

10 YEAR ANNIVERSARY



# The PIPAH Study Newsletter

## January 2024



The Prospective Investigation of Pesticide Applicators' Health

**Hello and welcome to our annual Newsletter!**

I would like to start by saying a big ‘thank you’ for taking part in the PIPAH study. We certainly could not do this without you.

This year has been a period of change for the PIPAH study. After 10 years at the helm, our fearless leader Anne-Helen Harding retired in January 2023. Many of you may have seen or spoken to Anne-Helen at the annual Cereals events. We all wish her a happy and relaxing retirement.

The important work of the PIPAH study must continue, and I am delighted to say that I have been appointed the new Chief Investigator. I have been involved in the PIPAH study since the very start and may have also seen some of you at Cereals over the years. I am excited to have the opportunity to lead this study and I hope to do justice to the excellent work that has been done so far. I have a fantastic team around me who I know will keep me on track.

Another big change for PIPAH and for many of our participants was the change in administration of the National Register of Sprayer Operators (NRoSO) from City and Guilds to BASIS. We have immediately formed a strong working relationship with BASIS, and you will see an update on this in our Newsletter. We also provide an update on the activities undertaken by PIPAH last year, and a summary of the January 2023 questionnaire that many of you completed – a big thank you to everyone who responded.

This is a landmark year for PIPAH and for many of our participants. Most of you will have joined in 2013 or 2014, and so will be celebrating 10 or 11 years in the study. We have, therefore, used this Newsletter as an opportunity to summarise some of the excellent work that has been done to date. We cannot cover everything, but we hope this gives you a flavour of the valuable contribution PIPAH has made, and will continue to make, with your help and support.

Many thanks,

*Gillian Nicholls*

on behalf of the PIPAH study team



## Why are we interested in pesticides?

The PIPAH study helps to ensure that we have the best understanding of whether health problems are associated with regular pesticide use, keeping people who use these chemicals healthy and safe at work. The use of pesticides is very important to our lives in many ways, and we must ensure that when they are used, they are used safely.

## Continuing our relationship with NRoSO through BASIS

City and Guilds has supported the PIPAH study from the very start, helping us to recruit a large number of participants through the National Register of Sprayer Operators (NRoSO).

In January 2023, administration of NRoSO moved from City and Guilds to BASIS. There is always uncertainty when working with a new partner, but we are very pleased to say that BASIS has been incredibly supportive of the PIPAH study. We were able to once again share a tent with NRoSO at the Cereals show, and our annual recruitment programme is up-and-running again with new NRoSO members being invited to join the PIPAH study.

BASIS has also been bringing new ideas to us about how we can publicise the study more and improve recruitment. They have included information about the PIPAH study in some of their training courses and material, and also included us in their NRoSO newsletter. They have also inspired us to think more 'digitally' about how we work, and we have developed a new online form to help NRoSO members register their interest in joining the study. You will find a link to this at the end of this Newsletter – please do send it to any co-workers, friends or family who are NRoSO members and you think might be interested in joining PIPAH.

We're excited about building on our relationship with NRoSO and BASIS over the next year and beyond.

<https://nroso.org.uk/>



The HSE Science and Research Centre, Buxton

## Cereals 2023

We were very pleased to be able to attend Cereals 2023 held at Thoresby Estate in Nottinghamshire. It was a scorcher – and by the end of the two days every inch of the PIPAH team was covered in dust – but it's one of the most worthwhile activities we undertake in the year. It's one of the few times we can talk directly to our participants or others who may be interested in taking part. We receive really useful feedback, such as trying to move the questionnaires online, and sharing a tent with NROSO, BASIS, the Voluntary Initiative and the National Sprayer Testing Scheme means we get to strengthen our relationships with these organisations.

We are already looking forward to Cereals 2024 at Bygrave Woods, Hertfordshire. Please do come and say hello if you're in the area.

