks at the PIAP report as part of its general remit for looking at the use of chemicals of agriculture.

I think the point I want to make about keeping it in context – the use of chemicals or pesticides in agriculture is actually a relatively low risk in terms of agriculture. People get killed by machinery in agriculture and when we hear calls for things like organic farming and mechanical weeders and flame throwers, I think we need to bear in mind these are not risk free and people actually die through these and probably more of them die than through the use of pesticides directly.

David Coggon

Was there one other point up there?  
There's one point at the back I think.

John Clark

Yes I've two points I think related to this. The first one is I think that's evidence as to why I would like to see this background when new pesticides are produced so that we can measure the effects.

Secondly in terms of the size of the problem, I cannot believe that in any way that it is small, because you could say that the 20 - 40,000 deaths a year worldwide are due to bad handling practices, different pesticides – all sorts of questions. But in the US they've probably got similar standards to our own, similar scientific levels, similar rules and regulations. There's 300,000 people suffering from pesticide related diseases. Now if that is the case, it's 300,000 in the States, that means we are

very likely to be hiding something. And just from a farming angle most farmers using pesticides – most farm workers using pesticides know what they're doing and are protected and are aware of the dangers of the chemical.

I think it is dangerous to assume that the bystanders are going to be lower than that because they by definition are walking through, stood near passing by et cetera rather than wearing protective clothing and so on.

David Coggon

We'll come to that point in a minute under the risk assessment but in terms – in terms of the statistics that you quote for the United States – what's the source of that?

John Clark

(unclear)

David Coggon

Yes I'd be interested to know what sort of investigation it was and who it was done by and how they did it.

Okay, now just a bit more on the statistics because the point has been made that the HSE won't always investigate incidents that are reported. And when they do investigate they often say – this wasn't pesticide related. I want to just ask Stuart, do you know how the system works for investigation. If I ring up the Health and Safety Executive office and say – I think I've

been made ill by spray from the farm next door – does that always get looked at or might it get dismissed? And if they decide that the farmer was doing things appropriately would it not get into the PIAP scheme or would it get in?

Stuart Smith

I also have to preface what I say by pointing out that I'm not actually on the enforcement side myself but I do know a fair amount about how HSE goes about it. There is a standing enforcement policy within HSE that complaints involving alleged ill health as a result of pesticide exposure are investigated. Now it's not possible to say that's true in absolutely every case because obviously some are – some fringe reports are obviously not going to lead anywhere, aren't even fanciful. But the vast majority of complaints of that sort reported to HSE are investigated. What often happens is that when it's suggested to us that particular complaints haven't been investigated, is that it does, to be honest, quite often turn out that we haven't had any report and we haven't been able to trace the incident that's referred to.

But it is the case that it's a standing HSE enforcement policy to investigate all claims of that sort. It's unusual that's about the only area in which we've got that sort of – that sort of blanket instruction.



you have to prove beyond reasonable doubt that your health has been affected by pesticides when that's not what the motto of health and safety is. It's meant to be reducing risks and protecting people.

David Coggon

If you want to take a criminal case against an employer under the Health and Safety Work Act, you would have to prove your case beyond reasonable doubt because that's the way the criminal law works.

Georgina Downs

But the two seem to go against each other though 'cause you've got . . . It's been seen as being acceptably safe in the approval and then you've got the Health and Safety Work et cetera Act which won't enforce because there's no evidence of illegal use or anything that was not in the accordance of the approval.

David Coggon

Yes, but I think what we're concerned about is if bad things are happening despite no evidence of illegal use then have we got the risk assessment wrong and that's the next point we need to come to. Because there are two ways in which the system can fail – one is that the risk assessment is inappropriate. The other way in which it can fail is that we do an appropriate risk assessment but the pesticides aren't used in the way that we assume in the risk assessment. And those are the two areas that we have to consider.

So if we could go next to the way in which the risk assessment is carried out and this is your bullet points really. And I want to start by thinking about people who are living next to land that is being sprayed. One of the points you make is that the regulations are aimed primarily at protecting operators and workers. Now I think that's just not the case that the risk assessment that is done in relation to human exposure is done in.... for agricultural pesticides is done for three scenarios, it's done for operators, for workers who go into a crop after it's been sprayed, we've got bystanders and for dietary exposure. And that's standard practice. And there is no question of us not doing a bystander exposure assessment. Is that fair Paul?

still David Coggon

It's always done, so it's not a secondary thing that creeps in.

Georgina Downs

No but my point is that the bystander exposure example does not equate to the kind of things that I'm putting forward, the people who are living for 24 hours a day in this specific situation.

David Coggon

Well we'll come to that but the point that you were trying to make, that the regulations are aimed primarily at protecting operators and workers is not true. There is no...

Georgina Downs

Yeah but operators and workers know that they've got personal protective equipment, they know about the chemicals and people don't.

David Coggon

There is no primacy of the way in which the regulations are worked, it's just not true that. You say that no account is taken of long term effects of the repeated unprotected exposures to mixtures of pesticides and other chemicals. Well first of all if we consider the repeatability side of things. The normal risk assessment – the normal hazard assessment against which you assess exposures of bystanders is based on an exposure that occurs repeatedly at the same level each day for three months in the year. So it's a repeatable exposure and it's repeated. I mean on your video you showed a sprayer that was happening five times over four months or something like that but the...the assumption that's made in the risk assessment is exposure daily over three months.

So it's wrong to say that it doesn't take account of repeatability.

Georgina Downs

So that basically you can provide the evidence that the exposure scenario I put forward 24 hours a day exposure, long term repeated unprotected et cetera, has actually been taken account of and I've actually got that incorrect?

David Coggon

Well we're doing it bit by bit but the exposure repeatedly, on day in day out over a period of three months, is what is assumed in the way in which the risk assessment is done.

Georgina Downs

Can I just quickly ask, is that based on what kind of length of time exposure, are we talking about the five minutes?

David Coggon

No we're coming to that in a minute, I'm just talking about the repeatability aspect of it, so we'll come to that in a minute.

