MANCHESTER 1824
The University of Manchester

THOR

The Health and Occupation Research network

(Incorporating specialists' and THOR-GP reports)

http://www.medicine.manchester.ac.uk/oeh/research/thor

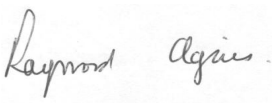
Dear colleague,

My colleagues and I are very aware that your commitment to the THOR reporting schemes is based on our shared belief in the importance of the data they generate. It is indeed heartening to note that these data continue to be accorded the designation of "National Statistics" by the UK Statistics Authority. However, in order to reward and retain your involvement we are expanding our offering of CPD related to THOR participation. Our CPD developments also help to recruit new reporters and to improve the quality of the reports we collect.

Thus we have recently revamped our EELAB (Electronic Experiential Learning, Audit and Benchmarking) CPD resource. EELAB had been accredited for CPD purposes by the RCGP from 2012-2014. Last year we sought, and have since obtained, CPD accreditation (for up to 5 credit units) from the Faculty of Occupational Medicine of the Royal College of Physicians (FOM-RCP) of London, as well as from the FOM-RCP Ireland. We have already made this version of EELAB available to occupational physicians (i.e. OPRA reporters). It provides more 'triggers', data and opportunity for reflective learning than the earlier pilot, and has been accessed by a number of reporters already. GP reporters in THOR-GP will also be noting a new interface in their web form which will also permit them to access EELAB and claim CPD credits. In due course we plan to extend this CPD facility to all THOR reporters i.e. including chest physicians (SWORD) and dermatologists (EPIDERM).

As regards funding, we are pleased to report that HSE has agreed in principle to further extend the funding of data collection from EPIDERM and SWORD until the end of 2017, with analysis in 2018. Whilst this is welcome news, we are continuing the dialogue with HSE to seek their support for OPRA and THOR-GP, but we also continue to explore other sources of funding.

Best wishes



Raymond Agius
Professor of Occupational and Environmental Medicine

2015 ANNUAL REPORT

This combined THOR and THOR-GP annual report covers cases received in the most recent year for which we have a full set of data, namely, January to December 2015. Additional information relating to the period January to March 2016 (i.e. information that you would have received in your 'usual' quarterly report) is provided in Appendix 1. A list of recent publications is provided in Appendix 2.

If you have any comments or suggestions on the type or presentation of information that you would like to see included in future reports then please contact THOR's Manager, Dr Melanie Carder at melanie.carder@manchester.ac.uk or phone 0161 275 5636. We look forward to hearing from you.

LEVEL OF PARTICIPATION

Over 1100 physicians currently participate in THOR / THOR-GP (as of June 2016).

Physicians can report either on a 'core' (reporting each month) or a 'sample' (reporting for one randomly selected month each year) basis. A total of 1538 actual cases, (7402 estimated cases) were reported during 2015, with 'estimated' cases being those reported by sample reporters multiplied by 12 and added to the 'core' cases.

The actual and estimated cases by major category and diagnostic group, for clinical specialists (chest physicians, dermatologists, occupational physicians (OPs) and general practitioners (GPs)) are shown in Table 1 (NB. only actual cases are provided for THOR-GP; methods for calculating estimated totals based on GP reports are under development).

Table 1 Estimated diagnoses* by major category and diagnostic group – January to December 2015

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	%
RESPIRATORY DISEASE	Asthma	74	118	*8*	6	50	*34*	1	20
	ascribed to sensitisation	*66*	*99*	-	-	-	-	-	-
	ascribed to irritation/RADS	*8*	*19*	-	-	-	-	-	-
	Unspecified	-	-	-	-	-	-	-	-
	Inhalation accidents	5	16	*1*	2	13	*9*	0	0
	Allergic alveolitis	10	10	*1*	0	0	*0*	0	0
	Bronchitis/emphysema	6	17	*1*	1	12	*8*	1	20
	Infectious disease	0	0	*0*	0	0	*0*	2	40
	Non-malignant pleural disease	135	564	*39*	0	0	*0*	0	0
	predominantly plaques	*107*	*470*	-	-	-	-	-	-
	predominantly diffuse	*22*	*55*	-	-	-	-	-	-
	Unspecified/other	*10*	*54*	-	-	-	-	-	-
	Mesothelioma	55	374	*26*	0	0	*0*	0	0
	Lung cancer	13	79	*5*	0	0	*0*	0	0
	Pneumoconiosis	67	210	*15*	0	0	*0*	0	0
	Other	46	101	*7*	7	73	*49*	1	20
	Total diagnoses	**411**	**1489**	**-**	**16**	**148**		**5**	**-**
	Total cases	**381**	**1448**	***100***	**16**	**148**	***100***	**5**	**100**

