THOR
The Health and Occupation Research network

The Health and Occupation Research (THOR) network Annual Report

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SUMMARY

Physicians reported 1,001 actual (4,565 estimated) cases of work-related ill-health (WRIH) to The Health and Occupation Research network (THOR) in 2018. Occupational physicians (OPs) reported 50%; dermatologists reported 25%; chest physicians reported 23% and general practitioners (GPs) reported 2% of the total number of estimated cases.

Skin cases reported to THOR in 2018 were predominantly contact dermatitis, with clinical specialists also reporting a proportion of neoplasia cases. In terms of industry sector, cases were reported most frequently from health and social care and other service activities sector, which includes hairdressing and beauty. For work-related respiratory disease, chest physicians reported larger proportions of the longer latency, asbestos related diseases such as mesothelioma and pleural disease, whereas OPs and GPs reported mainly asthma or 'other' respiratory disease (usually reported as symptoms (e.g. cough / wheeze) rather than a specific diagnosis). The industry sectors reported most frequently for these respiratory cases were construction, manufacturing and mining and quarrying. The case mix for OP and GP reported work-related ill-health is very similar with mental ill-health and musculoskeletal making up the largest proportions of cases (OP = 65% mental ill-health; 21% musculoskeletal and GP = 45% mental ill-health; 37% musculoskeletal). For both schemes, hand/wrist/arm and back problems were the anatomical sites most frequently reported for work-related musculoskeletal disorders, particularly within the health and social care and manufacturing sectors. In terms of mental ill-health, anxiety and depression and work-related stress continue to be the two diagnostic categories reported most often by OPs and GPs. Most reported mental ill-health cases were employed in the public sector, including healthcare, education and public administration and defence.

1. BACKGROUND

The Health and Occupation Research (THOR) network is hosted by the Centre for Occupational and Environmental Health (COEH) at the University of Manchester, and collects data on work-related ill-health (WRIH) and its determinants throughout the UK and (since 2005) the Republic of Ireland (ROI). THOR is (partially) funded by the two regulators of health and safety: the Health and Safety Executive (HSE) in the UK and the Health and Safety Authority (HSA) in the ROI. The network comprises a number of health surveillance schemes that utilise voluntarily submitted, medically certified data on WRIH. The schemes first developed from SWORD (Surveillance of Work-Related and Occupational Respiratory Disease) set up for occupational and respiratory physicians in 1989, and at present, 4 schemes are in operation enabling different groups of physicians to report cases - SWORD (chest physicians), EPIDERM (dermatologists), OPRA (occupational physicians) and THOR-GP (general practitioners).

The clinical specialist schemes (SWORD and EPIDERM) continue to provide estimates of the incidence of occupational disease in the UK based on medical specialist diagnoses. These data inform the national agenda as well as providing a resource for applied occupational health epidemiology and other research besides information for participating physicians. In addition, since 2005, THOR collects data and conducts research on the burden of work-related sickness absence. THOR remains one of the main sources of statistical information with which the HSE (and other agencies) determine their priorities and work programs on occupational health. For work-related respiratory disease, SWORD is the HSE's preferred data source in the UK.

This report describes the cases of WRIH reported to THOR (UK only) in the latest full calendar year (2018).

2. METHODS

Participating physicians were asked to provide anonymised case reports of incident cases seen during their reporting month that they believe to have been wholly or partly caused or aggravated by work. All physicians report either every month ('core' reporters) or for 1 randomly assigned month per year ('sample' reporters). Reporters are requested to give information on diagnosis, age, sex, geographical location, occupation, industry and suspected agent(s). The occupation and industry are coded using the Standard Occupational Classification (SOC) and the Standard Industrial Classification (SIC), respectively. Suspected agents are coded using in-house coding schemes developed in conjunction with the Health and Safety Executive (HSE) in the UK. All coding is undertaken independently by two researchers, and any discrepancies are reconciled by a third person.

Physicians reporting to EPIDERM are requested to assign their case to one or more of the following major sub-groups: contact dermatitis (CD), contact urticaria (CU), folliculitis/acne, infection, mechanical dermatoses, nail disorders, neoplasia, and 'other dermatoses' (with the ability to specify the diagnosis if the latter is chosen). Similarly, the sub-groups for chest physician reporting to SWORD are occupational asthma, inhalation accidents, allergic alveolitis, bronchitis/emphysema, infectious disease, non-malignant pleural disease (NMPD), mesothelioma, lung cancer, pneumoconiosis, and 'other respiratory disease'. Physicians reporting to OPRA and THOR-GP (who can return case details for all causes of occupational ill-health) record the diagnosis which is subsequently coded using the International Classification of Disease 10th Revision (ICD-10) so that comparisons can be made between reporting schemes.

Cases of occupational disease reported to EPIDERM, SWORD, OPRA and THOR-GP for 2018 have been extracted from the databases and analysed using the statistical package SPSS V23.0.

3. RESULTS

3.1 PARTICIPATION

Approximately 865 physicians participated in THOR in the UK during 2018. Figure 1 shows the location of the various groups of THOR reporters (chest physicians, dermatologists, occupational physicians, general practitioners)[1].

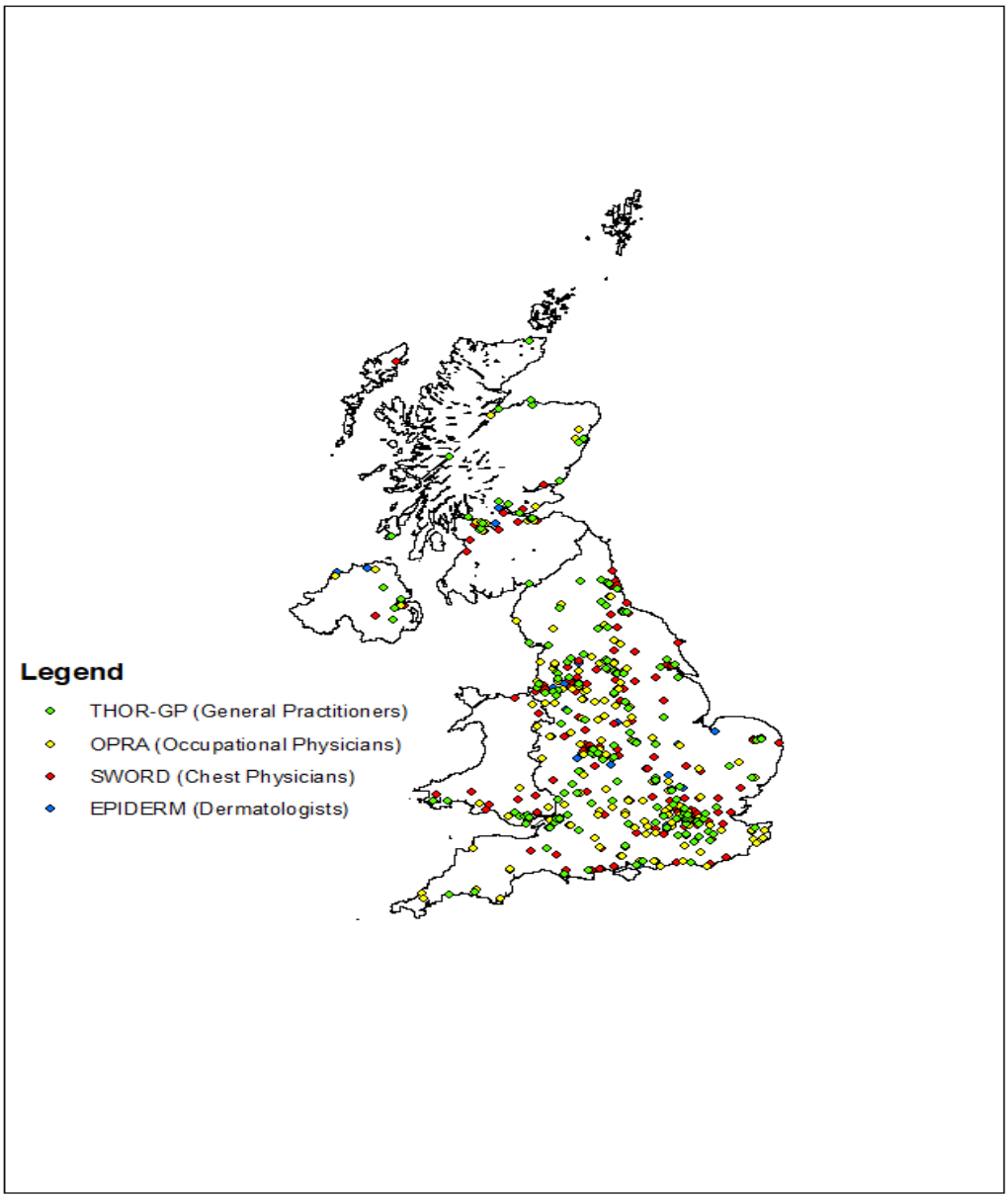

Figure 1 Location of THOR reporters (2018)

[1] A dot may reference multiple physicians in the same area

Response rates for THOR take into account submission of cases of work-related ill-health seen in the reporting month and nil returns i.e. when reporters have not seen any cases of work-related ill-health in their reporting month. Response rates differ by scheme and reporter type, with slightly higher response rates for sample reporters (Figure 2). Table 1 provides an overview of the number of reporters per scheme and number of actual and estimated cases reported for the period Jan-Dec 2018 compared with Jan-Dec 2017.