The next thing is about the protection, you say it's unprotected. Now in Paul's paper he says what the assumptions are about protection. And the assumption is that people are wearing minimal clothing which is the least – so less clothing than those models that you had in your video.

Georgina Downs

Yeah I want to make that clear. I wasn't actually saying that I don't – I know you do unprotected testing. I wasn't saying, I want to make that clear...read that wrong.

David Coggon

Okay so there is no assumption that bystanders wear any form of protection or even that they wear a normal level of clothing, it's assumed that they're wearing less clothing than normal. It's also assumed that they are exercising at an abnormally

high rate so that they have a high respiratory exposure – higher than you would if you were just standing out there or lying out there, somebody who's digging hard, doing hard work and breathing heavily – okay.

So there are those issues now the next issue you raised is the...

Georgina Downs

Yeah very quickly I actually asked if we could go through the actual questions that I posed for the ACP...

David Coggon

We are going through...

Georgina Downs

No, that's the executive summary. I want the actual questions answered as to how come this is allowed to go on.

David Coggon

No I want to go through these points because it's important that we deal with them. You've made them, they need to be answered.

Georgina Downs

Questions have also been raised and they're not being answered.

David Coggon

The next question is about exposure to mixtures of pesticides and we've had a bit of discussion about this already. Alan, do you want to say something about the potential impact for risk assessment of mixtures?

Alan Boobis

When we reviewed the literature that was available – not just for pesticides but for a variety of chemicals to the extent they could inform the debate on the generic issue of the toxicology of mixtures for the WiGRAMP panel, we could find little evidence that combinations of similar compounds had an effect that was other than simply additivity of effect. There was little or no evidence of synergy or concentration additivity. The situation where one would get concentration additivity would be where one had compounds which acted by a similar mechanism on a same or a similar target. So in the – I don't know what were these tank mixes that were being used – I assume that there are different chemicals for different purposes and that the farmer's taken the opportunity to put them on the crops at the same time rather than doing repeated sprays. But unless they were working through a similar mechanism then one would expect them to all act independently and therefore the issue really relates simply to the exposure to each chemical rather than some particular interaction of the combination. We just couldn't find that evidence when we looked for it.

Georgina Downs

But you did also say in that report that in terms of hazard identification it's impossible to test all combinations of mixtures existing in the real world today. So therefore if it's

impossible to test all combinations you can't come to a conclusive point – conclusion on that point.

Alan Boobis

I don't think because we can't do everything we can't come to some conclusions. And I think that one looks at the biology of the systems over a diversity of chemical structures, information which we do have, there is no reason to believe that there will be a synergistic effect of these compounds which act on different targets.

David Coggon

Okay we're going to get some points in your favour in a minute so don't get too upset by it.

Georgina Downs

I just want my questions answered that's all.

David Coggon

No well – but you have raised some very important points that need to be considered. The next issue is that the danger isn't just from immediate visible spray drift. Well I think we all recognise that. It's what people get exposed to and as you point out there is a potential for exposure by an oral, dermal and inhalation route. Now Paul's report indicates that routinely account is taken of dermal exposure (skin exposure) and of inhalational exposure. There isn't routine account taken of oral exposure is that right Paul?

Because you wouldn't assume that there would be any significant oral exposure.

Paul Hamey

except the part of that exposure that tends to be inhaled would probably end up as ingestion.

David Coggon

Right, but you don't make allowance for a fact that the child might be crawling around on a lawn that's got drops on and then transfer to mouth? No. Is there any reason to expect that that would give comparable exposures to those which you get by inhalation and skin contact?

Paul Hamey

I'm aware of some sort of estimates that USEPA have done of that scenario but I can't remember.

David Coggon

Right, so is that something that perhaps we should go away and just check out and see what potential there is. Does somebody want – Graham?

Graham Matthews

Right. I've just confirmed that from Paul's point that in California they've done quite a few assessments of picking up from treated carpets and by babies and other toddlers. So there is a lot of data but we were talking here in terms of the agricultural scene and the bystander is someone standing in relation to the sprayer.

David Coggon

Okay, so there is perhaps something to look at a bit further, although I suspect that the contribution from oral exposure is going to be really rather small compared with the other routes of exposure.

Now I think the most important point that you've made, and the thing that concerns me most, is about the distance that the sprayer may come to the person, the bystander, because they can spray right up to the edge of your garden. And you might be at the edge of your garden with no hedge and the fact that you are there all day while the sprayer is operating in the field next to your house. And I think the question there is, how well does the exposure estimate that we make at the moment reflect the total exposure that a person would get over 24 hours if they decided that they were going to stand at the edge of their garden in the sort of situation that your model was in, in the video that you showed? Paul, do you have any feel for that at the moment?

Paul Hamey

I think it's difficult to say. Obviously we can look at drift data and see how much higher the levels of drift will be. And those will be, they will be higher, but not orders of magnitude higher.

David Coggon

So the main exposure will come from when it's very close to you?

Paul Hamey

Yes but it won't be orders of magnitude higher than what we're predicting at the moment in terms of what's landed on the body. The inhalation exposures are more difficult to estimate because we don't really have long term air levels like you would expect for a day, because what we're taking is quite a high estimate of that slug of drift that is passing someone. But if you start looking at the vapour drift those levels there are actually, we do have some long term measurements there and they're about a million times lower than what we're estimating for that slug of air.

So my feeling without having really hard data to look at is that it's not going to be significantly different to what we're doing at the moment.

David Coggon

Right. Can I ask members of the committee and perhaps Graham in particular whether you feel there would be value in having further empirical data on exposures that might occur in this sort of situation. And there are several sorts of studies that could be envisaged. One would be – would be to do experimental work with a dye rather like's been done. Another would actually be to set up passive monitors or...or fixed site monitors not personal monitors you can't have people there. But set up monitors at the edge of somebody's garden like those

models were in Georgina's video. And get a measure of what exposure might occur by different routes over the course of a 24 hour period when spraying is taking place. So do you think that that's something that would be – would usefully inform the risk assessment and perhaps give us more reassurance that the sorts of exposure estimates that are being used at the moment are realistic?