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	%
SKIN	Contact dermatitis	427	1296	75	28	237	86	6	60
	Allergic	*157*	*487*	-	-	-	-	-	-
	Irritant	*157*	*487*	-	-	-	-	-	-
	Allergic and irritant	*103*	*290*	-	-	-	-	-	-
	Unspecified	15	70	-	-	-	-	-	-
	Contact urticaria	15	26	2	0	0	0	0	0
	Folliculitis/acne	0	0	0	0	0	0	0	0
	Infective	1	1	<1	1	0	4	2	20
	Mechanical	2	2	<1	0	12	0	0	0
	Nail	2	24	1	0	0	0	1	10
	Neoplasia	47	377	22	0	0	0	0	0
	Other	2	13	1	4	26	9	1	10
	Total diagnoses	**496**	**1739**		**33**	**275**		**10**	
	Total cases	**479**	**1678**	***100***	**33**	**275**	***100***	**10**	***100***
MUSCULOSKELETAL	Hand/wrist/arm	**No case reports from clinical specialists**			70	455	32	19	25
	Elbow				13	79	5	4	5
	Shoulder				19	173	12	8	11
	Neck/thoracic spine				4	48	3	5	7
	Lumbar spine/trunk				44	440	31	27	36
	Hip/knee				13	101	7	6	8
	Ankle/foot				10	98	7	9	12
	Other				8	74	5	3	4
	Total diagnoses				**181**	**1468**	**-**	**81**	**-**
	Total cases				**177**	**1442**	***100***	**76**	***100***

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	**Estimated diagnoses**	***%***	**Actual diagnoses**	**Estimated diagnoses**	***%***	**Actual diagnoses**	***%***
MENTAL ILL-HEALTH	Anxiety/depression	**No case reports from clinical specialists**			123	970	*43*	16	*36*
	Post-traumatic stress disorder				9	86	*4*	1	*2*
	Other work-related stress				175	1297	*57*	28	*62*
	Alcohol or drug abuse				1	12	*1*	0	*0*
	Psychotic episode				0	0	*0*	0	*0*
	Other				9	64	*3*	1	*2*
	Total diagnoses				**317**	**2429**	**-**	**46**	**-**
	Total cases				**294**	**2263**	***100***	**45**	***100***

As more than one diagnosis may be reported the sum of percentages and total cases in each diagnostic category may be greater than 100%

OTHER CASES / SICKNESS ABSENCE

In addition to the categories described in Table 1, OPs and GPs report other diagnoses of work-related ill-health (WRIH) not classified within these major diagnostic groups.

In 2015 OPs reported 19 'other' cases of work-related ill-health; 7 reported as audiological disorders including 6 cases of noise induced hearing loss and 1 case reported as traumatic ear drum rupture attributed to the explosion of an airbag in an automotive fitter. Five of the 'other' cases reported were cases of lead poisoning in lead mill workers. The seven remaining cases OPs reported as being caused or aggravated by work were as follows: stress and miscarriage in a probation officer, anorexia nervosa in a utilities worker, vaginal prolapse attributed to lifting in a cook; hypertension exacerbated by constant nightshifts and a needlestick injury reported in healthcare workers and an anaphylactic reaction and multiple sclerosis reported in military personnel.

GPs reported 7 cases of 'other' work-related ill-health in 2015. These were reported as follows: sore eyes attributed to the air conditioning in a care home worker; Lyme disease in a forester; atrial fibrillation in a HGV driver; varicose veins due to prolonged standing in a dentist; recurrent mastitis in a dog groomer; needlestick injury in a nurse and conjunctivitis in a welder as a result of an eye injury.

Over two thirds of the cases of WRIH reported from general practice in 2015 were either certified sick from work or issued with 'may be fit' fit note advice (workplace adjustment etc.), see Figure 1. Of the cases where absence from work was certified, mental ill-health cases made up the largest proportion (50%) followed by musculoskeletal disorders (43%). In total, 1795 working days were attributed to the certified absent cases reported to THOR-GP in 2015. 15/22 cases (68%) of 'may be fit' notes were issued for musculoskeletal disorders and GPs mostly advised (10/15 cases) amended duties, for example, avoiding heavy lifting, not driving, doing office instead of physical work and reduced exposure to vibrating tools.