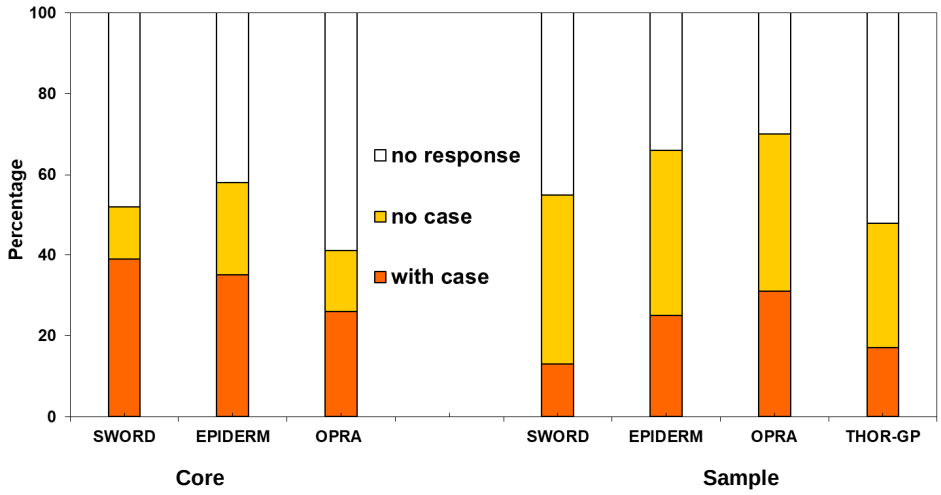

Figure 2 Response rates by scheme and reporter type (2018)

Table 1 Number of reports and actual and estimated cases reported by scheme (Jan – Dec 2018/2017)

	Jan-Dec 2018		Jan-Dec 2017	
	Average number of physicians	**Actual cases (estimated)**	**Average number of physicians**	**Actual cases (estimated)**
OPRA	195	314 (2283)	216	491 (3472)
EPIDERM	128	286 (1144)	131	364 (1211)
SWORD	361	328 (1065)	382	442 (1344)
THOR-GP	180	73*	196	101*
TOTAL	**864**	**1001 (4565)**	**925**	**1398 (6128)**

*THOR-GP physicians report actual cases only

The following sections provide the results by major diagnostic category: respiratory cases reported to SWORD, OPRA and THOR-GP; skin cases reported to EPIDERM, OPRA and THOR-GP; musculoskeletal cases reported to OPRA and THOR-GP and mental ill-health cases reported to OPRA and THOR-GP

3.2 RESPIRATORY

Work-related respiratory disease cases are reported to THOR via our clinical specialist scheme, SWORD and via OPs and GPs to OPRA and THOR-GP. In total, 339 actual (1153 estimated) cases of respiratory disease were reported to THOR in 2018, 328 (97%) reported by chest physicians to SWORD, 9 (2.5%) by OPs and 2 (0.5%) by GPs). The actual and estimated cases reported by chest physicians in 2018 are provided in Figure 3. Non-malignant pleural disease was reported most frequently (36%) followed by mesothelioma (31%) and asthma (12%). For the respiratory cases reported to the other THOR schemes, OPs reported asthma (6 cases), pneumoconiosis (2 cases) and 'other' respiratory disease (2 cases – specified as rhinitis) and GPs reported asthma (1 case) and 'other' respiratory disease (1 case – specified as sleep apnoea).

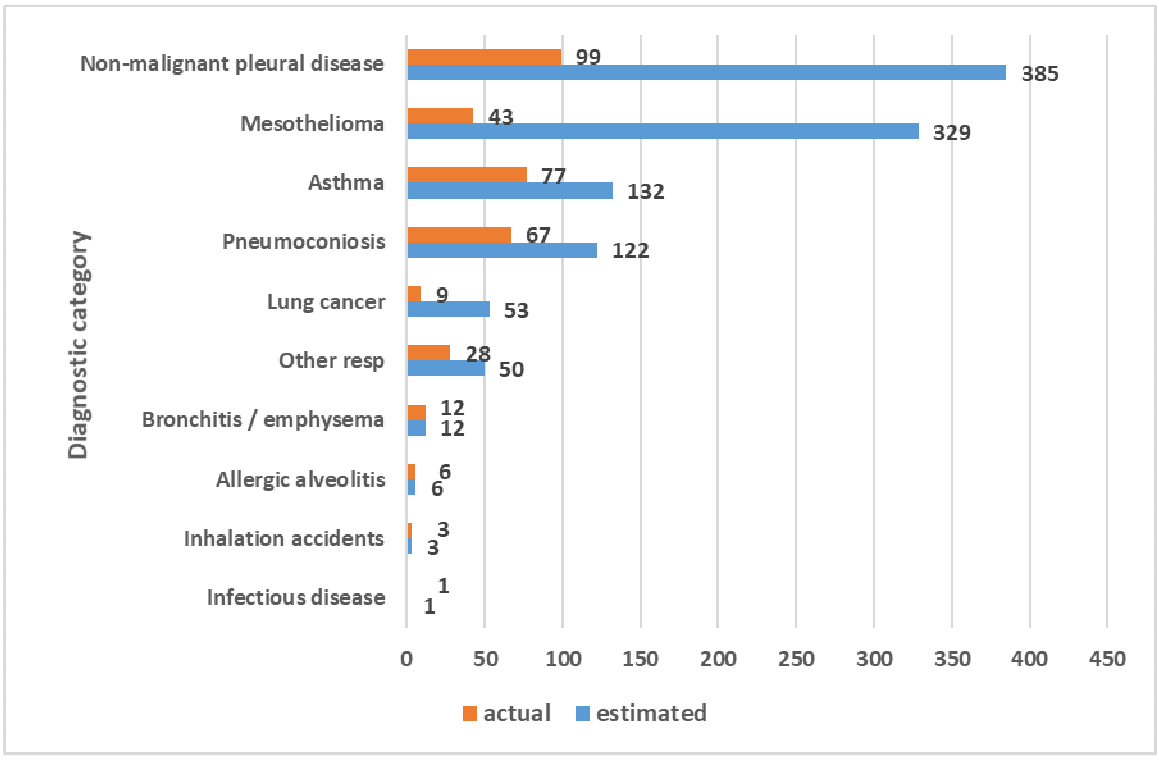

Figure 3 Actual and estimated cases of work-related respiratory cases by diagnostic category reported to SWORD (2018).

The mean age of the cases reported to SWORD is 71 years old (age range, all cases 19-91 years). Figure 4 shows the proportion of cases reported by age group for SWORD. The mean age of the cases reported to OPRA is 51 years old (age range, all cases 24-63 years) and 62 years (age range, all cases 56-68 years) for those reported to THOR-GP. 95% of the respiratory cases returned to SWORD in 2018 were reported in males. Cases reported to OPRA were 56% in females and 44% reported in males, and of the 2 respiratory cases reported to THOR-GP in 2018, 1 was reported in males and 1 in females.

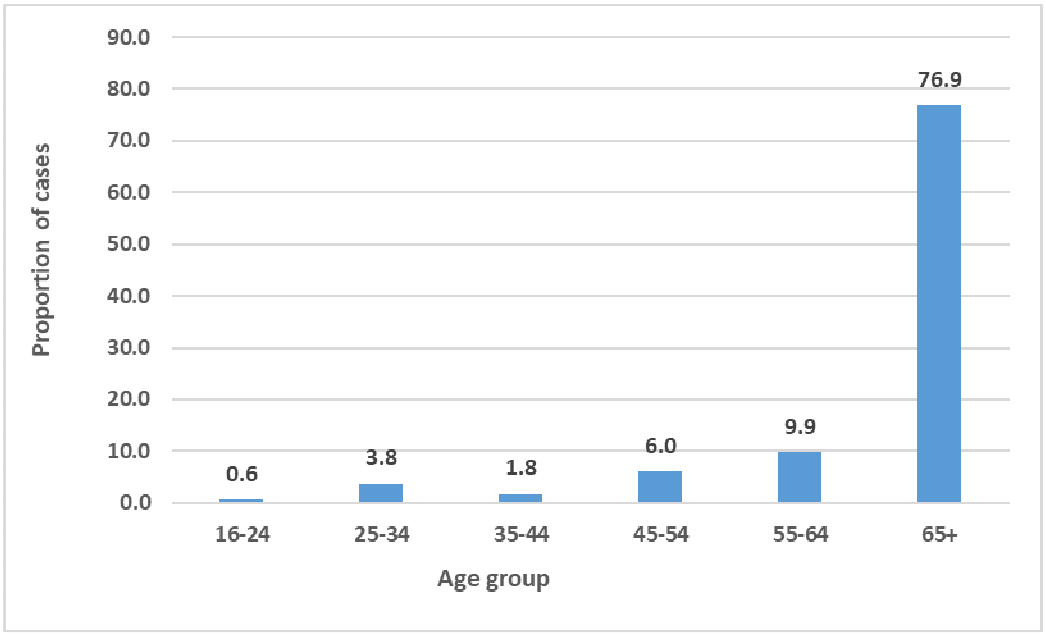

Figure 4 Proportion of cases of work-related respiratory disease by age group reported to SWORD (2018).

The industry sectors reported for cases of work-related respiratory disease to SWORD are provided in Figure 5. The most frequently reported sectors for 2018 include construction, manufacturing, and mining and quarrying. Construction (2 cases) and manufacturing (2 cases) were industry sectors also reported by OPs, the remaining 5 cases were reported in education (2 cases), health and social care (2 cases) and transport and storage (1 case). The 2 cases reported by GPs were in administrative and support service activities (1 case) and arts, entertainment and recreation (1 case).

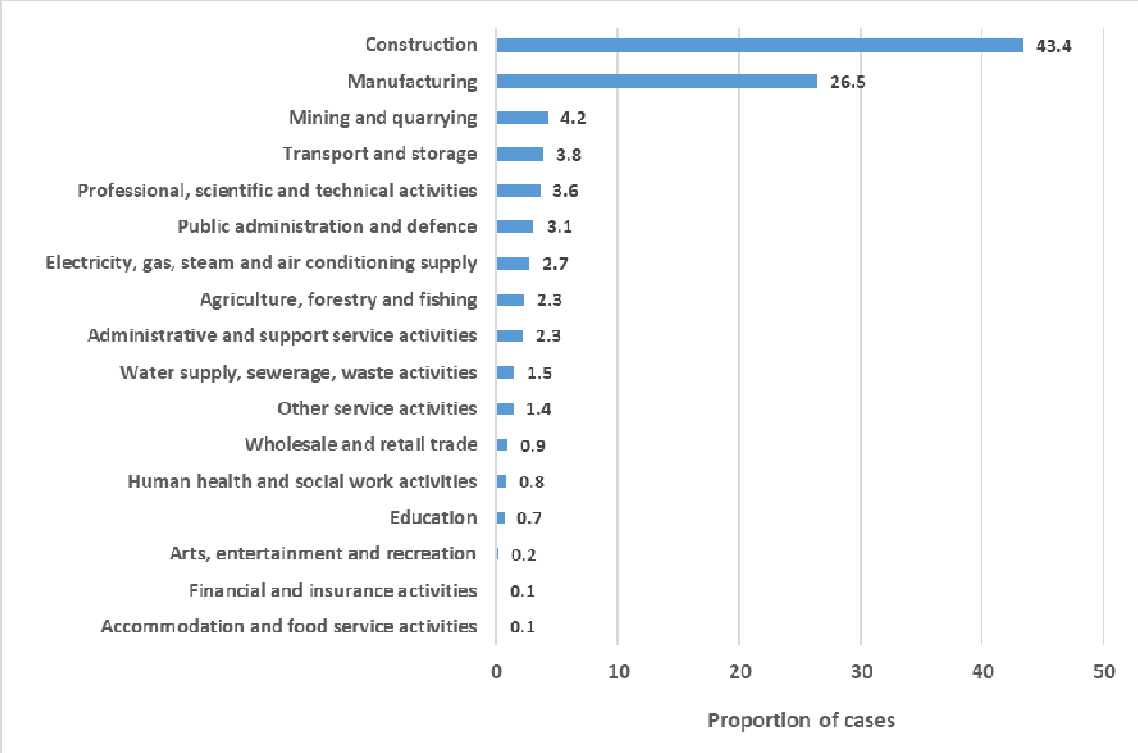

Figure 5 Proportion of cases of work-related respiratory by industry sector reported to SWORD (2018).

