T R A N S C R I P T

ENVIRONMENT, NATURAL RESOURCES AND REGIONAL DEVELOPMENT COMMITTEE

Inquiry into the CFA training college at Fiskville

Melbourne — 18 May 2015

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Witnesses

Professor Malcolm Sim,

Mr Anthony Del Monaco, and

Ms Sabine Pircher, Monash Centre for Occupational and Environmental Health, Department of Epidemiology and Preventive Medicine, Monash University.

Necessary corrections to be notified to executive officer of committee

The CHAIR — Welcome to everybody, and thank you for being here today. Today is the first of a number of the public hearings to be held as part of the committee's inquiry into the CFA training college at Fiskville. Today's hearing will give people the opportunity to tell us about their experiences of the training centre and how they have been affected.

The story of Fiskville is one that will be difficult to tell. It involves career firefighters and volunteers, the families of firefighters, residents and staff at Fiskville, and those who live on nearby properties. In this inquiry we will hear from people who have cared for loved ones with debilitating or deadly diseases, individuals who have been exposed to toxic materials and who suffer now, and others living with the anxiety of developing a deadly disease or a call from their doctor to say that they have cancer and there is little that can be done.

We may hear from people who say the connection between the exposure to toxins at the CFA training college and cancer has not yet been proven beyond all doubt, but we must remember that this was also said of asbestos not that long ago. We may hear also that exposure is an unavoidable part of the job of a firefighter, that this is the sacrifice that they make to keep the rest of us safe, or maybe that the real risks and danger people were put in was just not known because times were different then.

The committee also understands that Fiskville has another side. It has become an important feature of CFA identity, with a proud history of volunteers who risk their lives to protect their communities, and it is a place that many staff and volunteers hold dear.

This parliamentary inquiry was established by the Andrews government to get to the truth. We aim to get the answers to the questions that for too long have lingered unanswered over too many years and too many people's lives. The community has a right to know what happened at Fiskville, and we hope that we can learn from this sad story to ensure mistakes like this are not repeated, to ensure individuals and organisations are accountable for their actions and to provide some justice for victims and their families.

These matters have come to the attention of the public because of the courage of those who have spoken out and told their story, and we thank and pay tribute to them, including those who are no longer with us.

This inquiry has attracted significant attention from the public. The committee has received over 400 submissions. These submissions are overwhelmingly from individuals, many of whom have trained at Fiskville. While we cannot hope to hear from all of those who have submitted, we do thank everyone who has taken this time and made the effort to tell the committee their story.

Getting on to the procedures for today, all evidence taken by this committee is taken under the provisions of the Parliamentary Committees Act, attracts parliamentary privilege and is protected from judicial review. Any comments made outside the precincts of the hearings are not protected by parliamentary privilege.

All evidence given today is being recorded. Witnesses will be provided with proof versions of the transcripts. In accordance with the guidelines for public hearings, I remind members of the public gallery that only invited witnesses are able to speak to the committee today. Members of the media are asked to observe the media guidelines. Could everyone please ensure that their mobiles are now turned off.

I now call on the first witnesses. Thank you for coming today. We have Professor Malcolm Sim, Mr Anthony Del Monaco and Ms Sabine Pircher from Monash University. Please begin.

Visual presentation

Prof. SIM — Thank you. We would like to thank the committee for asking us to come along and present the findings of our research into the Fiskville firefighters this morning. I would just like to introduce the other people who worked on the study with me. This is Anthony Del Monaco, who was the data manager on the study, and Sabine Pircher, who was the research officer. They did most of the day-to-day work on the study over the couple of years that it went for. The other person who took a lead role in this is Associate Professor Deborah Glass, who unfortunately is in Sydney today. She has a meeting at the Australian Cancer Society. That is a long-standing commitment so she was not able to be here today.

We have been asked to talk for 20 minutes on our study and then leave 40 minutes for questions. We have prepared a PowerPoint presentation and we have copies of that for the committee to refer to.

Just to let you know a little bit about Monash University, we have a Centre for Occupational and Environmental Health. We have been involved with a lot of similar cohort studies of a range of different kinds of industrial groups — petroleum industry workers, aluminium workers, war veterans and nurses, and asbestos cement workers — so this is another study in that line of research.

