THOR

The Health and Occupation Research network

(Incorporating specialists' and THOR-GP reports)

http://www.population-health.manchester.ac.uk/epidemiology/COEH/research/thor/
Or
http://www.coeh.man.ac.uk/thor

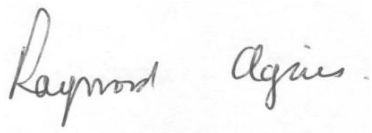
Dear colleague,

My colleagues and I are pleased to offer you yet another combined quarterly THOR report. Besides the descriptive statistical update which we share with you periodically we continue to include special features. On this occasion we have therefore provided you with an outline account of how the incidence of work-related ill-health varies by age. This will be amplified upon in one of our future publications. We also mention in the report our most recent publications which contribute to evaluation of interventions, as well as pointing to the need for further evaluations. All of this is only possible through your ongoing provision of data to us, and for this we remain very grateful.

As previously mentioned we continue to strive to seek further funding for the surveillance schemes, both from the prime funder i.e. the UK Health and Safety Executive (HSE) and from other sources. Since we are in an election year the funding situation is perhaps more uncertain.

As always please continue to get in touch with us if you have any queries such as those requiring information from our database. Dr Annemarie Money has recently completed an analysis of the data queries / requests that we have received, and this has been submitted for peer-reviewed publication.

Best wishes



Raymond Agius
Professor of Occupational and Environmental Medicine

QUARTERLY REPORT March 2015

This THOR and THOR-GP combined quarterly report summarises all the cases reported this quarter (October to December 2014).

If you have any comments regarding the type of information you would like to see included (or not) in future reports, or suggestions as to how we could improve the 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.

CASE REPORTS: October to December 2014

Over 1000 physicians currently participate in THOR / THOR-GP (as of December 2014). 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 350 actual, 1230 (estimated) cases were reported during this period, 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; since methods for calculating estimated totals based on GP reports are being developed and evaluated.)

Table 1 Actual and estimated cases by major category and diagnostic group, October to December 2014

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	%
RESPIRATORY DISEASE	Asthma	11	22	*9*	1	12		1	100
	ascribed to sensitisation	*11*	*22*	-	-	-	-	-	-
	ascribed to irritation/RADS	*1*	*12*	-	-	-	-	-	-
	Unspecified	-	-	-	-	-	-	-	-
	Inhalation accidents	0	0	*0*	0	0	*0*	0	0
	Allergic alveolitis	1	1	*<1*	0	0	*0*	0	0
	Bronchitis/emphysema	1	1	*<1*	0	0	*0*	0	0
	Infectious disease	0	0	*0*	0	0	*0*	0	0
	Non-malignant pleural disease	26	103	*40*	0	0	*0*	0	0
	predominantly plaques	*17*	*83*	-	-	-	-	-	-
	predominantly diffuse	*7*	*7*	-	-	-	-	-	-
	Unspecified/other	*2*	*13*	-	-	-	-	-	-
	Mesothelioma	14	91	*35*	0	0	*0*	0	0
	Lung cancer	7	18	*7*	0	0	*0*	0	0
	Pneumoconiosis	7	29	*11*	0	0	*0*	0	0
	Other	5	5	*2*	0	0	*0*	0	0
	Total diagnoses	**72**	**270**	**-**	**1**	**12**	**-**	**1**	**-**
	Total cases	**62**	**260**	***100***	**1**	**12**	***100***	**1**	**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%