<https://www.cerealsevent.co.uk/>



Belinda (left) and Claudia (right) ready for action at Cereals 2023



## Working with others

We want to make sure that we make the best use of the information you provide us as part of the PIPAH study. We cannot do it all ourselves, and so we welcome the opportunity to work with other researchers. Two important collaborations we have been involved in over the last 10 years are AGRICOH and the IMPRESS project. Please be assured that any information we share with other researchers is completely anonymous and it is not possible for them to identify individual PIPAH members.



**AGRICOH** is an international group of 29 agricultural studies like PIPAH, which was set up in 2010. Its aim is to provide a framework under which studies can combine their data, so they can study the relationships between exposures and disease. This is particularly important for rare exposures or health outcomes, where a single study alone may not have enough people. PIPAH joined AGRICOH in 2013 and has been an active member ever since. We have attended the AGRICOH meetings to provide updates on the study and contributed to pooled research where possible. In 2021, PIPAH contributed to an analysis that looked at the prevalence of respiratory disease among agricultural workers. Although agricultural working practices differ across the world, the study found that the prevalence of respiratory disease did not vary substantially<sup>1</sup>. PIPAH has also contributed to an analysis of neurological disease among farmers, which found no evidence of higher than expected mortality rates for neurodegenerative disease; although suicide mortality was increased<sup>2</sup>.

More information about AGRICOH and the activities currently being undertaken can be found on their website:

<https://agricoh.iarc.fr/>

**IMPRESS** is an international project that started in 2017. Its aim is to get a better understanding of the methods used to gather information on pesticide use in studies like PIPAH. Five studies from four countries, including PIPAH, took part in the work. In 2019, we invited PIPAH members to complete the IMPRESS questionnaire, which repeated questions you had already been asked in the past. This was so the reliability of self-reported pesticide use could be looked at. The study found that, as expected, the ability to remember pesticide use got worse with time, but there was certain information such as crop type and use of personal protective equipment that could be reliably remembered within a few years<sup>3</sup>. This is reassuring for the PIPAH study, since we have focussed on asking about the crops and areas on which you use pesticides. Some PIPAH members also provided biological samples to look at their exposure to pesticides. This is being used to look at how well different methods of assessing pesticide exposure, including questionnaires, perform. This work is nearing completion and should be published soon.

More information about the wider work of the IMPRESS project and the results so far can be found on their website: <http://www.impress-project.org/>