The proportions of respiratory cases by major occupational grouping (SOC) are provided in Figure 6 for SWORD cases. Occupations within SOC group 5, skilled trades, were reported most frequently; these occupations include carpenters and joiners, plumbers, heating and ventilating engineers, and electricians and electrical fitters.

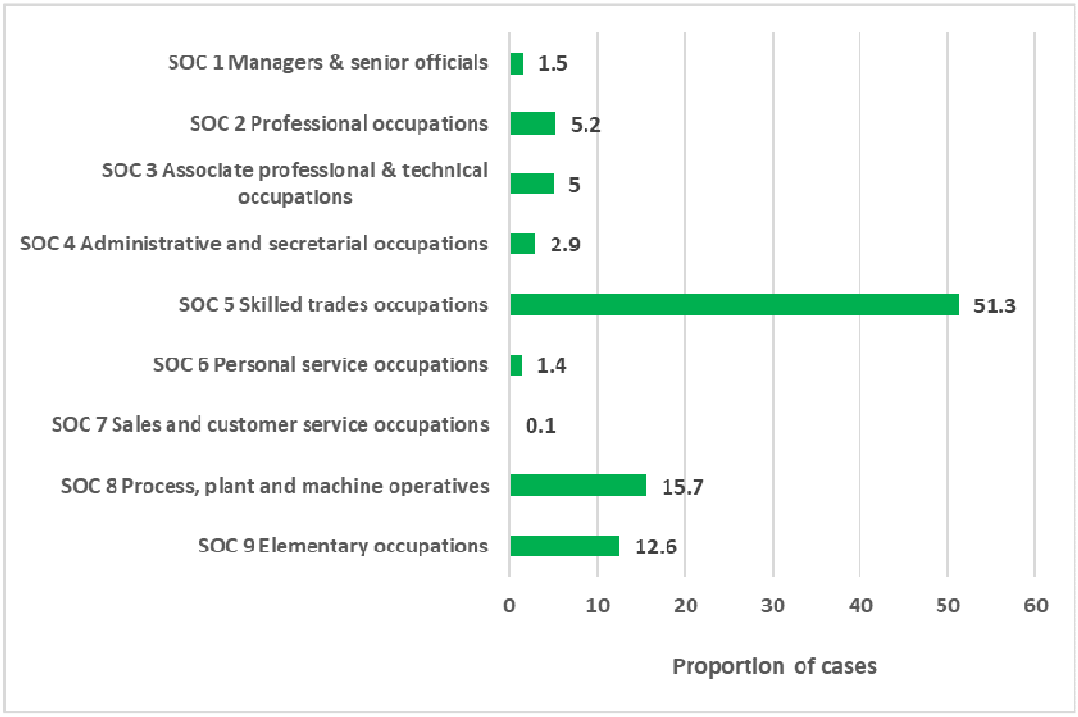

Figure 6 Proportion of work-related respiratory cases reported to SWORD by major occupational grouping (2018).

Occupations reported for the respiratory cases returned by OPs included construction managers, general office managers, pharmaceutical dispensers, occupational therapists, bricklayers, masons, hand craft occupations (not elsewhere classified), veterinary nurses and assistants, paper and wood machine operatives and cleaners and domestics (all reported once). The 2 cases reported to THOR-GP were in car park attendant and sports and leisure attendant.

Physicians can report up to 3 suspected agents for each case of work-related respiratory disease reported to THOR. Figure 7 provides the most frequently reported suspected agents for returns by chest physicians to SWORD based on actual cases. Asbestos was associated most frequently (59%) with the reported cases, which is not unexpected considering that the largest proportion of cases reported to SWORD in 2018 was NMPD and mesothelioma which are associated with asbestos exposure. Other agents, including silica (5% of reported cases), isocyanates (4%), and flour (3%) are reported with much lower frequency.

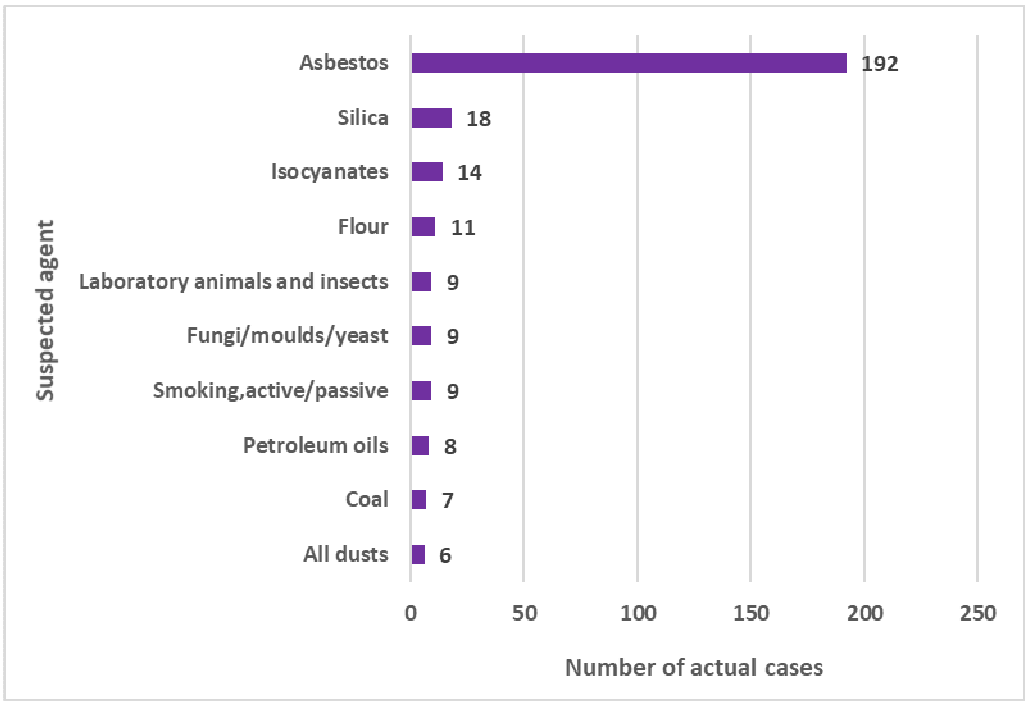

Figure 7 Most frequently reported suspected agents for work-related respiratory cases (actual) reported to SWORD (2018).

The suspected agents reported for the cases of respiratory disease to OPRA included cleaning materials (2 cases) and 1 case each attributed to isocyanates, laboratory animals, pesticides, silicates, asbestos, paper / cardboard, and dusts. The 2 respiratory cases reported to THOR-GP were attributed to hours of work/shift work and high temperatures, hot work.

3.3 SKIN DISEASE

A total of 300 actual (1224 estimated) cases of work-related skin disease were reported to THOR in 2018 by dermatologists to EPIDERM, OPs to OPRA and GPs to THOR-GP. Dermatologists reported 95% of the skin cases in 2018 (286 actual, 1144 estimated), with the largest proportion of cases reported as contact dermatitis (75%) followed by neoplasia (22%). Figure 8 shows the actual and estimated cases by diagnostic category. OPs reported 7 actual (73 estimated) cases of skin disease to OPRA in 2018, all of which fall under the "contact dermatitis" diagnosis. GPs reported 7 cases of skin disease to THOR-GP in 2018; 4 out of these 7 cases were diagnosed as contact dermatitis. GPs also reported 2 infective skin cases and 1 case of contact urticaria.

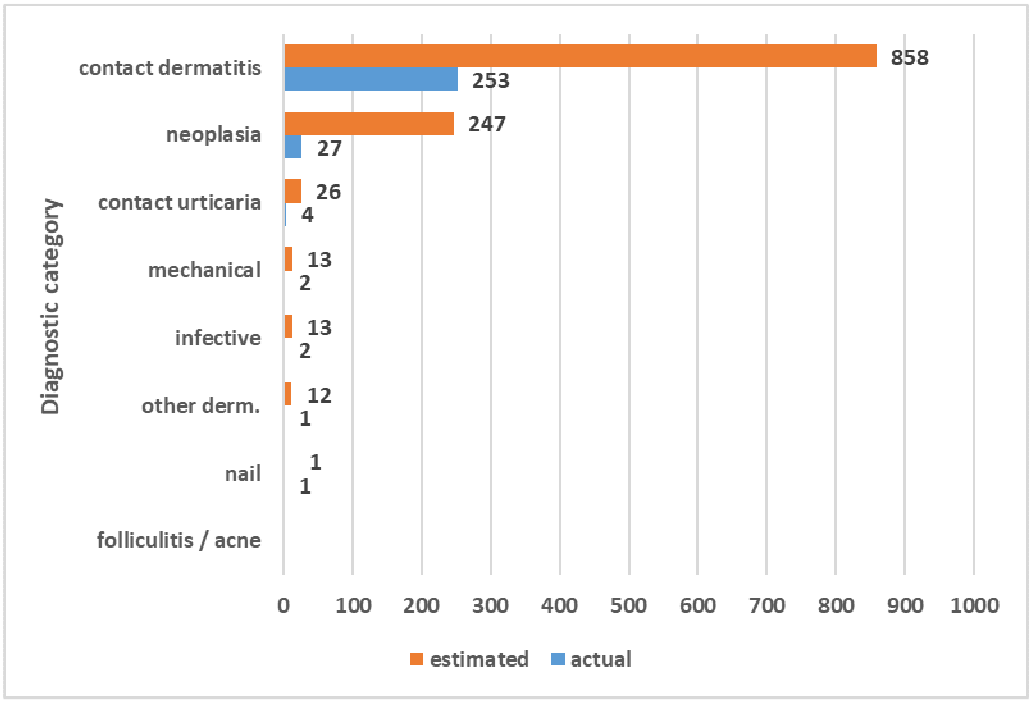

Figure 8 Actual and estimated skin cases by diagnostic category reported to EPIDERM (2018).

The reported mean age of the cases reported to EPIDERM is 47 years old (age range, all cases 17-96 years). Figure 9 shows the proportion of cases reported by age group (EPIDERM 2018). For cases reported to OPRA, the mean age is 45 years old (age range, all cases 32-55 years), and for GP reported cases, the mean age is younger at 28 years old (age range, all cases 20-47 years).