Graham Matthews

I think some extra data would be helpful and certainly in some countries there have been measurements with passive collectors over a longer period. There's particular concern at the moment in Australia with aerial application of insecticides and there are measurements of the vapour drift over a period of time. But I think that the data would probably confirm what Paul's already said, that most of the exposure to someone down wind of a sprayer occurs primarily from the nearest passages of the sprayer across the field. And then as the sprayer gets further away the amount then becomes progressively less and therefore the actual direct exposure may be no more than we are taking at the moment in our risk assessment.

On the other hand there are some chemicals which have a higher vapour pressure and even when deposited on the crop may then come off particularly in hot

weather. And there were many examples of that in relation to certain herbicides back in the UK in the 1970's and because of the effect of the herbicide on other crops it was quickly noticed and the product was either withdrawn or reformulated so that the vapour action was drastically reduced. So...

End of side A of audio tape in terms of when there is an obvious effect, I think it comes to notice very quickly because there would be a lot of people complaining straightaway at their local hospital and so on, but I don't think the extra data will show us very much more, but I think it will be reassuring to have some.

Side B

David Coggon

Right, is that a view among other members of the committee as well? So I think that is something that we should ask PSD to look at further. Now we have a question over here and I know there's one over there as well.

Background talk

Maureen Dennis

Can I suggest.

David Coggon

Name please?

Maureen Dennis

Maureen Dennis. I'm with Green Network and I formed the Lincolnshire Against

Cancer Group two years ago. Can I suggest that your prime candidates for measuring for inhalation would be the women that work in the fields in Lincolnshire planting these vegetable crops, that inhale these fumes from these chemicals. I can't give you a 24 hour day but I can certainly give you an 11 hour day and I was just one such person that did this.

David Coggon

Well that – you're really talking about worker exposure there?

Maureen Dennis

Yes, but you see you talk about bystanders, well men can be cutting cabbages in the same field that is being set, it's a rotational thing, it doesn't mean if that field is thirty acres that the crop will be cut all at one time. It probably has five acres of one and ten acres of another. And it comes rotational. And we can actually be planting in the field at the side of where cutters are cutting these and they're going to the pack houses and nobody listens to this. They are not bystanders, they're actually working there. It's the same with the women that go in to hoe these crops, they can be hoeing them and the sprayer comes in and sprays regardless that you're there. We're not bystanders, we're working, we're gainfully employed, but we're not respected for what we do.

Now one such incidence was in 1994. I was rushed to hospital with a suspected heart attack. The chemical that I was working with plainly displayed that the effects of over exposure mimicked a heart attack. When I was in the hospital three doctors came to my bedside and said what had I done different. And I said that the only thing that I'd done different is I've been working with an OP and he said – oh it wouldn't be that, it couldn't possibly be that. He didn't even ask if I wore protective gear, in what the conditions was and anything about it, he just knew it wouldn't be that. So nothing was followed up.

And six weeks later when I went back the consultant told me that I was fine – there was nothing wrong with me. And I said then how do you explain what happened to me. Well he said it was one of two things, you either had a serious chest infection or pleurisy. So I said well why didn't you give me antibiotics – because nothing was given to me and nothing was followed up and it was not reported. So under your reporting, the thing is how do we get it over to the doctor that we are affected? We know our own bodies, we know what these things will do to us, but how do we make him understand that we know what's affecting us because as it comes round to each time that we have an exposure. And I've had one as recently as seven days ago when I

was seriously ill again. And the sprayer come the other side of the dyke to me, the only thing that we gained out of it was when he sprayed his crop he killed the thistles on our side. But I was made ill.

How do we get it over, it's not bystanders, it's the people working there.

David Coggon

Well, I think it's both actually.

Maureen Dennis

And you can't...I cannot for the life of me understand why the spray operators health is monitored and if his blood isn't right he's took off spraying for so long but the women that's working at – behind it and we worked from March 'til August...

David Coggon

I'm going to have to interrupt 'cause we are going to run out of time but I think you've made a very good point. The situation for workers is a bit different because we do a risk assessment for workers and for bystanders and the employer has a responsibility under the control of substances hazardous to health to assess risks to other workers in the field.

Maureen Dennis

What did happen to the COSHH assessment?

David Coggon

Well I don't know, that's between HSE and your employer.

Maureen Dennis

Yes you see the thing is the COSHH assessment if it had been implicated would have been a wonderful thing for research.

David Coggon

But actually what we're talking about here is application of the system that is assumed. I mean it is assumed that somebody will do an appropriate COSHH assessment when they use a pesticide in relation to the risks to the workers and to bystanders. And if people aren't doing that, that's not about the risk assessment we do but it's something we're coming to in a minute. I accept that there is an issue about worker exposure but really the focus of our discussion today is bystander exposure. Some of the exposures to workers will be covered by bystander risk assessment as well.

Can I go over there now but I do want to get through these points and get some conclusions 'cause I'd like to make some decisions this afternoon further than we have done, okay.

Sandra Bell

Sandra Bell from Friends of the Earth again. I'd just like to make the point that whether it's for worker exposure or bystander exposure that I think it's fundamentally flawed if you do assume that farmers are following all the sort of rules in the advice and the code of practice. Because a lot of farmers have never read the Green Code of Practice and recent surveys, for example a

survey by CSL, show quite a low level of awareness amongst farmers of various advice contained in those codes.

David Coggon

Well we will come back to the problems with farmers not following the practice that we assume, when we do the risk assessment in just a minute.

Sandra Bell

Okay and the other point is really going back to my earlier point that you're still looking at different groups of people as only having a single route of exposure and bystanders are not just bystanders they're also consumers. They're also eating food with pesticide residues, they're also using probably pesticide products in the garden as well.

David Coggon

Yeah I think we actually, we talked about that earlier on and Alan's...

Sandra Bell

Yeah but you're looking, you're now looking at the risk assessment for bystanders and you're not taking into account those bystanders that are also taking in pesticides from various other routes and so you're not (unclear) a realistic...

David Coggon

We have already discussed that earlier this afternoon and what the practical impact of that might be. There was one other question at the back up there – and then I'd like to move on.

