

**Environmental Health Officers' (EHOs) response to COVID-19: A public health workforce needs assessment to ensure sustainability and future preparedness**

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## Executive summary

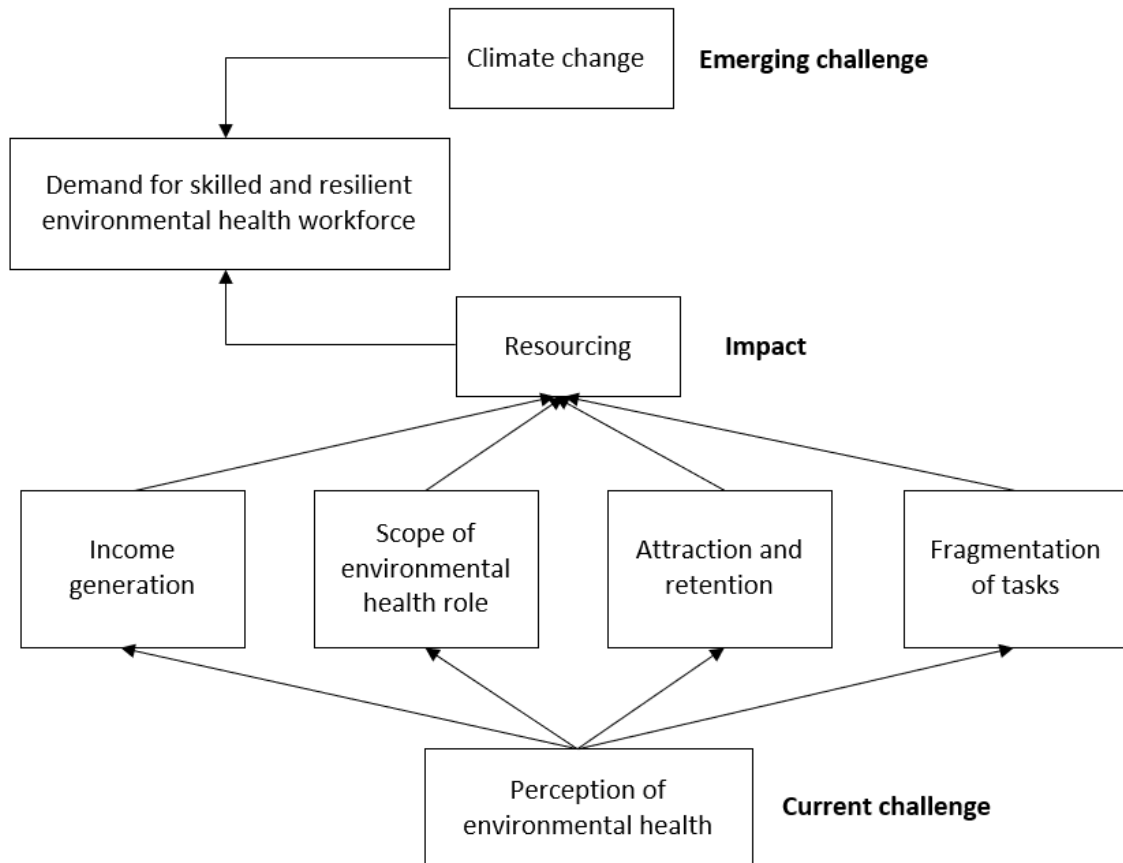
Environmental Health Officers (EHOs) are councils' front-line profession responsible for regulating public health protection during and outside of the pandemic. This project explored the role and responsibilities of local government EHOs in response to the COVID-19 pandemic. A workforce review was undertaken to identify current and future challenges facing EHOs in South Australia. We conducted an online survey asking EHOs questions about workforce activities and needs, followed by one on one interviews that assessed specifically what worked well, what regulatory tools were helpful, how interagency collaboration worked and what barriers or hindering factors exist in relation to the pandemic response.

In the response to COVID-19, the SA environmental health workforce was used to varying degrees and varying roles by local government, although notably half the workforce believe they could have been better utilised, and the other half believing they were well utilised. The most common roles included education, and communication (both internally and externally) as well as monitoring and reporting compliance with directions. The SA Local Government Functional Support Group was praised by the environmental health workforce. It was successful in communicating directions in a timely fashion and should be included in future emergency management / pandemic plans.

Compared with the United States environmental health workforce, SA EHOs have been adequately supported and resourced during COVID-19 and consequently have not suffered serious burn out. The current workforce has good working conditions and work life balance. The overall view of the profession is positive. This information should support future recruitment drives.

The survey and interview participants identified a current dilemma facing the SA local government environmental health profession. Emerging environmental health issues associated with climate change were identified as the most significant future challenge facing the profession. However, participants believe that a lack of adequate resourcing, leading to workforce shortages, increasing workloads and a lack of support are negatively impacting the professions preparedness to deal with these emerging issues. It was suggested that the resourcing issues were caused by current challenges around the mis/perception of environmental health and recognition of its value. It was suggested that this could be addressed by SA Health changing local government environmental health reporting requirements from purely regulatory to a more holistic approach to public health protection. The recognition of the importance of environmental health varied largely between

councils. Future research should be conducted to identify what some councils are doing well to raise the profile of the profession to ensure adequate resourcing.



**The South Australian local government environmental health dilemma as identified from survey and interview responses**

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## 1. Introduction

Environmental Health Officers (EHOs) are councils' front-line profession responsible for regulating public health protection during and outside of the pandemic. This project explored the role and responsibilities of local government EHOs in response to the COVID-19 pandemic. A workforce review was undertaken to identify current and future challenges facing EHOs in South Australia. This included identifying potential retention issues as well as education and training needs.

This project identified the responsibilities and tasks that EHOs undertook in pandemic planning generally, and specifically in response to COVID-19. We conducted an online survey with EHOs asking questions about workforce activities and needs, followed by one-on-one interviews that assessed what worked well, what regulatory tools were helpful, how interagency collaboration worked and what barriers, or hindering factors, exist specifically related to the pandemic.

This evaluation will assist the local government sector to build capacity and increase sustainability through the incorporation of best public health protection practice into future pandemic planning and response.

The workforce review of local government EHOs will assist in ensuring there is a suitably sized and trained workforce with the appropriate skills and knowledge required in planning and implementing future pandemic plans and, at the same time, maintaining capacity to meet councils' obligations under the Public Health Act 2011, the Food Act 2001 and other legislation obligations administered by EHOs. It has been 10 years since the last review of the SA environmental health workforce, and this project evaluated how retention and workforce issues have changed during the last decade. Our survey was designed to incorporate questions from the 2012 SA Workforce Review, which reported on two surveys undertaken by Environmental Health Australia in South Australia in 2010 and 2011, (Environmental Health Australia [South Australia], 2012), the earlier South Australian Environmental Health Officer (EHO) Workforce Review (EHO Workforce Review Working Group [South Australia], 2004), the 2005 Victorian Environmental Health Officer (EHO) Workforce Review (Kim Windsor and Associates, 2005), the Tasmanian Australian Environmental Health Officer Workforce Survey (Public and Environmental Health Service [Tasmania], 2005) and the current USA National Environmental Health Association (NEHA) Needs Assessment (National Environmental Health Association [United States], 2020). This allows for both interstate and international comparisons to be made.

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This project was supported by Environmental Health Australia (SA), the EHA (SA) Environmental Health Managers Forum and three environmental health team leaders from local government – one from an urban/rural interface council, one from a rural council and one from an urban council. The survey link was disseminated at EHA(SA) meetings, via the EHA (SA) mailing list and information about the project was presented to the EHA (SA) Environmental Health Managers Forum.

The recommendations made regarding workforce capacity and sustainability will ensure that councils have the public health workforce required to respond to future pandemics, while maintaining capacity to deliver on their regulatory obligations and risk based public health protection responsibilities.

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## **2. Methods**

### **2.1 Ethics**

This research project received approval from the Flinders University Social and Behavioural Research Ethics Committee (Project number: 2798).

### **2.2 Survey**

The survey (Appendix 1) was developed using the software Qualtrics® and disseminated at the EHA(SA) COVID-19 Day and then subsequently disseminated via the EHA (SA) mailing list to all members. A total of 66 EHOs completed the survey and 23 provided their email address indicating a willingness to be contacted for a follow up interview. However, given that participants could skip a question without answering, not all questions received responses from the full 66 participants.

### **2.3 Follow up interviews**

In response to the email sent to the 23 survey participants that indicated that they would be willing to answer further questions, eight responded indicating a willingness to participate in a follow up interview. These interviews were conducted over the phone following the script (Appendix 2) which was developed to elicit broader or deeper responses than those possible in the survey.

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### 3. Results

#### 3.1 Demographics

The survey results demonstrate that the South Australian environmental health workforce consists of an even distribution of age demographics (Figure 1). The workforce consists of slightly more females (67%, 40/66) compared with males (38%, 25/66) as shown in Figure 2. There has been a significant shift in the demographic distribution since 2010, with the workforce shifting to a more feminised, older workforce (Environmental Health Australia [South Australia], 2012).

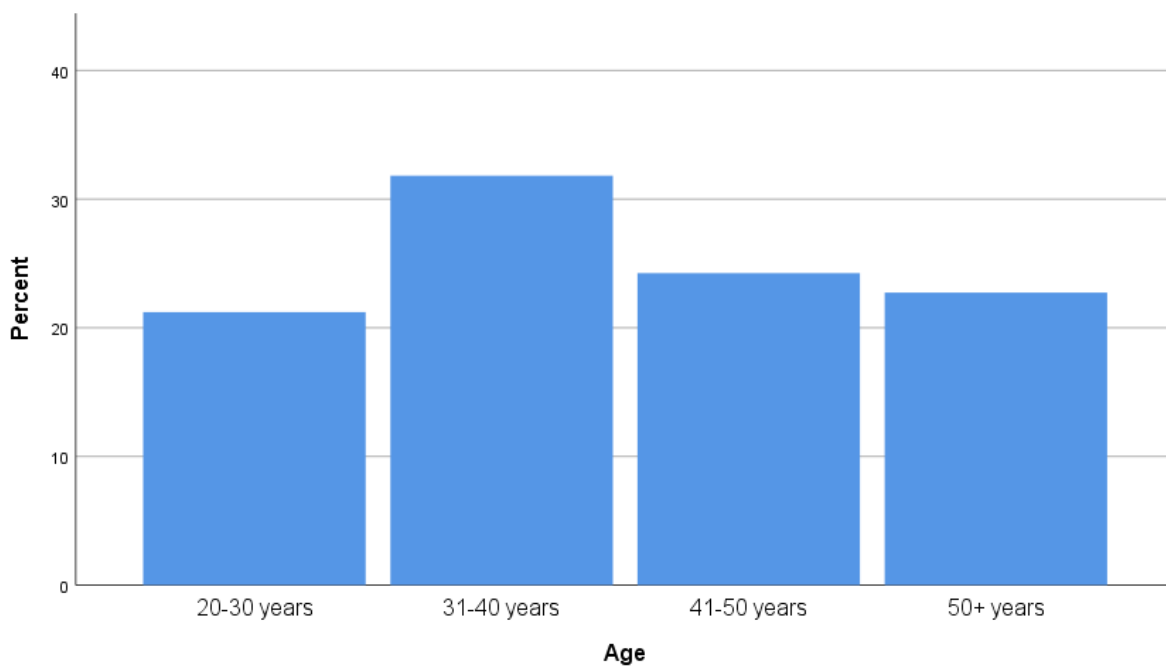
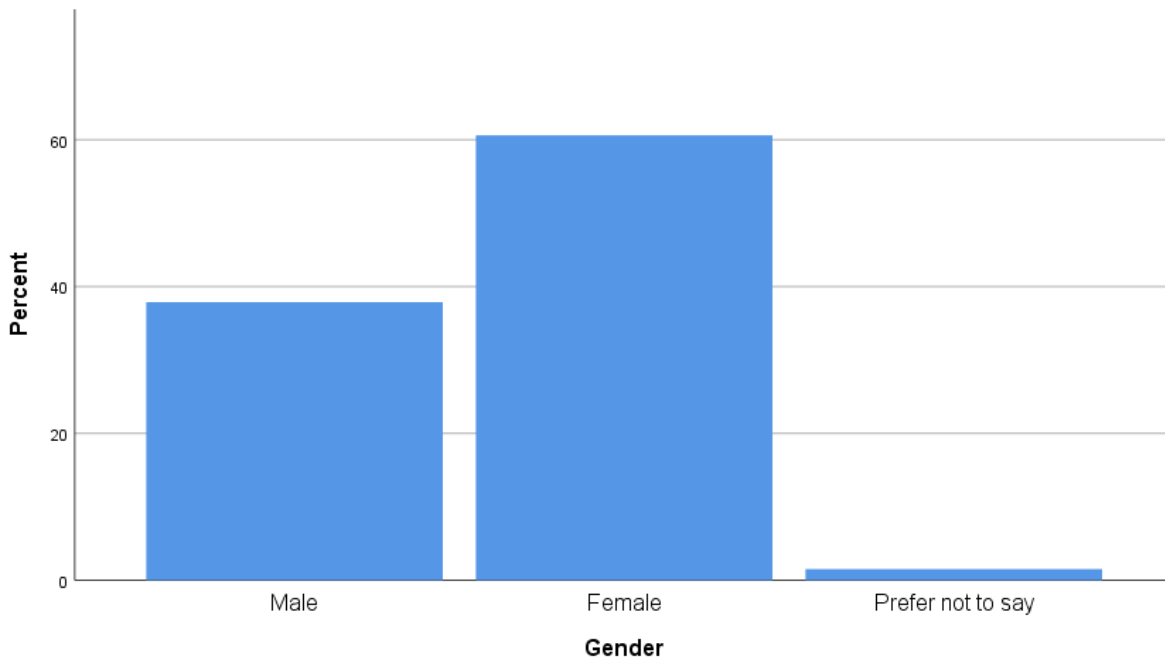


Figure 1: Distribution of South Australian environmental health workforce based on age (n=66)



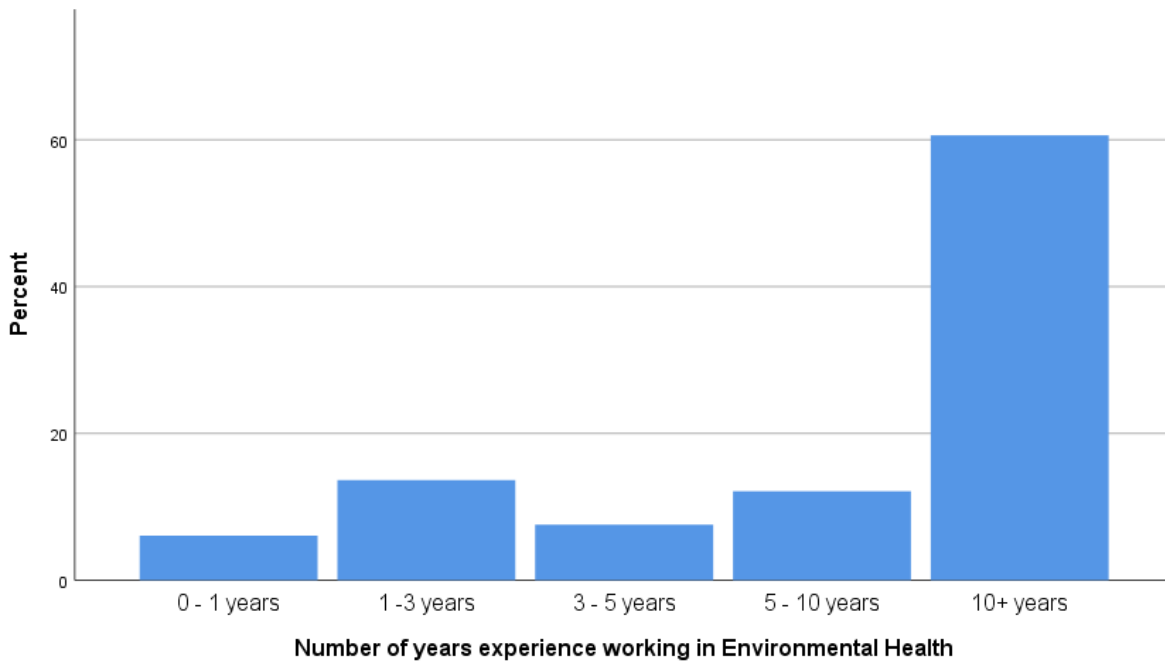
**Figure 2: Distribution of South Australian environmental health workforce based on gender (n=66)**

## 3.2 Workforce

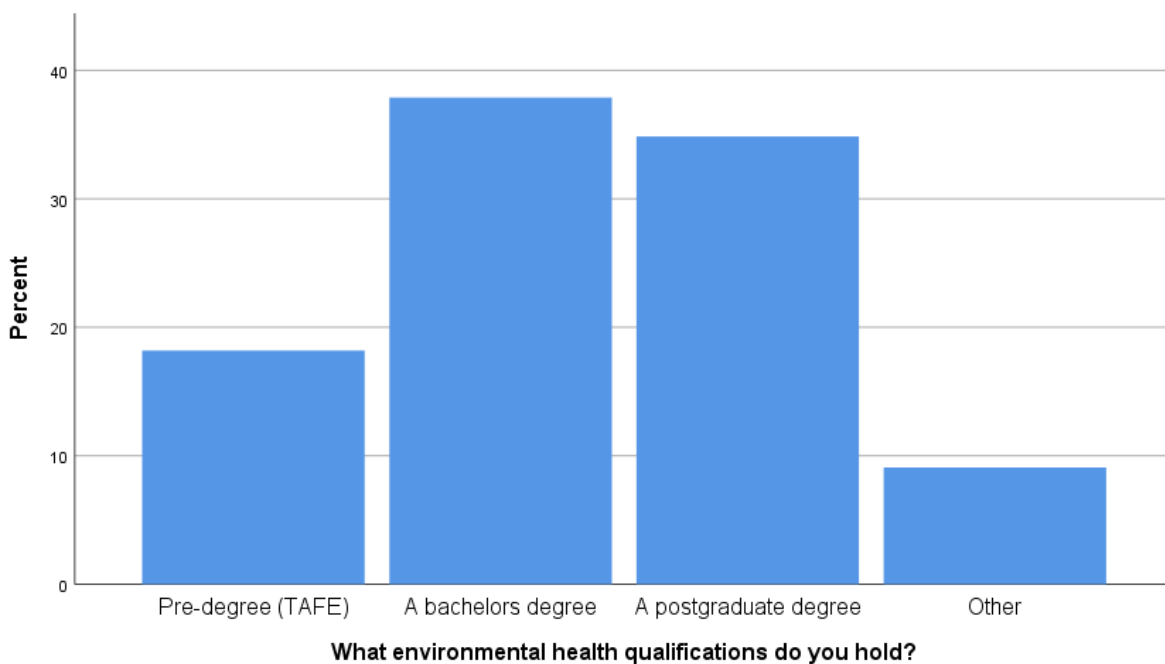
### 3.2.1 Experience and education

It was identified that the environmental health workforce is highly experienced in South Australia with 61% (40/66) of respondent indicating they had more than ten years' experience working in the environmental health profession (Figure 3), an increase from 48% with 10+ years of experience reported in 2012) (Environmental Health Australia [South Australia], 2012).