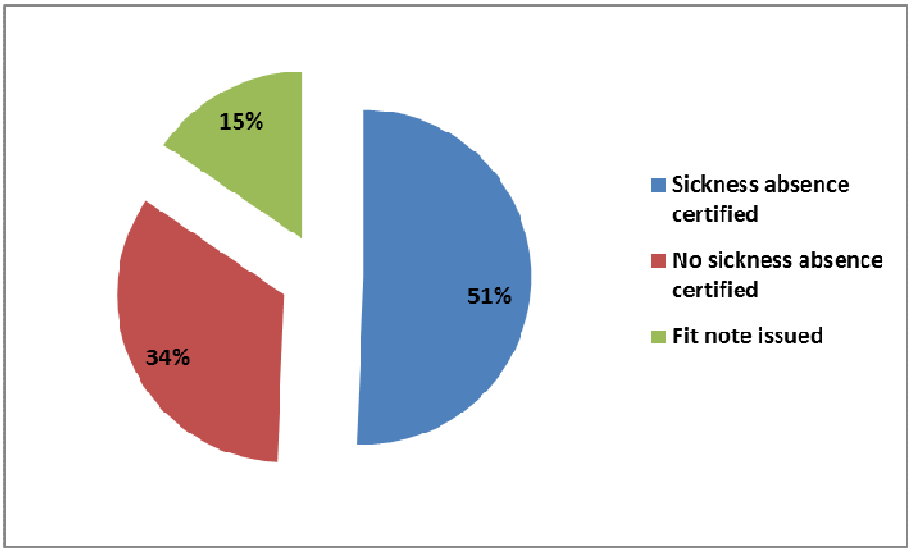


Figure 1 Proportion of GP reported WRIH cases by sickness certification category (THOR-GP 2015).

FEATURE – WORK-RELATED INFECTIOUS DISEASE

The **S**urveillance of **I**nfectious **D**isease **A**t **W**ork (SIDAW) surveillance scheme has ceased data collection as of January 2016; this feature will provide an overview of the scheme.

Background: SIDAW commenced in 1996 for consultants in communicable disease control (CCDC's) to report cases of work-related infectious disease. The UK Health and Safety Executive funded SIDAW until 2009 and the Centre for Occupational & Environmental Health (COEH) kept the scheme running until December 2015. A total of 203 CCDC's reported to the scheme during that period; all reporters returned cases or nil returns on a monthly (core) basis.

Data collected: the main diagnostic categories reportable to SIDAW were:

(A) Brucellosis	(B) Hepatitis	(C) Legionellosis
(D) Leptospirosis	(E) Ornithosis	(F) Pulmonary tuberculosis
(G) Q fever	(H) Other (inc. Scabies)	(X) Diarrhoeal disease

In addition to the main diagnostic category, CCDC's were asked to provide information on gender, age, postcode (first half), occupation, industry, suspected agent, date of symptom onset and whether classed as a single case or outbreak.

Data reported: A total of 17,487 case reports were collected between 1996-2015. Three quarters (75%) of the diagnoses were reported under diarrhoeal disease with a further 14.5% diagnosed as brucellosis, 7% diagnosed as scabies and much smaller proportions reported under the remaining categories, see Figure 2.