Meryl Knapp

Not so much a question as a comment – Meryl Knapp from Yorkshire Water. And I've done a lot of work with Aventis in respect to aerial spraying of asulam for control of brackens on the moorlands. And when I saw that video I was very interested because a great deal of work has been done in reducing the amount of drift from aerial spraying. So we're not talking about what actually the risk is but the fact that we could reduce the risk and I'm sure this is something you could investigate. By using controlled droplet nozzles instead of the spraying nozzles they have done very, very detailed measurements of the amount of drift from spraying from aeroplanes. I'm quite sure that the amount of drift from those land based sprays could be reduced immensely with new technology. So I think this is something which you should look to.

Graham Matthews

Yes if I might comment. I mean I was very pleased to see the video because clearly how much drift occurs depends very much on how the machine is actually operated. Now when the original bystander evaluations were done most farmers were using what we call straightforward conventional fan nozzles. Now because of the introduction of LERAP and protection of waterways many farmers now do use what we call air induction nozzles that produce a very much smaller fraction of the spray in

very small droplets. And therefore reduce the drift. So the case that was just mentioned in relation to asulam is just another example of where the engineers have developed new technology which can considerably reduce the amount of drift.

I was rather taken by the fact that the number of farmers using what we call air assisted downward directed spray according to this recent survey is only about three percent of the farmers. And only I think about 19% mentioned using air induction nozzles. Now if there is a drift problem close to residences there is an engineering way of...of improving the situation.

Jim Orson

Just to add something on that, the current sales of nozzles suggest that 54% of sales now are air induction nozzles. And so the industry as a whole, probably not your neighbour, are moving towards lower drift machinery, or delivery equipment.

David Coggon

But the risk assessment that we do does not assume that people are using low drift nozzles. We assume a worst case, that they're actually using ordinary standard nozzles and actually that they're applying in a higher wind speed than would normally be allowed for or recommended for spraying. When we think about collecting further information, about exposure that might

occur, the other thing I think that's very important is the distance that the sprayer can come on its closest pass to the person who's being exposed. Because while eight metres might be the distance that has been deemed reasonable in the past and the ACP, before any of us were members, deemed that that was a reasonable assumption and it's been deemed a reasonable assumption in Europe as well for this sort of risk assessment, I think it would be helpful to know how much difference it makes if you do go that bit closer. And clearly if it did make – if we're going to change something on this it's likely that we're going to have to try and move it through Europe and not just here. And if we're going to make changes to happen then having good data on which to make a case is going to be quite important.

Yes Georgina quickly and then we...

Georgina Downs

I still think you're missing kind of all the points that I'm raising here is that it persists in the atmosphere for some time after spraying's been applied, people will be...exposed for days.

David Coggon

No, well that's why we say we're going to monitor...

Georgina Downs

Now I'm sorry I have to say this is totally unacceptable and I asked after the video

whether – can I just say that I asked if this was acceptable and nobody raised their hand. Now I'm sorry but immediate action needs to be taken on this issue, not just bits and pieces here and there. And I think people have a right to decide and a right to make a choice about whether they're exposed in this way and this is what I propose to do and I think this will really help the ACP. Can I say two things on what I propose to do. I do work in television, the video's already with some television colleagues of mine. I will get it shown on national television, put it in the public domain and ask people if they think this is acceptable, would they want to be exposed in this way and then hopefully that will bring forward a whole load of cases to you, I hope, of people that have been exposed in the same way, so you can get an idea of the scope of the problem.

David Coggon

Right, okay. The exposure assessment does assume that people are exposed all day. That's what we're saying we want to get, an estimate of the total days exposure that people get. And the assumption is that they're exposed at the same level each day as on the day when the spraying takes place.

Georgina Downs But why should people have to be exposed to that sort of significant risk, you are here to protect

people's health, it's about significant risk of injury.

David Coggon

What is the evidence for significant risk?

Georgina Downs

Did you watch the same video I did today?

David Coggon

But where's the evidence for the risk.

Georgina Downs

But risk equals toxicity x exposure. Now nobody can argue that these products are poisonous okay, no one can argue, that's well acknowledged. Exposure equals how often you come into contact with the chemicals and the ease into which you come into contact with the chemicals and if you're telling me that's not ease into which you come into contact with the chemicals then I don't know why I've bothered to come today.

David Coggon

It's about how much you come into contact. That's the point that we've tried to make in the first presentation, that risk depends on the level of exposure that you receive, the dose that you receive. And the problem – the reason why nobody puts up their hand up and says that that's acceptable is because they can't judge from looking at that picture, you can't make a decision. You don't know what people are being exposed to and until you know what they're being exposed to and in what dose you cannot

make a scientific judgement as to whether that exposure is acceptable.

Georgina Downs

It's not up to you to decide, it's up to individuals to decide.

Elaine Brown

Mr Chairman I just wanted to ask Georgina – did you make any effort at all to find out exactly how much [pesticide] had actually fallen onto the clothes of that ...[the dummies]

Georgina Downs It's being tested but I'm still waiting for the results.

Elaine Brown

You haven't got any results yet because it will be much more useful if we really knew how much [pesticide] had fallen[onto the clothes]

Georgina Downs

Absolutely and that's being tested at the moment.

David Coggon

But what we're proposing is that we actually do get a formal study done along the lines of what you've done yourself that would produce solid data on how much people do actually get exposed to in that situation. So that we can assess whether or not there would be an unacceptable risk.

Georgina Downs I am just absolutely amazed that you say that that's acceptable for the moment until you've done that data, that's acceptable

David Coggon Well the reason why we're not jumping up and down with more urgency, and saying we don't think things have to be done more urgently is because - going back to the beginning and trying to assess the scale of the problem - we don't have indications of a massive problem from this.

Georgina Downs Well and I think I've raised all the issues as to why in the paper.

David Coggon Yeah but that is the logic for our thinking, we don't have indications for a massive problem therefore we have to - we have to go about it - we are not...