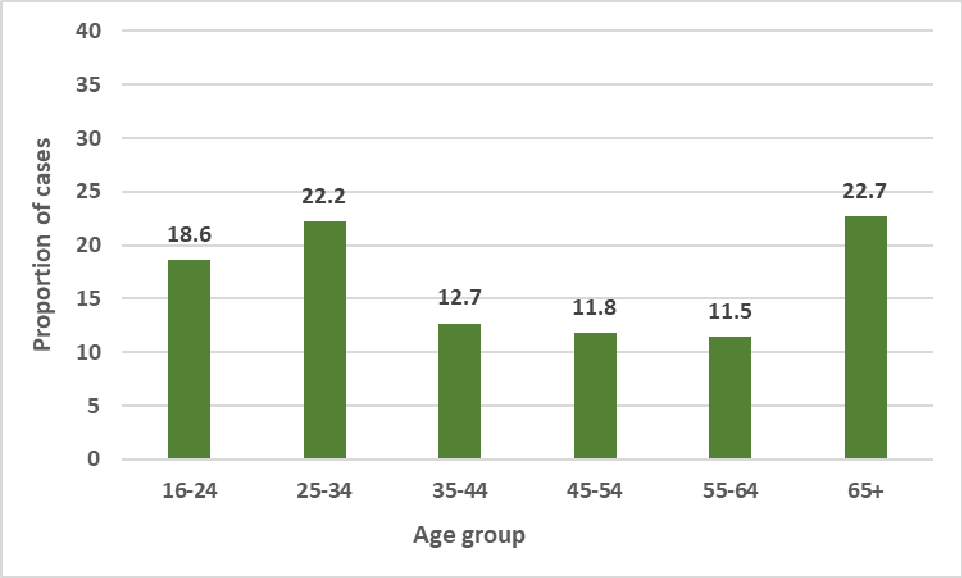

Figure 9 Age breakdown of work-related skin cases reported to EPIDERM (2018).

The skin cases reported by consultant dermatologists to EPIDERM in 2018 comprised an even split of males and females. For OP reported skin cases, 67% of cases were reported in females and for GP reported skin cases, 57% were reported in males. Figure 10 provides the proportion of cases reported by sex breakdown according to the respective reporting scheme.

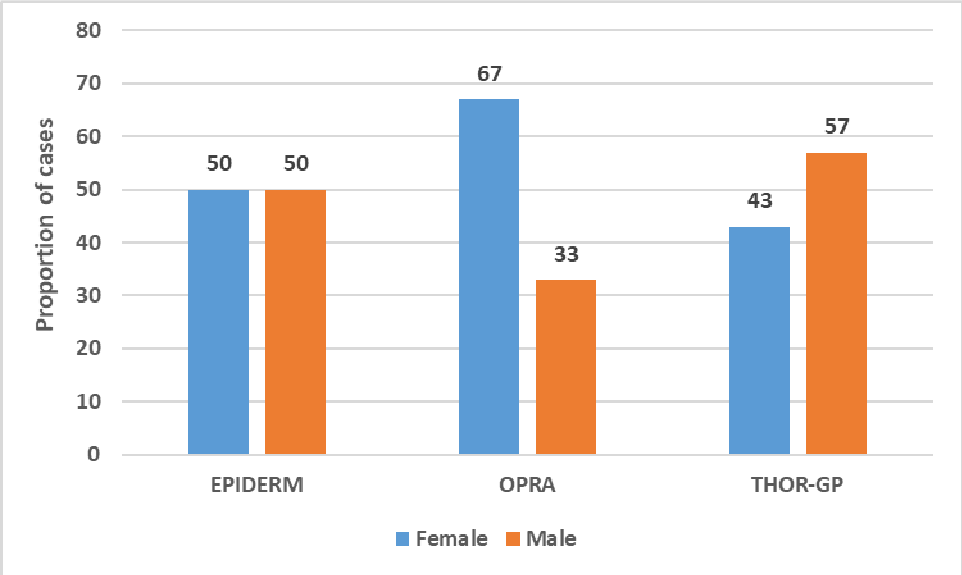

Figure 10 Proportion of skin cases by sex breakdown reported to EPIDERM, OPRA and THOR-GP (2018).

Cases reported by consultant dermatologists to EPIDERM most frequently include human health and social work activities (19%), other service activities (14%) and accommodation and food service activities (12%) (Figure 11). Cases were also reported most frequently by OPs in the health and social care sector (51%) along with the manufacturing (33%) and education (16%) sectors. The

industries reported for the 7 GP reported skin cases were public administration and defence (4 cases), other service activities, professional, scientific and technical activities and accommodation and food service (1 case each) .

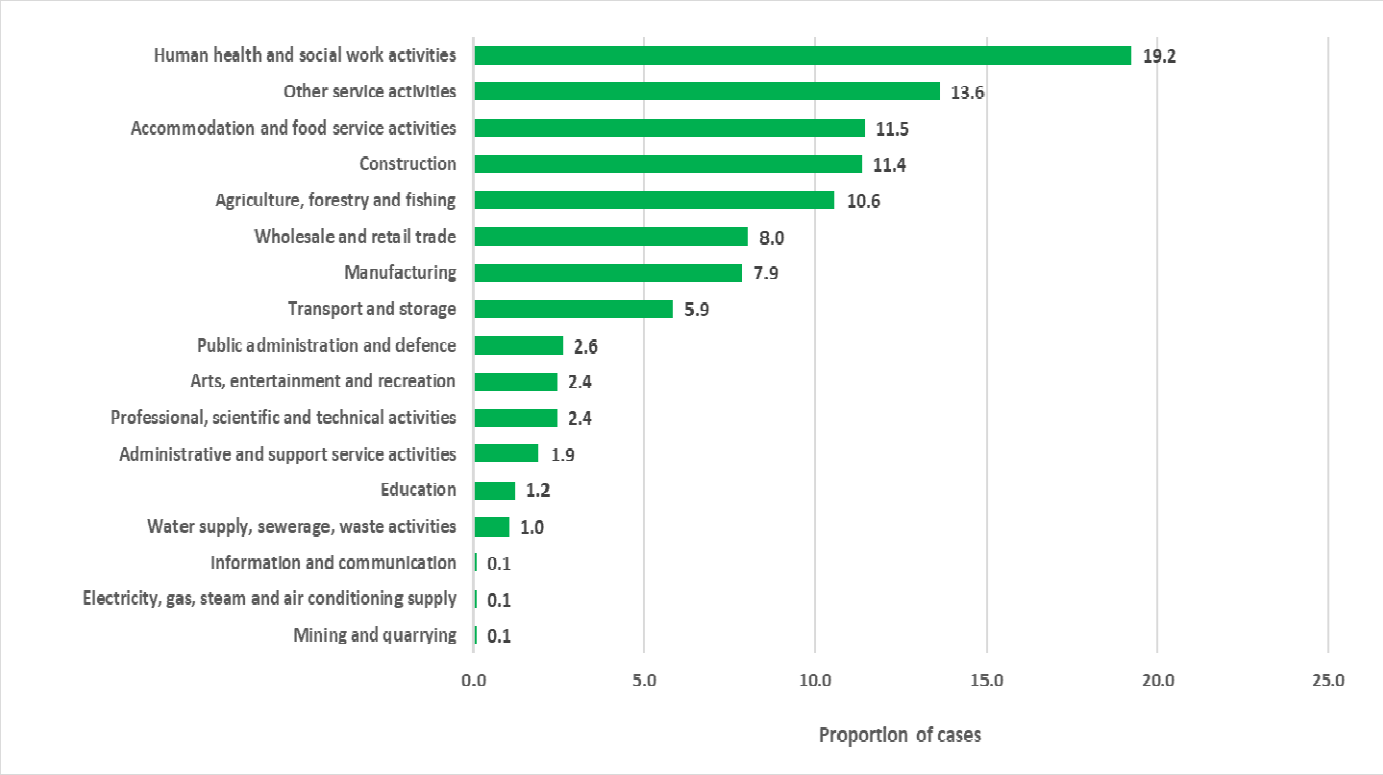

Figure 11 Proportion of cases of work-related skin disease by industry sector reported to EPIDERM (2018).

The proportion of skin cases by major occupational grouping (SOC) reported by dermatologists to EPIDERM are provided in Figure 12. In terms of SOC categories, the largest proportion of cases were coded to SOC group 5 (skilled trades). However, the most frequently reported specific occupation within the SOC groupings was hairdressers and barbers (9%), which is part of SOC group 6 (personal service occupations). The cases reported by occupational physicians to OPRA most frequently included nurses, nursing auxiliaries and assistants (4 cases), and 1 case each reported as fork-lift truck driver, metal working fitters and researchers (not elsewhere classified). For GP skin cases, the occupations reported were chefs and cooks (2 cases), and 1 case each of the following: kitchen and catering assistants, beauticians, metal working fitters, product and clothing designers and non-commissioned officers.

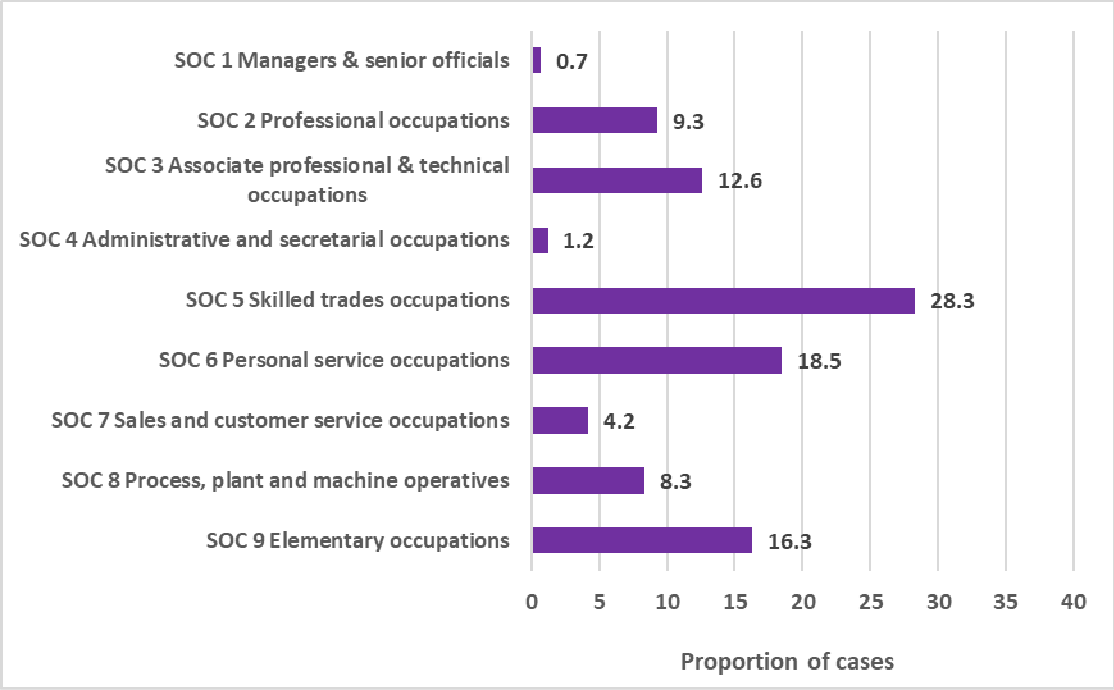

Figure 12 Proportion of cases of work-related skin disease by major occupational grouping reported to EPIDERM (2018).

Physicians can report up to 6 suspected agents for each case of skin disease reported to THOR. The most frequently reported suspected agent for skin disease cases reported in 2018 was water/wet work/washing/washing up (EPIDERM 11%; OPRA 29%; THOR-GP 31%). Other frequently reported agents to the three schemes included soaps and detergents, rubber chemicals and materials, preservatives and protective clothing and equipment.