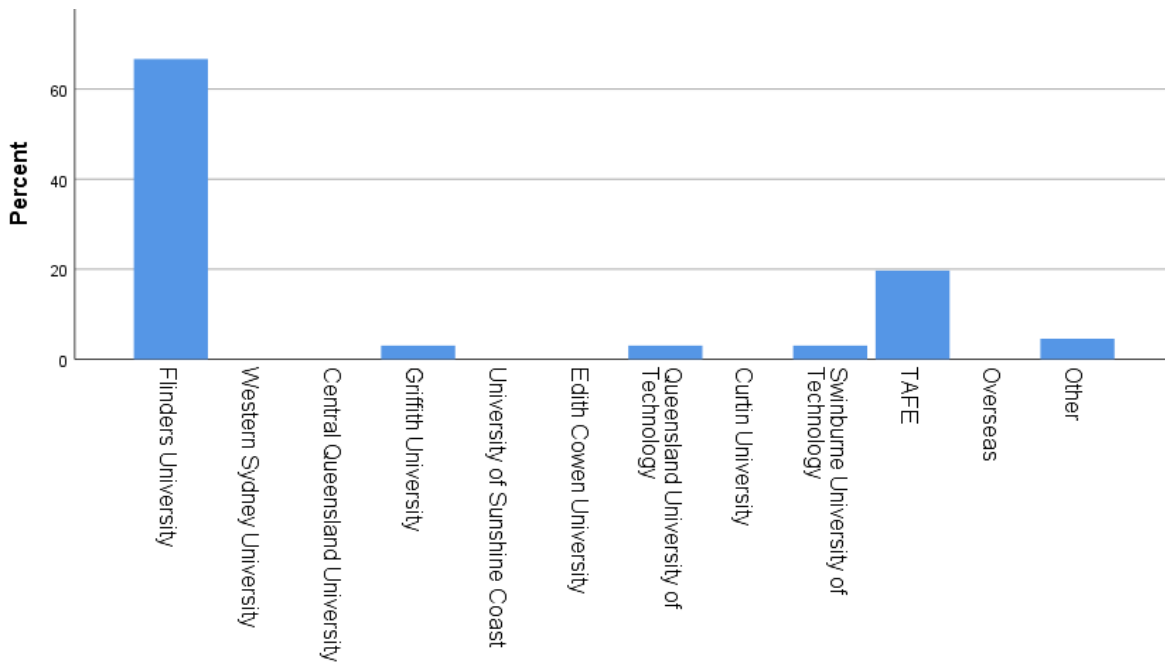
The majority of respondents hold university level qualifications (82%) with 18% (12/66) indicating they were TAFE qualified (Figure 4). There was a roughly even split between those with a bachelor's degree (38%, 25/66) and a postgraduate degree (35%, 23/66). Flinders University is the primary educator for the South Australian environmental health workforce, with 67% (44/66) of respondent receiving their qualification from Flinders University (Figure 5).



**Figure 3: Distribution of South Australian environmental health workforce based on number of years' experience in the profession (n=66)**



**Figure 4: Qualifications held by current environmental health workforce (n=66)**



From which institution did you complete your environmental health qualification?

**Figure 5: Institution from which respondents received environmental health qualification (n=66)**

### 3.2.2 Workplace

Sixty nine percent (45/65) of the respondents were generalist EHOs, with 23% (15/65) consisting of managers or team leaders and the remaining consisting of EHO specialists, or other environmental health roles (Figure 6). Sixty five percent (42/65) were from metropolitan and 31% (20/65) were from regional local government environmental health programs (Figure 7) This is not different from the survey published in 2012 with a 62% to 38% city: country distribution (Environmental Health Australia [South Australia], 2012). The size of the environmental health teams within different employers can be seen in Figure 8 and 9. The majority of environmental health teams had 1-5 employees (58%, 38/65), followed by teams with 5-10 employees (40%, 26/65), and one respondent worked in an environmental health workforce of 11-25 employees. Unsurprisingly, most of the workforces with higher numbers of EHOs were in metropolitan local government environmental health teams (23/65) with 2 respondents indicating they worked for a rural local government environmental health program with 5-10 environmental health employees.

The data presented in Figure 10 suggests that there is a reasonable amount of movement between environmental health workplaces, with 43% (28/65) of respondents indicating they have been with their current employer for less than two years. The majority of the workforce is employed on permanent contracts (82%, 53/65) (Figure 11) and work full time (69%, 44/64) (Figure 12). Fifty-four percent (35/65) travel for less than 20 minutes to work and 12% (8/65) travel more than an hour (Figure 13).

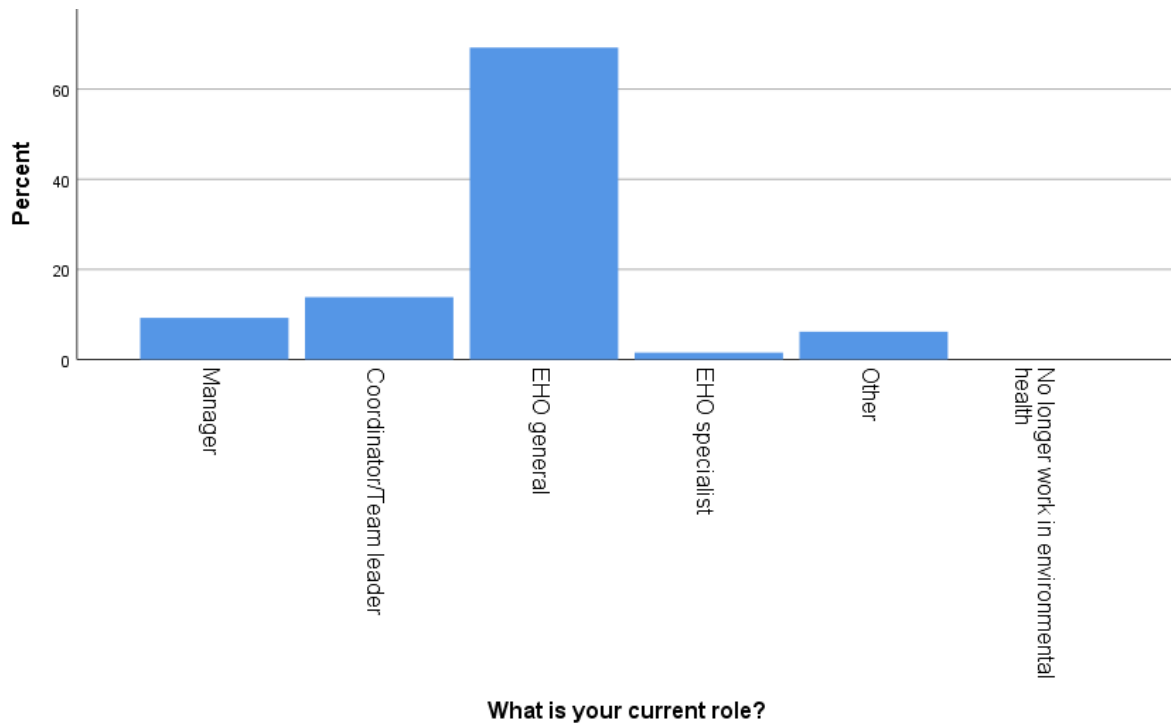


Figure 6: Current role within the environmental health workforce (n=65)

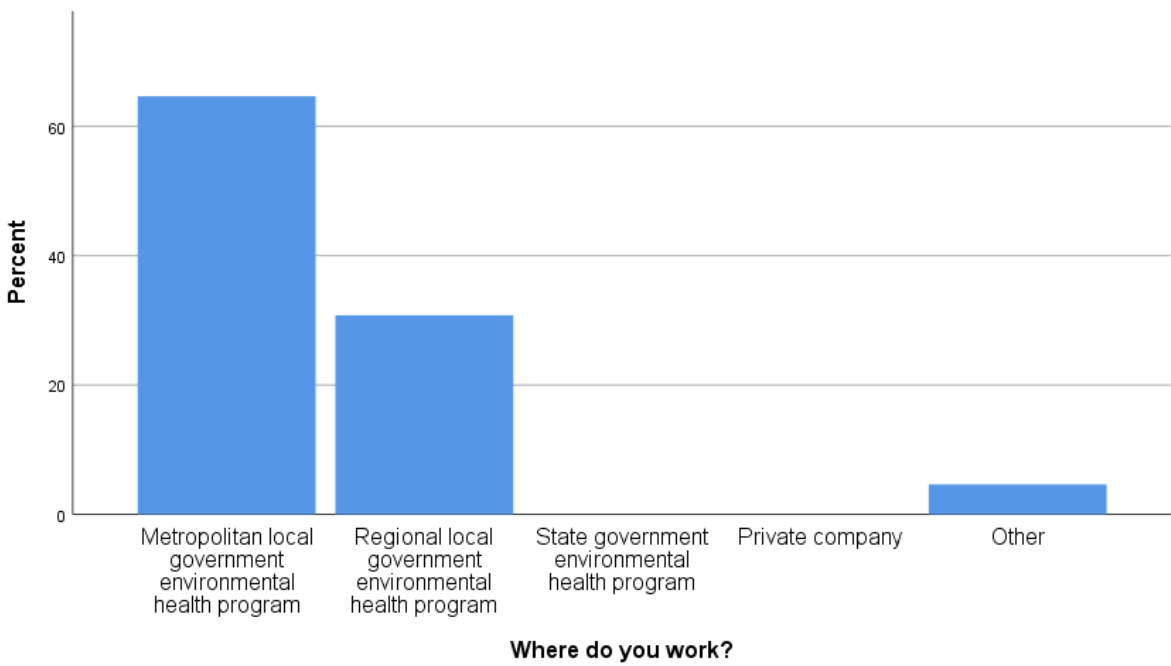


Figure 7: Current employer (n=65)



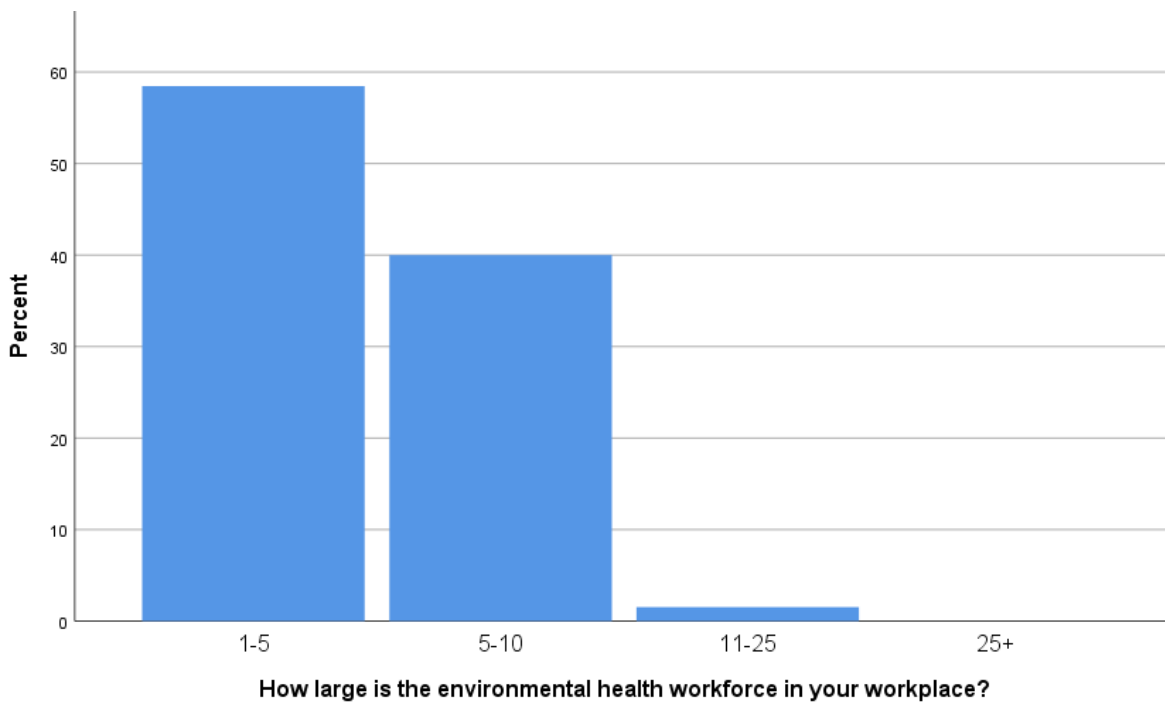


Figure 8: Size of environmental health workforce at place of employment (n=65)

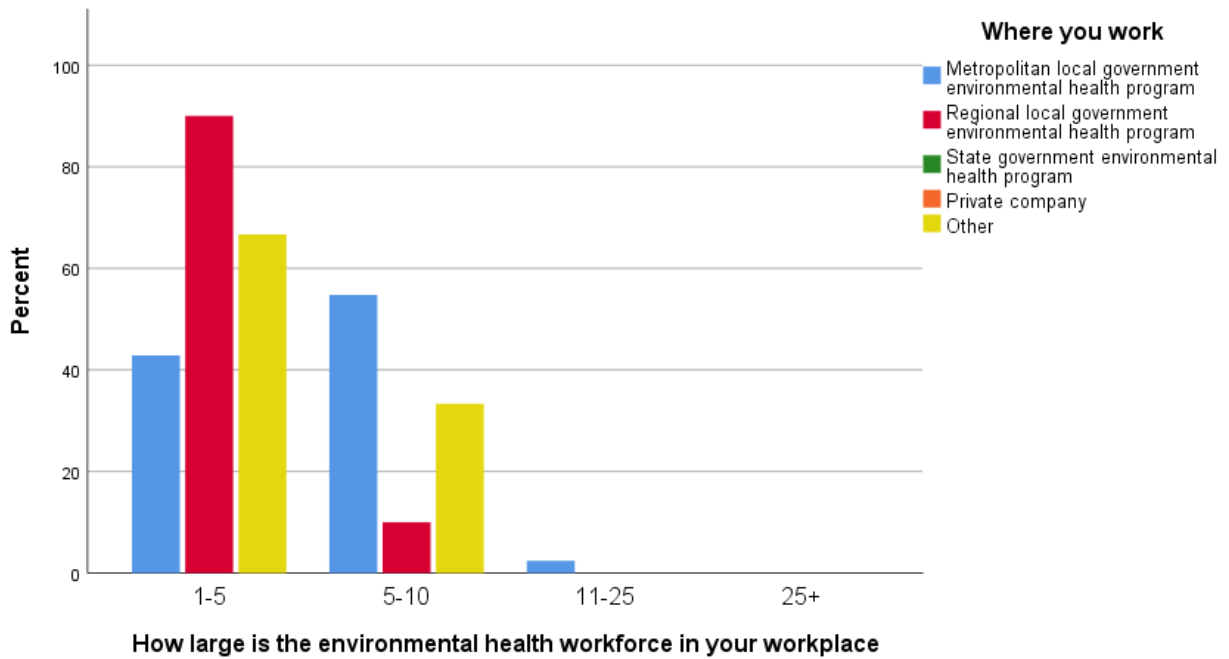


Figure 9: Size of environmental health workforce at place of employment sorted according to workplace (n=65)

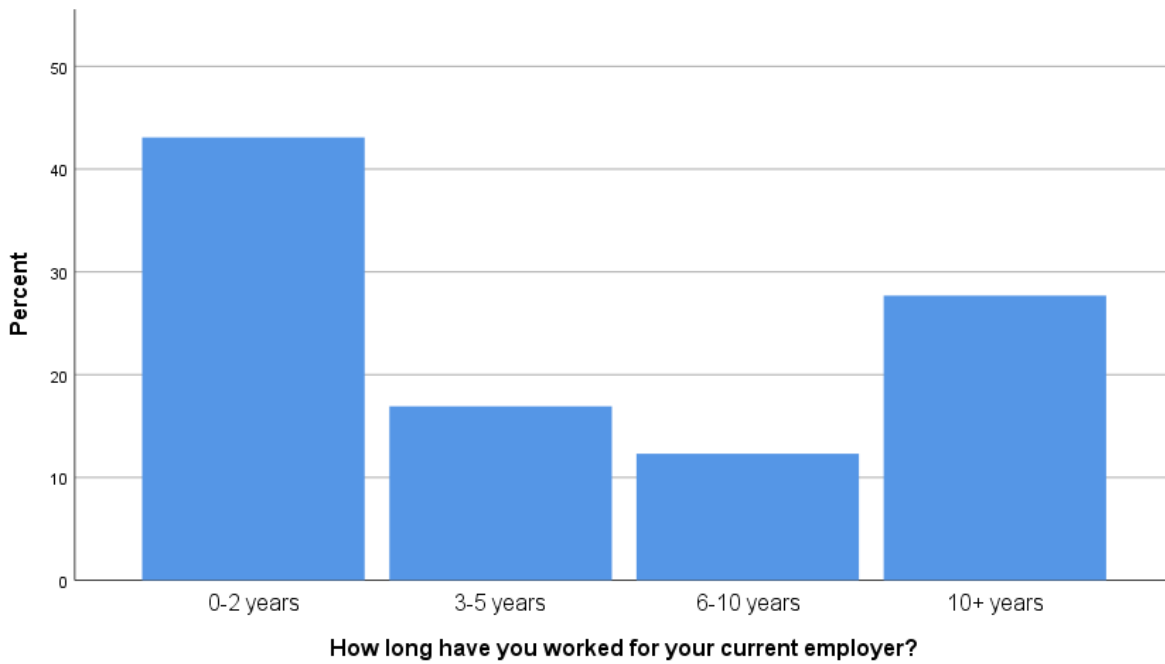


Figure 10: Number of years with current employer (n=65)

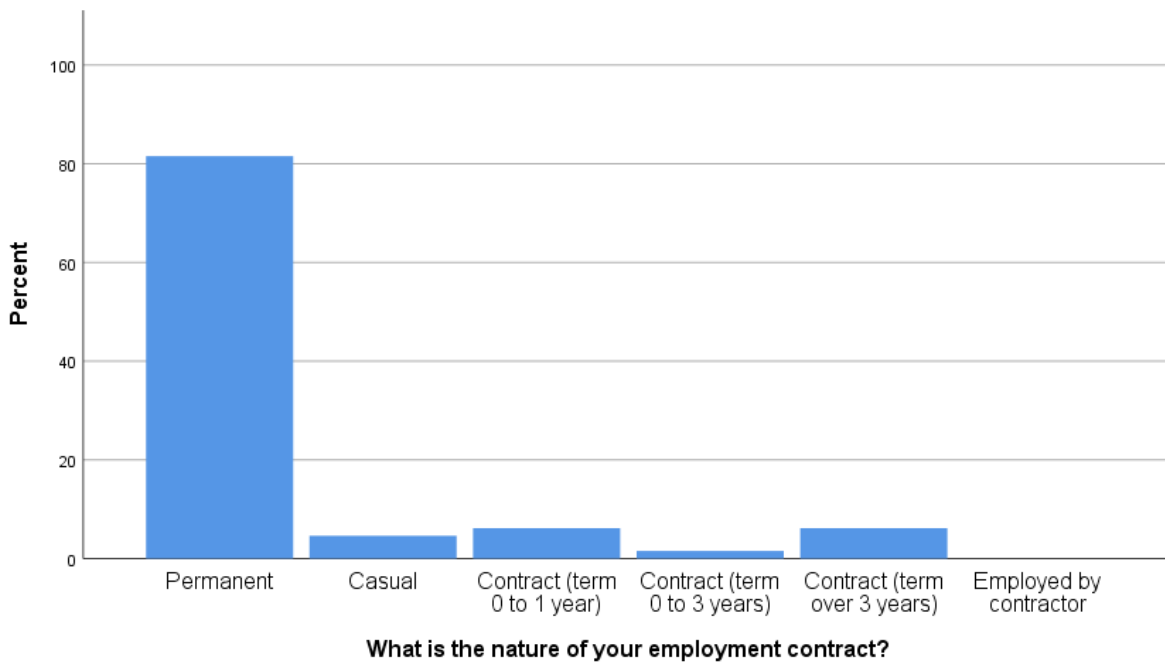


Figure 11: Nature of employment contract (n=65)

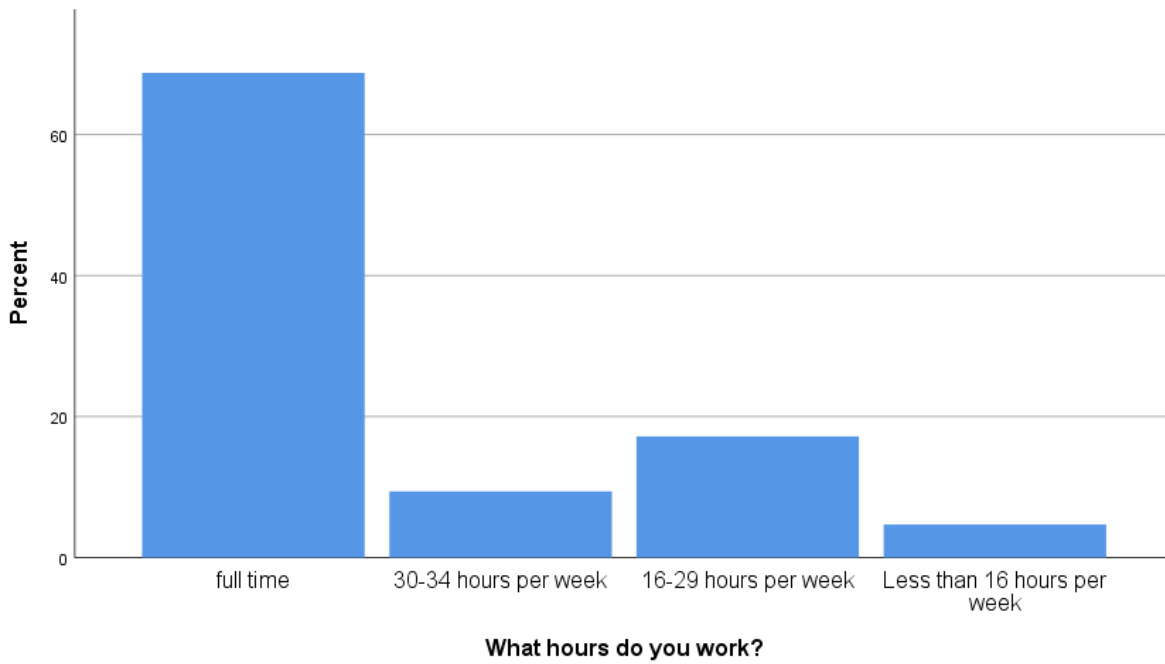


Figure 12: hours worked per week (n=64)