Just to refresh your memory about the aims and objectives of the study, this was done within the context of a larger national study that we did of firefighters — there are about 240 000 employed and volunteer firefighters throughout the country in the study — which had started prior to us becoming involved with the Fiskville study. This was an add-on to that particular study.

There were two main aims. One was to look at the cancer rates in the Fiskville firefighters compared with the general population and also to look at the differences between the high, medium and low exposure groups that had been identified in the Joy report. We also did the same for mortality, so this is causes of death amongst this group compared with the Australian population and then amongst the different exposure groups as well.

One of the difficult parts of these studies is assembling the group that you are going to study. It might sound fairly obvious that that is an easy thing to do, but in many of these studies when you are going back in time it is often very difficult to assemble the people who are eligible to take part in the study. Our aim was to look at Fiskville attendees from 1971 to 1999. The records were incomplete. Electronic records only went back to a certain year and before that there were paper records, many of which had not been put into the electronic databases, so there were various steps done to try to identify people from photographs, newspapers, personal contacts and snowballing, which is asking people about other people who worked there. The firefighters were then categorised into the groups defined in the Joy report — the high, medium and low.

To do this study we needed ethics committee approval, and we had several of those from Monash University; all of the state and territory cancer registries, because it is important to pick up cancers that are diagnosed interstate not just in Victoria; the Australian Institute of Health and Welfare, because that is where the linkage was done; and the national coronial information system, because some of the deaths were notified to that body and they have their own approval system. The main ethical consideration here was waiver of individual consent to get personal information about people who we included in the study, and we were given a waiver of that consent under the ethics committees, which is a provision under the Privacy Act and also the guidelines for the National Health and Medical Research Council.

I should just mention at this point too that we did have an advisory committee that was set up as part of the national study, which also dealt with the Fiskville study. That included representatives from each of the firefighter agencies, the UFU and other firefighter unions, volunteer groups and AFAC as well. That was a critical part of this study because we needed to get all of those stakeholders around the table. I must say that everybody had a common purpose in that advisory committee.

Just to remind you of the numbers here, in epidemiological terms these numbers are very small. I mentioned that the national cohort study had around 240 000 in it. That is a very healthy number for doing this kind of research. Here we are dealing with very small groups, and it is very unusual to be able to find statistically significant findings in such small groups. Broken down into the three groups here we have the PAD workers and the full-time instructors, which were the high group. We only had 95 people who got identified in that group from the CFA records.

We also had the medium and low groups. The numbers there were a little higher — around 250 in each of those groups. The instructors — the medium group — had a mixture of paid and volunteer workers, and there is no question in our mind that the quality and the completeness of the people in those groups was much higher for the paid people rather than the volunteer people.

For the high group, the CFA advised us that they were fairly confident that they had been able to identify all of the people in that group from the HR records, the photos and other ways of identifying people. That confidence was less so in the other two groups, in particular the low group, and this has some implications for our interpretation of the findings down the track.

Just to give you an overview of the methodology here. Once we have all the names and other identifiers plus dates of birth, we can then match those to the national cancer and death records at the Australian Institute of Health and Welfare. They have long experience in doing what is called data linkage, so we can take all the

people in our study group and link them against the national cancer and death records. There is a national death index and an Australian cancer database. We have done many of these linkage studies through that service and it is very high quality. We are one of the very few countries in the world that has national cancer diagnosis information. Most other countries have to rely on deaths from cancer, which is a much less valid way of measuring cancer. So we are one of the few countries that can do this kind of research well. We identified the deaths in cancer cases in the people we had been provided with and we can compare those observed deaths and cancers with the expected deaths and cancers in the general population with the same age structure — we can do some adjustments for that. Then we looked at the risk across the three subgroups — low, medium and high.