3.4 MUSCULOSKELETAL

Cases of work-related musculoskeletal disorders are reported to THOR via OPs to OPRA and GPs to THOR-GP. In 2018, a total of 117 actual (513 estimated) cases of musculoskeletal disorders were reported; 90 actual (486 estimated) cases reported by OPs and 27 actual cases reported by GPs. Figure 13 shows the proportion of cases by diagnostic category reported to OPRA and THOR-GP. Hand/wrist/arm (OPRA 37%; GP 30%) and lumbar spine/trunk disorders (OPRA 24%; GP 26%) were the most frequently reported anatomical site for both sets of physicians.

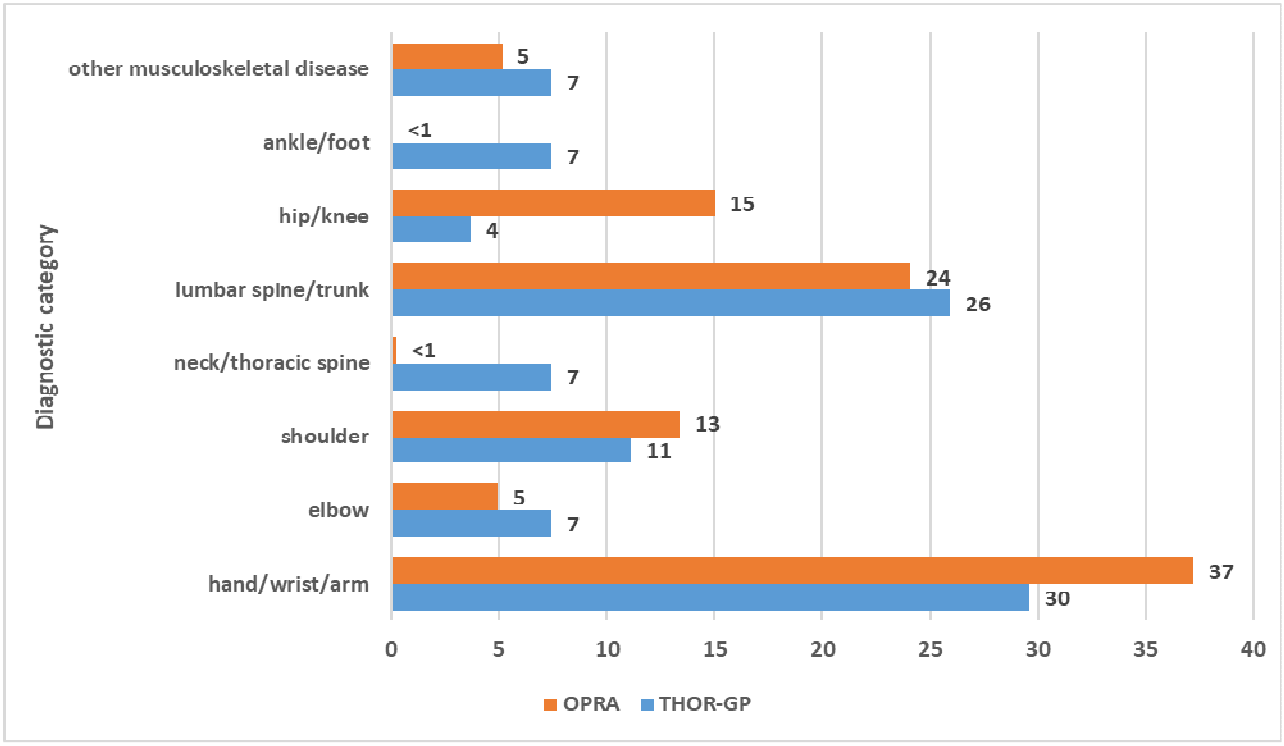

Figure 13 Proportion of cases of work-related musculoskeletal disorders by diagnostic category reported to OPRA and THOR-GP (2018).

The proportion of musculoskeletal cases by age group reported to both schemes is provided in Figure 14. The mean age of the cases reported to OPRA is 47 years old (age range, all cases 22-66 years) and the mean age of the cases reported to THOR-GP is 42 years old (age range, all cases 20-65 years).

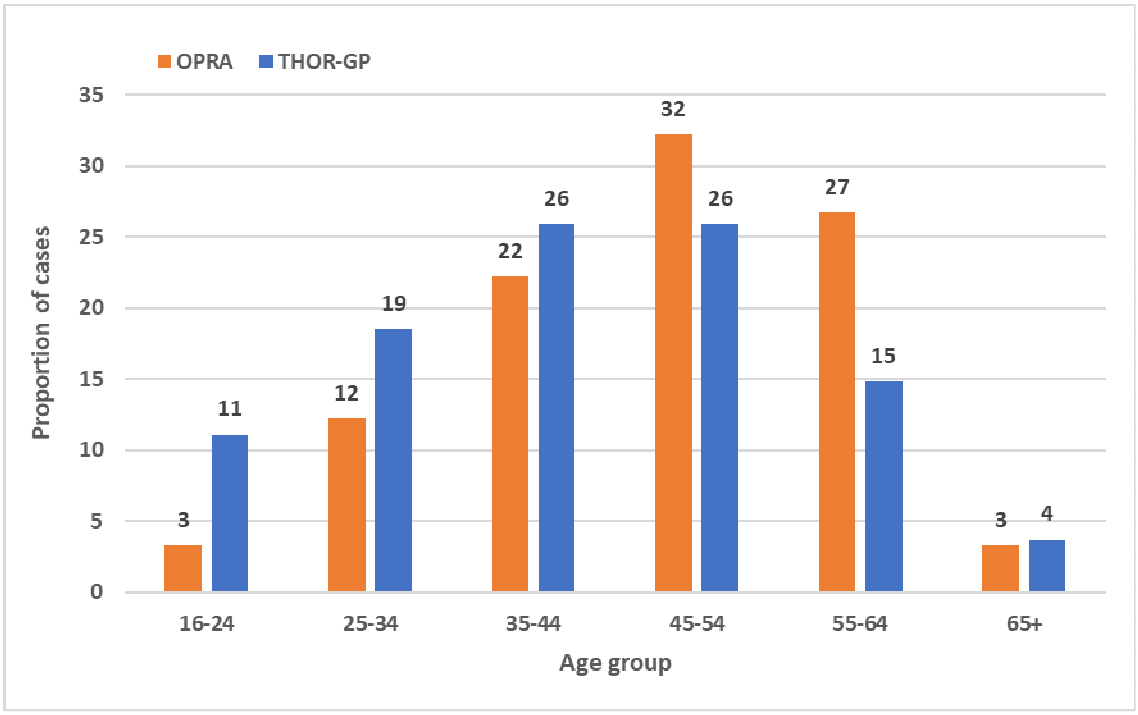

Figure 14 Proportion of musculoskeletal cases by age group reported to OPRA and THOR-GP (2018)

Of the musculoskeletal cases reported to OPRA, 73% were reported in males and 27% in females, whereas the sex split was 33% reported in males for THOR-GP cases and 67% reported in females, (Figure 15)

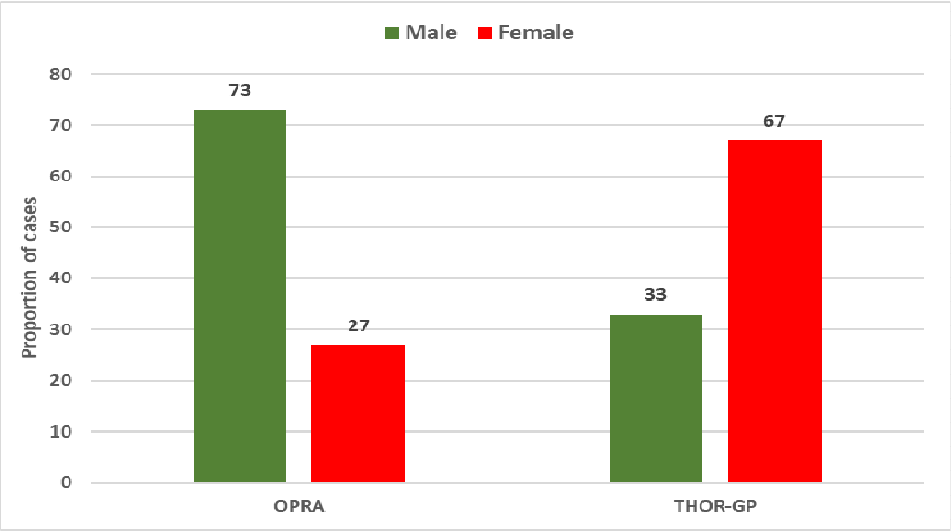

Figure 15 Musculoskeletal cases by sex breakdown reported to OPRA and THOR-GP (2018).

Figures 16 and 17 provide the proportion of cases of work-related musculoskeletal disorders by industry sectors reported to OPRA and THOR-GP in 2018. The industry sector most frequently reported by OPs was human health and social work activities (26.7%) followed by manufacturing (20.2%) and public administration and defence (20%). Whereas for cases reported by GPs, wholesale and retail trade was reported most frequently (18.5%) followed by health and social work activities (14.8%) and transport and storage (11%).

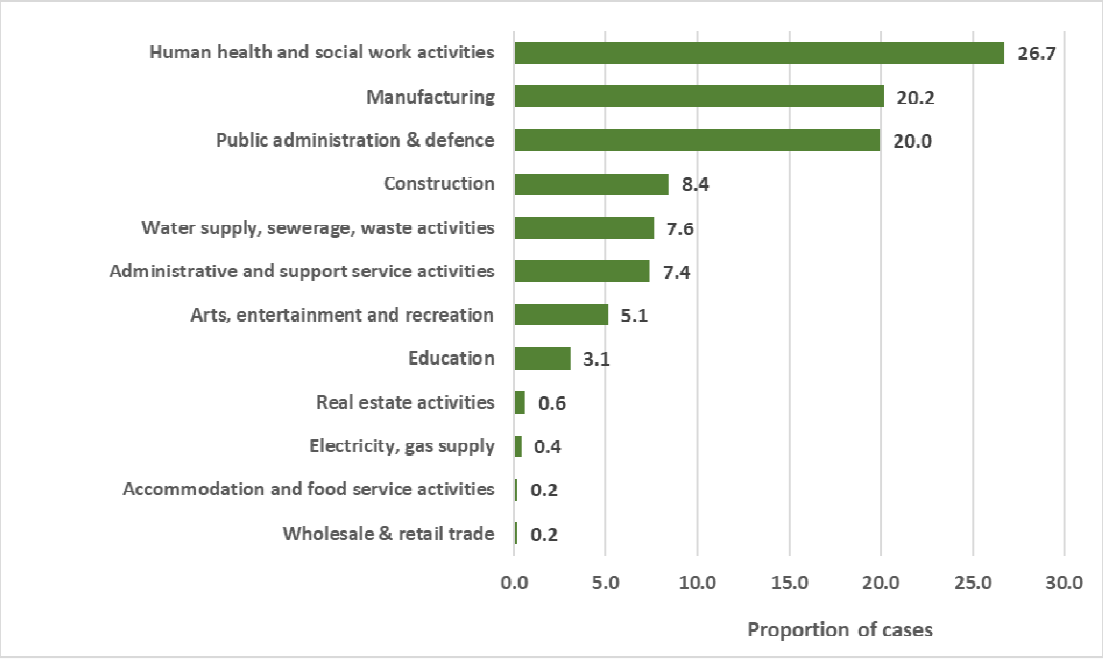

Figure 16 Proportion of cases of work-related musculoskeletal disorders by industry sectors reported to OPRA (2018).

