

Minutes of meetings on 11 and 12 September 2024 - Islander consultations to launch the draft of Report 2 from PFAS Scientific Advisory Panel

Present:

<b>11 September</b>	<b>12 September</b>
Prof Peter Bradley	Grace Norman
Grace Norman	Dr Steve Hajioff
Dr Steve Hajioff	Dr Tony Fletcher
Support staff	Prof Ian Cousins
Deputy Tom Binet (audience member)	Support staff
Dr Tim du Feu	

The meetings opened with introductions from Peter and Grace. They thanked Islanders for their attendance and updated the Islanders on some of the recent progress:

- Minister for Health and Social Services and Minister for the Environment, and their officers, have been continuing to take the situation seriously and are working together to progress
- Public Health has identified a clinician who has an interest in PFAS and may be able to support affected islanders; more information will be shared once confirmed.

The purpose of this meeting was for Dr Hajioff and the Scientific Advisory Panel to present the findings of Report 2 and open the consultation period for Islander feedback. Feedback can be submitted for 3 weeks, closing on 4<sup>th</sup> October 2024.

Dr Hajioff introduced himself and the panel and described the Panel's way of working and report structure. Dr Hajioff explained that during the preparation of this report, the Panel have talked to several subject matter experts on the health effects of PFAS, and several affected Islanders. All conditions that affected Islanders raised were investigated by the Panel, however there was not scientific literature on all topics. Additionally, evidence from other jurisdictions where there have been contamination events has informed this report.

Dr Hajioff summarised the health effects and explained the groupings of 'probably', 'likely', 'possibly' and 'unlikely' and what they mean.

Most likely	Increased cholesterol
	Reduced vaccination efficiency in children
	Reduced duration of breastfeeding in exposed mothers
Probably	Kidney Cancer
	Testicular Cancer
	Liver function
Possibly	Type 2 diabetes
	Osteoporosis linked fractures
	Polycystic Ovarian Syndrome (PCOS)
	Reduced birthweight
	Learning and development issues
	Bladder cancer
Unlikely	Thyroid Disease
	Ulcerative Colitis
	Pregnancy induced hypertension

He finished by explaining that the main purpose of this report is to provide information for Islanders, Government, and healthcare professionals about the current science around PFAS and health.

The floor was opened for questions.

**An Islander asked for clarification about the Panel's independence from Government and whether Government have influenced the content of it.** Dr Hajioff confirmed the panel and their work are independent from Government; Government does not, and has not, tried to influence the content of the report or recommendations. He explained that some Public Health officers have received the report as a courtesy prior to today, so that they can prepare their response ahead of the formal launch. Prof Bradley added that confirmed that the Government have sight of the report, and have asked the panel to provide clarification in places, but do not influence the content. Dr Hajioff confirmed that he has not experienced any interference from the Government officers or politicians during this process.

**An islander asked how many people have been identified as having been exposed to PFAS contamination.** Grace explained that there were 88 people who were tested in 2022 from around the airport, and most had elevated levels compared to an American reference population. Dr Hajioff explained that of all of the known hotspots, the one most similar to Jersey is Ronneby, Sweden where mains water had been contaminated with the same type of firefighting foam as around the airport in Jersey.

The Panel have done some calculations which suggest the level of exposure in Jersey and Ronneby were likely to be similar, and that means that the evidence of health effects found in Ronneby is useful to guide understanding for Jersey.

Dr Hajioff explained that Report 3 will be considering retesting people in the plume area, people outside the area and people who may have been exposed through their occupations, e.g. firefighters.

**An Islander asked for clarification of the scope of the plume.** Dr Hajioff answered that the plume area will be identified and investigated thoroughly in Report 4 which they have not started yet. Prof Bradley confirmed that Public Health had been informed of where the historic pollution was, but blood testing was not withheld from people who had lived in a wider area than that.

**An Islander asked whether St Aubin's was part of the plume, as the stream which fed the airport also comes out at St Aubin.** Dr Tim du Feu (Head of Land Resource Management, I&E) explained that the Government formed a Technical Officers group in 2019 which discovered higher concentrations of PFAS in a borehole north of the Airport. A wider monitoring of surface water and ground water by the Environment team was commenced, which indicated some PFAS was coming from the airport and going into St Ouen's Bay and Pont Marquet. A recommendation was made to conduct a hydrogeological study in this area to understand this further. This study has been happening recently, conducted by a company called Arcadis and will be published in 2025. The report is expected to provide information about where the pollution is, what the movement is, and what the future is likely to look like.