This is quite a busy slide, and it is the only busy data slide that we have. But we have tried to make this a little easier for you just with some circles around the key findings. This shows the different rates of cancer, the different causes of cancer, right across the three groups, and I will take you through the key findings here. What I have circled is the high group — the overall risk of cancer. This is almost double the risk of cancer that you would expect to find in this high group. It is 1.85, and we have some statistical certainty bounds around that which go from 1.2 to 2.73. What that means is that this is a statistically significant excess of cancer in that high group. You can see here that the major causes of cancer which are driving that excess are melanoma and testicular cancer. But if you look at many of the other types of cancer here, you can see that what is called the SIR is in excess of 1, so it is showing that the observed cancers were higher than expected. They were just not high enough to reach statistical significance, which is not unusual with such a small group as this.

I will just slip down through those. You can see in the medium group that the overall cancer rate, which is right at the bottom of the slide there in the middle column, was not statistically elevated, but we did find an excess of brain tumours in that particular group. You can see in the low group that there were no excesses of cancer found in that particular group. What we are tending to find here is several cancers where we are concerned about high excesses and an overall excess in the high group. Less so in the medium group; it is the brain cancers there. And no excesses in the low group.

When we compare these across the groups — this is something that we can do to try to identify an exposure response relationship. We compared the medium group with the low group, and the high group with the low group and found that there was an increasing rate here across these groups. It is about a doubling in the medium group and it is about four times the risk in the high group. This is something which gives us a little more confidence that there is a true effect occurring amongst this group.

I will also just briefly talk about the mortality findings. I know the main concern is about cancer, but it is important that we do mortality as well. This tells us some interesting information. We found that the overall death rates were much lower in this group, and this is not unusual to find in these kinds of studies. People to get into firefighting need to have a certain degree of fitness. Usually their lifestyle factors are better, so you would expect a low rate of death in this group. Of course that catches up over time. But this finding really stands in stark contrast to the excesses that we found for the cancer incidence findings. We have most causes of death here, in fact virtually all of them are low. You can see here that circulatory deaths in the high group were only one-third of what you would expect, and so this suggests that it is a very healthy group for other causes but not for cancers.

The other interesting finding here is that if you look at the low group, the column on the left, the all causes of death, we have a mortality rate of 0.15. This suggests to us that there is low completeness of the people who should have been in this group. Usually we would expect to see around 0.6 to 0.7 rate of death. We are finding here 0.15, which is much lower than you would expect, so it suggests to us that the assembly of the names in this particular group was not as complete as it was for the other two groups. You can see that circled there.

We did a lot of other checks here. We usually run a range of what we call sensitivity analyses where because of some limitations in the data we make different assumptions. We can take some groups out where we are less confident about the completeness of the information. We did a range of those sensitivity analyses but we came up with a fairly similar pattern of disease, despite running all of those checks. That again suggests to us a degree of robustness in the findings.

I think the important point — point 3 here in the 'Other checks' — is that we did an estimate of how many extra firefighters in the high group we would have had to have missed to explain the excess of cancers. Our estimate was that we would need 80 cancer-free firefighters in that high group to have been missed by the record check

to obtain a rate of cancer consistent with the Australian population. We think that is very unlikely because again the CFA was very confident that the completeness of that group was pretty good. That again suggests that there is a certain degree of robustness in the findings.

We did have some limitations in this study, and we have been quite open with those in our report. We had a very small sample size, so for many of the rarer tumours we just do not have the power to be able to detect any excesses in that group. There are also some tumours which have a long latency, so some of those we would not have had time yet for those to become apparent. There was concern about the completeness of the low group in particular and the medium volunteer group, which did have implications for our interpretation of the findings for those two groups. We had no information about smoking or other lifestyle factors. We know that smoking is a major predictor for cancer and death more generally. What we do know though is because of the low cardiovascular disease rate is that the rate of smoking is likely to have been low in this group. That makes the cancer findings even more stark, that they have been able to show that with a low smoking rate in this group.

It does not take into account other periods of firefighting that the Fiskville people were involved with, and we had a fairly crude way of measuring exposure in this group. It was just based on the broad classification within the Joy report. We were unable to look at any specific chemical exposures; we were not provided with that kind of information.