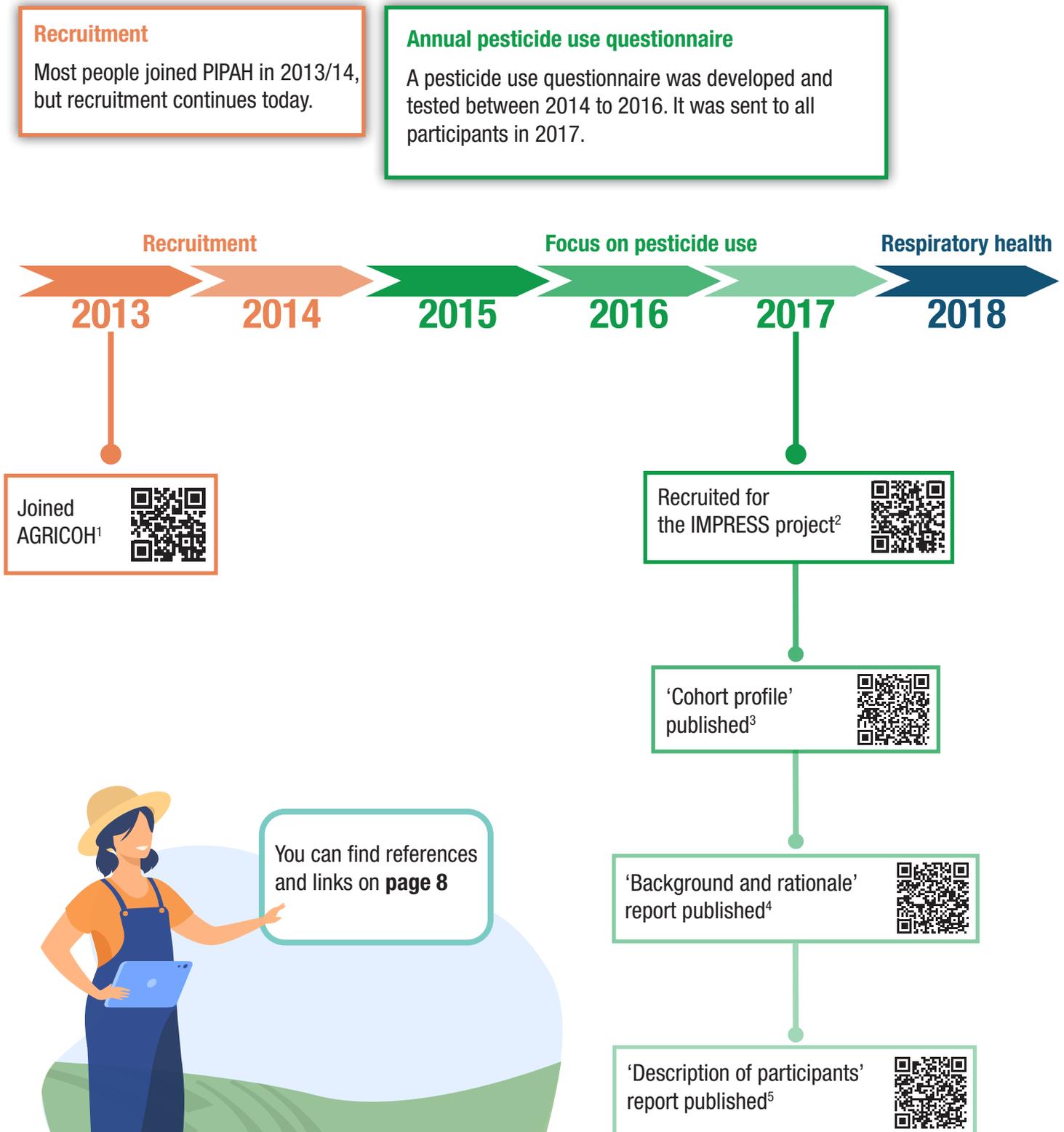
<sup>1</sup> Fix *et al.* Gender differences in respiratory health outcomes among farming cohorts around the globe: findings from the AGRICOH consortium. *Journal of agromedicine*. <https://doi.org/10.1080/1059924X.2020.1713274>

<sup>2</sup> Baldi *et al.* S-344 Neurological diseases in farmers: opportunities within the AGRICOH consortium. *Occupational & Environmental Medicine*. <http://dx.doi.org/10.1136/OEM-2021-EPI.438>

<sup>3</sup> Mueller *et al.* Recall of exposure in UK farmers and pesticide applicators: trends with follow-up time. *Annals of Work Exposures and Health*. <https://doi.org/10.1093/annweh/wxac002>

## 10 years of the PIPAH study

The PIPAH study has collected a lot of valuable data over the years, published analyses and contributed to wider pieces of work. This timeline sets out some of the achievements to date. More information can be found at the websites provided.