**An Islander asked if the seafood, which does not migrate, such as cockles are being monitored.** Dr Hajioff explained that the Panel will consider agricultural products and seafood as part of Report 4, and sea foam will also be investigated, as it has been shown to have a higher concentration of PFAS than the water.

**An Islander said they believed boreholes have been re-opened that feed mains water and had previously been closed due to high PFAS levels. They asked whether the panel had been given the information.** Dr Hajioff confirmed that discussions are ongoing about gathering data, and that as many sources of data as possible will be used in addition to the scientific information in the literature to inform the audience. Prof Bradley asked if anybody has relevant information then please share it with the panel, they would be grateful to receive it. Dr Tim du Feu confirmed that the closed boreholes have not been used for many years.

**An Islander asked when the findings and recommendations from Report 2 will be shared with local health professionals.** Dr Hajioff confirmed that the draft report 2 was now public and that it is available for professionals to read. He confirmed that he has had previous meetings with health professionals to make them aware of the Panel's work, and that more interactions are planned.

**An Islander asked about the methods and techniques available to reduce PFAS levels in the blood, such as blood letting.** Dr Hajioff explained that the panel had reviewed blood letting, also known as 'therapeutic phlebotomy'. In Report 3, the panel will look for more evidence on a range of different interventions to lower body burden of PFAS, including plasma removal, drugs to prevent reabsorption in the gut and kidney, and detoxification diets. The panel have had Islander input on the scope of that report, and have requested affected Islanders submit evidence. The Panel will also hear from three subject matter experts and will consider

effectiveness, tolerability, practicability and cost effectiveness during their preparation of Report 3.

**An Islander explained they felt the recommendation about cholesterol was not supported by findings from Italy, which concluded that medication and dietary interventions to reduce cholesterol are less effective when raised cholesterol is due to PFAS exposure. The islander mentioned that these conclusions are in the public domain and asked why the panel's decision was different.** Dr Hajioff agreed that the Italian study showed traditional treatments are less effective, and that Dr Fletcher is familiar with this study. Dr Hajioff said that if a treatment does not work for an individual, other type of cholesterol-lowering medication will be used until an effective solution is found. The panel's recommendation is to follow this way of working, and continue to use normal treatments for lowering cholesterol.

**The Islander explained about the contamination in Veneto, Italy to inform the audience about the situation.** Dr Fletcher confirmed there are two studies looking at PFOA contamination associated with a local factory. One showed that higher cholesterol was raised in correlation to their blood. Dr Fletcher asked the Islander to share the study they are referring to as he would appreciate seeing it. Due to the large amount of literature on PFAS, the Panel have concentrated on the AFFF exposures rather than the industrial exposures such as this example, but he would like to see it.

**An Islander asked whether the panel would be recommending giving statins (cholesterol lowering medication) to children with raised cholesterol due to PFAS exposure.** Dr Hajioff commented that generally, raised cholesterol in children is less common than in an adult. However, he is not an expert in treating this situation and would like to get an answer from the paediatricians dealing with heart related concerns. He requested the Islander send an email to the PFAS Panel email address with that question which he will then action.

**An Islander commented that the panel are referring to research studies on populations around the world which are similar to Jersey's situation, but commented that they did not believe any research has been done on the chemical mixture in humans.** Dr Hajioff replied to confirm that the research is being done on the mixtures of PFAS chemicals that people have been exposed to. Dr Fletcher confirmed that there is not strong evidence for some of the health conditions mentioned, especially pregnancy induced hypertension and thyroid disease which were covered because they were originally summarised as a risk resulting from the C8 work on PFOA in America. This was based on epidemiological studies in humans, not animal studies, because they are more appropriate for understanding the impact on humans than animal studies are.

**An Islander commented that the panel have not done any research on the people in Jersey to understand whether the research from elsewhere in the world is relevant to them.** Dr Hajioff explained that the numbers of people affected in Jersey is too small to draw a scientifically valid conclusion. A much larger group is required to get a clear answer so that the results can be assumed to be a difference and not random variation.