Just to finish off, and in conclusion, in the high group as identified in the Joy report we found a higher than expected rate of cancers in that group — overall cancer, melanoma and testis. But there were also some other cancers here which were certainly suggestive, and given the problem of the small group here we think they should not be ignored. The medium and low groups, we are much less confident about the findings there, but we did find that excess of brain tumours within the medium group. Mortality, there was no increase in the high group as we would expect from these kinds of studies, but the low SMR in the low group in particular suggests that we had poor completeness of that group. And we did find evidence of what is called a healthy worker effect when we have these low mortality rates.

We were asked to just briefly touch on this question of association versus causation; Kelly had suggested to us you would be interested in this. Epidemiology is around showing association, so we take some exposure variable, we take an outcome variable such as cancer and we can show that the two are associated. It does not show causation, but there are various other criteria that we can apply to try and get some estimate of how strong the causative link is when we have these findings that come up in epidemiological studies. These have been around for a long time. They were published by quite a famous epidemiologist, Bradford Hill, back in 1965. So even though it is quite old, it is still a benchmark by which we tend to view the results of these kinds of studies. I think there are two very important ones here. One is what is called the strength of association. So when you find a very high excess, as we found here for some of the individual tumours and the almost doubling of the overall tumour rate, that is what we would call a strong association. There is also the question of the exposure response, and here we definitely found quite a strong exposure response relationship between the different groups. They are two criteria which come up very strongly when we consider the overall Bradford Hill criteria.

I think the other important thing is, looking at the bottom dot point, we usually interpret the findings from these in relation to other published literature. There have been many studies that have been published on firefighters. There have not been any studies published on firefighter trainers. But those studies from overseas, the US and Europe, have also shown high rates of cancer in firefighter groups. So that is another thing that gives us some strong indication that there is a causal link here between these findings.

Just to look at future possibilities, the hard work in putting these studies together is the assembling of the cohort and setting up the linkage, so they can be followed further into the time, and we think that would be a useful thing to do with the Fiskville workers. And now that the cohort has been established we can continue to do that at regular intervals for death and cancer registry linkage with the Australian Institute of Health and Welfare.

As I said, we had a fairly crude measure of measuring exposure. If further exposure information becomes available as a result of this inquiry or other work that might be done at Fiskville, we could look at those specific exposures against these findings. There are certainly people who were missed, there is no question about that, and whether further work can be done to try to identify and get a better coverage of the people in the medium and low groups, that is something that I think certainly could be looked at.

Just to remind everybody, this was done as part of a larger study of cancer and mortality amongst national firefighters, but it is only one health problem amongst firefighters. We know that there is potential for many different health problems, and I suppose this highlights one of the problems that we have in this country, that we have very poor systems for monitoring health in these kinds of high-risk occupations, and it is something that I think should be looked at in the future. We know that there is a lack of recognition of work-related disease. We are pretty good at measuring injury, but we are very poor at identifying work-related diseases, including cancer, and I think this whole situation strengthens that idea.

I will just finish off by acknowledging all the people who were involved with this. Steve Vander Hoorn, from the University of Melbourne Statistical Consulting Centre, assisted with the statistical analysis. The study was funded by the CFA. The advisory group that provided advice about that included the advisory committee, as I mentioned; the Australian Institute of Health and Welfare; the Victorian Cancer Registry; and the CFA staff who assisted us in providing the names of the people. We also had some regular contact with Kieran Walshe, who was the independent monitor, as well; he provided some very useful advice as well. I think that is my 20 minutes done. We are happy to take some questions.

The CHAIR — Thank you for that presentation. It was very helpful. Your study adopted the risk framework that Professor Joy had put together, which was that low, medium and high risk, which you cited there. Do you think that is the best way to have categorised the various people in those three groups? Can you be exposed once to a particular chemical or toxin and that might cause cancer?

Prof. SIM — This classification is really an occupational classification, so it had the PAD workers and the full-time instructors, who were in the high group. So it is really an occupational classification rather than a specific exposure-type classification. Many of the other studies that we have done we have put a lot of time and effort into trying to measure individual exposures, but our advice was that that kind of information was not available for us to be able to use in this study. If there was that sort of information, we would certainly be very keen to have a look at that and see whether we could refine this along those lines.