Georgina Downs It's lucky then that Professor Boobis did say in February that it's society that designates acceptable risk, because what I proposed just now will let society judge, not you, not anybody else in this room, but society.

David Coggon There are a number of other issues that I wanted to cover in relation to - yeah?

Roger Harrabin (Radio 4) Professor Coggon can I just ask a lay question. She asked earlier on if members of the panel . .

David Coggon Sorry your position?

Roger Harrabin (Radio 4)

Sorry, Roger Harrabin from the BBC. Could I just ask a lay question. She asked earlier on would members of the panel find it acceptable to live in a place where they were being sprayed like that and no one put their hand up. Could I ask that question again, now members of the panel are sitting there, if people would be prepared to live in that situation?

?female voice

I don't think it's a fair question

David Coggon

Well I would be prepared and I have done. Yes...and you do as well. Yeah so...

Georgina Downs

Yeah, but that's your choice. People that are in this situation haven't got a bloody choice because how do they know? No one's telling them. Are you not getting this, no one is telling people about this, how can they make an informed choice? We are in a democratic society or we are supposed to be. This is a democracy. We've got fundamental rights and fundamental freedoms and they are being breached in that situation, whether you all like it or not.

David Coggon

Well I think what you're doing now is exerting your democratic rights – that's why we have the open meeting to discuss these issues.



baby's head is pretty much unacceptable risk to human health. If you think that's acceptable then you stand by that and I stand by what I know.

David Coggon

It depends on the dose that is received and this is a fundamental principle of toxicology.

Georgina Downs

They shouldn't be receiving any, why should they have to be?

David Coggon

Because everybody receives poisons all the time – you can't avoid poisons in life. Everything – we're all being exposed to poisons now. The toxicity of a chemical depends on the dose that you receive. Can I ask the other toxicologists on the committee, we seem to have a problem here in understanding about risks.

Alan Boobis

I think it is in part due to a fundamental misunderstanding of language. When you talk about risk I think you mean something different from what we understand by risk. And I think that's the difficulty we're having that we are failing to comprehend what it is that you are really concerned about.

Georgina Downs

I'm sorry, I don't know whether you saw my video at all?

Alan Boobis

Because...because – but that's the point because to me the video shows that there is something in the air with a concentration

which I don't know – which is causing some exposure. As the chairman has pointed out the risk is a combination of the total exposure versus the toxicity of the compound. I have neither of these pieces of information. I can't possibly judge.

Georgina Downs

It's toxicity times exposure, the amount you're exposed to. Now if you are repeatedly exposed all the time from living in that scenario then you are going to be exposed over a higher basis than other people.

Alan Boobis

No, no but it depends on persistence. We've heard you say that it persists for a long period of time at high levels, I have not seen any evidence of that, I've heard evidence to the contrary, I'd like...

Georgina Downs

It's the law of physics Professor Boobis, pesticide particles follow the laws of physics, they remain in the atmosphere for sometime after spraying has been applied.

Alan Boobis

No, no, it's not...particles... Particles descend quite quickly and the other issue is – I don't know what the chemicals are, I don't know what the no effect levels are.

Laura Potts

They're in the paper.

Alan Boobis

Pardon?

Laura Potts She states those in the paper.

Alan Boobis No, the no effect levels are not in the paper.

Laura Potts The chemicals are

Alan Boobis Some of them are . . .

Georgina Downs Yeah, I've got a whole list, you can have them all

Alan Boobis Sure, but I mean you can appreciate the difficulty we have – without that information it's not possible to do a proper risk assessment.

Georgina Downs Yeah, but you've admitted that you can't test all mixtures, you've admitted that you don't know all there is to know and yet you're still allowing this to happen, it's not up to you, it's not up to you.

David Coggon There's a question at the back.

John Clark I've a small amount of scientific background, it is small. But I'm also a human being and I think we've got two arguments here that are running and missing each other totally. The platform is trying if I understand it correctly to scientifically measure how much harm, damage – whatever, how much pesticides could/might do from a scientific angle. I have no problem with that at all. But as a human if any member of the platform

wishes to drive in my car and smoke my answer would be no. I do not mind how much smoke there is, what the level of cancer causing is – I don't want it. And I would have thought that here the problem is that the platform is deciding what is harmful to the human race, to Britain. We've mentioned Europe etc. But as individuals we all have the right, I would have hoped, not to be sprayed by a neighbouring farm. I'm a farmer myself but I don't want to put, and won't put, pesticides into somebody's garden.

Now if it drifts five miles from my neighbour's field into somebody's front garden that's a scientific problem I would suggest. But when you have somebody that is spraying, clearly and visibly into somebody's garden then it's not a toxicology problem. It is though an Advisory Committee on Pesticides to the government problem. Because surely spraying pesticides into somebody's garden, inverted commas, 'deliberately' should be wrong. However low a level it is. Now I see those two things, we could go on all afternoon. You are both right but you've got to look at the individual's case as it is wrong to spray pesticides into somebody's garden. And if the panel doesn't believe that, imagine you were having your end of year dinner in a restaurant. And I come in and spray organophosphate into that restaurant. I

have a tiny feeling that you wouldn't wish to measure how much organophosphate I was spraying into the restaurant or its concentration or its potential damage. You would want me evicted as quickly as possible and I think that is the difference in the two arguments – both are right but you Chair, with your committee, have got the power to do something in terms of individual properties irrespective of level of a national problem. Thank you very much indeed.

Applause

David Coggon

Well perhaps I can – can I just respond first. I think you're quite right in making a distinction between the assessment of risk – which is a scientific exercise in which what we're trying to do today and the management of risk and of the uncertainty associated with estimates of risk, which is not a scientific activity – you're absolutely right. It's an activity for society as a whole and in this country in relation to pesticides the risk management decisions are taken by politicians ultimately as the elected representatives of the people. But they make their decisions on the basis of advice on the levels of risk that they receive from their scientific advisory committee, their independent scientific advisory committee.