**An Islander commented that now that the Islanders have a community working together and with the panel, they believe that the panel do not have a record of all the illnesses that the group is suffering from together, as many were not divulged when the blood testing was conducted in 2022. They request the panel form a better understanding of the people in this group and test them again.** Dr Hajioff said that for Report 2, 13 Islanders provided

evidence to the Panel, and the evidence was reviewed for all of the conditions that they raised. The report includes a list of most of the conditions listed, but some conditions were so rare that they have not been included to protect the confidentiality of those with those conditions.

**An Islander commented that they do not care about the rest of the world, they care about Jersey and ask if it is possible to test 10,000 people in Jersey.** Dr Hajioff replied to say that the panel recommended in Report 1 that further testing is conducted across the Island so that we know the baseline level of PFAS in blood across the Island, but that it does not need to be 10,000 people tested. There have been further discussions with public health regarding this testing.

**An Islander commented that all the subject matter experts who provided evidence to the panel were from the US apart from one. They believe the levels are higher in the US than lots of other areas.** Dr Hajioff explained said that they short listed 12 subject matter experts and explained that the coverage of the topics and disciplines was best from the 5 selected. It was coincidental that 4 of the 5 are from the US. He commented that the US actually has some of the most strict PFAS standards.

**An Islander commented that there have been issues in Australia and Italy too and wondered why the panel had not considered those countries as well.** Dr Hajioff explained that the Panel had used evidence from Australia and Italy, as well as other jurisdictions; much of the evidence is published in the scientific literature so that evidence has been incorporated. Additionally, he explained that the Panel were speaking to someone the following day who has worked in Australia. The panel are identifying experts who can give the clarity to the situations around the world, to supplement the published scientific literature.

**An Islander told the panel that there has recently been a report from Finland in which scientists have reported PFAS causes childhood leukaemia. They also mentioned reports from the American firefighting industry who consistently report blood cancers and multiple myeloma. The Islander reported that PFOS is found in bone marrow.** Dr Hajioff explained that these health conditions are rare and that means they are difficult to reliably that PFAS exposure has caused them. There are also confounding factors with firefighters, as they are exposed to several risks to health due to their work, so that makes it even more difficult to be sure of what caused their conditions. Dr Hajioff requested the Islander forward the research to the panel who would review it further.

Dr Fletcher sourced the article the Islander was referring to during the meeting. He explained that the article was published after the panel had finished reviewing the evidence on PFAS and cancer, including using a large review from the WHO which primarily concluded that PFOA, and possibly PFOS cause cancer, particularly kidney and testicular cancer, which does align with the Panel's findings. Dr Hajioff commented that it is likely that PFAS causes other cancers as well, however the scientific evidence is not yet sufficiently developed for that to be clear. Dr Fletcher agreed, and summarised that this class of chemicals has the potential to cause cancer and therefore exposure must be minimised. He indicated that the study from Finland was on a very specific PFAS compound which is not present in AFFF and is therefore not a chemical of concern for Jersey. This study would not have been included in the report had it been available at time of writing, as it is not relevant to the exposure situation in Jersey.

**An Islander asked if blood donations are tested for PFAS levels.** Dr Hajioff explained that this was reviewed in Report 1 and concluded that the risk to people from receiving blood

transfusions from an individual with high PFAS levels is extremely low. It would only be a measurable risk if the donor had a rare blood group, the donations stocked up and one recipient received it all. This scenario would increase the recipient's PFAS blood levels but not significantly. Donated blood is not routinely tested for PFAS anywhere in the world. The evidence suggests that the harm from PFAS seems to be as a result of long term exposure, and therefore a one off exposure from donated blood would be unlikely to increase the health risks for one person.

**An Islander told the audience that they believed that 3M were using short chain PFAS for AFFF uses in 1989 and in 1991 the company switched to long chain PFAS. The military continued to use short chain PFAS in their foams. They mentioned that the military are now phasing it out and asked why they are stopping their use.** Dr Hajioff pointed out that it was in fact the other way around; the long chain PFAS were used previously, and that newer AFFF foams switched to short chain PFAS which are less toxic. He mentioned that he had met with the CEO of Jersey Water (Helier Smith) that day who reassured him that Jersey has not been using PFAS-containing foam for several years. The long chain foams were ceased 20 years ago and short chain 5 years ago. Prof Cousins added and explained that the long chain foams accumulate more than the short chain ones, and so use of long chain foams was phased out from 2002. Short chain foams have been used since 1970s. These are eliminated from the body more easily, but do accumulate in the ground water and build up, and so will eventually get into the human body. Therefore, all PFAS foams are now being phased out to reduce all PFAS exposure.