### The future...

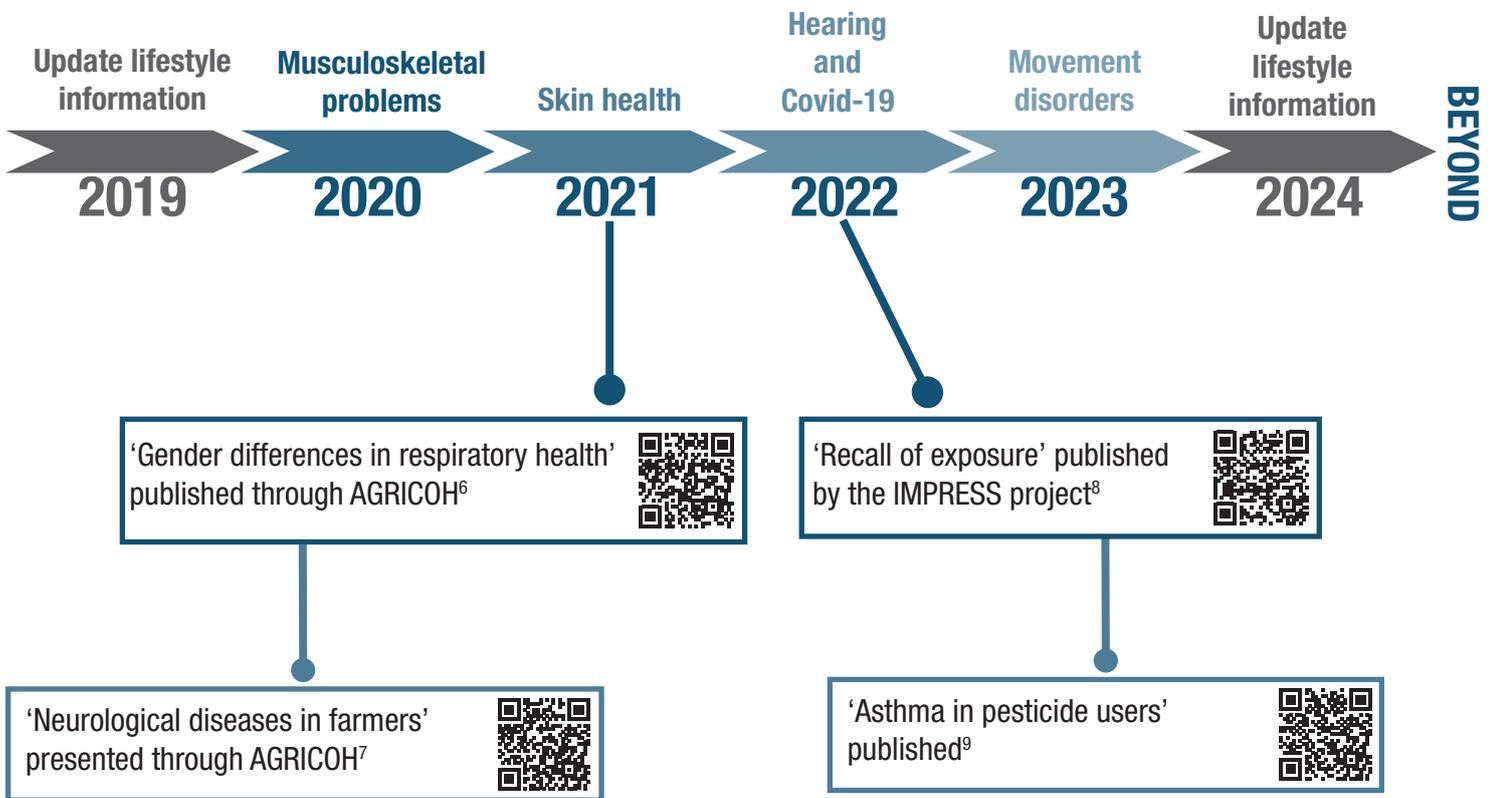
PIPAH will continue its valuable work with the help of its participants.

#### Annual health and pesticide use questionnaire

In 2018, the focus of the questionnaires shifted to health with simple pesticide use questions.

#### Update personal and lifestyle information

The information provided at recruitment is updated every 5 years.



## References and websites

<sup>1</sup> AGRICOH: A Consortium of Agricultural Cohort Studies, <https://agricoh.iarc.fr/>

<sup>2</sup> IMPRESS: Improving exposure assessment methodologies for epidemiological studies on pesticides, <http://www.impress-project.org/>

<sup>3</sup> Harding *et al.* Prospective Investigation of Pesticide Applicators' Health (PIPAH) study: a cohort study of professional pesticide users in Great Britain, <http://dx.doi.org/10.1136/bmjopen-2017-018212>

<sup>4</sup> Fox *et al.* RR1103 - The Prospective Investigation of Pesticide Applicators' Health (PIPAH) Study: background, rationale and design, <https://www.hse.gov.uk/research/rrhtm/rr1103.htm>