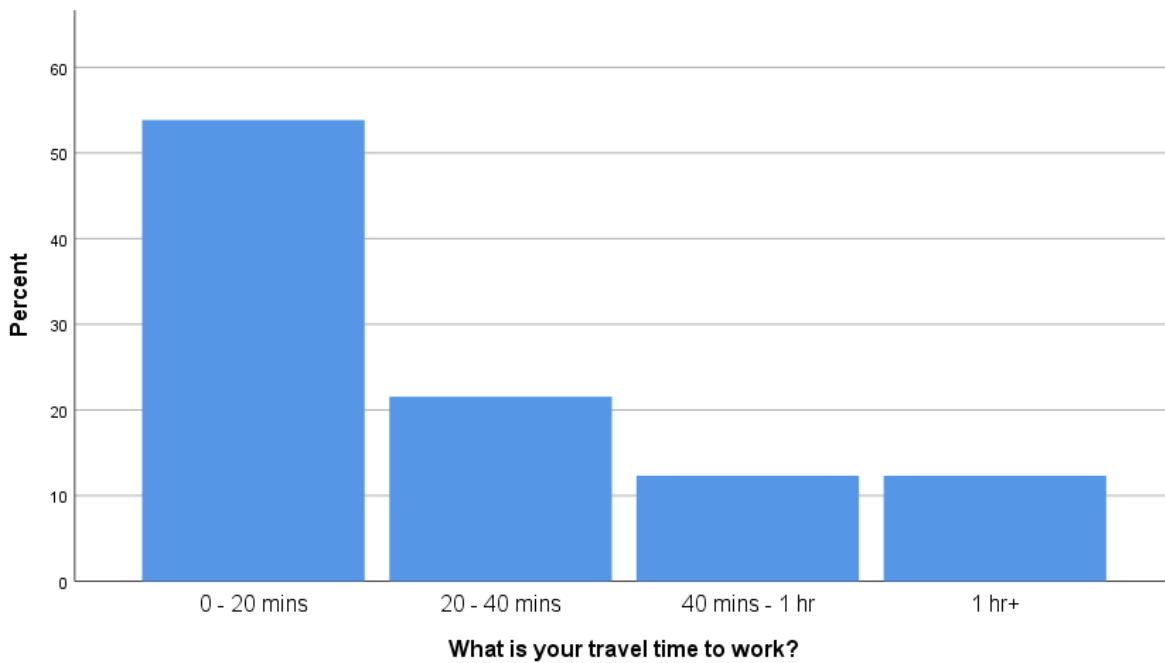


Figure 13: Average travel time to work (n=65)

### 3.2.3 Roles and responsibilities

Thirty percent of respondents (19/63) indicated that they performed roles as part of their current job that were outside the specific scope of environmental health (Figure 14). No trend was observed with these responses when they were sorted according to metropolitan or rural local government environmental health teams (Figure 15). In the free text box, a range of roles beyond environmental health were identified as being currently undertaken by the environmental health workforce. This included roles in community safety and customer service (1 respondent), environment and sustainability (3), administration and contract management (4), immunisation (1), waste management (2), supported residential facilities (SRFs) (1) and nuisance compliance (5). It should be noted that some of these roles might be considered environmental health roles by many t EHOs.

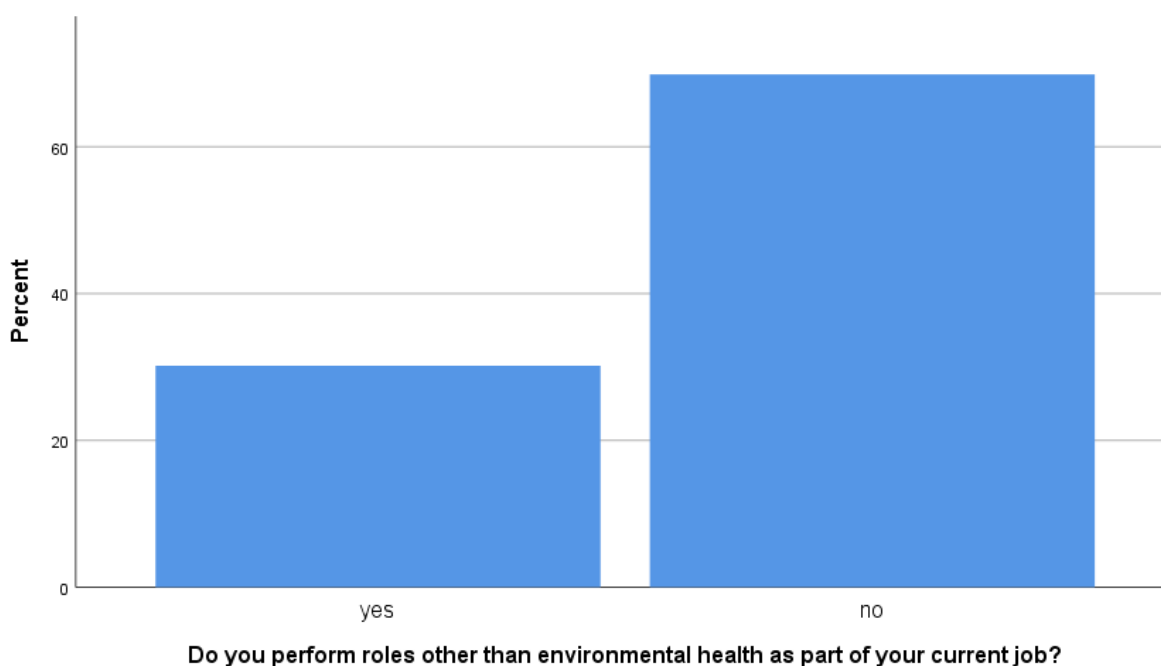
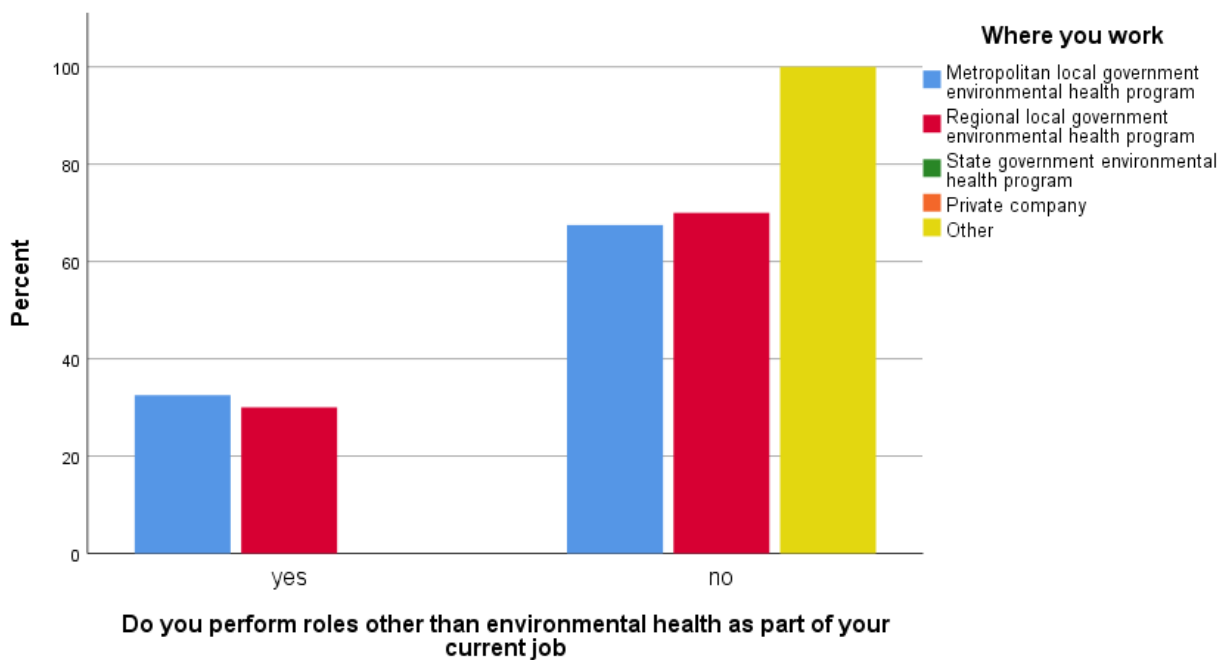


Figure 14: Roles performed outside the scope of environmental health (n=63)



**Figure 15: Roles performed outside the scope of environmental health sorted according to where a respondent works (n=63)**

### 3.2.4 Support

When asked about the level of support received to perform their roles and responsibilities, 32% (20/62) of respondents indicated that they did not have enough support (Figure 16). Figure 17 shows that proportionately, metropolitan local government environmental health teams feel more supported compared with rural teams. When asked to identify what additional support they needed, the most common answers provided in the free text box were around more EHO staff members / more FTE positions / realistic workload (n=6), more administrative support (n=7) and more support / better understanding of environmental health and its role from management (n=5). Other responses included emotional support (n=1) and more training/professional development (n=2).

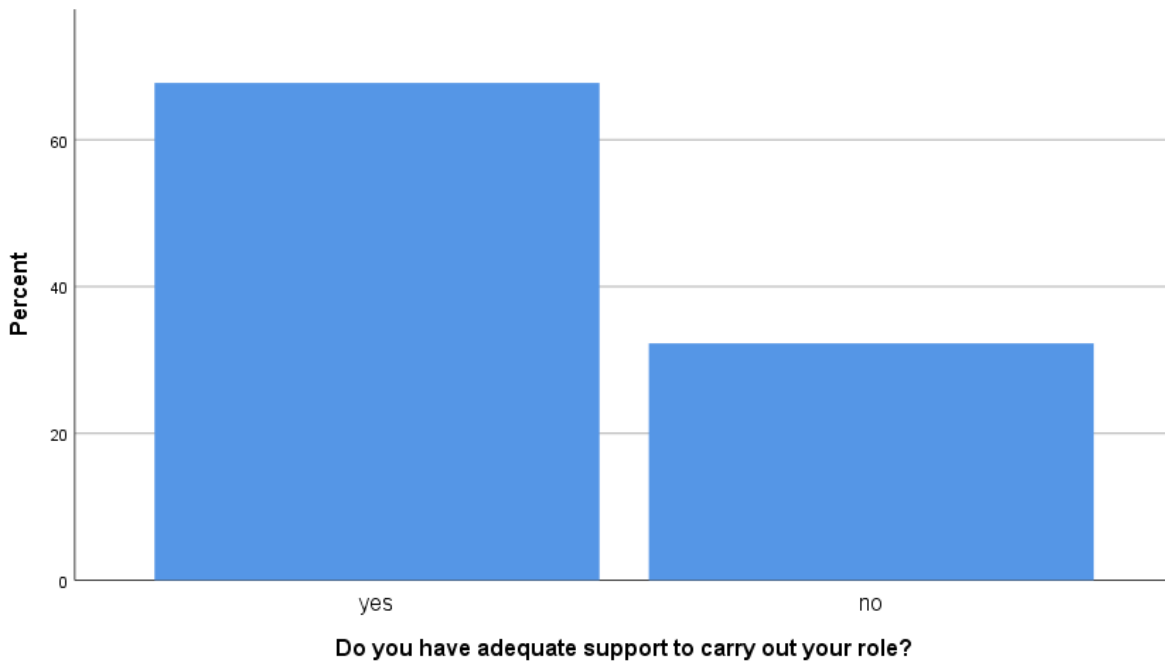


Figure 16: Level of support (n=62)

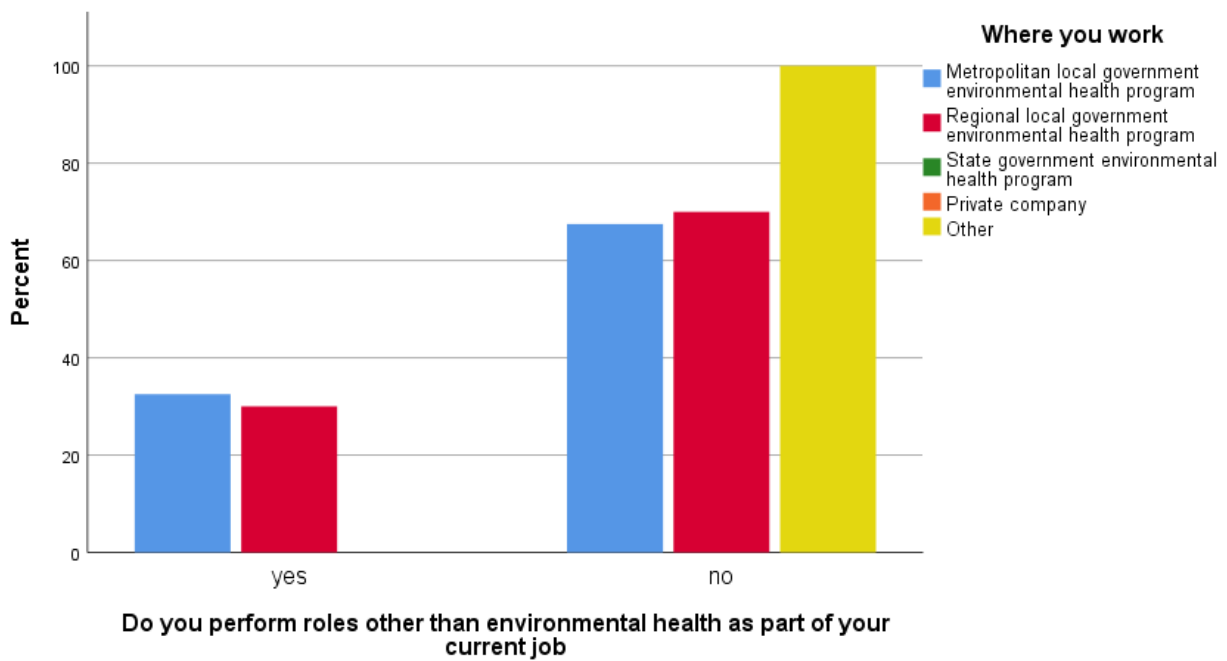


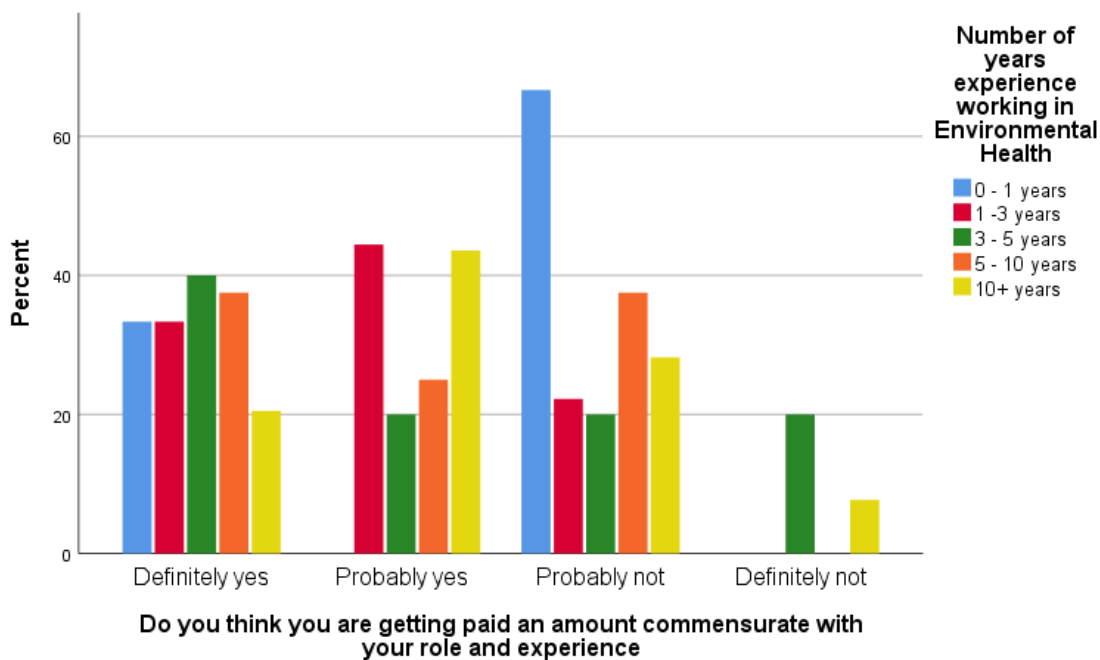
Figure 17: Level of support sorted according to where respondents work (n=62)

### 3.2.5 Remuneration

When asked about remuneration, 64% (41/64) of respondents indicated they thought they were getting paid an amount commensurate with their role and experience and 36% (23/64) indicated that they were not (Figure 18). This was irrespective of the number of years' experience working in environmental health (Figure 19).



Figure 18 : Agreement with remuneration received for current role (n=64)

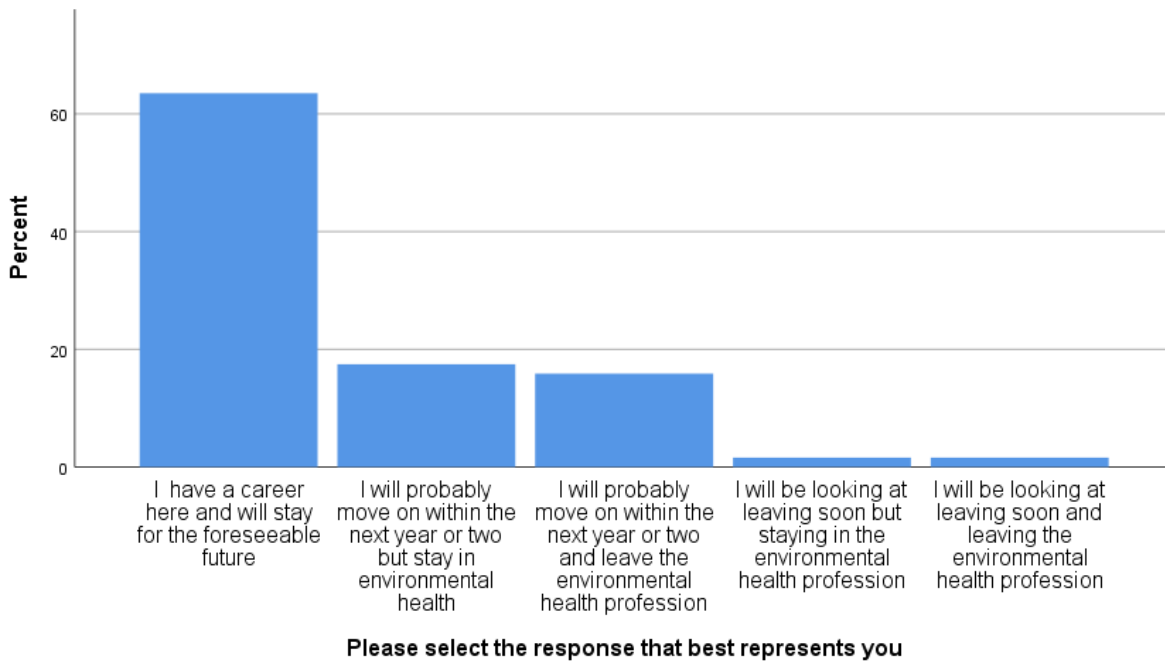


**Figure 19: Agreement with remuneration received for current role sorted according to years' experience in environmental health (n=64)**

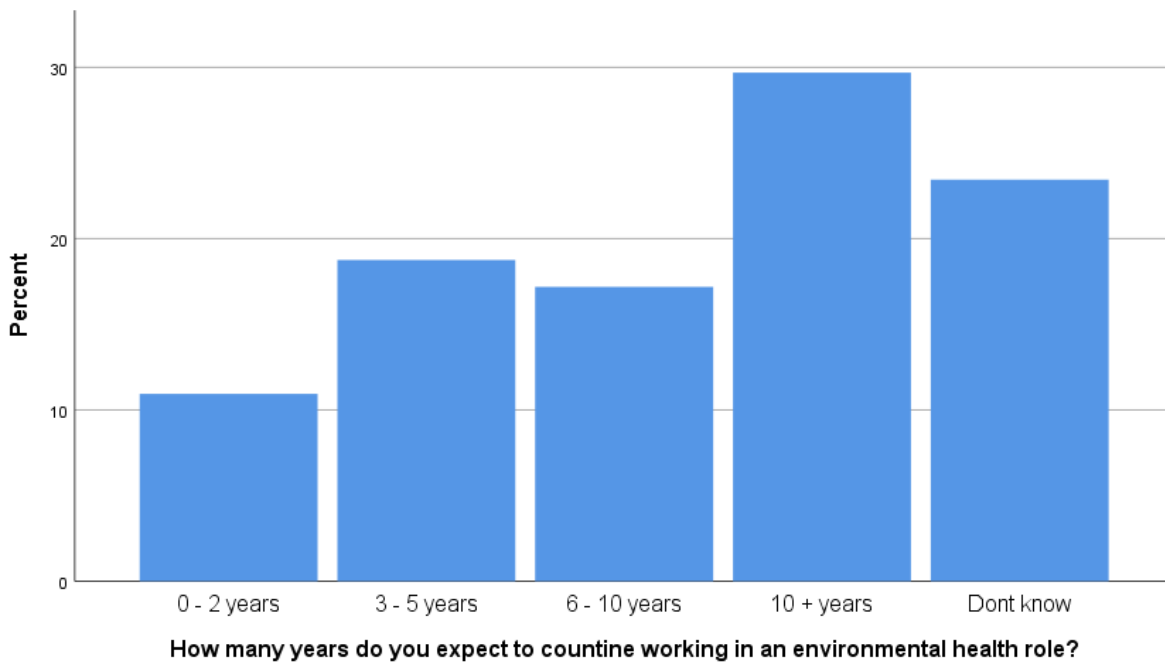
### 3.2.6 Future workforce

The majority of respondents reported being satisfied with their current employer (Figure 20), with 63% (40/63) indicating that they have a career with their current employers and will stay there for the foreseeable future. Seventeen percent (11/63) indicated that they were looking to leave the environmental health profession within the next two years (soon - in the next year or two). Thirty percent (11/66) of respondents expected to keep working in environmental health for more than ten more years and only 11% (7/66) indicated that that would only be working in environmental health for the next 0-2 years. When this was sorted according to number of years' experience (Figure 22) and where the respondent worked (Figure 23) no trends were observed, with the exception that 100% of EHOs new to the workforce (1-2 years' experience) indicating they planned to stay for 10 plus years (Figure 22).