**An Islander asked if the panel will be advising on how to clean the water, and what the Government of Jersey is doing to address this issue.** Dr Hajioff responded to say that Report 4 which they will start at the end of the year will be covering water, and other ways in which people might be exposed to PFAS such as fish, meat, eggs, milk, potatoes. The PFAS panel have already had preliminary conversations with the Environment team to prepare for this report.

**An Islander directed a question at Dr Fletcher and Prof Cousins. They said that the US EPA have brought in new regulations regarding the use of PFOA and PFOS and 4 other PFAS chemicals and that they have said that there is no safe level of PFAS. The Islander asked if Dr Fletcher and Prof Cousins agreed with the statement.** Both Dr Fletcher and Prof Cousins indicated that they did agree with the statement. Prof Cousins reminded the audience that our understanding of toxicology is changing over time, which is why drinking water standards levels are going down.

**An Islander asked how the panel feel about how Jersey is following the Drinking Water Inspectorate (DWI) level of 100ppt PFAS in water, when the US has introduced a maximum of 4ppt for PFOA and PFOS. According to the Islander, Jersey Water are stating that they comply with applicable regulations by blending water. The Islander indicated that they wish for a process to remove PFAS from the water completely.** Dr Hajioff replied that if a chemical causes cancer then there is no safe level. He reminded the audience that the panel have not yet started Report 4 and so have not looked at the science or considered safe levels. The panel is not able to comment until the work has been done.

**An Islander addressed Prof Cousins and commented how pleased that he agrees that there is no safe level.** Prof Cousins responded and said there is no safe level because they cause cancer, but that we will never get to there not being any PFAS in water supplies. The panel are required to look and see how low is possible. He cautioned that the ability to measure

the amount of PFAS in water is required, and at present, it is only possible to measure low nanogram levels. When exposures from water are in the low nanogram region, exposures from other sources such as fish are more important and told the audience that eating one averagely contaminated fish is the same as drinking water contaminated with 40ng/L water for a month. Dr Hajioff commented that the panel must consider all exposure sources such as what is spread on fields, and that all parties involved must work together to form a complete picture.

**An Islander commented that Jersey Water randomly test 5 households' water a year, and that they had been randomly tested twice which they considered strange. They suspected that they were testing for PFAS, so asked the technician who told them it was not PFAS they were testing for because the levels are fine on the Island. They requested the report from Jersey Water but are yet to receive it. They suggested that these five random samples are tested for PFAS.** Dr Hajioff responded saying that they have already started conversations with Jersey Water and the Environment team and have requested more data and information to be collected.

**An Islander asked about the recommendation regarding breastfeeding which states that there are significant health benefits and there should be continued promotion of breastfeeding to islanders in the plume area in the same way as the wider population. They asked how the panel are sure that contaminated breastmilk is not affecting their health, and asked if there have been any reports on young people about what happens to them as they age.** Dr Hajioff replied stating that it is professional judgement. The worst case is a child dying in the first year of life, and the informed decision was taken that the known health risks of PFAS are outweighed by the benefits of breastfeeding. There is a second recommendation that health professionals should be given information so that they can have a discussion with each person and make an individual decision. If people are discouraged from breastfeeding, that can be associated with harm to the child. The panel were given advice from experts in child health to help them make this recommendation.

**An Islander mentioned neurological studies on zebrafish indicating that PFOA in water led to hyperactivity and links to ADHD have been made. The Islander commented that there are lots of children with ADHD in Jersey.** Dr Hajioff reiterated that the list of conditions in the report includes neurodivergent conditions.

**An Islander asked the panel if they knew what foams the fire service were using currently.** Prof Cousins answered that they did not know specifics, but knew that it was PFAS free, and probably silicone based.

**An Islander asked if there were any representatives from Jersey Water present at the meeting.** Dr Hajioff confirmed that they were not as the purpose of the meeting is to hear Islander views and invite Islanders to respond in writing to the draft of Report 2. He commented that it is likely that Jersey Water will be invited to give evidence to the Panel as part of Report 4.