<sup>5</sup> Fox *et al.* RR1119 - The Prospective Investigation of Pesticide Applicators' Health (PIPAH) Study: baseline volunteer cohort, <https://www.hse.gov.uk/research/rrhtm/rr1119.htm>

<sup>6</sup> Fix *et al.* Gender differences in respiratory health outcomes among farming cohorts around the globe: findings from the AGRICOH consortium, <https://doi.org/10.1080/1059924X.2020.1713274>

<sup>7</sup> Baldi *et al.* S-344 Neurological diseases in farmers: opportunities within the AGRICOH consortium, <http://dx.doi.org/10.1136/OEM-2021-EPI.438>

<sup>8</sup> Mueller *et al.* Recall of exposure in UK farmers and pesticide applicators: trends with follow-up time, <https://doi.org/10.1093/annweh/wxac002>

<sup>9</sup> Fishwick *et al.* Asthma in pesticide users: an update from the Great Britain Prospective Investigation of Pesticide Applicators' Health (PIPAH) cohort study, <http://dx.doi.org/10.1136/oemed-2021-107486>



## What's next?

**Updating your information.** When you joined the PIPAH study, you completed a questionnaire that asked about your job, health, diet and lifestyle. These things can change over time, and it is important we keep this information up-to-date. The questionnaire we have sent with this Newsletter does just that, and so we would encourage you to complete and return this questionnaire to us.

**A focus on recruitment.** As mentioned before, BASIS has some great ideas to help us publicise and recruit more NRoSO members into the PIPAH study. We will be exploring these during 2024.

**Working more digitally.** Feedback from participants suggest that you might want a more 'digital' PIPAH study and you would appreciate the option to complete questionnaires online. We have taken a first small step in this direction with our new online registration form for NRoSO members who are interested in the PIPAH study. We have offered an option to complete questionnaires online in the past, but the number of people using this was low and it was removed. However, we appreciate that people's views and opinions of online tools can change and so this is worth looking at again. We are going to spend some time this year looking at our options and, depending on the outcome, may trial something for the next questionnaire. Watch this space.

## Movement disorders

In January 2023 we invited PIPAH members to complete a short questionnaire on movement disorders and lifetime pesticide use.

We asked six questions about the signs and symptoms of movement disorders, which includes conditions such as Parkinson's disease. Many of you commented that these signs or symptoms could be related to your age, other health conditions or other factors rather than your pesticide use. You are absolutely correct. This is why we need to be careful when we analyse and report the results from our questionnaires. We, therefore, need more time to fully consider the information you have provided. In the meantime, we have provided a summary of the responses we received, and we hope you find this interesting.

**1,786** PIPAH members completed the questionnaire.

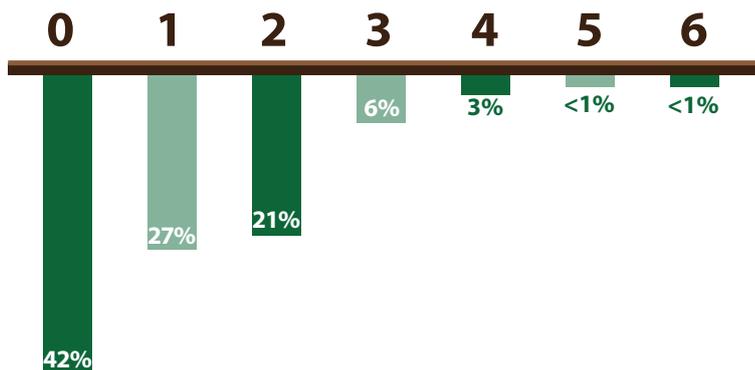
This is **38%** of the participants we contacted.



58% reported at least one sign or symptom we asked about.