**Figure 20: Future with current workplace and the environmental health profession (n=63)**



**Figure 21: Number of years respondent expected to continue working in an environmental health role (n=66)**

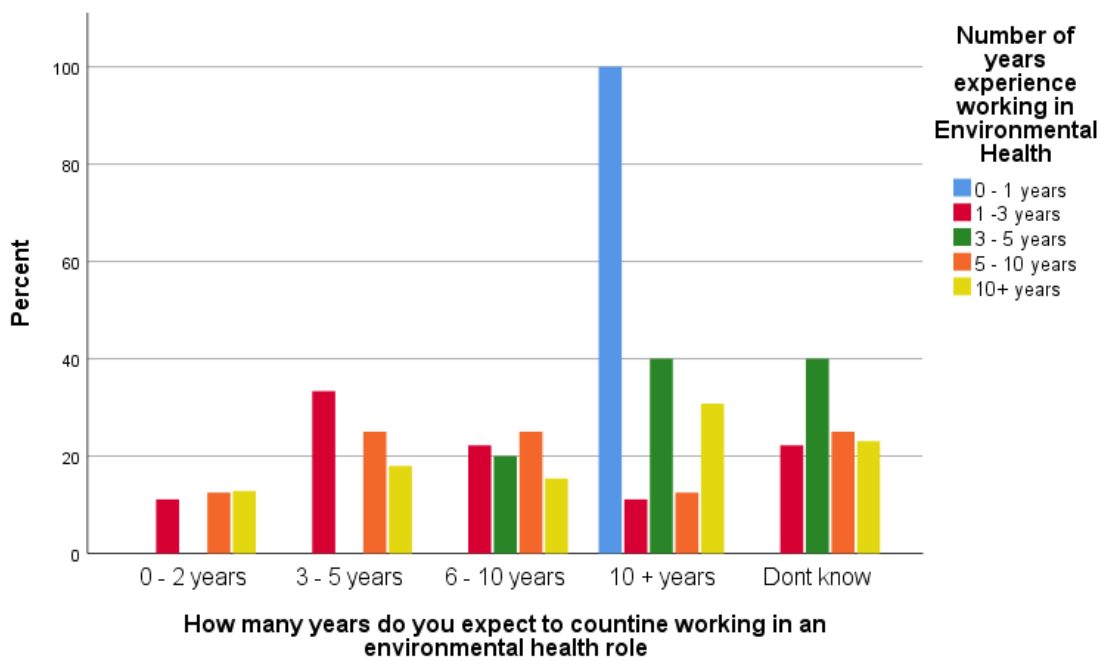


Figure 22: Number of years respondent expected to continue working in an environmental health role sorted according to number of years' experience (n=66)

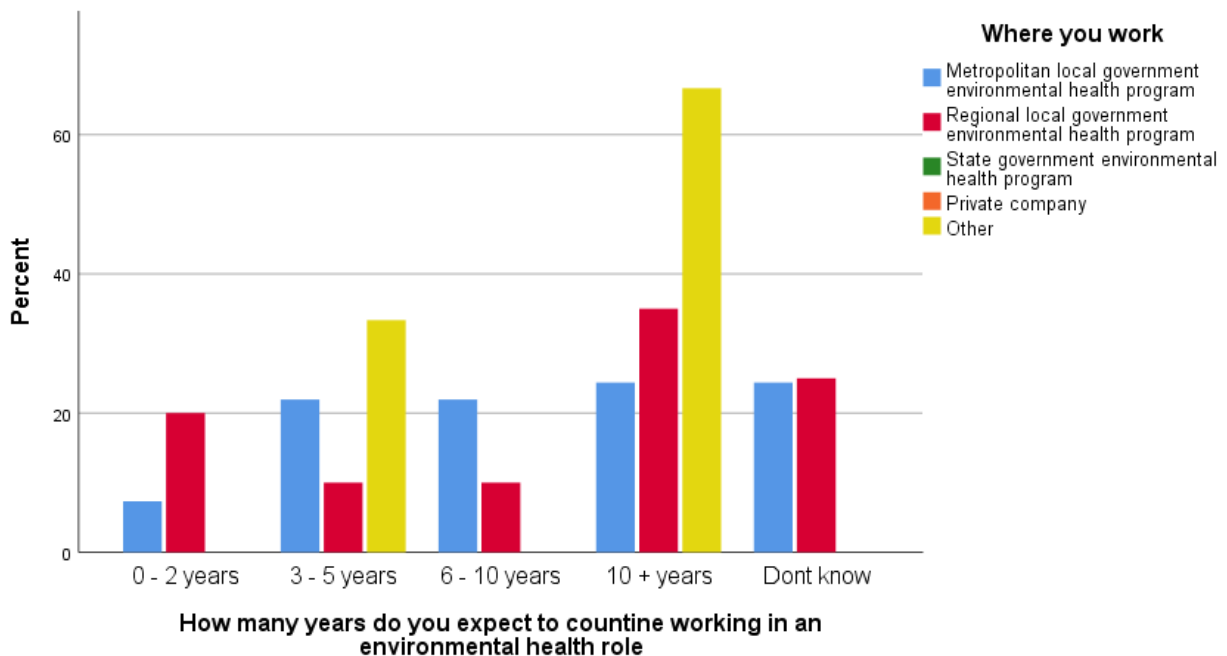
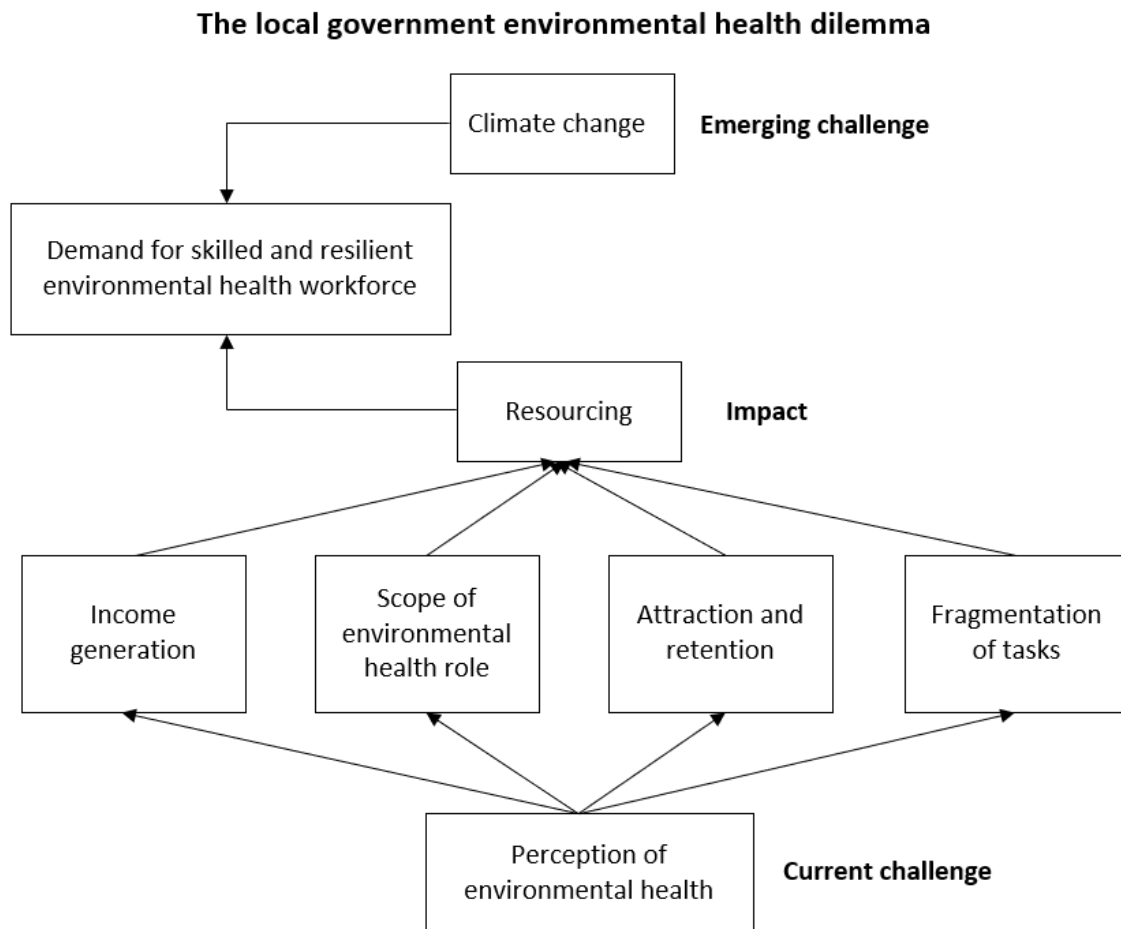


Figure 23: Number of years respondent expected to continue working in an environmental health role sorted according where they work (n=66)

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### 3.2.7 Future workforce challenges

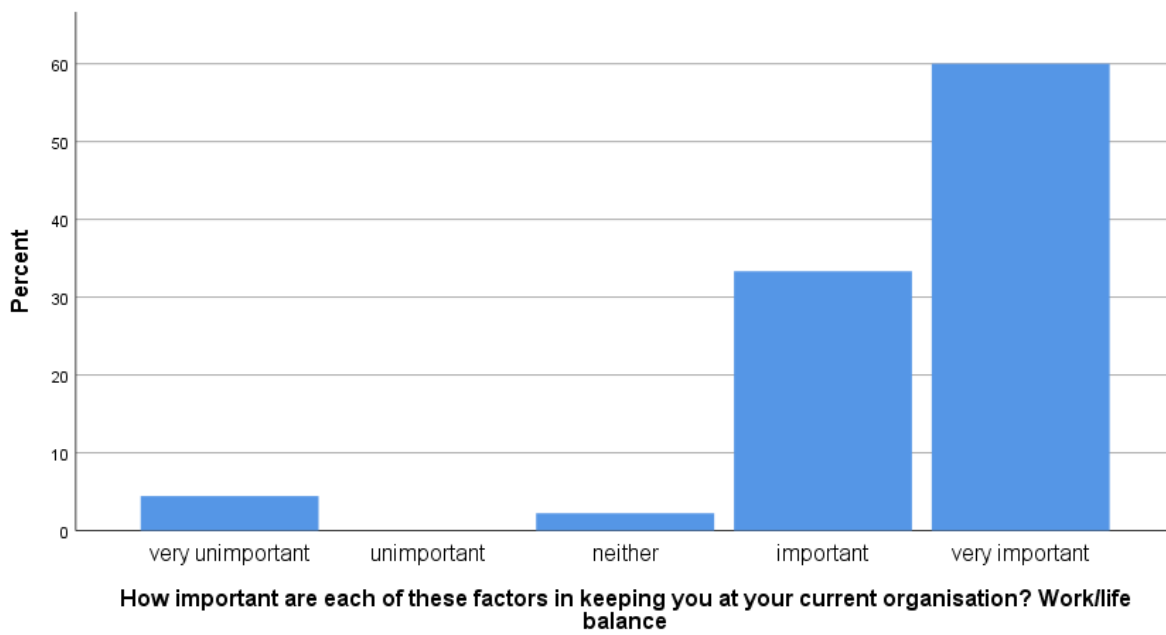
During the follow up interviews, views on the future challenges facing the South Australian environmental health workforce were discussed in further detail. Figure 24 summarises the local government environmental health dilemma as identified by participant responses and illustrates how current challenges are impacting the workforce's preparedness for future challenges. Resourcing and the need for an increased resilient and skilled environmental health workforce was the most commonly identified challenge. Participants stated that this was required to successfully deal with the emerging environmental health issues arising due to climate changes as well as increased population growth and urban development. Financial resource issues were considered to be one of the biggest barriers to ensuring an adequate workforce. *"A lack of income through environmental health as a general thing. It's hard to promote to council the need for additional resources probably when we can't offset that by other income streams in the work that we are doing. Obviously at some point a review of the fees and charges that councils are able to issue under the regulations as well"*. The current challenges that were considered to have an impact on resources all centred around a misperception and/or lack of recognition of the value of environmental health by both the community and within the organisation. This was attributed to a number of factors including the lack of income generation by environmental health teams, the scope of the environmental health role, fragmentation of tasks and workforce attraction and retention issues. It was also suggested that this misperception of environmental health could be in part be attributed to the focus on regulatory and reporting requirements. Notably it was suggested that if SA Health required environmental health to be involved in a broader range of local governments issues (planning, development etc) and required them to report on these issues, then the councils would be forced to adequately resource this. Much of this responsibility falls to EHOs within local government. *"So whatever SA health requires for us to report, or councils to report on, councils will put that at the top of their agenda in terms of EHO staff."* However, currently this is not the case and reporting is often streamlined to simply report number of inspections etc.



**Figure 24: The South Australian local government environmental health dilemma as identified from survey and interview responses**

### 3.2.8 Job satisfaction

Respondents were asked how important a series of factors were at keeping them at their current organisation (Figures 25-31). Ranking the factors that keep individuals at their current job based on the number of ‘very important’ responses identified that work/life balance was the most important with 60% (27/45) identifying this as ‘very important’ (Figure 25). Over 90% of respondents rank work-life balance as either important or very important. This differs from the survey reported in 2012, where work-life balance was ranked as important by 50% of respondents (choosing 1, 2 or 3/7 where 1 is most important and 7 is least), but also ranked as low in importance by 40% of respondents (5, 6, or 7/10) (Environmental Health Australia [South Australia], 2012).



**Figure 25: Importance of work/life balance (n=45)**

“I like the work I do” was important or very important for keeping respondents at their organisation, with over 90% indicating that it was important or very important factor. This is an increase compared with the responses to the 2012 survey, with only 50% of respondents indicating 5, 6, or 7/10, where 7 is an important factor) (Environmental Health Australia [South Australia], 2012).

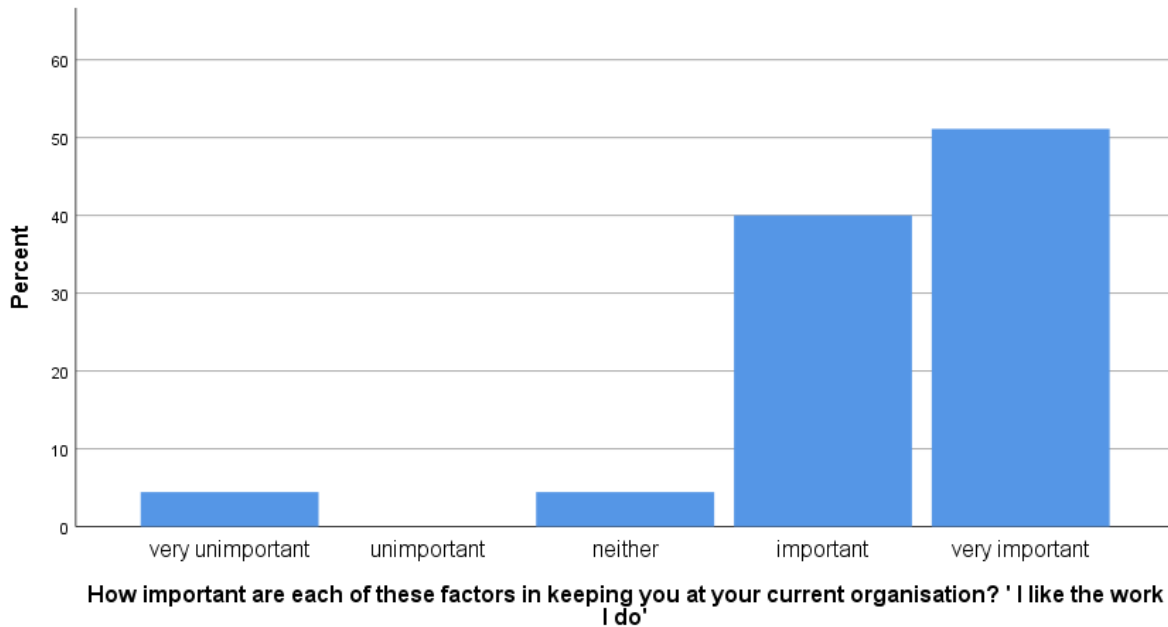
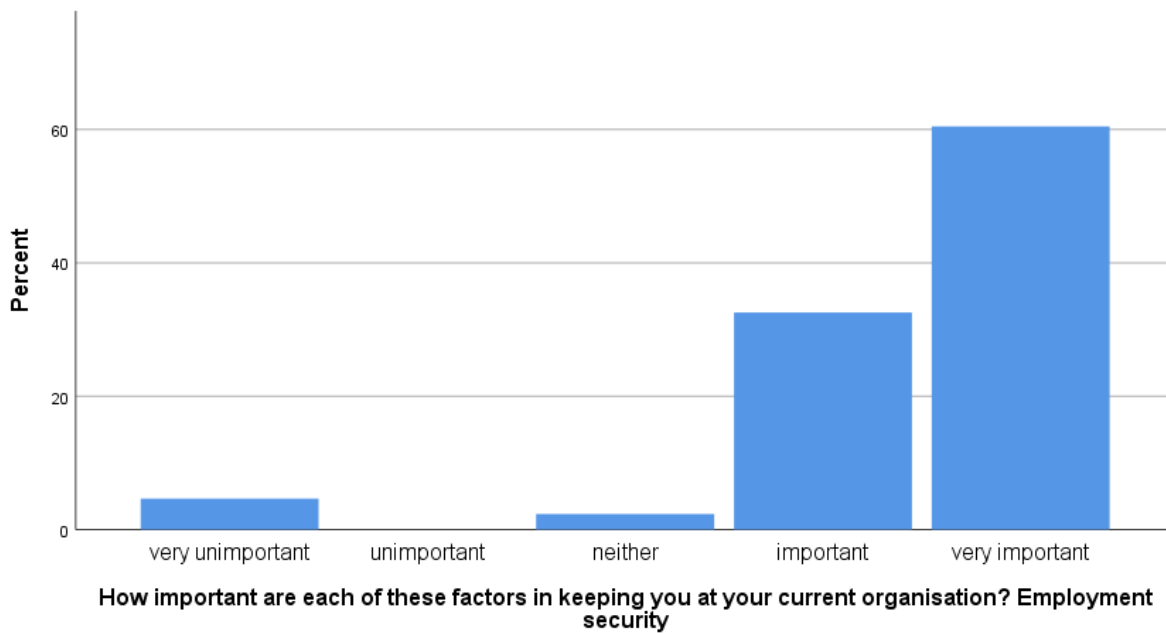


Figure 26: Importance of liking the work you do (n=45)

This was followed by employment security which over 80% ranked as important (10/43) or very important (26/43). This is higher than the 2012 results, with only 73% of respondents in that survey indicating that employment security was a factor at keeping them in their job (choosing 1, 2, 3 or 4/7 where 1 is most important and 7 is least), suggesting that job security is increasingly important.