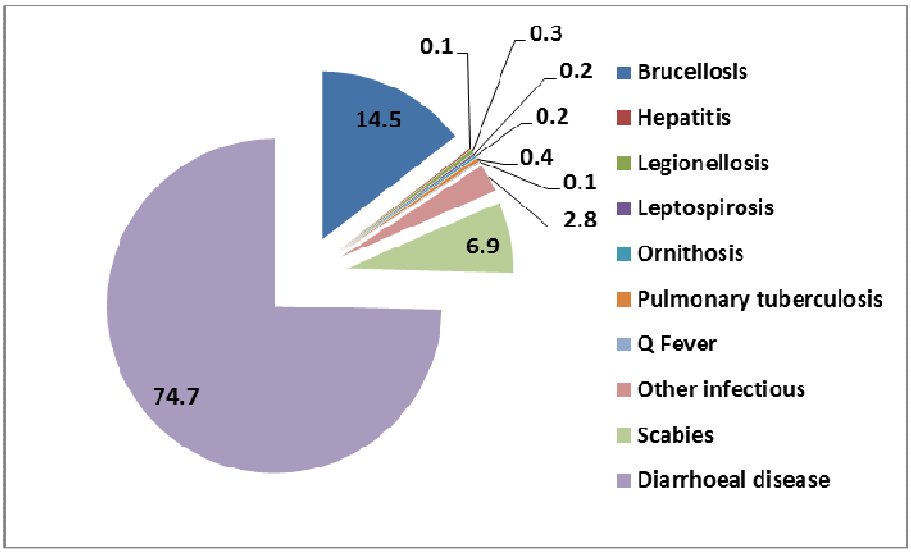


Figure 2 Cases of work-related infectious disease by diagnostic category reported by CCDC's to SIDAW (1996-2015)

The health and social care industry sector (hospitals, care homes, nursing homes etc.) was most frequently reported with cases of work-related infectious disease, accounting for nearly 80% of the cases submitted. Education and hotels & restaurants accounted for an additional 10% of cases reported, with the remaining 10% made up from cases reported in 11 different industrial sectors, see Figure 3.

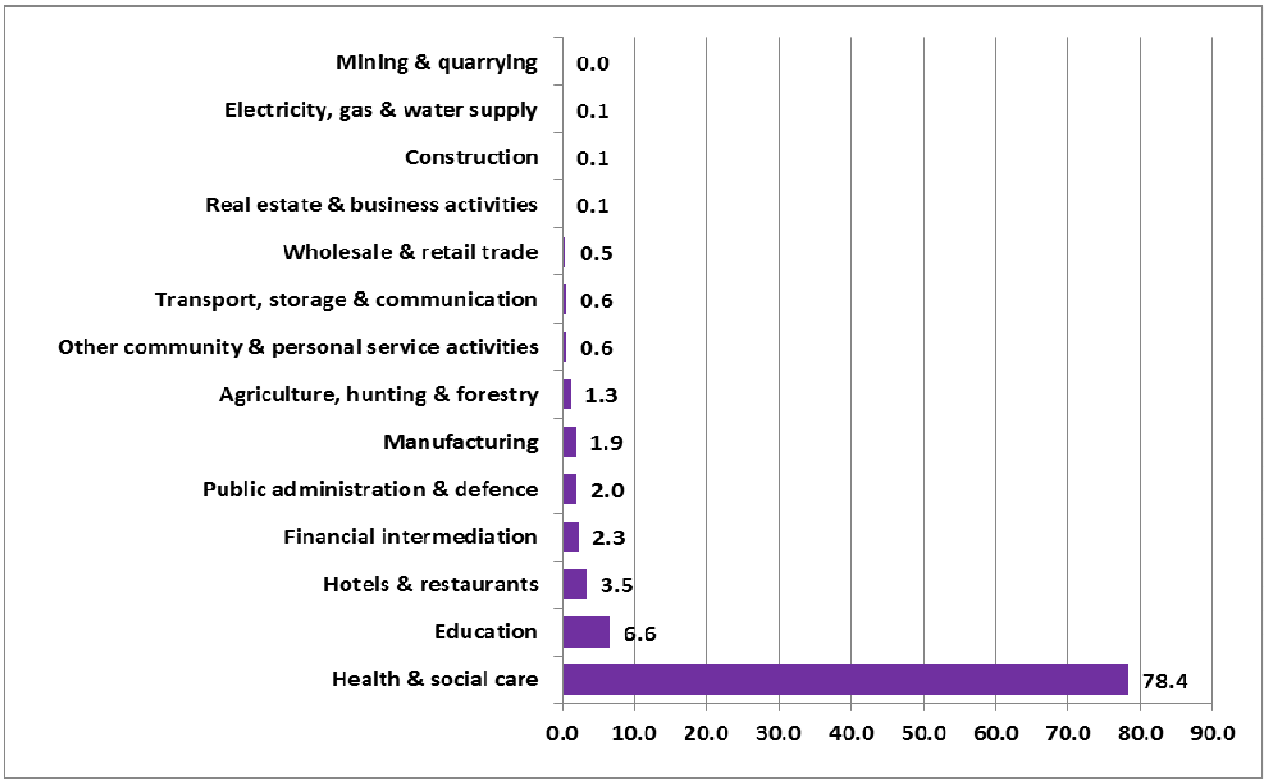


Figure 3 Proportion of work-related infectious disease by industrial sector reported by CCDC's to SIDAW (1996-2015)

Information relating to outbreaks and single cases of infection is requested on the SIDAW reporting card. Between 1996-2015, the number of outbreaks reported was 1117 which accounted for 13142 cases. Diarrhoeal disease made up the vast majority of outbreaks (94%) and reported outbreaks varied in size from two to more than 400 cases; in 65% of the outbreaks of diarrhoeal disease, norovirus (suspected or confirmed) was reported as the suspected agent.