The CHAIR — Okay. So this system, based on the lack of information, was really the reason why it was accepted as that?

Prof. SIM — We had no other way of trying to break this up. I think it was really important that we were able to break this into those three groups, even though it is fairly crude. If we just looked at the cancer rate right across all groups, we may well have missed that high finding in the high group. But even though this was crude, it is better than nothing and it is a useful starting point. It certainly indicated that something about that work for those instructors and the PAD workers was related to these excesses of cancer.

Mr McCURDY — Professor Sim, you spoke about future possibilities and at the same time you have also said the study focused on very small groups or sample size. In any future studies are there any opportunities to expand that, and if so, would that increase the accuracy of what you have found?

Prof. SIM — Yes, we think the numbers in those medium and low groups are lower than they should have been. We think there were more people who were at Fiskville than we were provided with, so that would increase the power of the study for those two groups.

Mr YOUNG — The study that you did focuses only on cancers. How would you go about doing a study that focused on other illnesses that could be as a result of this?

Prof. SIM — We looked at cancers and causes of death and non-cancer causes of death as well. There are a range of other types of studies. I am involved with another study in South Australia which is funded through the National Health and Medical Research Council looking at mental health problems in firefighters in South Australia. That is a different kind of study. That is where you are collecting information from people directly, recruiting people directly into the study and then following them over time and seeing what happens in terms of development of mental health problems. So it really depends on the type of outcome that you are investigating. There are different kinds of study designs.

This is the sort of gold standard for studying cancer and causes of death, because we have this national resource available to us, but if there are other outcomes, then we would apply different study designs to that. We have done lots of other studies in different occupational groups.

Mr RICHARDSON — My question just goes to the different categories — high, medium and low — and the fact that in the low category there were a number of career firefighters who were trained at Fiskville for a period of time. Just in the high and medium categories and the high propensity of cancer rates, does that start to create a causal link or the conversation, if you had more sample sizes, about that linkage to Fiskville, given the time those people were there? Are you able to elaborate any further on that?

Prof. SIM — Yes. I mean, we feel much more confident about the findings for the people who were employed at Fiskville. In the other groups there were people who were there for a shorter period of time or had more intermittent-type exposure, but I think the strongest evidence here is coming from the people who spent the longest time there, and this was their full-time occupation. So that for us gives us some sort of measure of robustness to the findings.

Mr RAMSAY — Thank you very much for your presentation. I have a sort of a question within a couple of questions, if that is all right.

Prof. SIM — Sure.

Mr RAMSAY — I am trying to get a full understanding of, I guess, the summary of your report. The UFU has indicated that there is a distinct high incidence of cancer within firefighters who have trained and worked at Fiskville, and that is not what I saw in your conclusion. However, I have questions, and one is: you have done a national study.

Prof. SIM — Yes.

Mr RAMSAY — And I have heard nothing about the outcomes of that, how that compares with Victoria's experience, particularly with Fiskville. Also, it is hard to differentiate between activities at Fiskville in a training sense and real-life firefighting in other instances, where in fact there could be potentially a contraction of illness during the normal workplace activities. So I am not sure how you are going to separate the training aspect from the real firefighting aspect. The other issue is around age. I notice your data is differentiated on age, but invariably the older you get the more opportunities there are to have greater illnesses, so I am wondering if you could talk about the demographic of age as against the ways that we are contracting cancers.

Prof. SIM — I might start with the third one first, because that is the easiest. These are all age standardised; we standardise for the age structures, so the age does not come into it with these. Age is clearly the greatest predictor of developing cancer. Most cancers become more common as you get older — not all, but most; these are all age standardised, so age is not a factor here.

The first point about the national study: as you have probably seen, we did find an excess of cancer in employed firefighters in the national cancer study. There were some similarities with some of the findings here for melanoma, which we found higher in that group as well, and we also found prostate cancer was higher there. But there were some other suggestive findings amongst different types of cancer. So if you take a step back and look at the overall pattern, there were some similarities here across the findings.