CATEGORY	DIAGNOSTIC GROUP	CLINICAL SPECIALISTS			OCCUPATIONAL PHYSICIANS			GENERAL PRACTITIONERS	
		Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	Estimated diagnoses	%	Actual diagnoses	%
SKIN	Contact dermatitis	104	357	*85*	16	82	*97*	6	*86*
	Allergic	*49*	*148*	-	-	-	-	-	-
	Irritant	*40*	*150*	-	-	-	-	-	-
	Allergic and irritant	*14*	*58*	-	-	-	-	-	-
	Unspecified	1	1	-	-	-	-	-	-
	Contact urticaria	2	13	*3*	0	0	*0*	1	*14*
	Folliculitis/acne	0	0	*0*	0	0	*0*	1	*14*
	Infective	0	0	*0*	2	2	*2*	0	*0*
	Mechanical	1	1	*<1*	0	0	*0*	0	*0*
	Nail	1	1	*<1*	0	0	*0*	0	*0*
	Neoplasia	19	52	*12*	0	0	*0*	0	*0*
	Other	1	12	*3*	1	1	*1*	0	*0*
	Total diagnoses	**128**	**436**	**-**	**19**	**85**	**-**	**8**	**-**
	Total cases	**124**	**421**	***100***	**19**	**85**	***100***	**7**	***100***
MUSCULOSKELETAL	Hand/wrist/arm	**No case reports from clinical specialists**			11	33	*30*	4	*22*
	Elbow				2	2	*2*	1	*6*
	Shoulder				1	12	*11*	1	*6*
	Neck/thoracic spine				3	14	*13*	0	*0*
	Lumbar spine/trunk				4	26	*23*	5	*28*
	Hip/knee				1	12	*11*	4	*22*
	Ankle/foot				1	12	*11*	3	*17*
	Other				2	2	*2*	2	*11*
	Total diagnoses				**25**	**113**	**-**	**20**	**-**
	Total cases				**23**	**111**	***100***	**18**	***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%

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**			47	157	*52*	8	*57*
	Post-traumatic stress disorder				3	36	*12*	0	*0*
	Other work-related stress				36	135	*41*	5	*36*
	Alcohol or drug abuse				0	0	*0*	0	*0*
	Psychotic episode				0	0	*0*	0	*0*
	Other				2	2	*1*	1	*7*
	Total diagnoses				**88**	**330**	**-**	**14**	**-**
	Total cases				**82**	**302**	***100***	**14**	***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%

QUARTERLY FEATURE

WORK-RELATED ILL-HEALTH AND AGE

Each quarter we focus on one aspect of work-related ill-health as reported to THOR by clinical specialists, occupational physicians and general practitioners. Due to the fact that the UK population is ageing, there has been increasing awareness of how this will affect the demographics of the working population and the health implications associated with this. It is estimated by the Office for National Statistics that a third of workers will be aged over 50 by 2020[1]. Employers will be expected to make work more feasible for older workers to enable them to work up to, and beyond, State Pension Age and this will include making allowances for the effects of age on health and the interaction with work.

In light of these issues we thought it might be interesting to have a look at the work-related ill-health reported to THOR and how this varies with increasing age.