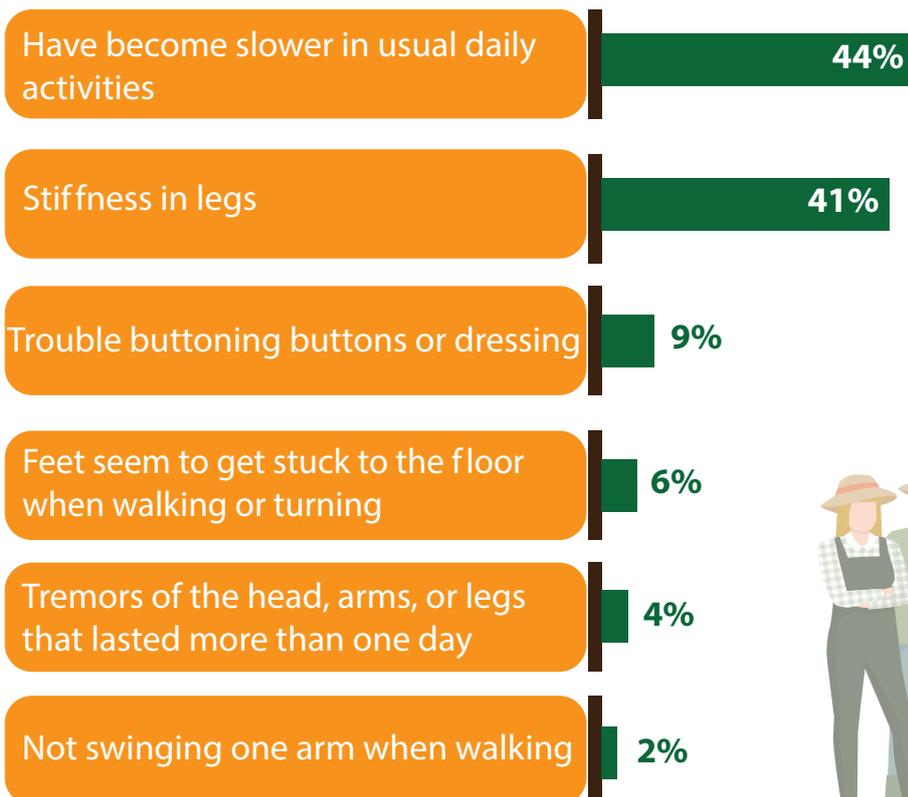
Very few people reported all six symptoms.