**Figure 27: Importance of employment security (n=43)**

Other factors that were seen as important included employment conditions with 58% (26/45) indicating that it was very important, and the percentage considering it “important” and “very important” (combined) was 93.3%.

Other factors considered “very important” were: “a belief that my work is valuable” 42% (19/45), “relationships at work” 42% (19/45), “pay” 27% (12/45), and “close to home” 20% (9/45). When “important and “very important were combined, this increased “a belief that my work is valuable” to 88.9%, “relationships at work” to 91.1%, “pay” 91.1%, and “close to home” to 60%.

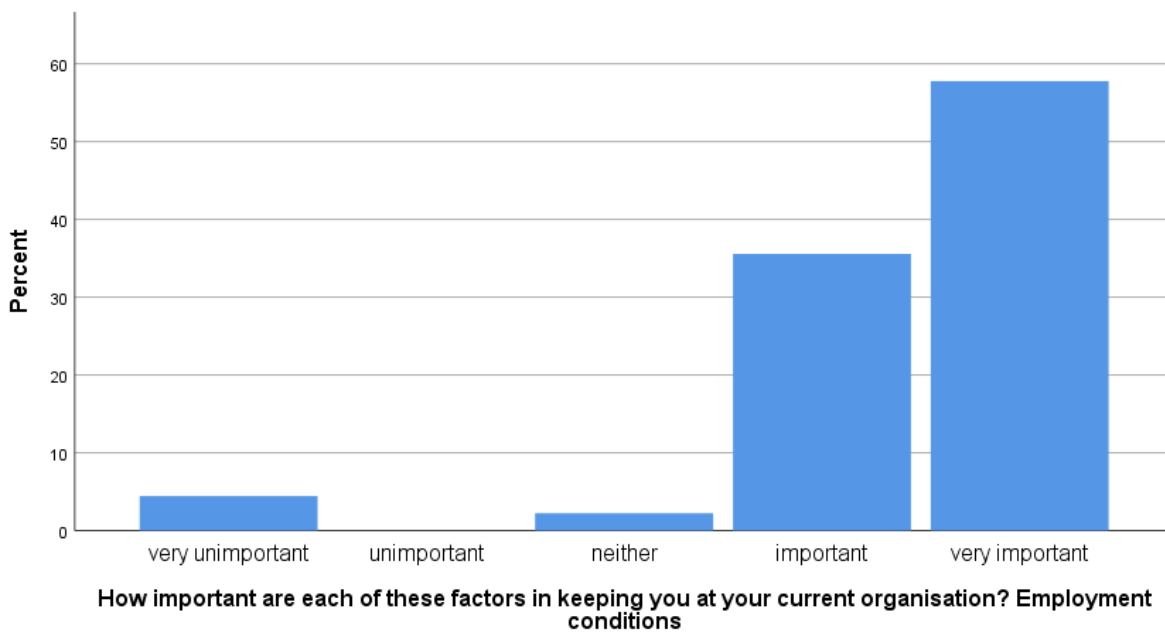


Figure 28: Importance of employment conditions (n=45)



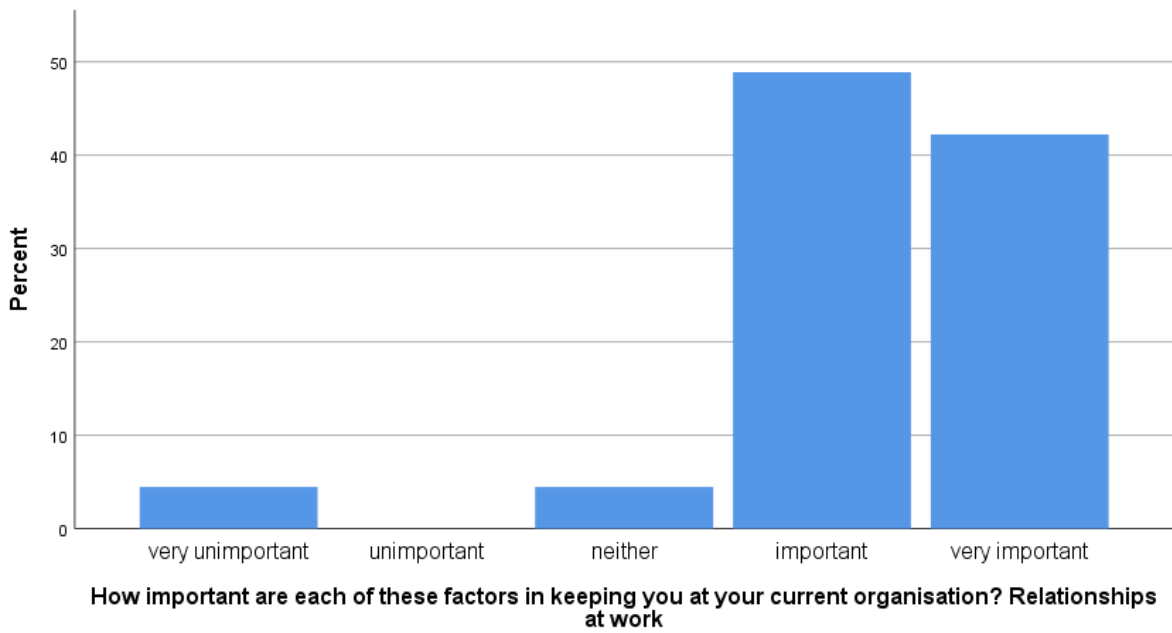


Figure 29: Importance of relationships at work (n=45)

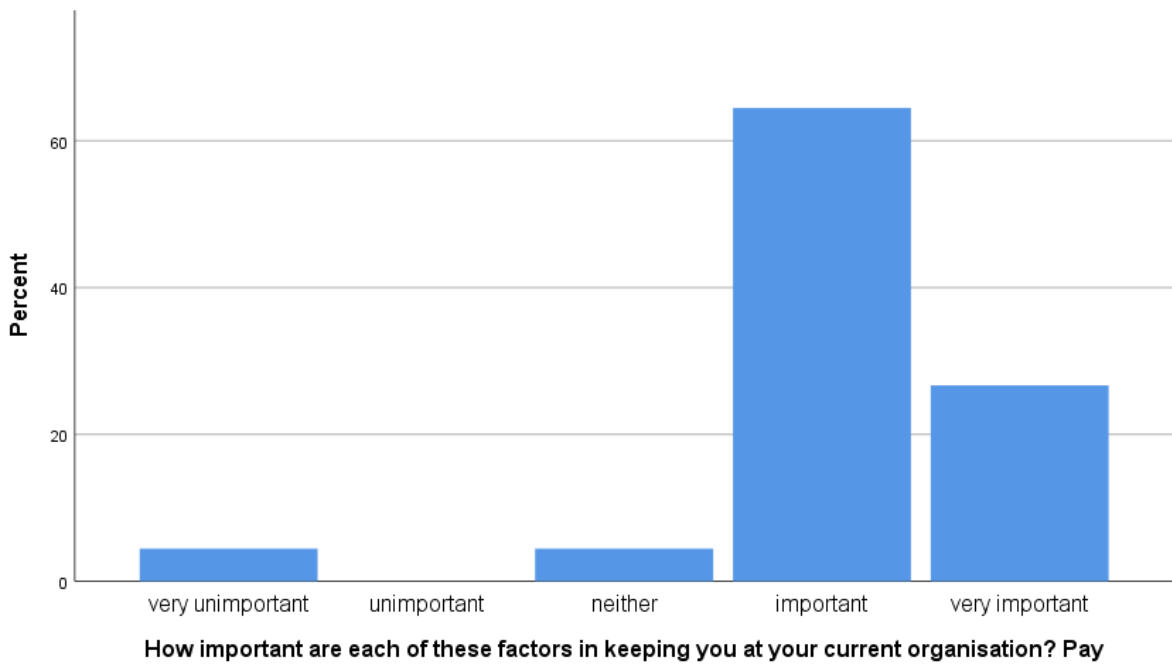
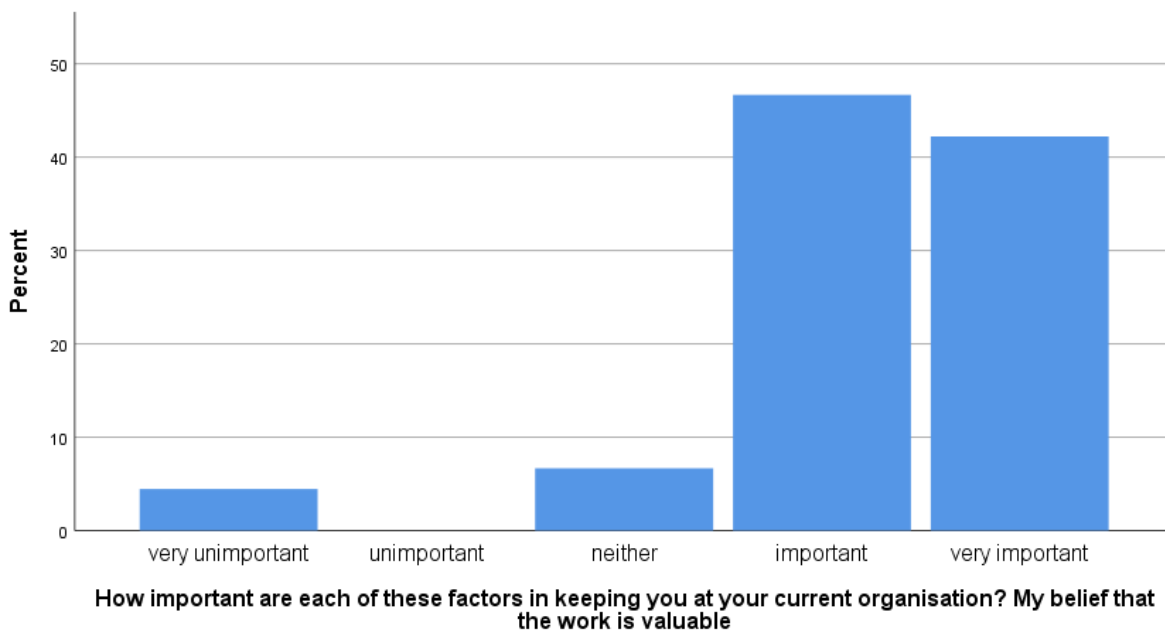


Figure 30: Importance of pay (n=45)



**Figure 31: Importance of belief that the work is valuable (n=45)**

### 3.2.9 Recognition

The majority of respondents answered that environmental health was ‘somewhat’ valued (33%, 21/64) in their organisation. Interestingly, of the other respondents, half felt (valued to a very high degree (13%, 8/64) and the other half to a very low degree (8%, 5/64) (Figure 32). When these data were sorted based on the type of workplace (Figure 33), no difference was observed in the answers provided by metropolitan compared with rural local government environmental health teams. This contrasts with data presented in Figure 34, which shows that the respondents working in workplaces with larger environmental health teams tended to feel more valued.

Respondents were provided with a free text answer and asked to identify what strategies they used to raise the profile of environmental health within their organisation. The most common answers were through internal communications (e.g. social club, newsletter, presentations, annual report) (n=10), external communication (e.g. media engagement, social media, website) (n=7) and through the role of environmental health officers in the response to COVID-19 (n= 7). Other responses included taking on other roles and projects, making sure environmental health is present and involved in many projects and discussion opportunities, and engaging with different departments within the organisation.

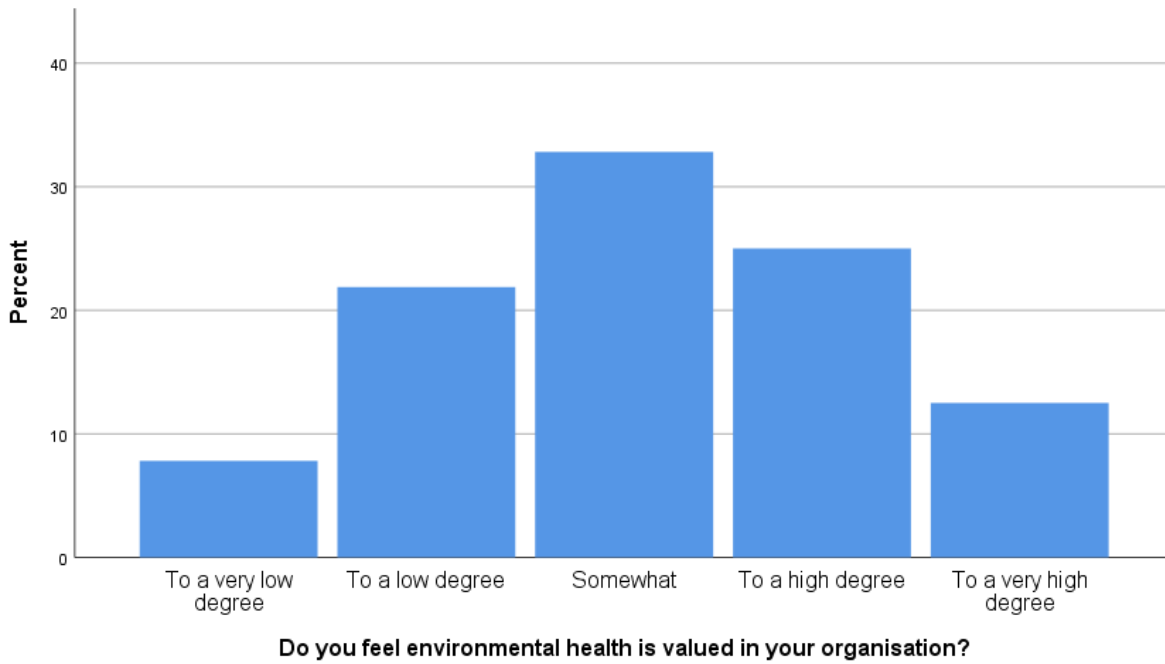


Figure 32: Recognition of importance of environmental health within the workplace (n=64)

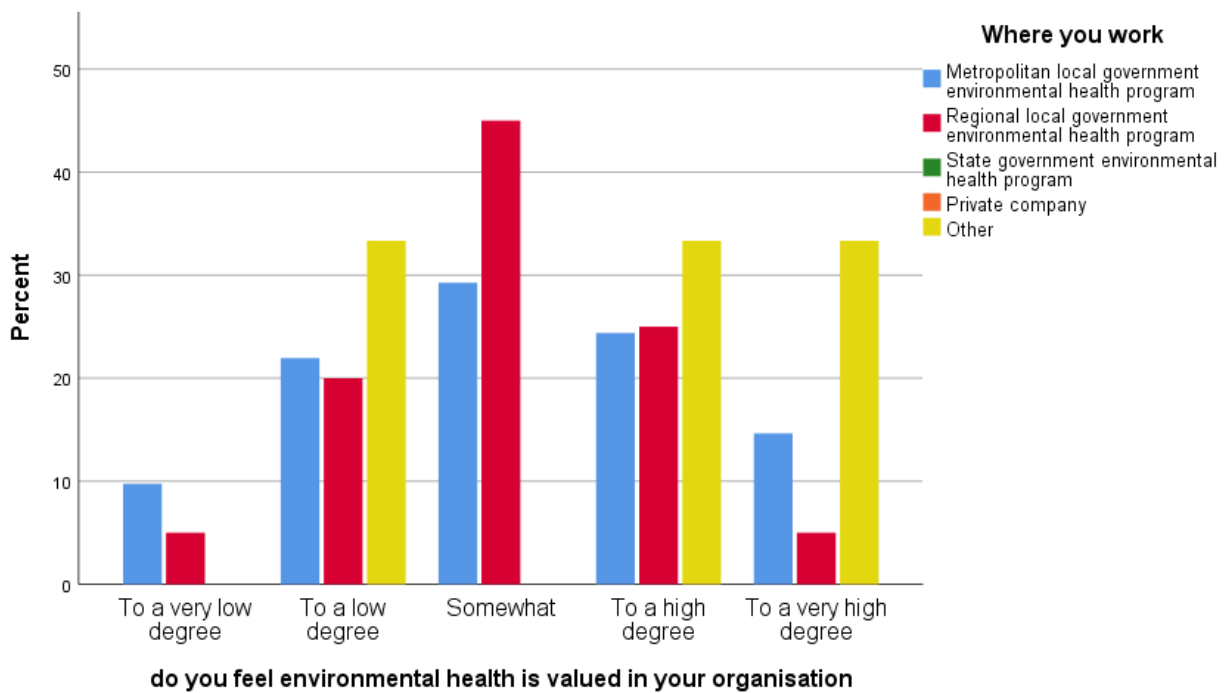
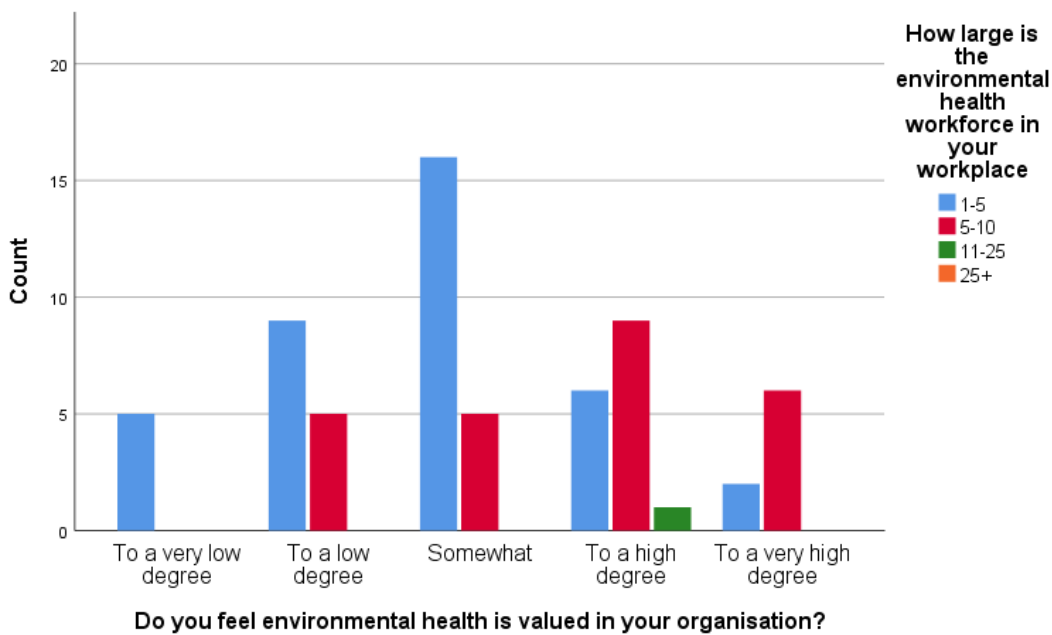


Figure 33: Recognition of importance of environmental health within the workplace sorted by type of workplace (n=64)



**Figure 34: Recognition of importance of environmental health within the workplace sorted by size of environmental health team (n=64)**

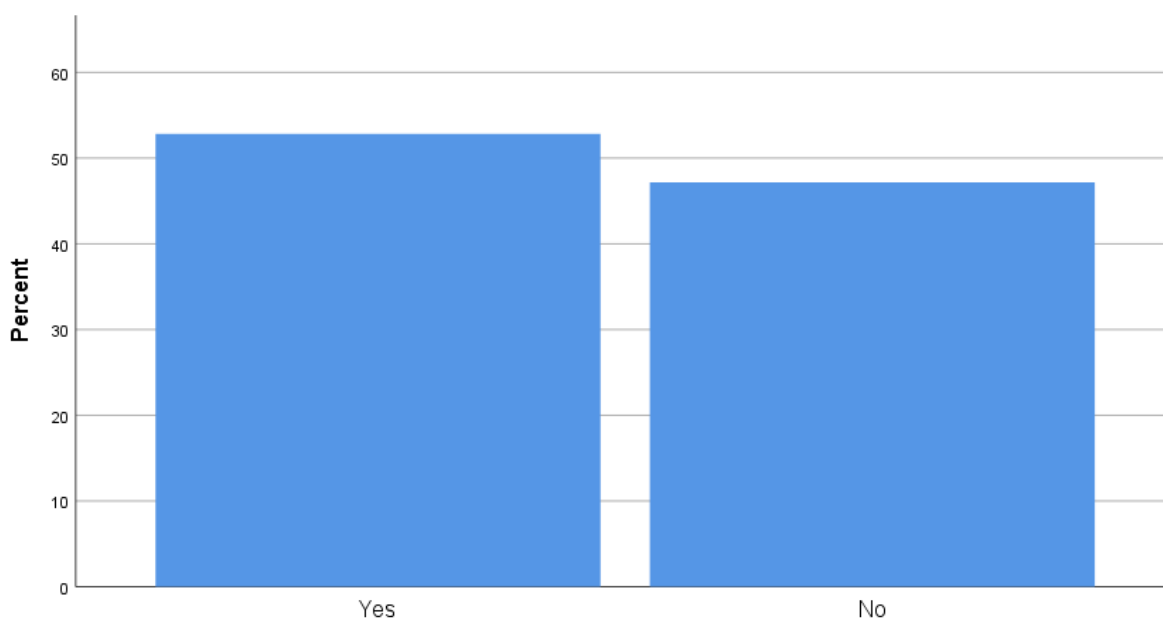
### 3.3 Response to COVID-19

In the free text box provided, respondents indicated that they had been involved in a number of activities relating to their organisation’s response to COVID-19. The most common responses were education and communication (internally and externally) (n=23), and monitoring and reporting compliance with directions (n=19). Other responses included completing internal risk assessments, internal planning and response, supporting airport security procedures and border closures. However, 53% of respondents (28/53) indicated that they felt they could have been better utilised by their organisation (Figure 35). There was no difference observed between rural and metropolitan local government respondents (Figure 36). For those respondents who answered ‘yes’, a free text box was provided for them to provide some examples of the roles they could have undertaken. This included contact tracing (n=6), greater involvement/leadership in internal decision making and response (n=13), more engagement with aged care facilities (n=1) and the community through education (n=1).