Now, there are people here today I know who consider that any pesticide entering

their garden is unacceptable and we've heard that quite clearly. I presume that that includes pesticide that you can't see but you can measure. And presumably if you had a very sensitive measurement technique then you could detect pesticides coming from vast distances if you were looking at very tiny quantities – quantities that we would argue had no implication for health but nevertheless they would be there, are detectable and some people would say – well that's just not acceptable – and if you want to go down that route then you would end up with no use of pesticides in the UK whatsoever.

Now some people would say well perhaps that would be a good thing. Other people would say it was a bad thing and ultimately a decision about something like that and where you set the level of acceptability in relation to risk management, and how you balance benefits to the farmer from being able to use a pesticide and benefits to people who want to buy their food at a cheaper price than they would get if we went completely organic against the concerns of people like yourself who have gardens next to fields that get sprayed. That ultimately has to be a political decision. The function of this committee is to try to assess risks and to provide a reasonably reliable estimate of risk and to give advice to

government in a way that is consistent across the board for different pesticides.

If the government decides that it wants to adopt a much more precautionary approach in relation to pesticide application, then that option is open to them. That's what they can do provided they can do it within European law. But we have to try to provide advice to them in a way that's consistent within the framework that has been set for risk management in this country. Now what people are suggesting here is a fundamental change to the whole process by which risk is managed from pesticides in this country. And that really is out of the competence of this committee. If you really want that to be done then you need to go and speak to your member of parliament and speak to ministers about it and if they change the balance, the way in which risks are assessed and balanced then we can provide advice in that way.

Georgina Downs

So as the approval body you cannot then say how the statutory conditions of use are used, I thought, of course you can, so if under the statutory conditions of use it says it's not used in a certain, hypothetically speaking, you could say it is not used in a certain mileage of property or human habitation, you do have the power to do that don't you? Just to clarify.

David Coggon

We can make a recommendation about that

. .

Georgina Downs

Yes that's what I mean, a recommendation to the government

David Coggon

. . . but actually our recommendation would really be based upon scientific evidence and the point would be that ministers would then have a basis on which to make a decision. Now if by doing the sort of experimental work that we've been suggesting this afternoon, we were able to establish that the exposures that people incur from being in their garden for long periods as you suggest are much higher than those that are assumed in the current risk assessment - we don't think that they are, but if it turned out we were wrong and they were much higher than we think and that the regulatory authorities elsewhere in Europe think - then we would be in a position to say to ministers – look, it appears that the exposures to bystanders are much higher than we thought, that risks are much less acceptable than we previously believed. And here's the reason why you need to change them and this would be the justification for telling farmers that you've got to make your life much more difficult for yourself, that you've got to do things in a different way. And ministers could choose whether to act on that or not.

Georgina Downs

( Just remind me, one last point is, who designates acceptable risk?)

David Coggon      Ultimately it is the politicians who will decide what is an acceptable risk ...

Georgina Downs

Not society? That was said before in February?

David Coggon

On the basis as representatives of society.

Georgina Downs

Yes, so society do have . . .

Unknown voice? Yes, through their politicians

Gareth Edwards Jones?

Can I say something Chair to add to this, following on what the gentleman said at the back. I think what you're saying is absolutely right, I think we have a nice conflict between what economists would call social welfare and what some people would call individual rights. And policy by and large is based on social welfare and the unpalatable part of policy is that some people will suffer and politicians shrug their shoulders and go – as long as society benefits overall some people will suffer – we're really sorry about that. And that's the way the world works and that's really tough for the people who suffer. But against the background of pesticides is, that the cost benefit analysis that has been done across the whole of society suggests that

pesticides give a benefit that's twice the cost.

Now what we have to try and do in a society is to try to work out how do we actually minimise the cost to individuals while maintaining the benefits. And that's not easy and that's why we're having a discussion but I just wanted to make the point that overall for society the benefits are greater than the costs.

Alison Craig

Yes I'd like to address this point about costs to individuals and to society and to go back to the post approval surveillance system. I've heard some extremely worrying things said this afternoon and I'm not at all reassured. Firstly, although we're interested in the wider health effects of pesticides generally, if we can't even get the system working for fatalities from pesticide poisonings then what possible chance have we got to less severe health effects being picked up by PIAP. I'd like to go back to the data which the ACP are and are not receiving. Were you aware – going back to Lindane poisoning of children – were you aware that for the last five years there've been thirty cases a year of Lindane poisoning of under fourteens. Were you aware there were approximately thirty/forty a year – for the last five years.

Can you tell me how many of those were fatal cases?

Nick Bateman

Can I perhaps just comment – when you say Lindane poisoning I suspect you mean Lindane exposure. There's a difference in definition here – we are aware of the case you've already alluded to and I think it's inappropriate in this meeting to make detailed comments on that case which is going to be discussed in detail tomorrow. But the chairman has already said that the blood concentration of Lindane was measured and was not at a level that toxicologists regard as toxic.

Alison Craig

That I found a very alarming statement to make from the chairman because the coroner spent eighteen months exhaustively searching for experts on Lindane exposure and the inquest was severely delayed, almost unprecedentedly delayed, for that reason. Doctor Fishwick is the chief medical officer of the health and safety laboratory. It was his diagnosis that Lindane was the cause of death of that child. It is extremely worrying that the chair of the ACP is now questioning that judgement and he hasn't seen the full details and he hasn't seen the medical report yet.

David Coggon

I have seen...we have seen the medical report.

Alison Craig I'd like....

David Coggon We've seen Dr Fishwick's report. Dr Fishwick is a chest physician you understand. You are aware of that, he's not a toxicologist. Did you know that?

Alison Craig Yes I did know he was a specialist.

David Coggon So why do you say he's an expert on Lindane?

Alison Craig Because the coroner has done extensive research for eighteen months to find – to find...

David Coggon Well we've looked at the information that was provided to the coroner, the basis on which he made his decision. But I don't see evidence of that in the reports that we have.

Alison Craig Sorry I wanted to widen the point, to point out this extremely serious data gap that you're not receiving fundamental information about pesticide poisonings from the poison centres. It's not being received by the ACP. It should be a consistent report and that should be an alert system from the...

David Coggon I think the point that has been made is that the information that's available to the poison

centres is passed onto us, it's that they can't get as much as we would like.