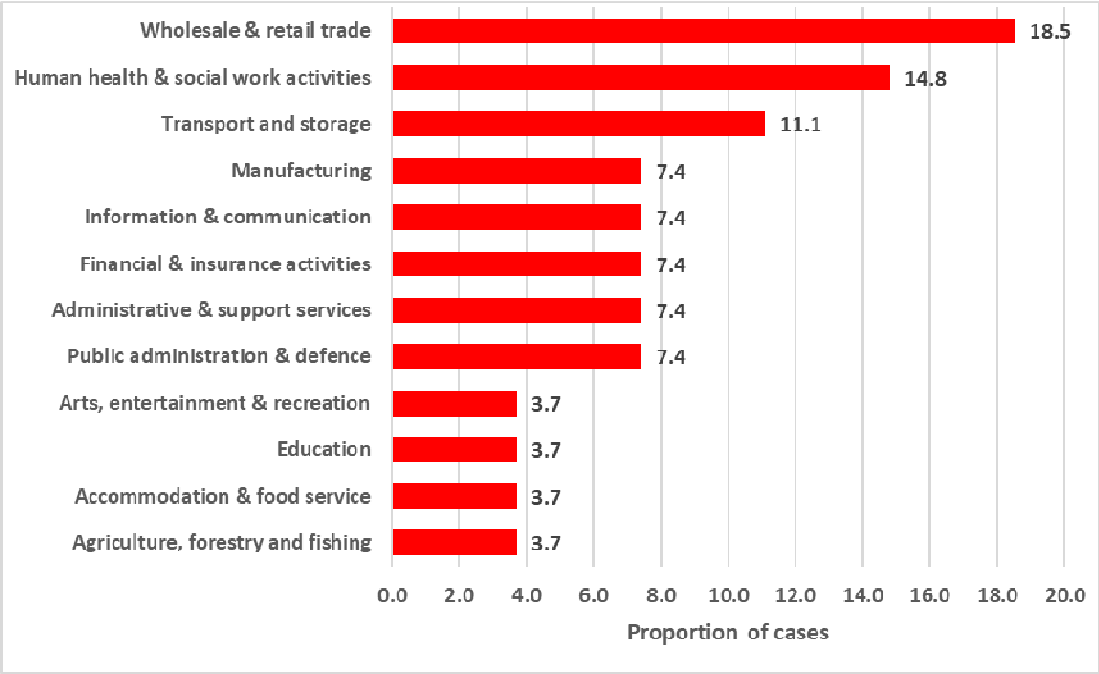

Figure 17 Proportion of cases of work-related musculoskeletal disorders by industry sectors reported to THOR-GP (2018).

The proportion of musculoskeletal cases reported to OPRA and THOR-GP by major occupational grouping is provided in Figure 18. The largest proportion of cases reported by occupational physicians were in SOC group 5, skilled trades (24%) followed by SOC group 3, associate professional and technical (23%) and the most frequently reported occupation was nursing auxiliaries and assistants (8%). For cases reported by GPs, the largest proportion were from SOC group 4, administrative and secretarial (19%), and the most frequently reported occupation was care assistants (11%).

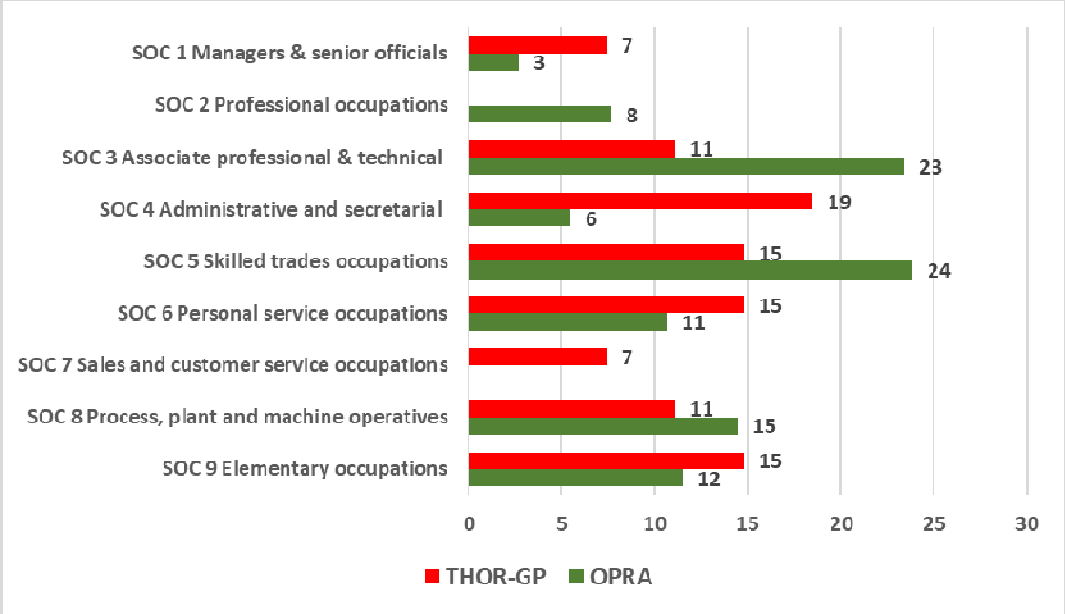

Figure 18 Proportion of case of work-related musculoskeletal disorders by major occupational grouping reported to OPRA and THOR-GP (2018).

For cases of work-related musculoskeletal disorders reported to THOR, we ask the physicians to record the tasks and movements that are associated with each case. Figure 19 show the proportion of tasks reported to OPRA and THOR-GP in 2018. The most frequently reported task to OPRA was guiding or holding tool (43%) followed by lifting/carrying/pushing/pulling (19%), whereas for GPs it was packing or sorting (19%) followed by lifting/carrying/pushing/pulling (19%).

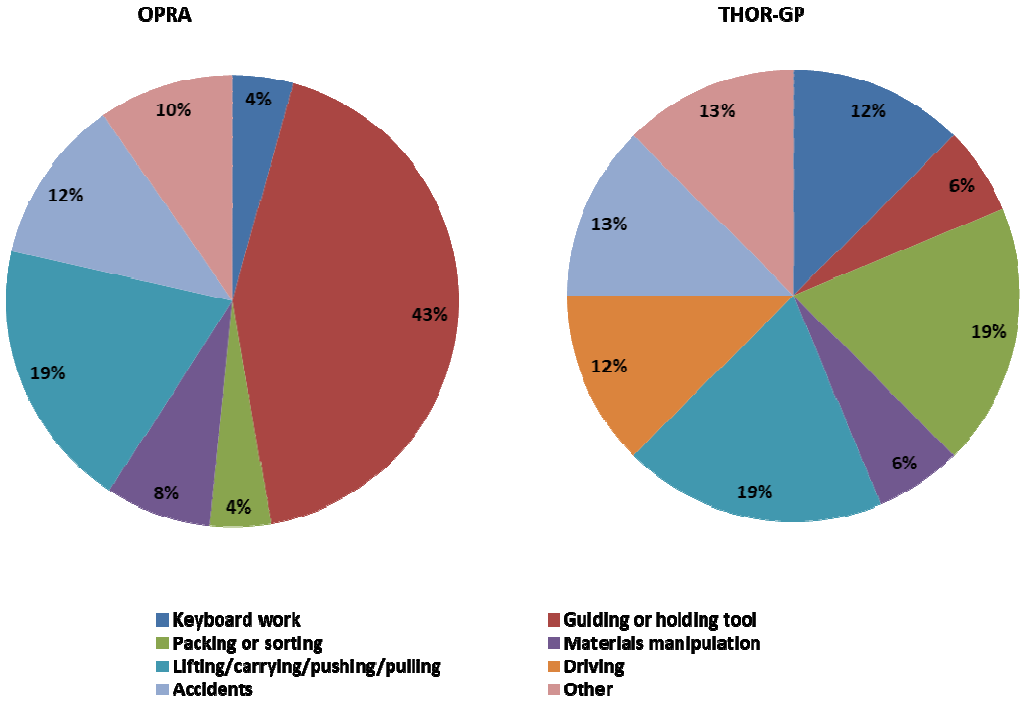

Figure 19 Most frequently reported tasks for cases of work-related musculoskeletal disorders reported to OPRA and THOR-GP (2018).

3.5 MENTAL ILL-HEALTH

There have been 238 actual (1613 estimated) cases of mental ill-health reported to THOR in 2018; OPs (205) and GPs (33). Figure 20 shows the proportion of cases by major diagnostic category for both schemes; anxiety and depression (OPRA 41.3%: GP 27.5%) and other work-related stress (OPRA 48.7%: GP 65%) are reported most frequently by both OPs and GPs.

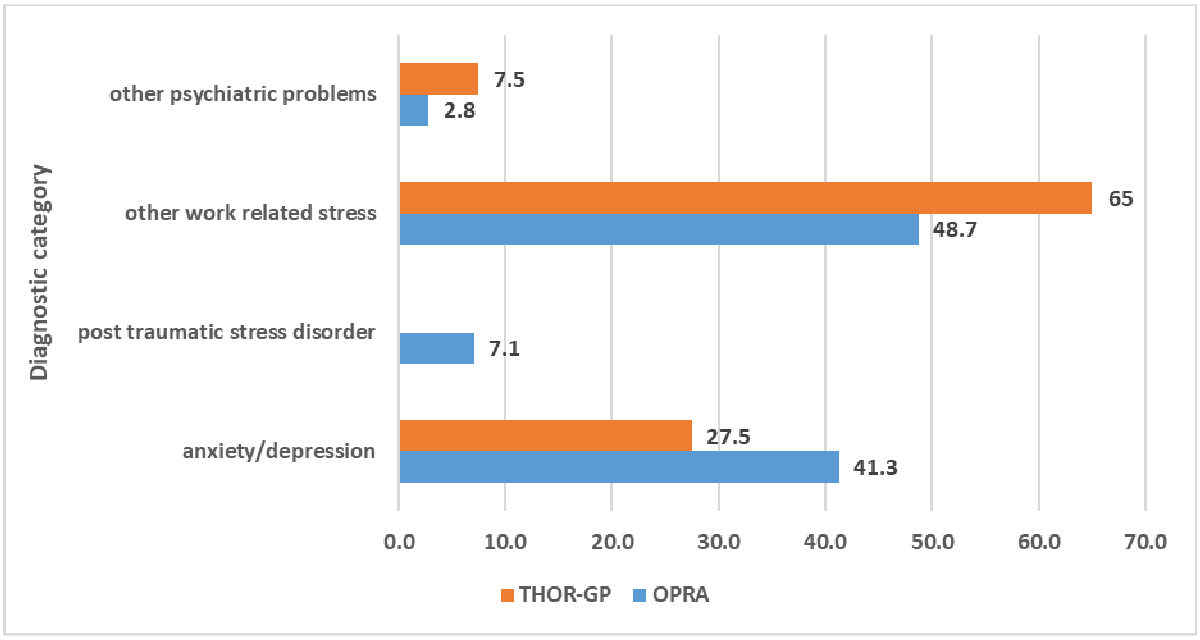

Figure 20 Proportion of cases of work-related mental ill-health by diagnostic category reported to OPRA and THOR-GP (2018).