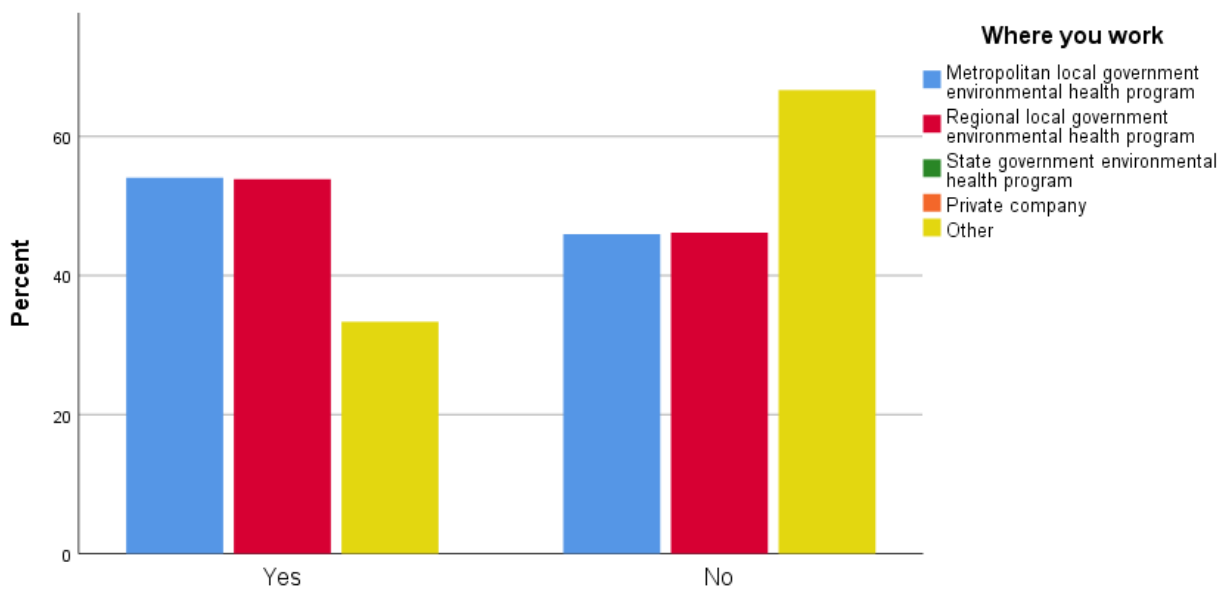
In the follow up interviews these responses were explored in more detail. During these interviews it was identified that LG EHOs obtained advice primarily from the Local Government Functional

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Support Group (LGFSG). The support offered by the LGFSG was almost universally praised. Other advice came from SA Health and the South Australian Police (SAPOL) which was found to be significantly less helpful and often conflicted with the LGFSG directives or was not delivered in a timely way. The speed at which directives changed was a big challenge and due to this the daily LGFSG meetings were seen as valuable. *“The LGA meetings every morning was quite good just to update what was happening and what they wanted us to do”.*



**Figure 35: Response to the question “Do you feel you could have been better utilized in the response to COVID-19?” (n=53)**



**Figure 36: Response to the question “Do you feel you could have been better utilized in the response to COVID-19?” (n=53) sorted according to type of workplace (n=53)**

The response to the COVID-19 pandemic has highlighted that the environmental health profession possesses skills and knowledge that are transferable to other areas in times of need. This was shown by 86% (50/53) of respondents agreeing, or somewhat agreeing, that during COVID-19 they were tasked with responsibilities outside their normal scope of work (Figure 37). Notwithstanding, 97% (56/58 agreed or somewhat agreed) acknowledged that these additional responsibilities had an environmental health focus (Figure 38). Eighty one percent of the respondents felt they were adequately trained to complete these tasks (46/57 agreed or somewhat agreed) (Figure 39).

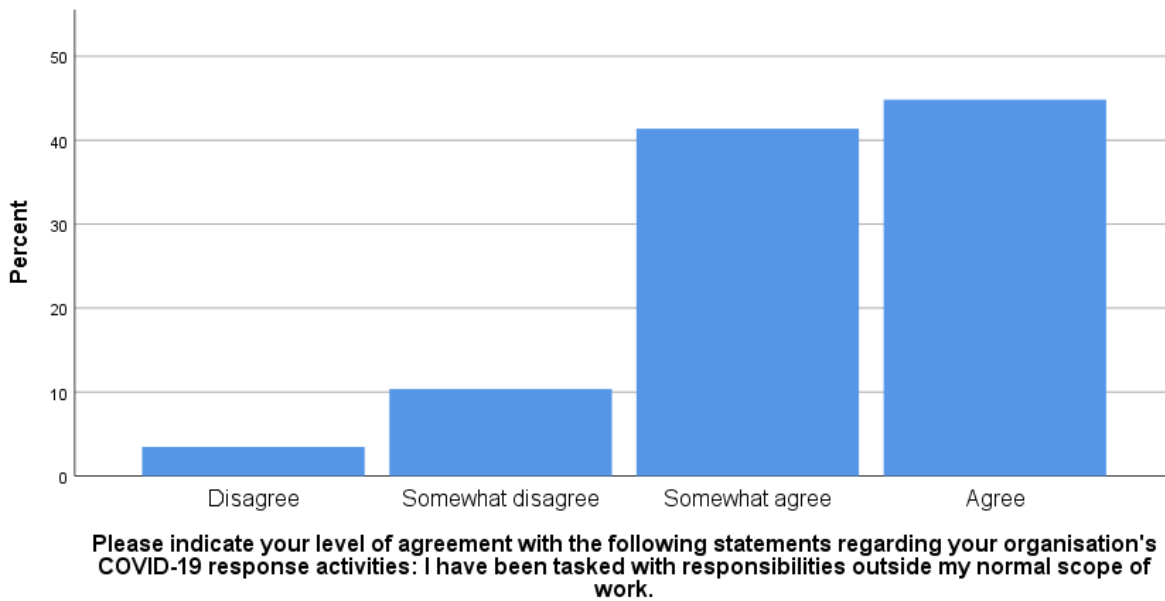


Figure 37: Scope of COVID-19 related activities (n=58)

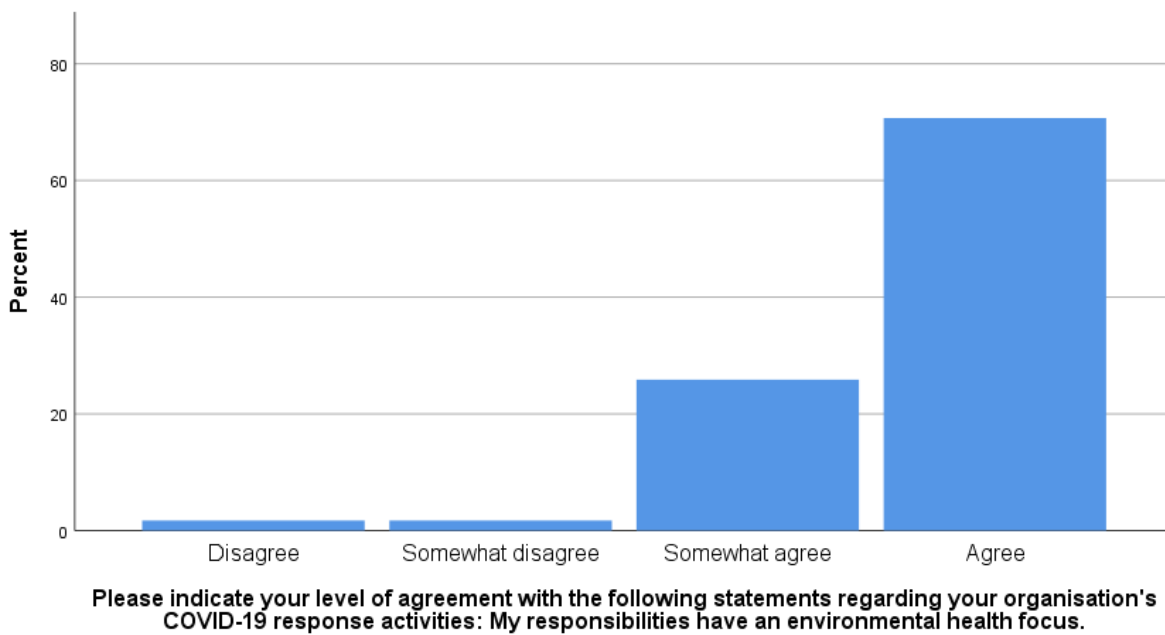
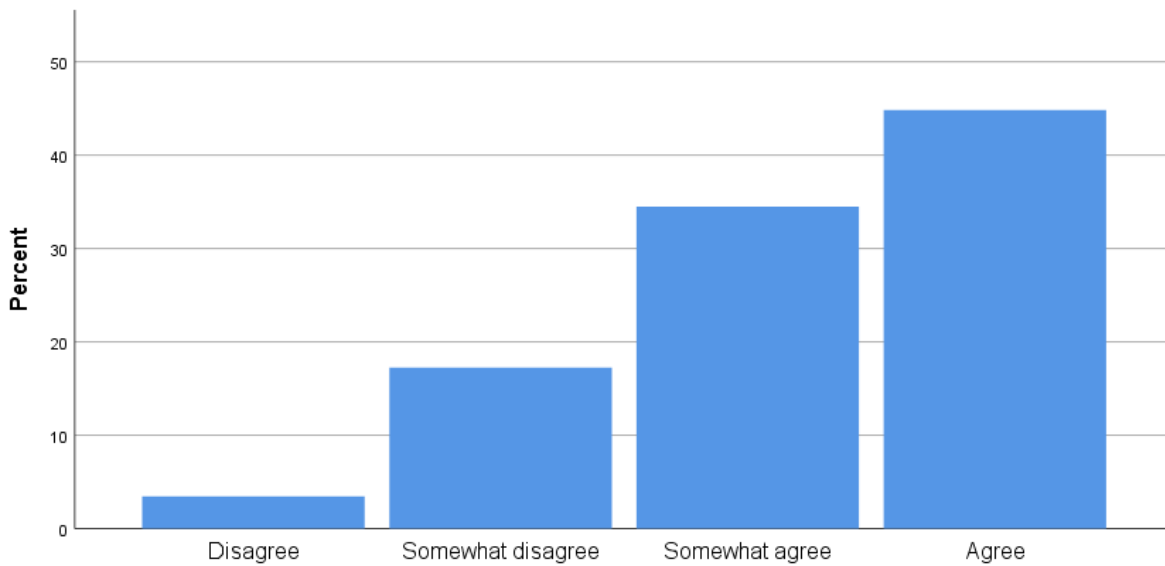


Figure 38: Did COVID-19 related tasks have an environmental health focus (n=58)

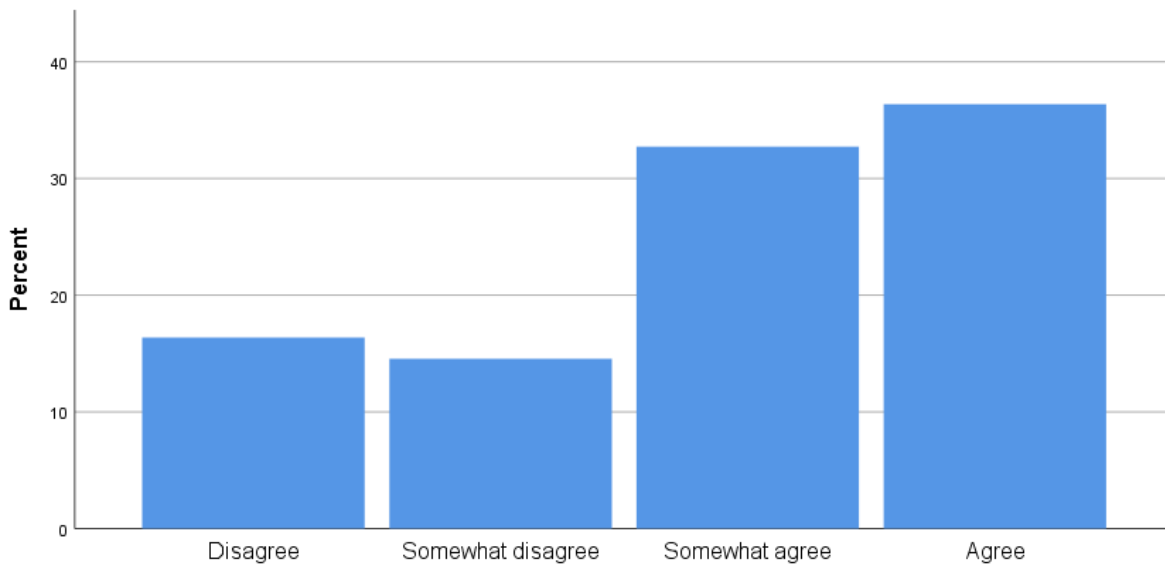


Please indicate your level of agreement with the following statements regarding your organisation's COVID-19 response activities: I have been adequately trained to complete my assigned duties.

**Figure 39: Were participants adequately trained to complete assigned COVID-19 related tasks (n=57)**

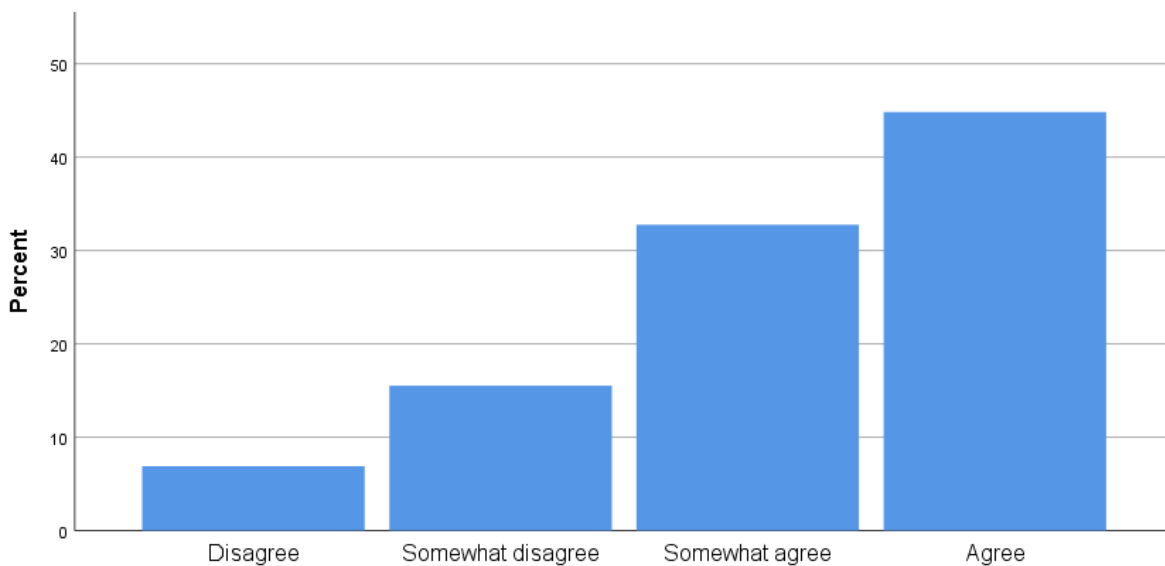
Overall, workplace safety during COVID-19 was taken seriously by employers, with 70% of respondents (38/55 agreed or somewhat agreed, Figure 40) indicating that they were regularly asked about safety concerns and 76% (45/58 agreed or somewhat agreed, Figure 41) stated that they received frequent communications about workplace safety. Encouragingly, 89% (51/57 agreed or somewhat agreed, Figure 42) were provided with adequate personal protection equipment (PPE) by their organisation. Sixty seven percent indicated they had a sufficient number of employees to conduct the work needed (39/58 agreed or somewhat agreed, Figure 43) and 86% (48/56 agreed or somewhat agreed, Figure 44) stated they had access to adequate environmental health COVID-19 situations reports and updates.





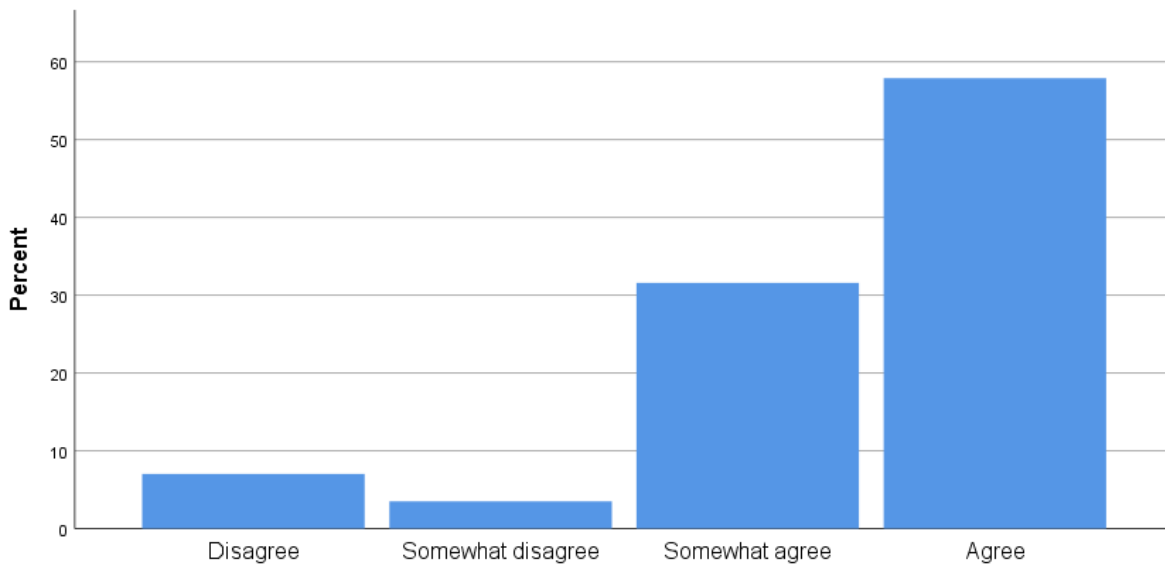
Please indicate your level of agreement with the following statements regarding your organisation's COVID-19 response activities: Employees are regularly asked about safety concerns.