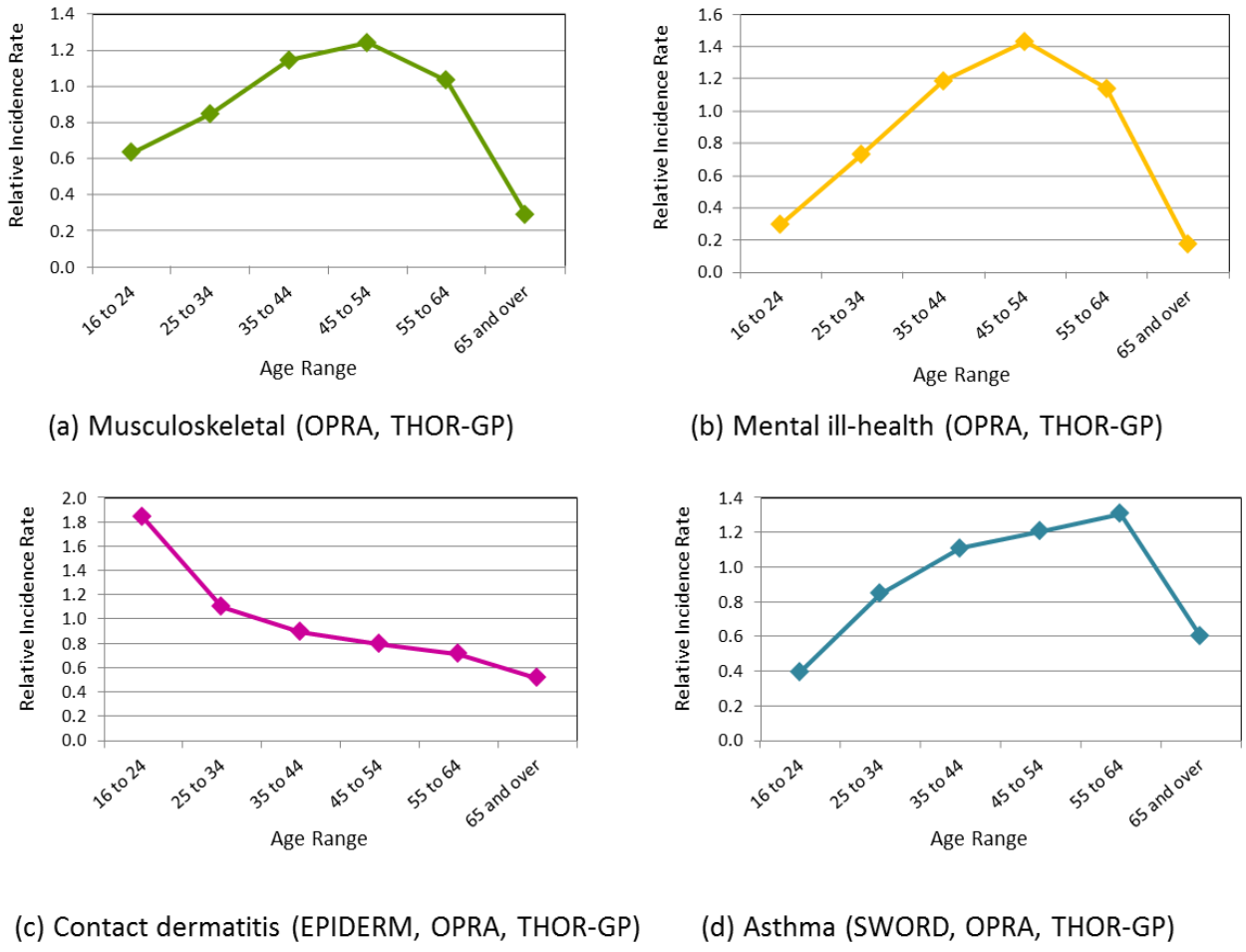


Figure 1. Relative incidence rate of work-related ill-health by age group (2006 to 2014)*

**Estimated incidence rate relative to rate for all ages combined*

Figure 1 shows the relative incidence rates for four diagnostic groups. For musculoskeletal and mental ill-health, rates increase with age and peak at the 45 to 54 age group then decrease with increasing age. For work-related asthma, rates peak at the 55 to 64 age group. The pattern is completely different however for contact dermatitis; rates are highest within the youngest age group and then gradually fall with increasing age. This is due to the rate of contact dermatitis being so high in occupations such as hairdressing which employs higher proportions of younger workers.

These graphs may be misleading; the fall in rates in the oldest age group is most likely due to the healthy worker effect, i.e. a much smaller proportion of this group (beyond State Pension Age) are in work, and those that are will be those fit enough to do so. Figure 2 is a graph taken from a report published by ONS which shows the proportion of the population employed. Of note the figures shows the '50-State Pension Age' and 'Over State Pension Age' group have been increasing over the last decade. In addition of those that do work, a much higher proportion of older workers do so on a part-time basis.