Alison Craig

As I understand it there are medical outcome forms which you are not receiving. These are medical outcome forms which are generated by the poison centre and they're not being copied to the ACP.

Nick Bateman

And I think you may be referring to a form produced in one centre of the NPIS. All centres send out different forms and the data is put together in the report when asked for. Those forms contain confidential medical information which would not be passed routinely to another agency without the patient's permission, hence the data is often abstracted and dealt with in that way.

Alison Craig

I'm just addressing the question raised by Professor Coggon – how many people are actually dying from pesticide poisoning – pesticide exposure and you're not getting through that data.

David Coggon

No, the question that I posed was what is the burden of illness related to bystander exposure. Can you tell, of the poisonings that you're referring to, what proportion are due to bystander exposure and what proportion due to deliberate ingestion.

Alison Craig

I haven't seen the medical outcome forms but I believe...

David Coggon

May I ask...

Alison Craig

May I say that I strongly believe that the ACP must have medical follow up outcomes. And you're not even receiving that information...

David Coggon

Can I ask doc...

Alison Craig

And may I – I'm criticising the pesticide incident appraisal panel data on the basis of which you say that the problem is small. I'm saying that you need to get much better data before you can make such assertions.

David Coggon

I think we've made clear that we have concerns about the data that are available to us and that there's a long term task to try and get better data. And we said earlier we've been trying to improve the quality of data that we get for a long time, but it's not straightforward because there are constraints on what you can get. And so there's no debate about that, we would like to have better data. But in relation to fatal cases, I would just like to go back to Dr Bateman – these fatal cases to which you're referring of pesticide poisoning – my understanding is that the vast, vast majority of fatal cases of pesticide poisoning that occur in this country are deliberate self-poisonings – is that right?

Nick Bateman

Well the problem is there are very, very few of them to start with. And as I said, I worked in Scotland for four years, I previously worked in Newcastle for twenty, running a poisons service. The populations covered respectively are 5.2 million and 3.5 million. I'm not aware in that period of a death related to a pesticide other than to Paraquat. And in Newcastle we had a handful of Paraquat deaths, all of which were deliberate self-ingestion. I'm not aware of any exposure causing poisoning, that's clinically important poisoning, related to exposure other than self harm. And I haven't had a death in Scotland from a poison in four years.

Alison Craig

Now may I come back on that and say you're consistently referring to your own region, you don't refer to the UK. It's not too much to ask that the poison centre collates their figures and presents collated figures for the UK.

David Coggon

But it seems unlikely that there is a vast difference between the different regions given the sample sizes that are being studied. I think you're right that the ACP needs to be interested in pesticide poisonings – we are all agreed about that. We're all agreed that we need as best information as we can get about the frequency of ill health associated with pesticides and we're all working towards

that. But I don't think the gaps in the information are quite so terrible as you're suggesting.

Alison Craig

If you're missing deaths it's very serious.

David Coggon

I don't think that we are missing many deaths. Can we...

Pat McElhatton

Could I just pop in there because part of my research? at the National Teratology Information Service is to support all units of the National Poisons Information Service in the UK. The directors meet up every month or so and any serious poisonings and certainly any fatalities are discussed at those meetings. And they would be reported to us. It is simply not true that data is being hidden. If it is a serious poisoning it is very, very well discussed and that information is then disseminated to each of the poison services. So that they can then train their staff who are taking calls on a 24 hour basis to a) give out correct therapeutic and treatment advice and to be alerted to the possibility there may be something on the market that is extremely poisonous and to then recycle it into the system so that we can take some action.

Alison Craig

I would reply to that by saying society can't judge how hazardous pesticides are unless that information you refer to is available to the public, printed, published regularly and

it's available for us all to see and then including the ACP. Why isn't that information published?

Pat McElhatton

That is a government policy decision. We have laws of clinical governance and we cannot give information out because it breaches patient confidentiality.

Alison Craig

There's no reason why it can't be coded.

Pat McElhatton

I'm sorry we're simply not allowed to do it.

Nick Bateman

The total (or vital? unclear) deaths, as the chairman's already told you, deaths are reported in the national statistics and if you look there you'll find how many there are.

Alison Craig

And how reliable is that set of statistics?

Nick Bateman

Based on our discussion of Lindane not very reliable, it seems to overestimate but that's another matter.

David Coggon

Can we move on to just one or two other aspects of bystander risks 'cause there are a couple of other things I want to get on to. One is the risks associated with harvesting, because you showed the dust from the harvesting when that was taking place. Can I ask Paul to what extent do you think the exposure assessment that's currently carried out would cover exposures that

occur to people as a result of dust during harvesting.

Paul Hamey

I think answering this question is difficult, it's not one that we've really addressed before. We have some ideas of what the levels of dust exposure are for someone working on – for example an uncabbed combine harvester. We know that there the dust exposures could be up to about forty milligrams per cubic metre. What we don't have any idea of is what concentration of pesticide would be in that dust. But we could – I've done some quick calculations sort of based on the amount of dust that we know to be in grain and assuming that the pesticide was evenly distributed on that grain and there was no loss of pesticide. The sort of inhalation exposures we'd get from breathing that dust would be about a tenth of what we're predicting from the inhalation exposures from the spray drift.

David Coggon

Right, so as a worst case it's an order of magnitude, lower exposure than that which you get on the day that spraying's taking place?

Paul Hamey

Yes, but there are a lot of assumptions that I've made in that estimate.

David Coggon

So that's something that perhaps could be looked at in a bit more detail over a longer period of time, okay.

Paul Hamey

Yes.

David Coggon

Now the other thing about exposure that concerns me is in relation to the use of footpaths. Because some of the aspects of exposure from the use of footpaths are identical to somebody who's in their garden and the sprayer goes past. The sprayer may go past you when you're on a footpath and I've certainly been in that circumstance myself walking across a field when a sprayer is being operating. But there is also a potential for exposure from skin contact with foliage that's got wet pesticide on it. And I would like to ask first what assumptions are made about the way in which a pesticide will be applied in relation to a public footpath. Is it assumed that pesticides are not sprayed over footpaths only up to the edge of a footpath?