Figure 40: COVID-19 workplace safety concerns (n=55)



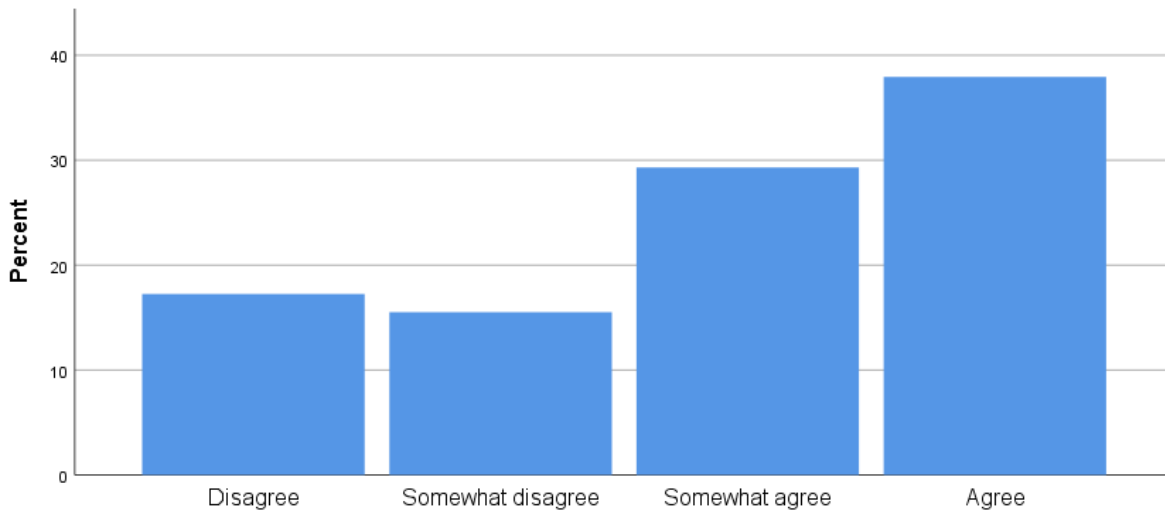
Please indicate your level of agreement with the following statements regarding your organisation's COVID-19 response activities: There are frequent communications about safety in the workplace.

Figure 41: Work health and safety communications during COVID-19 (n=58)



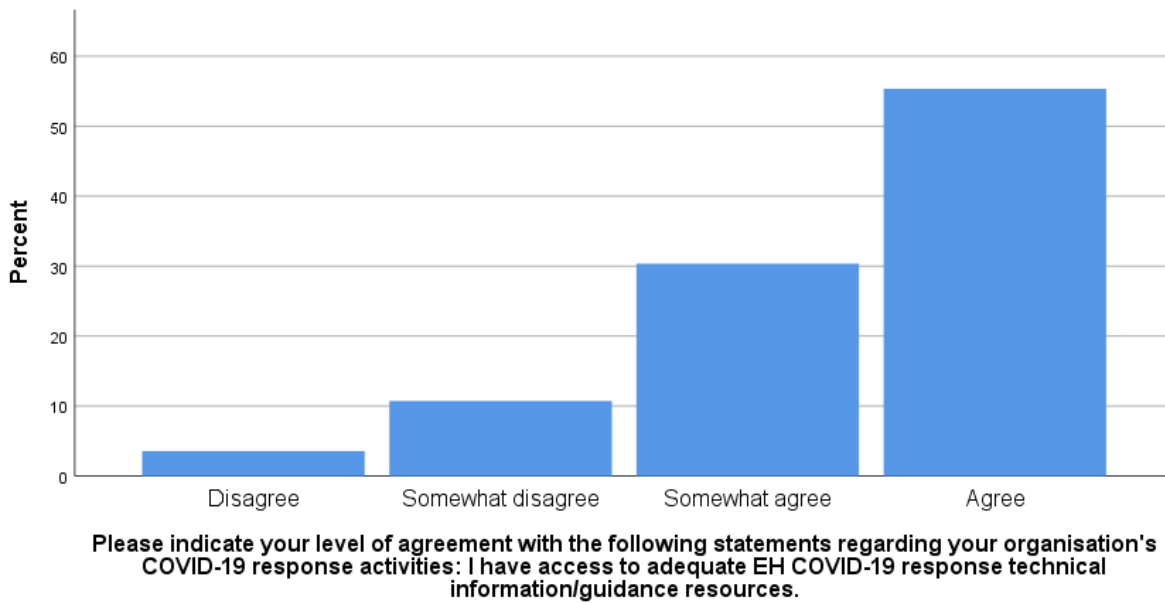
Please indicate your level of agreement with the following statements regarding your organisation's COVID-19 response activities: My organisation provides me with adequate PPE to use in the field.

Figure 42: Level of PPE provided by employer (n=57)



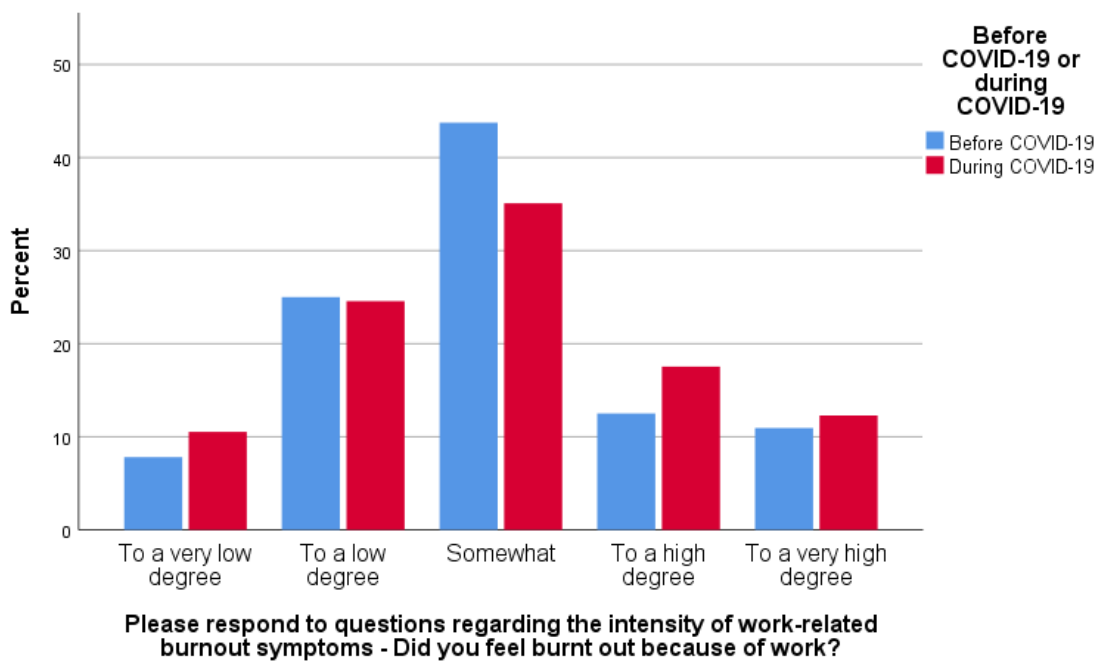
Please indicate your level of agreement with the following statements regarding your organisation's COVID-19 response activities: There are a sufficient number of employees to conduct the work needed.

Figure 43: Workforce concerns during COVID-19 (n=58)

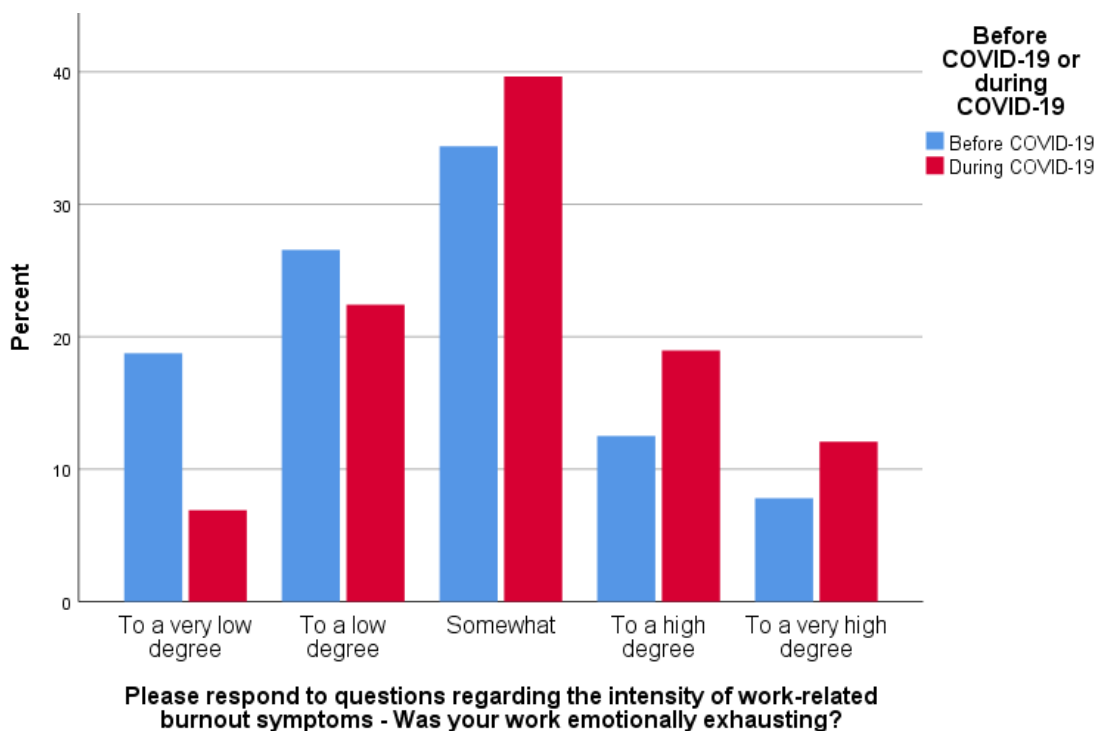


**Figure 44: Access to adequate environmental health COVID-19 situations reports and updates (n=56)**

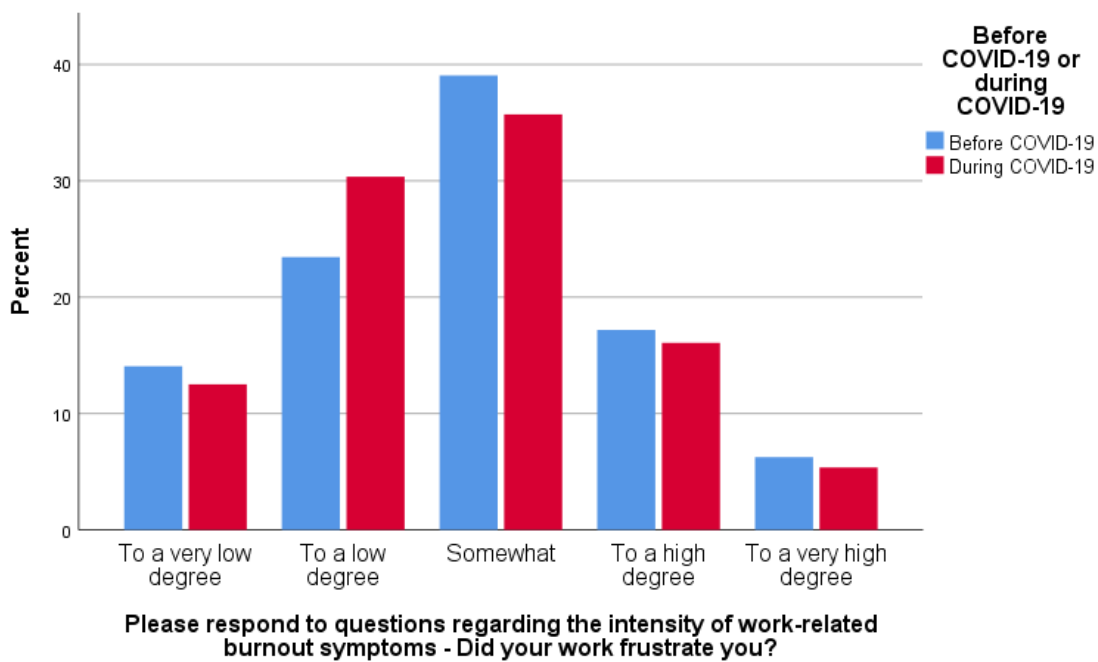
Figures 45 – 50 present the responses to questions relating to burnout, emotional exhaustion, frustration, feeling worn out or tired, and having enough time for leisure. These figures show that overall, burnout symptoms increased slightly during COVID-19 (with 23% of respondents answering to a high or very high degree in answer to the question “Did you feel burnt out because of work?” before COVID-19, increasing to 26% during COVID-19), as did emotional exhaustion (with 20% of respondents answering to a high or very high degree in answer to the question “Was your work emotionally exhausting?” before COVID-19, increasing to 31% during COVID-19). This differed from respondents’ answers to questions related to frustration and being worn out and tired, which decreased during COVID-19. Interestingly, feeling worn out at the end of the day decreased during COVID-19 by 11% (from 44% to 33% of respondents answering “often” or “always” to the question “Did you feel worn out at the end of the day?”), and frustrated (a decrease from 23% to 21% of respondents answering “often” or “always” to the question “Did your work frustrate you?”). Nine percent of respondents indicated that they did rarely had enough energy for leisure (increased to 15% during COVID-19), and none indicated that they never have enough energy.



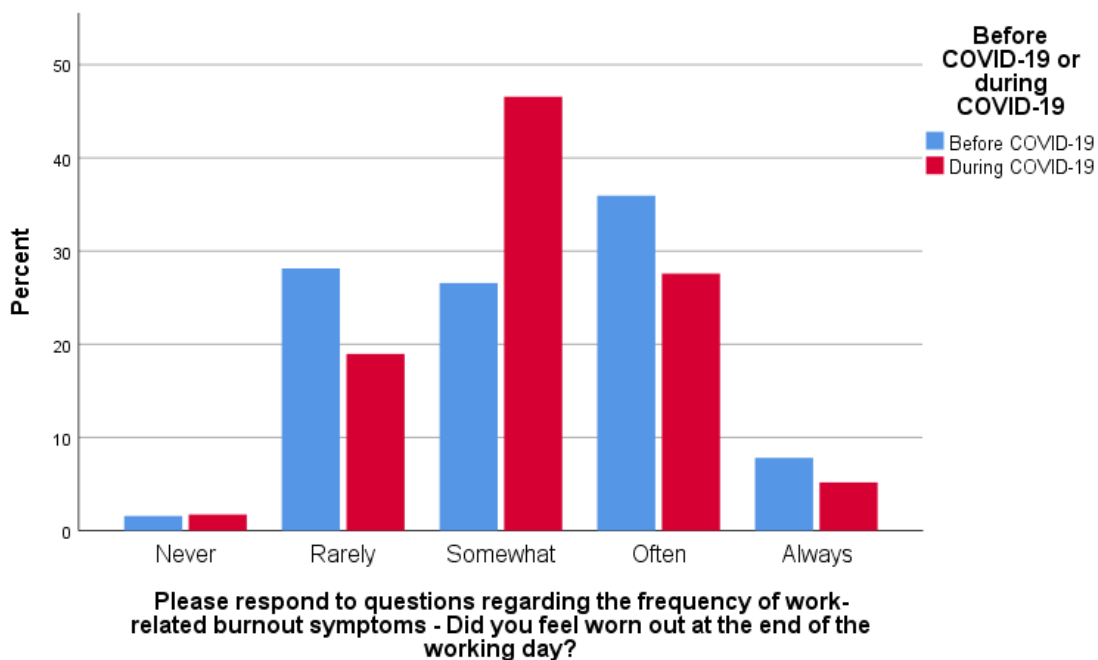
**Figure 45: Intensity of work related burnout symptoms prior to and during COVID-19. Did you feel burnt out because of work? (n=66)**



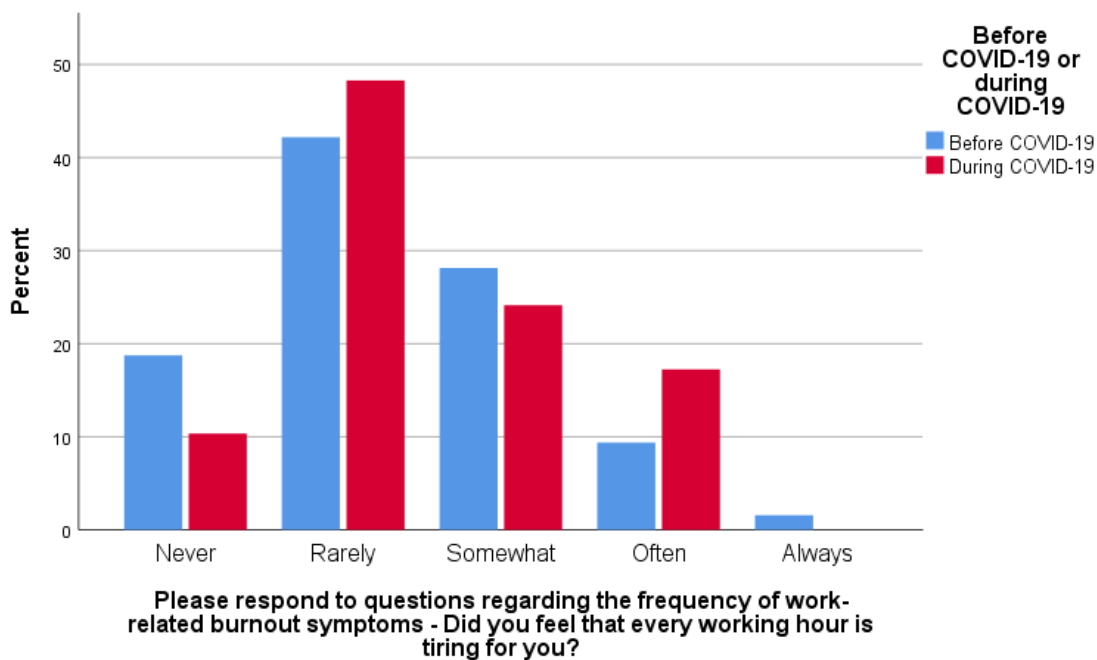
**Figure 46: Intensity of work related burnout symptoms prior to and during COVID-19. Was your work emotionally exhausting? (n=66)**



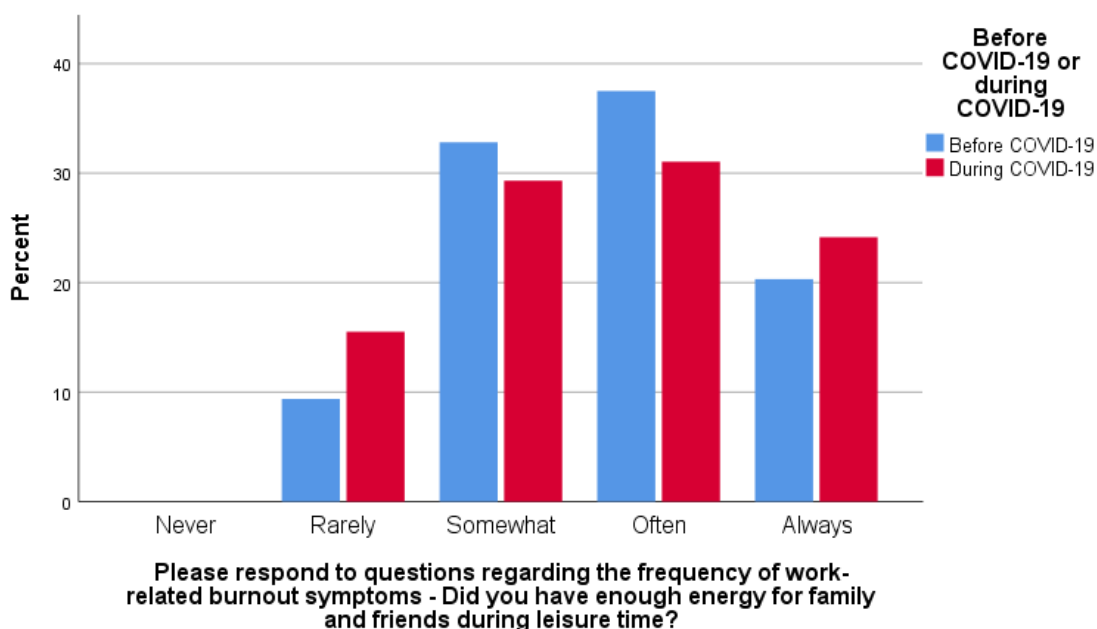
**Figure 47: Intensity of work related burnout symptoms prior to and during COVID-19. Did your work frustrate you? (n=66)**