Future surveillance: Whilst THOR no longer has a surveillance scheme dedicated to determining the incidence of work-related infectious disease, the existing schemes are still able to record these data. Respiratory physicians via SWORD report cases such as TB, Q fever and legionella, while dermatologists via EPIDERM submit reports such as tinea pedis, scabies and orf. In addition to these respiratory and dermatological infections, OPs and GPs are also able to collect information on disease such as MRSA, campylobacter and conjunctivitis.

BECK REPORT

We are most grateful to Dr Mark Wilkinson for providing the Beck Report, which provides a commentary for cases of work-related skin disease reported to THOR and THOR-GP throughout January to March 2016. Please note that the information used by Dr Wilkinson incorporates case reporting to EPIDERM, OPRA and THOR-GP, so the "numbers" cited here may differ to those within the table in Appendix 1.

BECK REPORT

I was surprised at a report of allergy to shellac in a baker. I've got so used to thinking of acrylate nails that are called gel or shellac by the public. True shellac is a resin secreted by the female lac bug, in the forests of India and Thailand[1]. The word lakh means 100,000 and presumably reflects the numbers of insects that swarm on host trees. Shellac is scraped from the bark of trees. The insects suck the sap of the tree and excrete the resin to form a tunnel-like tube. It is sold as dry flakes and dissolved in ethanol used as a brush-on colorant, food glaze and wood finish. 'Cooks.com' lists the uses of shellac predominantly as a coating for pastry ornaments on food.

A case of paronychia in a hairdresser this quarter emphasises another complication of wet work. Acute paronychia, most often due to Staphylococcal infection follows a break between the nail fold and cuticle as a consequence of trauma caused, for example, by nail biting, habit tick and manicure. Chronic paronychia occurs in those undertaking wet work and the cause is often multifactorial with dermatitis, Candida and Pseudomonas complicating the picture. It frequently results in nail dystrophy. Treatment of the chronic condition is aimed at reversing any predisposing factors such as wet work, with improved hand care and treatment of any complicating factors – frequently with a combined topical steroid/antifungal/antibacterial. Without correction of predisposing factors, the problem is frequently persistent.

Whilst we associate allergy to p-phenyenediamine with hairdressers, allergy to isophorone p-phenylene diamine (IPPD) in a car mechanic is another classic presentation of allergy to phenylenediamines. A case was reported this quarter from exposure in car tyres. I see allergy to this black rubber antioxidant much less often than in the past. Although related to p-phenylene diamine, IPPD does not typically cross react with an odds ratio of 10.3 (95% CI 7.6-13.8) in comparison to patients allergic to thiuram and carbamate rubber accelerators where the odds ratio for a cross reaction is 99.4 (95% CI 61.0-166.3)[2]. Paradoxically, most patients allergic to IPPD react to PPD but not vice versa[3].

Although we infrequently see reports of dermatitis from friction there were 2 this month: one from paper trauma in a printer, the other a sheep farmer from the manual handling of sheep by the horns - an unexpected consequence of budget cuts and lack of a sheep dog perhaps?

Dr Mark Wilkinson
Leeds General Infirmary

[1] https://en.wikipedia.org/wiki/Shellac
[2] Warburton KL, Bauer A, Chowdhury MM, et al. ESSCA results with the baseline series, 2009-2012: rubber allergens. Contact Dermatitis. 2015; 73: 305-312
[3] Schnuch A, Lessmann H, Frosch PJ, Uter W. p-phenylenediamine: the profile of an important allergen. Results of the IVDK. Br J Dermatol 2008; 159:379-86.

NEWS AND EVENTS

ESCD2016
European Society of Contact Dermatitis
Manchester, 14-17 September 2016

The Prosser White Centenary Symposium.

"Occupational Dermatoses. Past, Present and Future"

To be held on **Wednesday September 14th 2016** at Manchester Central Convention Complex.