The question of the other firefighting duties — and I certainly mentioned that as one of the limitations here. We are not able to tease out the contribution from work done at Fiskville with other firefighting duties. We had no information about that, so we were not able to do that. All we can say is that, amongst the people who were in that high group who were employed at Fiskville for various periods of time, we found an excess of cancer for that group. Whether that is a combination of firefighter duties outside Fiskville and working at Fiskville, we are not able to make any conclusions about that based on the information that we have available to us. We would like to be able to do that, but we just do not have the information. I think they were the three points; yes.

Ms WARD — In your presentation you made mention of the difference — you have the medium group getting a rate of brain cancer, you have the high group with high melanoma and testicular cancer. Have you had any thoughts on why those two groups would be different?

Prof. SIM — No. I mean, we do not know. Because we do not know very much about the specific exposures, it is really difficult for us to tease out what causative chemicals or other factors might have been involved here. We do know that brain cancer has very few risk factors. One of the very few is ionising radiation; I do not know if that is relevant here. But there have been other occupational groups where brain cancers have

come up, although the causative mechanism is not entirely clear. I mean, there is always the chance that some of these findings could be what is called chance findings. You do a lot of analyses; you could have a couple of statistical blips come up, but it is really difficult for us to know. I put much more confidence in the findings in the high group because, again, they are consistent with our national firefighter group, that overall finding of cancer and the melanoma and the testicular and prostate coming up.

The CHAIR — You mentioned something about Australia having poor systems of monitoring health. One of the things that the committee is looking at as well as accountability is recommendations on how to improve things, for individuals but also, I guess, in a more general sense. Have you any suggestions around that? What could be done? Is it just about money, or is there more than that; is it legislation or health and safety laws?

Prof. SIM — Yes, it is difficult to identify work-related diseases. Traumatic injury is much, much easier. If you have an amputation or an acute injury in a workplace, it is very obvious. There are people who see it, it happens at one point of time and there is clearly some major damage that occurs. For something like a cancer or asthma or skin disease or mental health problems, that is something which slowly develops over time, and we just do not see the — it does not have the same recognition factor as traumatic injuries. We do have compensation schemes, and people are eligible for compensation, but we know through those schemes that work-related diseases are under-recognised. That has been shown here in Australia but also overseas. There has been a lot of work done looking at the under-recognition of work-related cancers both here and internationally. It is a big problem, under-recognition. But also there are other conditions, like respiratory diseases, mental health problems, skin diseases and musculoskeletal disorders as well.

I think it is important that we have systems outside the compensation system which are better able to identify that. These have been set up with many other occupational groups. We have been working, for example, for 15 years now with the Departments of Veterans' Affairs and Defence on trying to get a better understanding of diseases that occur in returning war veterans, for example. There has been a much greater recognition of a whole range of conditions in those groups as well. So setting up a program of monitoring of these problems in these groups, I think, is something that we do very poorly in this country.

The CHAIR — If you want to provide some information at some stage later on about some suggestions on this sort of stuff, it would be welcome.

Prof. SIM — Yes. We have written extensively on this, and we have lobbied Safe Work Australia, which is the national body, and we have had occupational disease recognitions and systems put into the national strategy — the 10-year strategy from 2012 to 2022. I think there is a long way to go yet. I think things are improving, but there is a long way to go yet. I think the problem without having better systems in place is that all of a sudden we are faced with big headlines in the newspaper when this does come to attention, and then it is far too late, of course. We are much better to be anticipating and being proactive about recognising and dealing with these problems early rather than at that stage.

The CHAIR — I have a rather quick one, because I am sure others have a few questions too. We are hearing today, and there have been media reports in the past, that there are also a number of people who lived nearby or who perhaps went to the Fiskville school who also have serious health issues similar to those who worked at Fiskville. Was that a limitation in the study that you did, that you could not also broaden it to look at people who lived in the area? What are your views on that?

Prof. SIM — Yes, and we were not asked to do that. That is much more challenging here because identifying who was there at the time has a lot of difficulties associated with it. At least with people who were employed there or attended there, there is some record keeping, even though it is not perfect. For surrounding communities, though, it is much more difficult to try to identify who those people might be. You need to have some kind of objective way of being able to document that from some sort of records rather than just people coming forward and saying that they lived here, because you will miss people who have died, and people who have developed health problems are more likely to come forward. So that is challenging.