The proportion of cases of mental ill-health by age group for both schemes is provided in Figure 21. The mean age of the cases reported to OPRA is 46 years old (age range, all cases 18-69 years) and for GP reported cases, the mean age is slightly younger at 41 years old (age range, all cases 21-68 years).

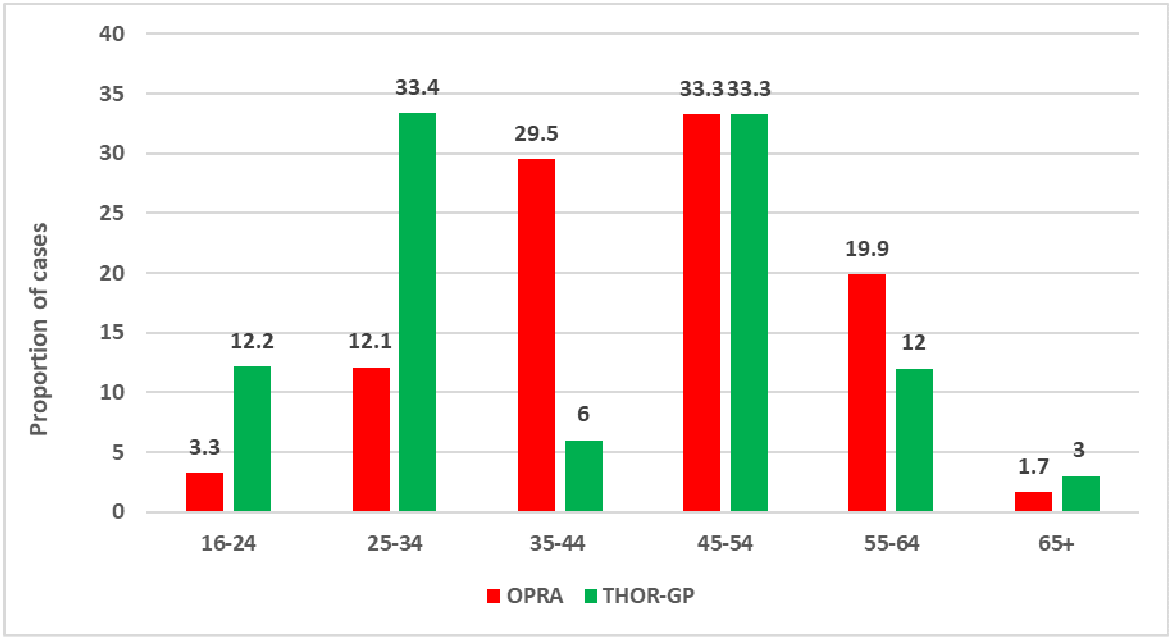

Figure 21 Proportion of cases of work-related mental ill-health by age group reported to OPRA and THOR-GP (2018).

In terms of the sex breakdown of the mental ill-health cases, for OPRA it was fairly even at 51% female and 49% male whereas for GP reported cases the proportion of females was slightly more at 61% (see Figure 22).

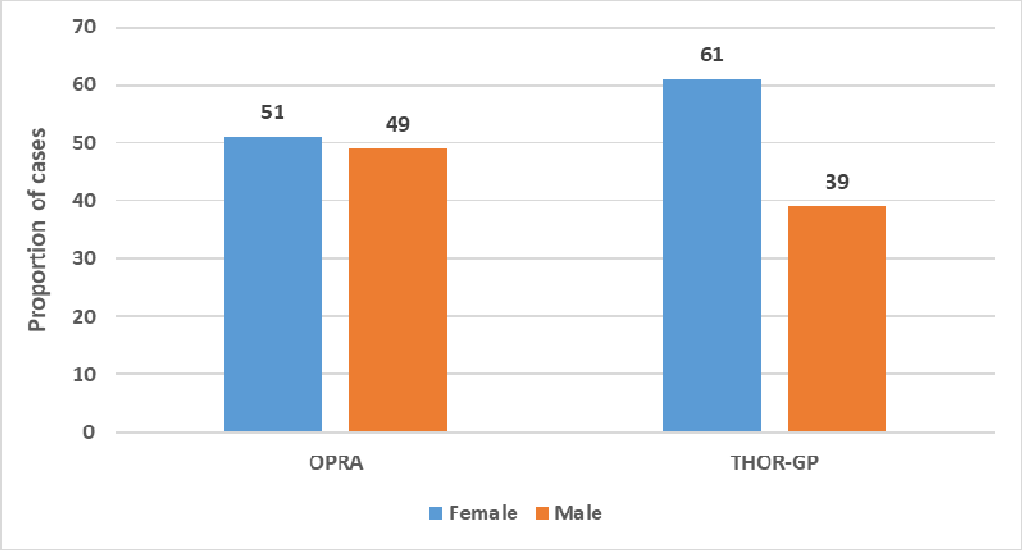

Figure 22 Proportion of cases of work-related mental ill-health by sex reported to OPRA and THOR-GP (2018).

The proportions of mental ill-health cases reported by OPs to OPRA by industry sector are provided in Figure 23. The most frequently reported sector was human health and social work activities (54.9%) followed by public administration and defence (11.8%) and transport and storage (7.6%).

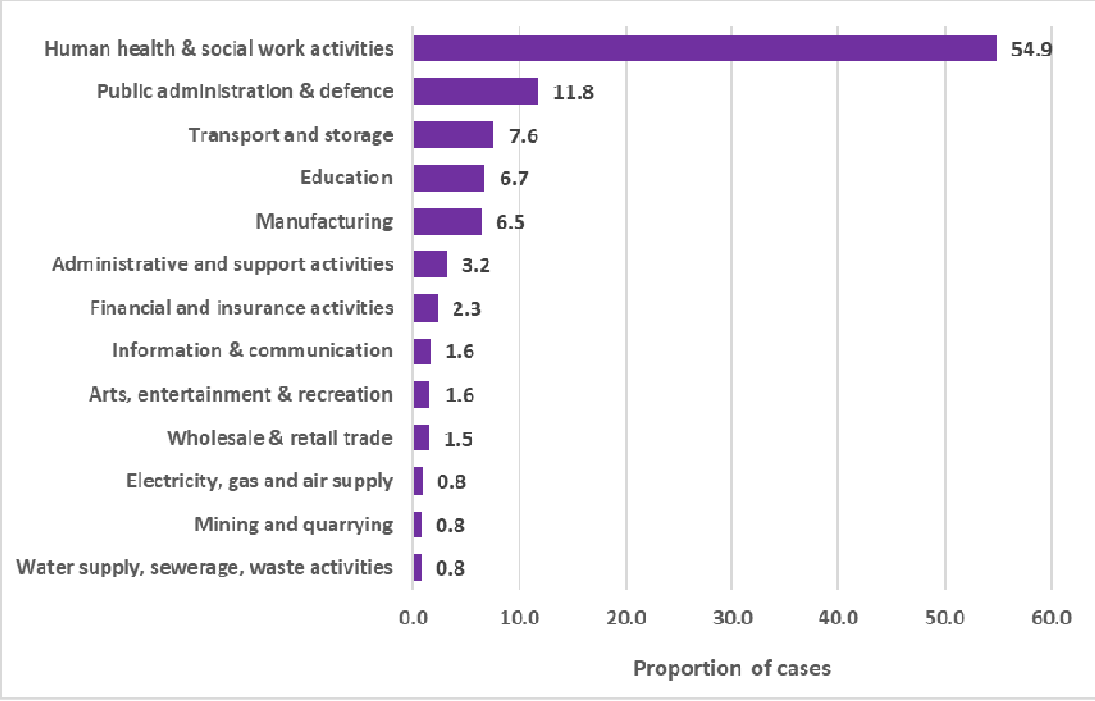

Figure 23 Proportion of cases of work-related mental ill-health by industry sector reported to OPRA (2018).

For GP reported mental ill-health cases, health and social work activities and education were the most frequently reported sectors (21.2%) followed by public administration and defence (15.2%) (Figure 24).

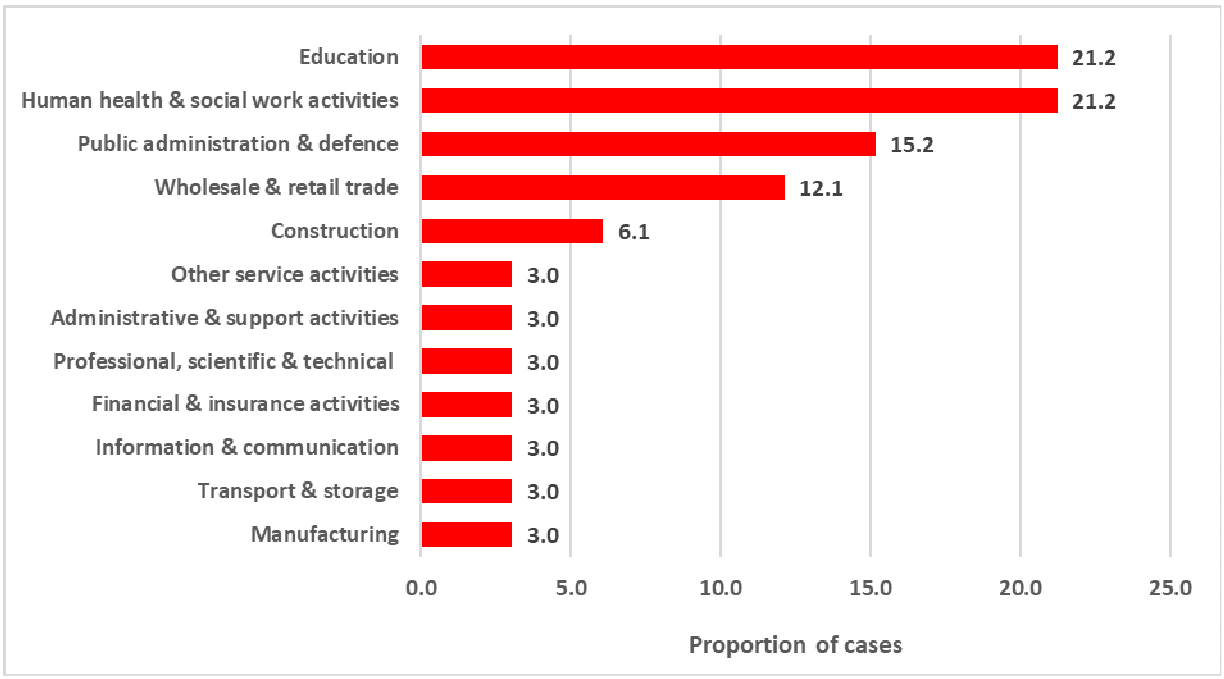

Figure 24 Proportion of cases of work-related mental ill-health by industry sector reported to THOR-GP (2018).