The symposium will be jointly hosted by the European Society of Contact Dermatitis (ESCD) and Manchester University's Centre for Occupational and Environmental Health.

We have invited speakers of great distinction from all parts of the globe for what we are sure will be an exciting educational event. There will be the opportunity the following day to attend the **13th Congress of the European Society of Contact Dermatitis** in the same venue, when there will be further presentations and discussions on a number of occupational topics by leading authorities on the subject.

It is intended that the audience will include Occupational Physicians, Nurses, Hygienists and allied professionals from the UK, in addition to delegates attending the main ESCD meeting and interested UK Dermatologists.

The full programme can be viewed on http://escd2016.com/scientific-programme/pre-symposium/

EELAB – NEW FEATURES

We have recently updated and revamped our CPD resource - EELAB (Electronic Experiential Learning, Audit and Benchmarking), http://www.population-health.manchester.ac.uk/epidemiology/COEH/eelab/

Occupational physicians and general practitioners who currently use the resource will notice the changes from June 2016; in addition to more 'triggers' for auditing and benchmarking data, there is now the opportunity for reflective learning.

EELAB has been accredited for CPD purposes (for up to 5 CPD points) by the Faculty of Occupational Medicine of the Royal College of Physicians (FOM-RCP) of London, as well as from the FOM-RCP Ireland. In due course we plan to extend this CPD facility to all THOR reporters i.e. including chest physicians (SWORD) and dermatologists (EPIDERM).

If you have any comments or suggestions regarding the updated EELAB resource, please contact us either via the web form, or by emailing our Web Developer, Nazia Zarin: nazia.zarin@manchester.ac.uk

THOR CONTACTS

Many thanks for your continued support to THOR. Please feel free to contact us (Table 2) if you have any queries or require duplicate reporting cards / details about electronic reporting.

Table 2 THOR Contact details

SCHEME	email	phone
EPIDERM / SWORD	Christina.O'Connor@manchester.ac.uk	0161 275 7103
OPRA / THOR-GP	susan.taylor@manchester.ac.uk louise.hussey@manchester.ac.uk	0161 275 5531 0161 275 8492
DATA REQUESTS	melanie.carder@manchester.ac.uk	0161 275 5636
GENERAL ENQUIRIES	Annemarie.money@manchester.ac.uk	0161 275 8491

Appendix 1 Quarterly report – January-March 2016

Table A1. Estimated diagnoses by major category and group – January to March 2016

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	%
RESPIRATORY DISEASE	Asthma	10	10	*3*	2	24	*65*	0	0
	ascribed to sensitisation	*10*	*10*	-	-	-	-	-	-
	ascribed to irritation/RADS	-	-	-	-	-	-	-	-
	Unspecified	-	-	-	-	-	-	-	-
	Inhalation accidents	0	0	*0*	0	0	*0*	0	0
	Allergic alveolitis	2	2	*1*	0	0	*0*	0	0
	Bronchitis/emphysema	3	3	*1*	0	0	*0*	0	0
	Infectious disease	0	0	*0*	0	0	*0*	0	0
	Non-malignant pleural disease	34	177	*52*	0	0	*0*	0	0
	predominantly plaques	*29*	*139*	-	-	-	-	-	-
	predominantly diffuse	*3*	*14*	-	-	-	-	-	-
	Unspecified/other	*3*	*25*	-	-	-	-	-	-
	Mesothelioma	14	102	*30*	0	0	*0*	0	0
	Lung cancer	1	12	*4*	0	0	*0*	0	0
	Pneumoconiosis	11	22	*6*	1	1	*3*	0	0
	Other	4	15	*4*	1	12	*32*	0	0
	Total diagnoses	**79**	**343**		**4**	**37**		**0**	
	Total cases	**77**	**341**	***100***	**4**	**37**	***100***	**0**	**0**