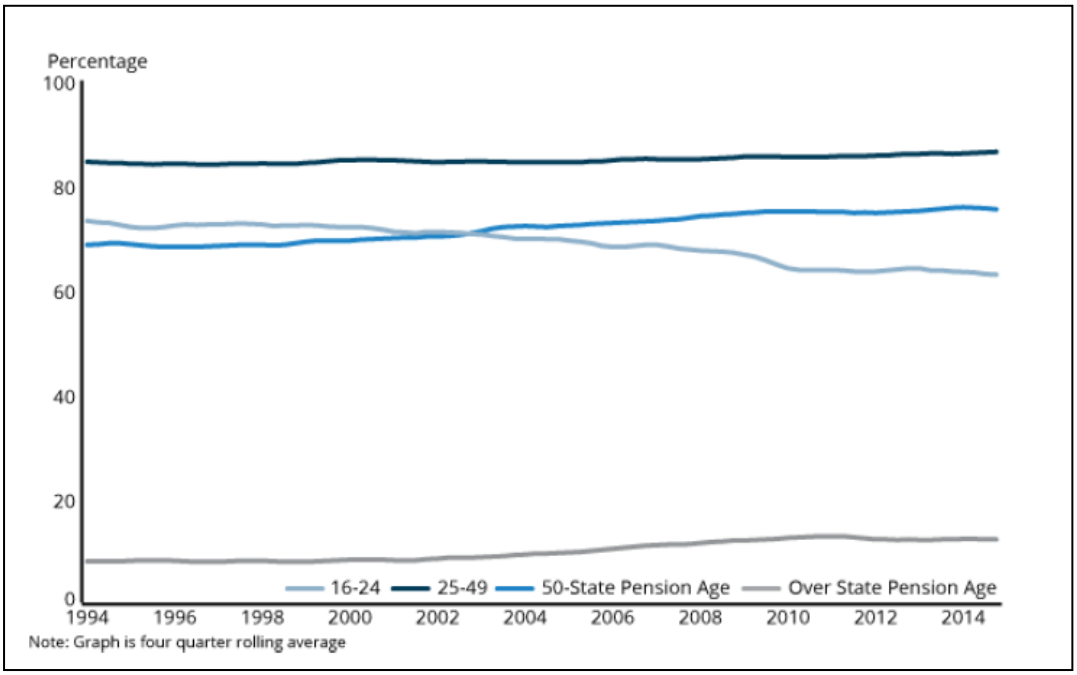


Figure 2. Participation (in the labour market) rates for people aged 16 – State Pension Age by age group, Jan-Mar 1994 to Oct – Dec 2014, UK[2]

A similar pattern (increase with age and then fall in oldest age group) is shown when using estimated rates calculated using GP reported certified sickness absence data (Figure 3).

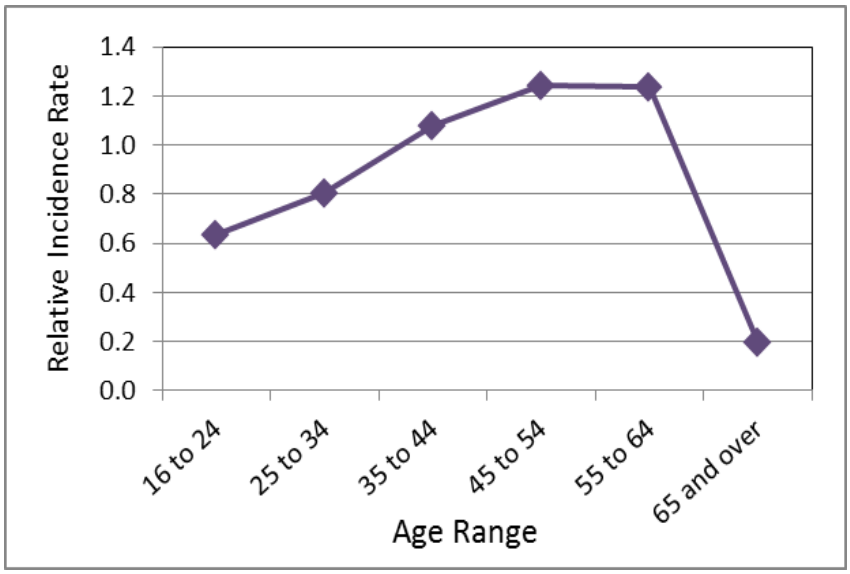


Figure 3. Relative rate of sickness absence days certified, all cases of work-related ill-health (THOR-GP 2006 to 2014)*
**Estimated rate of days sickness absence certified relative to rate for all ages combined*

There are many potential benefits in retaining older workers in employment, not only to the worker themselves, enabling individuals to maintain social networks, meaningful activity and financial stability, but also for employers. Studies have shown that older workers may be more dedicated workers and have fewer sickness absences. It has been shown that skills, experience and maturity of older workers can outweigh potential problems associated with age-related ill-health[3].

1. Hotopp, U. The ageing workforce: A health issue. Economic & Labour market review. The Health & Safety Executive. Office for National Statistics. February 2007
2. Participation rates in the UK. Office for National Statistics. http://www.ons.gov.uk/ons/dcp171766_398886.pdf
3. Ageing workers. European Agency for Health and Safety at Work. https://osha.europa.eu/en/priority_groups/ageingworkers/index_html

BECK REPORT

We are most grateful to Dr Mark Wilkinson for this quarter's 'Beck Report', which provides a commentary for cases of work-related skin disease reported to THOR and THOR-GP this quarter.