**Figure 48: Frequency of work related burnout symptoms prior to and during COVID-19. Did you feel worn out at the end of the working day? (n=66)**



**Figure 49: Frequency of work related burnout symptoms prior to and during COVID-19. Did you feel that every working hour is tiring for you? (n=66)**



**Figure 50: Frequency of work related burnout symptoms prior to and during COVID-19. Did you have enough energy for family and friends during leisure time? (n=66)**

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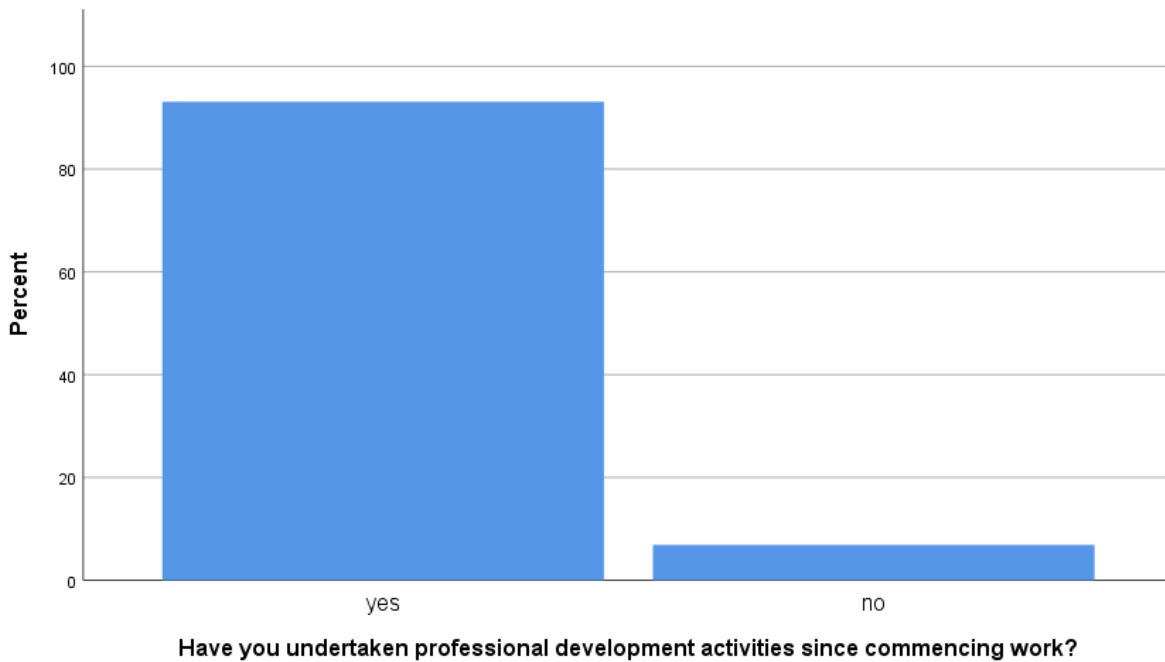
### 3.4 Professional development

Ninety three percent (54/58) of respondents indicated that they have undertaken professional development training (Figure 51). When provided a free text box and asked to name these training courses, the most frequently identified included training conducted by EHA including legionella and cooling towers, hoarding and squalor, clandestine methamphetamine laboratories, tattoo inspections and attendance at Special Interest Group meetings and EHA conferences. Training through the LGA included emergency management and project management courses and through SA Health wastewater compliance and the food safety rating scheme training. Other courses, or areas of professional development training which had been undertaken included food auditing, plumbing, risk assessment, leadership, influencing behaviour, strategic planning and mental health first aid.

When asked with a free text box around what additional training respondents would like, many of the responses above were provided. However, some additional areas identified for professional development included:

- modern communications,
- media training,
- interview techniques,
- conflict resolution,
- infection control,
- more on resilience/mental health training,
- stakeholder engagement,
- project management and decision making,
- budget management, and
- biological and nuclear response and using the General Duty [under the SA Public Health Act].

When asked specifically about training needs relating to COVID-19, the most common responses included infection control, communications, SRFs, aged care centres, pandemic emergency plans/emergency response, and leadership. Most individuals identified that they preferred professional development training to be delivered face to face, with some indicating that they preferred a mixed model of delivery (some content delivered online and some face to face).



**Figure 51: Professional development (n=58)**

## 4. Discussion

### 4.1 Workforce changes

There has been a shift in the gender balance of the SA environmental health workforce, with females making up 41% of the workforce in 2004, 51% in 2020 and 67% in 2021. The workforce is also increasing in experience. In 2010, 38.8% of EHOs had more than 10 years of experience (Environmental Health Australia [South Australia], 2012) and this has increased to 61% in 2021. In South Australia, to practise as an EHO and an authorised officer under the Public Health Act the EHO must hold the necessary qualifications. In the 1980s to early 1990, that was recognised as a TAFE course. In the early 1990s this was replaced by a Bachelor degree offered by Flinders University until 2009, when it was replaced by a Graduate Diploma in Environmental Health Practice (Environmental Health Australia [South Australia], 2012). This is a significant change since last time these data were collected, in 2004, when 61% of practicing EHOs were university educated (EHO Workforce Review Working Group [South Australia], 2004). There was a roughly even split between those with a bachelor’s degree (38%, 25/66) and a postgraduate degree (35%, 23/66). Flinders University is the primary educator for the South Australian environmental health



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workforce, with 67% (44/66) of respondent receiving their qualification from Flinders University (Figure 5).

Workforce shortage and lack of resources was identified as an important workforce issue both in 2010 and today. In 2021, 32% of respondents indicated they did not currently have enough support to carry out their roles and responsibilities. However, retention of the current workforce appears to have slightly improved. In 2010, 47.3% indicated they have a career with their current employers and will stay there for the foreseeable future (Environmental Health Australia [South Australia], 2012). This has increased to 63% in 2021. The 2010 survey did not identify whether individuals were planning on changing employers or leaving the environmental health profession all together; however, in 2021 only 17% of individuals indicated they planned on leaving the environmental health profession within two years. This improvement in retention could reflect the positive response received around job satisfaction and employment conditions. When asked to identify factors that were very important to keeping them with their currently employer, employment conditions, work life balance and employment security received the higher number or 'very important' responses; however, the belief that the work is valuable, relationships at work, and pay were also identified as "important" or 'very important' by the majority of participants. This is positive for the workforce and should be highlighted in future recruitment campaigns.

Follow up interviews identified a potential dilemma facing local government environment health, with participants believing that the current challenges around the misperception of environmental health were having a negative impact on resourcing, which in turn was impacting the preparedness of the profession to deal with emerging challenges arising due to climate change (Figure 24). It was suggested that an increased recognition of environmental health within local government would lead to an increased allocation of resources, and that this could potentially be achieved by SA Health changing the reporting requirements of local governments from a purely regulatory focus to a broader implementation of environmental health. This would help shift the revenue narrative around the number of inspections to values around improved public health protection within the community.

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## 4.2 Workforce response to COVID-19

As noted above, the survey of emotional wellbeing indicated that burnout symptoms increased slightly during COVID-19, as did emotional exhaustion. This was significantly lower than the responses in the NEHA (US) survey, which reported that 54% of respondents felt burnt out because of work, and 74% of respondents found their work emotionally exhausting (compared with 23-26% and 20-31% respectively for SA respondents). As also noted above, respondents' answers to questions related to frustration, being worn out and tired decreased during COVID-19. South Australia compared favourably with the US in this regard too, with 23% before COVID-19, and 21% during COVID-19 indicating that their work frustrated them, compared with 44% of US respondents to the same question. This was supported by South Australia comparing favourably with the US in response to the question "Do you feel work out at the end of the working day?", to which 44% responded to a high or very high degree before COVID-19, and 33% during COVID-19, compared with 67% of US respondents to the same question (National Environmental Health Association, 2021). Interestingly, feeling worn out at the end of the day decreased during COVID-19 by 11% (from 44% to 33% of respondents answering "often" or "always" to the question "Did you feel worn out at the end of the day?"). Only nine percent of respondents indicated that they did rarely have enough energy for leisure (increased to 15% during COVID-19), and none indicated that they never have enough energy. This suggests that overall, the COVID-19 pandemic did not negatively impact on EHOs' working lives significantly, especially when compared to the workforce responses coming from the United States.

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## 5. Key findings / Recommendations

- In the response to COVID-19, the SA environmental health workforce was used to varying degrees and varying roles by local government, although notably half the workforce believe they could have been better utilised, and the other half believing they were well utilised. The most common roles included education, and communication (both internally and externally) as well as monitoring and reporting compliance with directions.
- The SA Local Government Functional Support Group was praised by the environmental health workforce. It was successful in communicating directions in a timely fashion and should be included in future emergency management / pandemic plans.
- Compared with the United States environmental health workforce, SA EHOs have been adequately supported and resourced during COVID-19 and consequently have not suffered serious burn out.
- A lack of resources resulting in a workforce shortage, increasing workload and lack of support was identified as the crucial future workforce concerns impacting on the preparedness of the profession to deal with emerging challenges arising due to climate change.
- Retention of current workforce seems to be less of an issue compared with 2010.
- The current workforce has good working conditions and work life balance. The overall view of the profession is positive. This information should support future recruitment drives.
- Financial constraints were identified as a key driver of the workforce shortage. This could be addressed through increasing the recognition of environmental health. It was suggested that this could be achieved by SA Health changing local government environmental health reporting requirements from purely regulatory to a more holistic approach to public health protection.
- The recognition of the importance of environmental health varied largely between councils. Future research should be conducted to identify what some councils are doing well to raise the profile of the profession and ensure adequate resources.

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## 6. References

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- PUBLIC AND ENVIRONMENTAL HEALTH SERVICE [TASMANIA] 2005. Local Government Environmental Health Workforce Survey. Department of Health and Human Services Tasmania.

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## 7. Appendices

### 7.1 Appendix 1: Survey questions



[Information sheet eha 2020](#) Information sheet - click here if you would like to download information about this survey

*This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number: 2798).  
For more information regarding ethical approval of the project only, the Executive Officer of the Committee can be contacted by telephone on (08) 8201 3116, by fax on (08) 8201 2035, or by email to [human.researchethics@flinders.edu.au](mailto:human.researchethics@flinders.edu.au)*

#### Demographics

Which age group are you represented by?

- 20 - 30 years
- 31 - 40 years
- 41 - 50 years
- 50+ years

How would you describe your gender?

- Male
- Female
- Prefer to self describe as
- Prefer not to say

How many years have you been working in environmental health?

- 0 - 1 years
- 1 - 3 years
- 3 - 5 years
- 5 - 10 years

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10+ years

What environmental health qualifications do you hold?

Pre-degree (TAFE)

A bachelor's degree

A postgraduate degree

Other (please specify)

From what institution did you complete your environmental health qualification?

Flinders University

Western Sydney University

Central Queensland University

Griffith University

University of the Sunshine Coast

Edith Cowan University

Queensland University of Technology

Curtin University

Swinburne University of Technology

TAFE

Overseas

Other (please specify)

What year did you graduate?

### Recruitment, mobility and retention

Where do you work?

New South Wales

- Queensland
- South Australia
- Tasmania
- Victoria
- Western Australia
- Australian Capital Territory
- Northern Territory
- Outside Australia (please specify)
- Other (please specify)

What is your current role?

- Manager
- Coordinator/Team Leader
- EHO general
- EHO specialist (please specify)
- Other (please specify)
- No longer work in environmental health (please specify why not)

Where do you work?

- Metropolitan local government environmental health program
- Regional local government environmental health program
- State government environmental health program
- Private company
- Other (please specify)

How large is the environmental health workforce in your workplace?

- 1-5
- 5-10

- 11-25
- 25+

How long have you worked for your current employer?

- 0-2 years
- 3-5 years
- 6-10 years
- 10+ years

What is the nature of your employment contract?

- Permanent
- Casual
- Contract (term 0 to 1 year)
- Contract (term 0 to 3 years)
- Contract (term over 3 years)
- Employed by contractor

What hours do you work?

- full time
- 30-34 hours per week
- 16-29 hours per week
- Less than 16 hours per week

What is your travel time to work?

- 0-20 mins
- 20-40 mins
- 40 mins - 1 hr
- 1hr+



Do you think you are getting paid an amount commensurate with your role and experiences?

- Definitely yes
- Probably yes
- Probably not
- Definitely not

How important are each of these factors in keeping you at your current organisation?

	very unimportant	unimportant	neither	important	very important
'I like the work I do'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employment conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work / life balance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relationships at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employment Security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is close to home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My belief that the work is valuable for public health protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please respond to questions regarding the **intensity** of work-related burnout symptoms (please answer how you felt **before** COVID-19)

	To a very low degree	To a low degree	Somewhat	To a high degree	To a very high degree
Was your work emotionally exhausting?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you feel burnt out because of your work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	To a very low degree	To a low degree	Somewhat	To a high degree	To a very high degree
Did your work frustrate you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please respond to questions regarding the **frequency** of work-related burnout symptoms (please answer how you felt **before** COVID-19)

	Never	Rarely	Somewhat	Often	Always
Did you feel worn out at the end of the working day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Were you exhausted in the morning at the thought of another day at work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you feel that every working hour is tiring for you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you have enough energy for family and friends during leisure time?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select the response which best represents you:

- I have a career here and will stay for the foreseeable future
- I will probably move on within the next year or two but stay in environmental health
- I will probably move on within the next year or two and leave the environmental health profession
- I will be looking at leaving soon but staying in the environmental health profession
- I will be looking at leaving soon and leaving the environmental health profession

How many years do you expect to continue working in an environmental health role?

- 0 - 2 years
- 3 - 5 years
- 6 - 10 years
- 10 + years

Dont know

Do you perform roles other than environmental health as part of your current job?

Yes (please specify)

No

Do you have adequate support to carry out your role?

Yes

No (please specify what additional support you need)

Do you feel environmental health is valued in your organisation?

To a very low degree

To a low degree

Somewhat

To a high degree

To a very high degree

Please list any strategies you use to raise the profile of environmental health in your organisation.

### Professional development

Have you undertaken professional development/training activities since commencing work?

Yes (please specify what courses)

No (please specify why not)

What areas would you like more professional development training in?

How would you like professional development/training activities delivered?

### **Environmental health's role in the response to COVID19**

How has the environmental health workforce in your organisation been involved in the COVID-19 response?

Do you feel you could have been better utilized in the response to COVID-19?

Yes (please give some examples)

No

Please indicate your level of agreement with the following statements regarding your organisation's COVID-19 response activities:

	Disagree	Somewhat disagree	Somewhat agree	Agree	N/A
Employees are regularly asked about safety concerns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been tasked with responsibilities outside my normal scope of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been adequately trained to complete my assigned duties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My responsibilities have an environmental health focus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organisation provides me with adequate PPE to use in the field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are a sufficient number of employees to conduct the work needed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have access to adequate EH COVID-19 situation reports/updates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Disagree	Somewhat disagree	Somewhat agree	Agree	N/A
I have access to adequate EH COVID-19 response technical information/guidance resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are frequent communications about safety in the workplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been tasked with responsibilities outside my normal scope of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been adequately trained to complete my assigned duties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did your feeling of burnout increase **during COVID19**? Please respond to the questions below – this time considering the **intensity** of your work-related burnout symptoms during COVID19.

	To a very low degree	To a low degree	Somewhat	To a high degree	To a very high degree
Is your work emotionally exhausting?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you feel burnt out because of your work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your work frustrate you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did your feeling of burnout increase **during COVID19**? Please respond to the questions below – this time considering the **frequency** of your work-related burnout symptoms during COVID19.

Never      Rarely      Sometimes      Often      Always

	Never	Rarely	Sometimes	Often	Always
Do you feel worn out at the end of the working day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are you exhausted in the morning at the thought of another day at work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you feel that every working hour is tiring for you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have enough energy for family and friends during leisure time?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What areas specifically related to the COVID19 response that you would like additional training or education in?

Would you be happy for us to contact you to discuss your answers in more detail?

No

Yes (please provide your email address)

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## 7.2 Appendix 2: Follow up interview script

- 1) What extra roles did you or your environmental health team undertake during the COVID19 pandemic?
- 2) In your opinion, were there any other tasks environmental health professionals could have been better placed to undertake?
- 3) Reflecting on the extra tasks that you or your team picked up:
  - A) What worked well?
  - B) What were the barriers or hindering factors?
  - C) Which agencies provided directives?
- 4) What agencies did you seek advice from? Did this provide the advice you need?
- 5) Did you use regulatory tools and were these helpful?
- 6) Are there any education needs for environmental health profession identified after COVID19?
- 7) Now thinking beyond COVID19 – more broadly what do you see as the biggest challenges facing the environmental health workforce in the future?



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## 7.3 Appendix 3: Information sheet



**Dr. Harriet Whiley**  
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### INFORMATION SHEET

(for online survey and follow up interview)

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**Title:** Environmental Health Officers' (EHOs) response to COVID-19: A public health workforce needs assessment to ensure sustainability and future preparedness

#### Researcher(s)

Dr. Harriet Whiley  
College of Science and Engineering  
Flinders University  
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Associate Professor Kirstin Ross  
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#### Description of the study

This project has been funded by the South Australian Local Government Association and aims to identify the responsibilities and tasks that the environmental health profession undertook in pandemic planning and execution, generally, and specifically in response to COVID-19. Questions will also be included to review the current size capacity and security of the environmental health workforce.

#### Purpose of the study

This evaluation will assist local government to build capacity and increase sustainability through the incorporation of best practice into future pandemic planning and response. The workforce review will ensure there is a suitably sized and trained environmental health workforce with the appropriate skills and knowledge required to undertake planning and implementing future pandemic plans while at the same time, maintaining capacity to meet the obligations of the Public Health Act 2011 and Food Act 2001.

#### What will I be asked to do?

You are invited to click on the link and complete the survey. At the end of the survey there is an invitation to be involved in a follow up interview, which you can decline by not including your contact details. If you provide your email address, you will receive an email to arrange a

inspiring  
achievement

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convenient time to conduct a follow up phone interview. We anticipate this follow up interview will take 15 – 20 minutes. The phone interview will be recorded and transcribed.

**What benefit will I gain from being involved in this study?**

The sharing of your experiences will benefit environmental health in South Australia through a better understanding of what worked well, what regulatory tools were helpful, how interagency collaboration worked and any barriers or hindering factors impacting the environmental health response to COVID-19. The workforce review will identify current and future challenges facing EHOs in South Australia. This will include identifying education and training needs and potential retention issues and workforce capacity. The recommendations made regarding workforce capacity and sustainability will inform policy makers to ensure that councils have the public health workforce required to respond to future pandemics, while maintaining capacity to deliver their regulatory responsibilities and risk based public health protection duties.

**Will I be identifiable by being involved in this study?**

No. All information, transcripts and results obtained in this study will be stored in a secure way, with access restricted to relevant researchers. Report will not identify any individuals.

**Are there any risks or discomforts if I am involved?**

The researcher anticipates few risks from your involvement in this study, however, some participants could experience emotional discomfort. If any emotional discomfort is experienced please contact the appropriate counselling service ([www.australiacounselling.com.au](http://www.australiacounselling.com.au) or [www.beyondblue.com.au](http://www.beyondblue.com.au) or ph: 1300 22 4636) for support / counselling that may be accessed free of charge by all participants. If you have any concerns regarding anticipated or actual risks or discomforts, please raise them with the researcher.

**How do I agree to participate?**

Participation is voluntary. You may answer 'no comment' or refuse to answer any questions, and you are free to withdraw from the interview at any time without effect or consequences.

**How will I receive feedback?**

I will contact you with written a written report when the research is completed. The final report will also be available on the Environmental Health Australia, South Australian branch website.

Thank you for taking the time to read this information sheet, and we hope that you will accept our invitation to be involved.

*This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number: 2798).*

*For more information regarding ethical approval of the project only, the Executive Officer of the Committee can be contacted by telephone on (08) 8201 3116, by fax on (08) 8201 2035, or by email to [human.researchethics@flinders.edu.au](mailto:human.researchethics@flinders.edu.au)*