### Number of signs/symptoms reported:



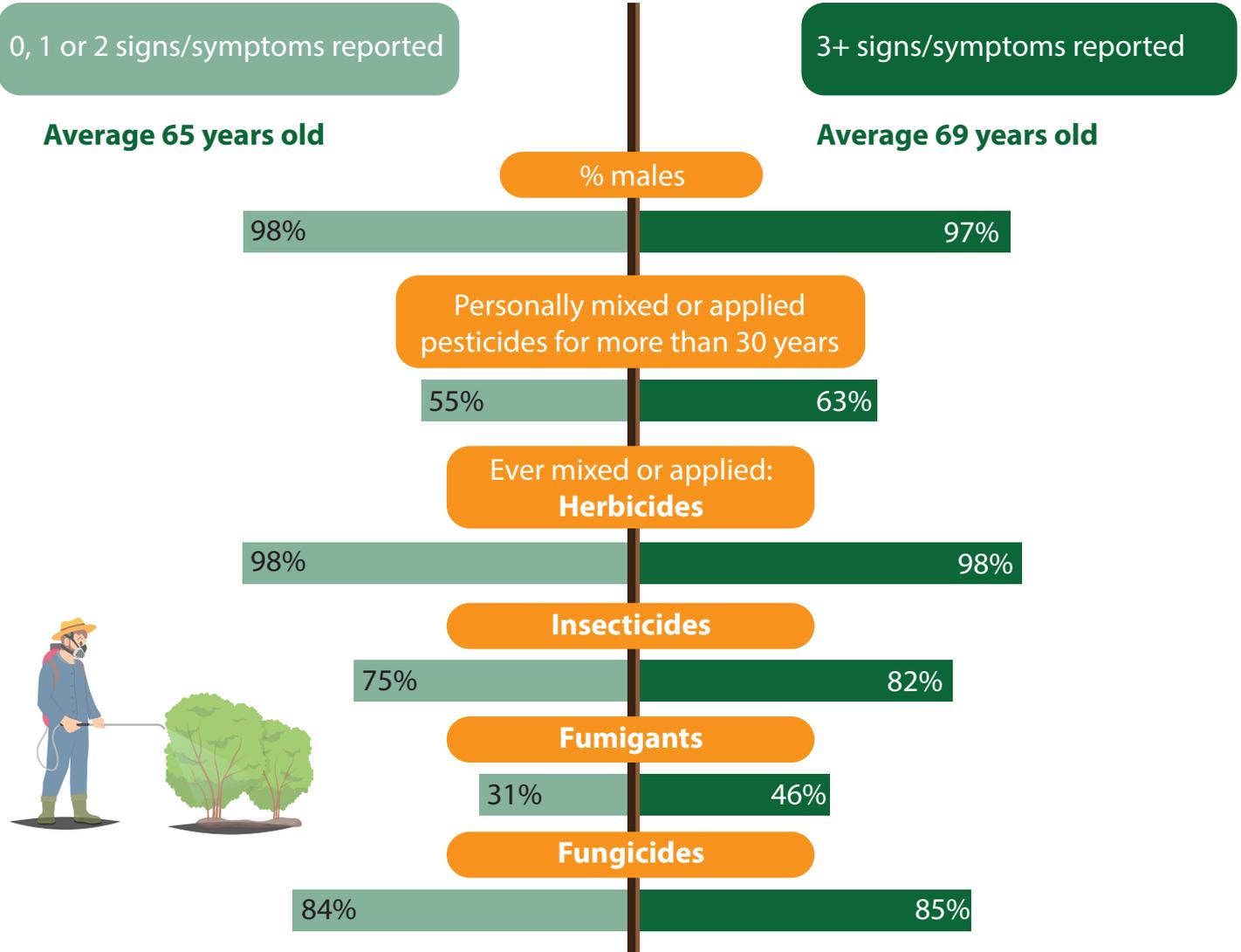
44% reported becoming slower in usual daily activities, with a similar number (41%) reporting stiffness in their legs.

Very few people reported tremors or not swinging one arm when walking.



People who reported more signs/symptoms tended to be **older**, have been **using pesticides for longer**, and were more likely to have used **insecticides** or **fumigants**.

The association between the number of signs/symptoms and both **insecticide use** and **fumigant use** remained when we accounted for age, sex and years of pesticide use. More detailed analysis is needed to investigate this further.



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If you think you may have a health problem related to your work, you might want to have a chat with your health care provider such as your practice nurse, GP or occupational health provider. If you think your health problem is linked to exposure at work, let them know this when you speak to them.

Once again, we would like to thank you for taking part in the PIPAH study and hope you continue to remain members of it. We certainly can't do without you and we look forward to sending you another update. In the meantime, please don't hesitate to contact us either by email [PIPAH@hse.gov.uk](mailto:PIPAH@hse.gov.uk) or by freephone **0800 093 4809** if you have any queries, want to discuss any aspect of the PIPAH study with us, or if you would like to update your current contact information.

## The PIPAH study team:

**Gillian Nicholls**

(Chief Investigator)

**Charlotte Young**

(Researcher)

**David Fishwick**

(Study Medical Officer)

**Neil Bennett**

(Researcher)

**Claudia Tarr**

(Data Management Lead)

**Claire Collins**

(Administrative Support)

**Yiqun Chen**

(Researcher)

**Belinda Oakley**

(Administrative Support)

**We are always looking for willing volunteers from NRoSO.** If you have a family member, friend or co-worker who you think may be interested in the study, feel free to give them this Newsletter to look through. They can also find more information on our website, or they can request a no obligation invitation pack by providing the team with their contact details.

To receive an invitation pack:

Website: [bit.ly/PIPAH\\_register](https://bit.ly/PIPAH_register)

To contact the PIPAH team:

Email: [PIPAH@hse.gov.uk](mailto:PIPAH@hse.gov.uk)

Telephone: 0800 093 4809 (voicemail only)



**Visit our webpage** <http://www.hsl.gov.uk/resources/major-projects/pipah>