**An Islander requested that the panel look at the Wholesome Jersey Law.** *(Post meeting note - the Islander is referring to the Water (Jersey) Law 1972 which requires that water supplied by Jersey Water meets quality parameters laid down for "wholesomeness" and provide details of water quality monitoring to the regulator for approval.)* Dr Hajioff confirmed that this will be included in their research as part of Report 4. The panel will identify if there needs to be a threshold in Jersey, and what that threshold should be. The IARC evidence on cancer means

that it is likely there will be a threshold set, but that the panel must discuss the evidence first in order to set the threshold appropriately.

**An Islander asked who advises the Government during the report development process.**

Grace replied saying that it would depend on what the question is referring to. The Government receive the report, but it is the Council of Ministers who will decide what actions to take based on the recommendations in the report. Once this has happened, there will be a further face to face meeting with Islanders and Ministers towards the end of the year.

**An Islander commented that 24 hours is not enough to comment properly on the report, but that they appreciate the work that has gone into Report 2. They asked the panel if they were disheartened in the fact that nothing has happened since Report 1, and that the Government have not progressed any of the recommendations from Report 1.**

Dr Hajioff explained that the period for feedback spans 3 weeks, and that there was not an expectation Islanders would have read the report ahead of this meeting. He explained that there had been discussions held around community testing and that progress is being made, although acknowledged it was not as fast as Islanders would like. The recommendation in Report 2 about a clinician which hasn't even been finalised yet is being progressed. Dr Hajioff commented that he believes it is a positive process, that people are not pushing back on the panel and that he finds this heartening as it indicates the panel are being heard. Grace explained that the Ministers are supportive and that the Government have been trying to put this in place but there have been difficulties setting it up which have not yet been resolved.

**An Islander asked why there aren't Ministers here standing up and doing something, taking leadership and action.** Dr Hajioff said that the reason the Ministers are not at the meeting is that it would become a discussion about the past rather than the purpose of the meeting to share the draft for comments. He requested that Islanders submit comments on the report so that the panel can improve it. The questions Islanders raise need to be answered without a political discussion, however he said that if Islanders felt that this was the wrong decision then to please let the panel and Government know and they will learn and change. Grace indicated that there are separate meetings being arranged to speak with the Ministers.

**An Islander commented that the States of Jersey are under legal obligation to protect 3M, and asked the panel what 3M will think when they see the panel's report.** Dr Hajioff replied to say that the panel's remit is to consider where the evidence is now, and what they can do to make things better in the future. The panel are independent, and the Panel do not have a relationship with 3M and so they cannot impact on their work. Dr Hajioff confirmed that they are not employed by the Government of Jersey, and have never met the Attorney General. He reiterated that the panel's remit is to review where the science is today and how to make things better in the future.

**An Islander commented that people are nervous about speaking with the panel and handing over information. They commented that only a few people have come forward which speaks volumes, and many more have been affected.** Dr Hajioff commented that in his experience, 13 experts by experience is a large number of inputs for this kind of work, and that in a previous project lasting 3 years, he had 4 members of the public input into the work. He reassured Islanders that the response rate is very good and he was grateful to those who took the time to contribute.



**An Islander asked whether the panel were aware of the blood levels of PFOS within the community, and whether they have been compared with American levels. They questioned whether the levels in the population in Jersey are comparable with the studied populations around the world.** Dr Hajioff said that the results from Islanders in 2022 have been converted to be able to compare with other places in the world. Dr Fletcher commented that the results suggest that the levels in the plume area are broadly comparable to the Swedish study in Ronneby at time of exposure.

**An Islander commented that they had been living on the Island their whole life, and have had the same doctor for the whole time. They asked whether the panel would like to review their medical notes.** Dr Hajioff replied saying that only one of the panel is a medical doctor, and is not a PFAS expert. It is difficult extrapolating from 100,000 people to one person, and the same in the opposite direction, going from one person to a population. Dr Hajioff commented that a clinician is required who is aware of the science, and who can look after the people one at a time to make a link between the patients. Grace agreed that this was the purpose of the clinician that the Government are putting in place.

Grace closed the meetings, thanking Islanders for their openness and honesty. She requested that Islanders reply to the panel using the email address [PFASPanel@gov.je](mailto:PFASPanel@gov.je). Minutes will be available from the meetings.

The first meeting closed at 6.35pm and the second at 7.35pm.