This quarter, industrial spray painting featured strongly with reports of contact allergy to virtually all of the potential exposures. Of 8 cases, 7 were sensitised to epoxy resins and hardeners. 2 of these were also allergic to isocyanates and another sensitised to acrylates alone.

Both isocyanates and acrylates also cause occupational asthma although there was no suggestion of this amongst the cases reported here. Approximately 13% of the (242) cases of asthma reported by chest physicians to SWORD (2012-2014) were attributed to these two agents, with isocyanates being the second most frequently reported agent after flour. Paint spraying was reported as the occupation in 6 of these cases. Isocyanates were also the reported exposure for contact allergy in a manufacturer of carpet underlay. When testing for isocyanate allergy the allergen needs to be stored in a freezer because the volatility of the allergen means that even when stored in a fridge the stated concentration is rapidly depleted.

We're all familiar with individuals developing Pseudomonas folliculitis from Jacuzzis in a leisure context when inadequately sterilised water is used. This quarter a hydrotherapist developed folliculitis when their normal pool wasn't available. Other reported transmissible infections include *Mycobacterium marinum*, tinea, viral warts and molluscum. Apart from their irritant effect, the chemicals used to sterilise the water have also rarely been reported to result in an allergic contact dermatitis. I was not aware, however, that degradation products from these when reacted with 'organic material' can form trihalomethanes which are reported human carcinogens associated with bladder cancer[1].

I felt extremely sorry for the bar worker who was delegated to spend the morning squeezing limes to make a cocktail mix. She then had to walk on a sunny day to another venue in the chain to work the afternoon shift. The following day she was admitted to hospital with an extreme blistering reaction to the hands which required systemic steroid to settle before being discharged home a few days later. Psoralen containing plants are well recognised to cause photo toxicity in outdoor workers but in this instance the hazard wasn't appreciated. Perhaps I should think twice about what I put in my gin!

1. De Souza A, Cohen D E. Swimming pool worker dermatosis. Rustemeyer T, Elsner P, John SM, Maibach HI. Kanerva's Occupational Skin Diseases. 2nd Ed Springer Verlag (Berlin) 2012; 193: 1701-8

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THOR News

Published editorial

Professor Agius and Dr Hussey recently wrote an invited editorial for Occupational & Environmental Medicine (OEM). This is available on-line (ahead of publication) from the OEM website http://oem.bmj.com/content/early/2015/02/19/oemed-2014-102685.short?g=w_oem_ahead_tab. The article 'Certified sickness absence: does the 'fit note' work?' discusses the publication of studies examining how affective the introduction of the fit note has been in reducing rates of sickness absence since its introduction in 2010. It also highlights the need for a thorough evaluation of the Fit for Work service; this scheme is currently being piloted and soon to be rolled out nationally. It is proposed that this service will enable GPs to refer patients for health and work advice after they have been absent from work for 4 weeks or more with a view to aiding an earlier return to work.

THOR paper in the media

A paper recently published examining EPIDERM data has had some attention from the media, such as the article in BMJ Careers found at the following link http://careers.bmj.com/careers/advice/view-artcle.html?id=20021042&articleType=news
The article by Stocks *et al*[1] has shown how hand washing campaigns aimed at preventing infections from Methicillin Resistant *Staphyloccus aureus* (MRSA) and other resistant bacteria have led to a rise in dermatitis in healthcare workers. The research outlined in the paper showed that the incidence of dermatitis in health care workers rose 4.5 times from 1996 to 2012.

1. Stocks SJ, McNamee R, Turner S, Carder M, Agius RM. The impact of national level interventions to improve hygiene on the incidence of irritant contact dermatitis in healthcare workers: changes in incidence from 1996-2012 and interrupted times series analysis. *Br J Dermatol* 2015, doi:10.1111/bjd.13719

Annual Advisory Committee Meetings

Between March and June the Advisory Committee meetings are held at COEH. These are an opportunity for us to update committee members on THOR progress and also for the THOR team to benefit from the advice of experts in their field. The SWORD meeting was held on 26th March and included informative discussions on issues such as how data on cases of occupational ill-health can inform about risk of exposure to harmful substances in the wider environment. The EPIDERM meeting is due to be held on 7th May followed by OPRA on 18th June.

THOR CONTACTS

Many thanks for your continued support of THOR, please contact us (Table 2) if you have any queries or data requests.

Table 2 THOR Contact details

SCHEME	email	Phone
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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
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