Just as an aside, we are in the process of setting up the study for the Morwell community in light of the Hazelwood mine fire, which is being done at Monash University with some partners. This is a community-based study, and we are putting a lot of time and effort into how we can document who was around

at the time of the fire. That was only one year ago, so it is a lot easier than going back some decades now to the surrounding community. So there are some — —

The CHAIR — The study went only to 1999. You did not look at people who were there after that either, did you?

Prof. SIM — No, we only did it to that time.

The CHAIR — That is another limitation, I guess.

Prof. SIM — Yes. So we were not doing that as part of this. This was one study with a particular group of people who worked there, because that was the main interest at the time. If a study was wanted to be set up, I think there would be some challenges in being able to do that because of the problems with identifying who was in the surrounding community at the time and what interaction they had with the site.

Mr RAMSAY — Can I just ask a quick question. In relation to the cancer council and the work they did in relation to cancer potentially cancer causes at Fiskville, what is the differentiation between your report and their report?

Prof. SIM — We were not involved with that, but of course we know the Cancer Council people very well — Graham Giles and co. there. My understanding was that they only looked at the Victorian data; we looked at the national data. There were some people who had their cancers identified or diagnosed interstate, so we were able to identify those from the national records. That was certainly one difference in the findings. There may well have been others. We were not closely involved with that.

Mr DEL MONACO — Also we had the national records, so we could actually do some other checks and clean up some of the data so we could identify some other cases as well. So we had the full CFA records for the national study as well.

Mr RAMSAY — Were the results of that work by the cancer council consistent with the outcomes of your work?

Prof. SIM — Their estimates were a little lower than ours because they did not identify these cases that we were able to identify. Some of their findings managed to slip below this sort of statistical significance level. But if you stand back and look at the overall pattern, I think it was fairly consistent. It is just that we had greater power because of the greater number of cancers we were able to identify.

Ms WARD — With the group that you studied, the cohort overall that you studied, these were parameters that were set by the CFA; is that right?

Prof. SIM — The which, sorry?

Ms WARD — The parameters, the groupings, the 71 to 99; they were the ones that were set by the CFA; is that right?

Prof. SIM — They were set by what came from the Joy report on how those three groups were identified; that is correct.

Ms WARD — I understand that it came from the Joy report, but have you had any thoughts on why it was that particular grouping and did not go beyond 1999?

Mr DEL MONACO — The main area of concern was the exposures during that time period. It is what the Joy report focused on, so basically a recommendation from the Joy report was for this study to be undertaken following those parameters, so we just followed those.

Prof. SIM — We saw that as the starting point. There was an existing framework that we could tap into. It does have limitations — there is no question about that — but, as I said before, at least that gave us something. It is a broad occupational classification, and we are used to these broad occupational classifications. They are okay. They are not perfect, but at least it is a starting point. We were pleased to be able to have that framework

rather than no framework at all, where I think we would have missed these excesses of cancers in the high group.

The CHAIR — Regarding the rest of the community as opposed to those who worked at Fiskville, I am trying to understand something. When you say it might be difficult, if there is smoke going over their homes, if the water supply has ash in it, if there is soil contamination — all of those things — wouldn't that show what is going on in terms of any study and anyone's contact? We all agree the chemicals were poisonous and toxic; is that right?

Prof. SIM — They certainly used a range of solvents there. That is all well documented in the Joy report. There were a range of flammable materials and other materials that were used; there is no question about that. That would have caused vapour, smoke and ash to spread widely. From looking at the air monitoring from the Morwell fire, we know the smoke spread far and wide in the Latrobe Valley, so it is certainly very plausible that the smoke would have gone around the community. I do not think there is any question about that. There would have been contamination of soil and possibly water, depending on the source of the water supply, and also contamination of homes.