The proportion of work-related mental ill-health cases by major occupational grouping for cases reported by OPs and GPs is shown in Figure 25. For OP reported data occupations within SOC group 3, associate professional and technical make up the largest proportion (33.5%) followed by SOC group 2, professional occupations (17.7%) and within these two groupings the most frequently reported occupations were nurses (12%) and medical practitioners (11%). For mental ill-health cases reported by GPs, SOC group 2, professional occupations, comprised the largest proportion, and within this, secondary education teaching professionals (12%) was the most frequently reported occupation.

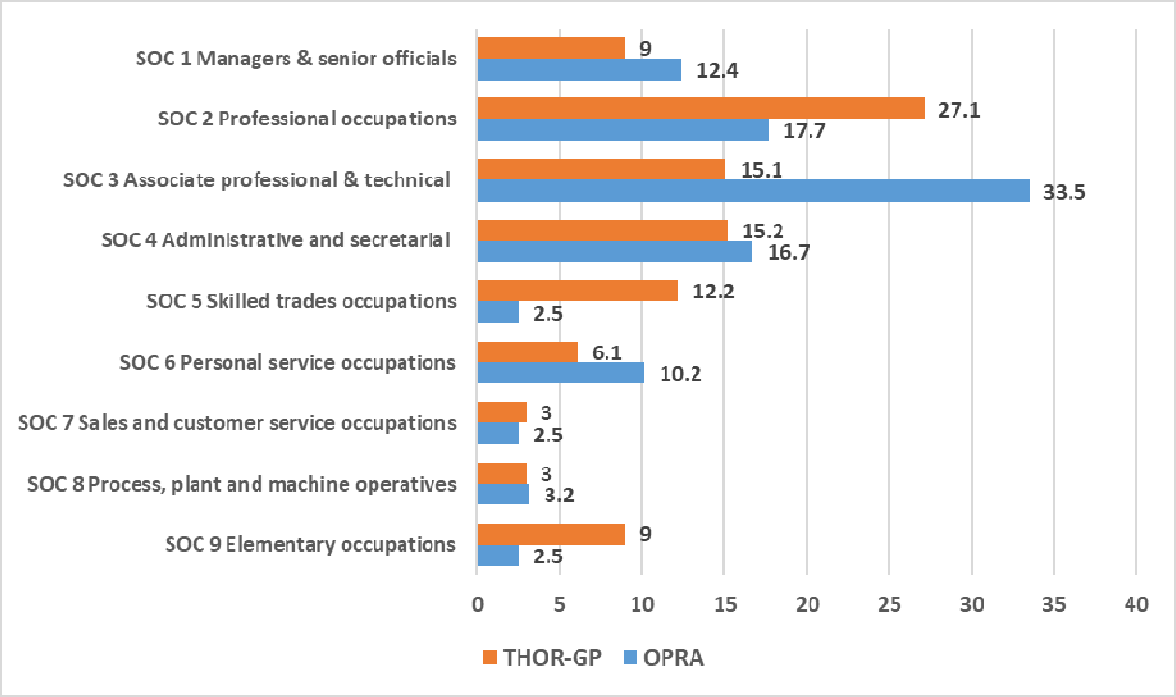

Figure 25 Proportion of cases of work-related mental ill-health by major occupational grouping reported to OPRA and THOR-GP (2018).

Physicians can report up to 3 precipitating events for each case of work-related mental ill-health reported to THOR. OPs recorded 303 precipitating events for the 205 cases and GPs recorded 48 events for the 33 cases reported in 2018 (Figure 26). For both reporting schemes, 'factors intrinsic to the job', which includes events associated with workload, demand, work schedule, poor management and responsibilities was reported most frequently (OPs 41%; GPs 29%) followed by 'interpersonal relationships' which includes bullying and difficult working relationships (OPs 24%; GPs 27%).

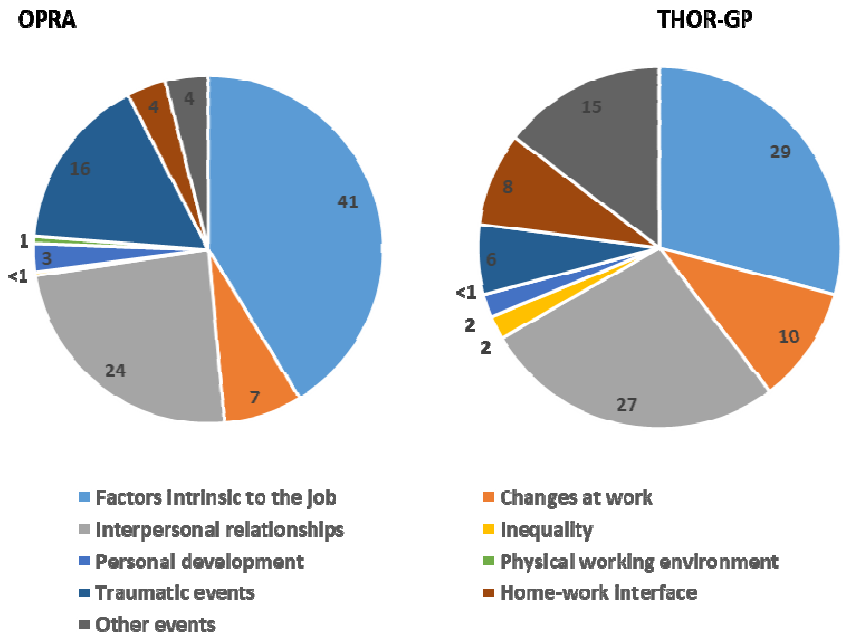

Figure 26 Proportion of precipitating events associated with work-related mental ill-health cases reported to OPRA and THOR-GP (2018)

3.6 OTHER WORK-RELATED ILL-HEALTH

In addition to the diagnostic categories outlined above, OPs and GPs can report other cases of work-related ill-health to THOR, for example, audiological disorders, infectious diseases and injuries. There have been 4 actual (37 estimated) cases of "other" work-related diseases reported to OPRA (Table 2) and 5 actual cases reported to THOR-GP (Table 3).

Table 2. Overview of "other" work-related diseases reported to OPRA in 2018.

Diagnosis	Sex	Age	Job/Industry	Suspected agent
Headache and post traumatic stress symptoms	M	46	Cash in transit officer/ Security	Attack at work
Metal FB in left mid finger	M	57	Electrical and mechanical fitter	Foreign body in finger
Organisational stress, memory loss, personal stressors	F	55	Physiotherapist manager/ Health NHS	Demand, control, change, personal
Vocal cord dysfunction	F	53	Nurse/ Healthcare	Hand gel

Table 3. Overview of "other" work-related diseases reported to THOR-GP in 2018.

Diagnosis	Sex	Age	Job/Industry	Suspected agent
Sleep apnoea, insomnia and poor diabetic control (type 2 diabetes)	M	68	Car park attendant/Security	Night shifts
Abdominal cramp, irritable bowel syndrome	M	23	Bank clerk/ Banking	Work related stress
Epilepsy	F	24	Baggage handler/ Ground staff airport	Night shifts
Vertigo	M	29	Tree surgeon/ Forestry	-
Migraine	M	25	Hospital doctor / Healthcare	Stress

4. CONCLUSION

This report provides an overview of the cases of work-related ill-health reported to THOR in 2018. Skin cases reported to THOR in 2018 were predominantly contact dermatitis cases, with clinical specialists also reporting a proportion of neoplasia cases and cases were reported most frequently from the health and social care sector and other service activities sector, which includes hairdressing and beauty. For work-related respiratory disease, chest physicians reported larger proportions of the longer latency, asbestos related diseases such as mesothelioma and pleural disease, whereas OPs and GPs reported mainly asthma or 'other' respiratory disease. The industry sectors reported most frequently for these respiratory cases were construction, manufacturing and mining and quarrying. The case mix for OP and GP reported work-related ill-health is similar with mental ill-health and musculoskeletal making up the largest proportions of cases (OP = 65% mental ill-health; 21% musculoskeletal and GP = 45% mental ill-health; 37% musculoskeletal) with much smaller proportions of respiratory, skin and other work-related ill-health reported. For both schemes, hand/wrist/arm and back problems were the anatomical sites most frequently reported for work-related musculoskeletal disorders, particularly within the health and social care and manufacturing sectors. Anxiety / depression and work-related stress continue to be the two main diagnostic categories reported most often by OPs and GPs to THOR. Cases in public sector industries such as healthcare, education and public administration and defence were reported most frequently by OPs and GPs. An initial comparison with data reported in 2017 shows that the case mix reported by the clinical physicians, occupational physicians and general practitioners to THOR

remains consistent with that reported in 2018. The key industry sectors reported most frequently in 2017 are also those reported most frequently in 2018, including health and social care (mental ill-health, musculoskeletal and skin), manufacturing (respiratory and musculoskeletal) construction (respiratory), other service activities (skin) education and public administration and defence (mental ill-health).

The average number of physicians reporting to THOR has decreased slightly across all schemes in 2018 compared to 2017. A recent recruitment drive has been undertaken and a number of new core and sample reporters (N=18) have joined the schemes. An audit of recruitment sources and registries has been planned for the autumn followed by another drive to boost recruitment.

The importance of THOR as an existing UK resource on WRIH is well-established, with the database generating numerous outputs which help inform HSE and others to determine their priorities and work programmes on occupational health. It also acts as a sentinel scheme to identify any new causes of WRIH. Over a thousand actual and over 4,500 estimated cases were added to the overall THOR database. These data will be included in the latest trends analyses.

APPENDIX 1 – PUBLICATIONS

Two papers using THOR data have been recently published:

Carder M, Seed MJ, Money A, Agius RM, van Tongeren M. Occupational and work-related respiratory disease attributed to cleaning products Occupational and Environmental Medicine Published Online First: 05 June 2019.

Seed MJ, Carder M, Gittins M, et al. Emerging trends in the UK incidence of occupational asthma: should we be worried? Occup Environ Med Published Online First: 01 April 2019.