Paul Hamey

Well that's the instruction in the code of practice.

David Coggon

And that's the assumption for the risk assessment?

Paul Hamey

Except we do do a risk assessment for workers re-entering treated crops for crop inspection and we're assuming that those workers will be undertaking such activities for an hour or two hours and that they will have quite extensive contact with the foliage

and they will not be wearing any protective clothing. So that to some extent covers someone walking through a footpath and the other factor is that these assessments incorporate something called a transfer co-efficient that measures the transfer of the material on the plant to the person in the crop.

For activities like weeding and hoeing in the crops, USEPA have recently published some revised factors and they are of the order of a hundred which is about fifty times less than the transfer co-efficient we use for the re-entry work.

David Coggon

And the assumption with the re-entry is that it can occur very soon after the spraying has taken place or at an interval later?

Paul Hamey

Very soon after the spraying's taken place.

David Coggon

Right, so the fact that somebody might be walking through a field when the spray was still wet on the foliage would not give a significantly higher exposure than you would expect from the exposure assessment you do for the worker?

Paul Hamey

Not for broad acre crops but for some other crops we'd be looking at particularly harvesting – we would look to an estimate that looks at the harvest interval after the treatment as well.

David Coggon Right, but there is a risk assessment done in relation to a worker going in soon after spraying – or is that done sometimes...

Paul Hamey I think it's done sometimes – it's done for the broad acre crops that are mechanically harvested because at the time we don't expect much contact with the foliage. So the worst case would be the person doing the crop inspection.

David Coggon Right, okay, is there a need to do that sort of risk assessment more widely, given the potential for people to be exposed by walking on footpaths that have been oversprayed?

Paul Hamey Well it can easily be done. I don't think there's necessarily a need but it can easily be done.

David Coggon But your assumption would be that if it were done it would end up with lower exposures than in lots of other situations that were being assessed against the same exposure level standard?

Paul Hamey Yes.

David Coggon Okay – does anybody else on the committee have any points to make on that? Do you feel that there is a need to look into this further at all? Okay.

If we move on from the risk assessment to the way in which the spraying is carried out. Clearly there is a potential – you can set rules, you can set a thirty mile an hour speed limit and some people will drive at forty miles an hour and accidents will occur as a consequence. And you can try to enforce your rules better but there is a question about how well it's possible to enforce good practice. Do we have any feel from the incidents that are reviewed by PIAP as to what proportion are attributable to poor compliance with guidance for spraying and what proportion occur where apparently the farmer has obeyed the rules. Do you know, Stuart?

Stuart Smith

I suspect that PIAP itself probably doesn't get deeply into compliance with regards that it probably regards that as something for the inspectors originally investigating for local enforcement. I don't think PIAP would look at overall levels of compliance. They're really looking to see where there's a relation between the exposure and the...

David Coggon

I think that in terms of the work of this committee that would be quite helpful information. And that might be something that we could take up tomorrow in relation to PIAP activities.

Nick Bateman? (I think)

And I sat on PIAP some years ago and certainly at that time information on prosecutions was given to the committee so that they were aware of the condition of use where the incident occurred because it's relevant to feeding back into safety issues regarding the products.

David Coggon

So it would be helpful to have that information. Do we have any information from other HSE activities as to the extent of compliance with good practice in relation to spraying?

Stuart Smith

What I don't personally today know I'm not sure how well informed at the moment the field inspectors are about that. Obviously the level of compliance is a matter of huge interest to HSE in all sorts of spheres. It may well be that if we wanted to investigate compliance in the pesticide area that restrictions to PIAP cases would be an unnecessary restriction and a better thing to do would be to survey properly, picking up cases of poor compliance even where there wasn't an incident that would lead to a report at PIAP and it's a much bigger field (of incident?) than one that will actually lead to a reportable effect.

The inspectors do from time to time carry out compliance surveys of precisely that sort in all sort of spheres but they're very expensive not terribly frequent in these days

of financial restriction. But it is certainly something that we could – we could feed back and I'll enquire about.

David Coggon

Well I think that's perhaps something that might be considered further but from what Paul has said there is some leeway built into the system, in relation for example to footpaths, in that the risk assessment can be made without any assumption that the path is not over sprayed. The risk assessment could be done assuming that the farmer does not obey good practice and does actually overspray the footpath. Mrs Chapman?

Enfys Chapman

Three years ago there was a spate of incidents in Norfolk of people who were oversprayed with sulphuric acid, while walking through potato fields. Because the potatoes had grown too fast or too big for the supermarket that was buying the crop. And so at that time I heard of eighteen people who had been burnt by sulphuric acid because they were walking on footpaths and were sprayed with sulphuric acid. And the rules for sulphuric acid are very stringent aren't they. But they were not being obeyed,

David Coggon

Jim, would you like to, there's a code of practice. It's mostly done by contractors, isn't it?

Jim Orson

Yes, you have to have a special sprayer, sulphuric acid rots your sprayer. It is a strong code of practice. I'm not totally familiar with the code of practice but you certainly have to notify footpath walkers and neighbouring property as well.

David Coggon

So it sounds like they were breaking the law when they were doing it and it's a difficult issue for us you understand because it's like the thirty mile an hour limit you know. You can set a thirty mile an hour limit and people don't stick to it and what do you do about that? Do you throw up your hands and say we shall have a camera on every corner or do you...yeah...yeah...no I know. I mean that comes back to what we were saying earlier about the number of incidents that occur and there is certainly no complacency on this committee as to the fact that there are incidents occurring and that no incident is acceptable if it can be avoided. What we have to do is to try and find the best way to avoid them and at the same time not impose unnecessary restrictions on...

End of recording

... farmers that aren't going to produce any benefits, it's getting that sort of balance it isn't an easy job to do, we are all independent here, we are not trying to represent one interest or another, we're just trying to find a sensible balance, give advice to ministers on what we believe would be a

sensible balance, based on the scientific evidence and then ultimately it's for them to make the decisions because as we said earlier they are the representatives of society who make decisions about risk management.