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	%
SKIN	Contact dermatitis	96	360	*79*	6	50	*68*	2	*100*
	Allergic	*34*	*78*	-	-	-	-	-	-
	Irritant	*41*	*184*	-	-	-	-	-	-
	Allergic and irritant	*18*	73	-	-	-	-	-	-
	Unspecified	4	26	-	-	-	-	-	-
	Contact urticaria	3	14	*3*	0	0	*0*	0	*0*
	Folliculitis/acne	0	0	*0*	0	0	*0*	0	*0*
	Infective	1	1	*<1*	0	0	*0*	0	*0*
	Mechanical	0	0	*0*	1	12	*16*	0	*0*
	Nail	0	0	*0*	0	0	*0*	0	*0*
	Neoplasia	16	71	*16*	0	0	*0*	0	*0*
	Other	*2*	13	*3*	1	12	*16*	0	*0*
	Total diagnoses	**118**	**459**		**8**	**74**		**2**	
	Total cases	**117**	**458**	***100***	**8**	**74**	***100***	**2**	***100***
MUSCULOSKELETAL	Hand/wrist/arm	**No case reports from clinical specialists**			17	83	*52*	1	*17*
	Elbow				2	13	*8*	0	*0*
	Shoulder				1	12	*7*	1	*17*
	Neck/thoracic spine				1	1	*1*	1	*17*
	Lumbar spine/trunk				8	52	*32*	3	*50*
	Hip/knee				1	12	*7*	0	*0*
	Ankle/foot				0	0	*0*	1	*17*
	Other				0	0	*0*	0	*0*
	Total diagnoses				**30**	**173**		**7**	
	Total cases				**29**	**161**	***100***	**6**	***100***

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	%
MENTAL ILL-HEALTH	Anxiety/depression	**No case reports from clinical specialists**			30	206	*55*	1	*50*
	Post-traumatic stress disorder				0	0	*0*	0	*0*
	Other work-related stress				30	162	*43*	1	*50*
	Alcohol or drug abuse				1	12	*3*	0	*0*
	Psychotic episode				0	0	*0*	0	*0*
	Other				1	1	*1*	0	*0*
	Total diagnoses				**62**	**381**		**2**	
	Total cases				**59**	**378**	***100***	**2**	***100***

Other cases reported were as follows:

Occupational physicians – 8 cases of 'other' WRIH were reported this quarter: 6 were audiological cases; 5 of these were reported as noise induced hearing loss (NIHL); 2 of which were reported in army personnel, 2 in food production operatives and 1 in an offshore driller. In addition, there was a diagnosis of a perforated eardrum in a groundsman. The remaining cases were a report of staphylococcal infection in a midwife and aggravated IBS symptoms in a police officer

General practitioners – One case reported of a builder with a foreign body in their finger.

APPENDIX 2 RECENT THOR PUBLICATIONS

The following are recently published, or forthcoming, papers based on THOR work:

In press:

Hussey L, Thorley K and Agius R. **Reporting and prediction of work-related sickness absence by general practitioners**. In press. Occupational Medicine

Gittins M, McNamee R, Carter L and Holland F. **Voluntary reporting schemes and the influence of excess zeroes on estimating true incidence**. Submitted to The International Journal of Epidemiology.

Published:

Jarvis J, Seed MJ, Stocks SJ and Agius RM. (2015) **A refined QSAR model for prediction of chemical asthma hazard** *Occup Med (Lond)* 65 (8): 659-666

Carder M, Bensefa-Colas L, Mattioli S, Noone P, Stikova E, Valenty M and Telle-Lamberton M. (2015) **A review of occupational disease surveillance systems in Modernet countries.** *Occup Med (Lond)* 65 (8): 615-625

Money A, Carder M, Hussey L, Agius RM. (2015) **The utility of information collected by occupational disease monitoring systems.** *Occup Med (Lond)* 65 (8): 626-631

Stocks SJ, Jones K, Piney M and Agius RM**.** (2015) **Isocyanate exposure and asthma in the UK vehicle repair industry**. *Occup Med (Lond)* 65 (9): 713-8

Seed MJ, Enoch SJ, Agius RM. (2015) **Chemical determinants of occupational hypersensitivity pneumonitis** *Occup Med (Lond)* 65 (8): 673-681

Jabbour R, Turner S, Hussey L, Page F, Agius R. (2015) **Workplace injury data reported by occupational physicians and general practitioners.** *Occup Med (Lond)* 65 (4): 296-302

Urwin R, Warburton K, Carder M, Turner S, Agius R, Wilkinson SM. (2015) **Methylchloroisothiazolinone & methylisothiazolinone contact allergy: an occupational perspective.** Contact Dermatitis, 72(6):381-6

Hussey L, Money A, Gittins M, Agius R. (2015) ***Has the fit note reduced general practice sickness certification rates?*** *Occup Med (Lond)*, 65 (3): 182-189.