But what I was referring to as difficult is identifying the surrounding community and being able to get the information we need to be able to do linkage for those people, because we need identifying information — names, dates of birth, how long they were living there and so on — and I do not think there would be records kept of that. If there were, that is something that could be looked at, setting up a similar kind of community-type cohort and doing the same kind of exercise as was done with the people working at Fiskville.

Mr RICHARDSON — I have a quick question regarding the limitations on the time frame from 1971 to 1999 and the fact that there are another 15 years beyond that. Do you expect from the work you have done that those rates of cancer will increase over time? The validity of data these days is far stronger. Would you anticipate there would be that stronger causal link over time?

Prof. SIM — There is no doubt there will be more cancers occurring over time. Cancer is very common in the Australian community. As I said before, age is the greatest predictor of that, so as people age there will be more cancers. That will give more power to be able to detect any excesses in these less common types of cancers, so that is something that can be done very easily over time now that the cohort is established. Whether the rates will increase, we do not know. We know there are different latencies for different cancers. Some tumours occur fairly soon after exposure; some take longer. Something like mesothelioma, for example, can take up to 40-plus years to develop after exposure. That is one way of identifying these longer latency cancers and seeing what happens over time.

Mr RICHARDSON — To follow up on that, do you think that because of the 1999 threshold you were given there was a limitation in your research in predicting people who served or trained beyond that time frame that might have been a key?

Prof. SIM — If people were continuing to do similar work after that time, it would be important to try to document that information in any future work on this.

Ms WARD — In your presentation you spoke about unusual tumours or cancers and how, because of the small sample size you had, it was hard. Is there a way of trying to see in that grouping of unusual cancers how that compares to the general population? They are unusual, so obviously very few people get them, but is there a way of working out whether there was a higher than average incidence of unusual cancers or particular unusual cancers?

Prof. SIM — I wish there was a way of trying to deal with that problem. It is something we grapple with constantly. When you have very large numbers, like in the national firefighter study, of course the numbers are much greater even for these small tumours.

Ms WARD — Is there a correlation in the unusual cancers that you heard about compared to the national study?

Prof. SIM — I do not think so. I am trying to remember.

Mr DEL MONACO — No. They was slightly different. The striking thing, though, in the high exposure group here was that the observed were all higher than the expected. It was actually quite unusual for an occupational cohort like that.

Ms WARD — So it was identifiable that there was a higher incidence of unusual cancers?

Prof. SIM — For many of them there were more observed than expected, based on the national data. Often that was based on one or two cancers, so it is really too small to be meaningful. Over time those numbers are likely to increase, so it will give us a little more confidence in the future to be able to make some stronger conclusions about those less common tumours. But, as Anthony said, we did find for a range of these less common tumours that there were more observed than expected but that when we apply the statistical test it does not reach the statistical significance test, as yet.

Ms WARD — Would you say there is any particular cancer that you heard about that a volunteer or a firefighter, or a group of people, had who trained at Fiskville that was particular to Fiskville?

Prof. SIM — I do not think we have found anything where we can make any meaningful conclusions about that, I am afraid, because we have this problem, as identified before, of this being just one exposure within a larger exposure. The relative contribution is really difficult to make some conclusions about, and we have not tried to do that. Whether further information could be provided that identifies what those exposures were in the different types of work, that could be looked at in the future, but at the moment we are just not able to say that.

Mr RICHARDSON — I have a quick question about the particular types of cancers as well, specifically the high propensity of testicular cancer and melanoma. Are they longer over time, or are they from that initial exposure you are talking about? What are some of the time frames, from your expertise?

Prof. SIM — Melanoma does tend to occur over time in an ageing population. It is a major cause of cancer in Australia, as you know, more so up north, but it is age related. Testicular cancers tend to be commoner in younger men than older, so it is a different age distribution for that particular cancer.

The CHAIR — I think we are done. Thanks for coming in and answering all of our questions as well as for your presentation.

Prof. SIM — Thank you for listening to us today. We would certainly be happy to provide any more information about work-related diseases. We have written extensively on that.

The CHAIR — It would be interesting to get some.

Ms WARD — I think we picked up your interest.

Prof. SIM — It is a strong interest of ours.

The CHAIR — Thank you very much.

Witnesses withdrew.