

Mobbs Travelling Fellowship Report, March 2011 – Luke Walsh MFOM

Introduction

The Mobbs Travelling Fellowship 2011 enabled me to have (i) the experience of, and exposure to, the practice of occupational medicine in the agricultural sector by attending the National Centre for Agricultural Health (NCAH), Finnish Institute of Occupational Health (FIOH), Kuopio, Finland; and (ii) the opportunity to enhance my knowledge and core skills by attending the Cochrane Occupational Safety and Health Review Group's Basic Systematic Review course at the Finnish Institute of Occupational Health, Helsinki, Finland.

Visit to the National Centre for Agricultural Health (NCAH), Finnish Institute of Occupational Health (FIOH), Kuopio, Finland.

Background

Working in agriculture is one of the most dangerous ways to make a living in Britain with the highest fatality rate for any industrial sector. Although only around 1.5% of the working population is employed in agriculture, this sector accounted for one in five work-related deaths between 1 April 2009 and 31 March 2010 [Health and Safety Executive (HSE)]. The five-year average for agriculture is 37 deaths per year; a fatality rate of 8.2 per 100,000 people (compared with 2 per 100,000 for construction workers). The number of reported major injuries (such as severe head injury, broken bones, amputations, etc.) often exceeds 600 per year. The HSE estimates that only around 30% of agricultural injuries are reported. Many health conditions resulting from occupational exposures (musculoskeletal disorders, respiratory diseases, skin diseases, noise-induced hearing loss, zoonoses, poisonings, etc) are not captured in the HSE statistics.

Despite being a high risk worker group, farmers are relatively underserved by occupational health and safety services in Britain.

I travelled to Finland to find out about the Finnish model of occupational health and safety services for farmers.

National Centre for Agricultural Health (NCAH), Finnish Institute of Occupational Health (FIOH), Kuopio, Finland

In Finland, an employer has a legal duty to provide and pay for occupational health services for its employees [Occupational Health Care Act 2001]. Finland therefore provides for occupational health service cover for farmers, although joining is voluntary for self-employed farmers.

Since 1979, Farmers' Occupational Health Services (FOHS) have been developed by The Finnish Institute of Occupational Health (FIOH) in collaboration with the Farmer's Social Insurance Institution (FSII).

In 1999, a National Centre for Agricultural Health (NCAH) was founded by legislation to aid the continuous development of FOHS. Based at the Regional FIOH at Kuopio, NCAH employs leading experts in working conditions and occupational health within the agricultural sector. The tasks of NCAH include improving the effectiveness and coverage of FOHS, providing information and training, and developing the FOHS through evaluation research.

I was introduced to the activities of FIOH and to the NCAH through a programme of informative presentations and a tour organised and hosted by **Kirsti Taattola, Senior Advisor**.

Birgitta Kinnunen, Researcher, presented the background to the provision of occupational health services in Finland, which is underpinned by legislation [Occupational Health Care Act 2001]. Active farmers are required to carry insurance against disability, death and injuries at work. The law requires the Farmer's Social Insurance Institution to exempt 20% of the accident insurance premium for those who have joined FOHS and received regular farm visits. FOHS is subsidised from tax revenues so that farmers pay only 40-50% of the costs. In 2010, about 40% of Finland's 78,558 insured farmers were estimated to be covered by FOHS. About 130 municipal health centres and 30 private OHS units provide FOHS.

Once a farmer has joined FOHS, an occupational health nurse (and/or occupational health physician and/or physiotherapist) and a local agricultural advisor visit the farm to survey working conditions i.e. assess risks. Special attention is paid to:

- dusts
- pesticides and other chemical hazards
- noise and vibration
- work postures and movements that may cause physical strain
- accident risks and first-aid readiness
- personal protection

When indicated, assessment of working conditions on farms is supplemented using occupational hygiene measurements. The farmer is informed and provided with written feedback of the hazards found in work and, in consultation with the agricultural advisor, detailed recommendations to avoid them through changes in working methods, renovation of buildings or machinery, personal protective equipment, etc. According to the protocol, working conditions are checked every two years for as long as needed.

A health check is done by the occupational health nurse. The check includes the following:

- history of general health and health behaviour
- height, weight, body mass index, blood pressure, alcohol audit
- spirometry (lung function)
- musculoskeletal assessment
- work ability index

- eyesight test
- mental wellbeing status (Beck depression inventory, Bergen burnout indicator)
- urine glucose
- tetanus immunisation if needed
- audiogram (if exposed to noise)
- blood tests where indicated

During the health check, possible problems in the farmer's work and health are discussed. The need for more extensive examination by an occupational health physician is considered (to diagnose occupational diseases or if referral for rehabilitation is required, for example).

Continuous development of FOHS is informed by client satisfaction surveys. **Helena Länsimies-Antikainen, Project Manager** described an ongoing project (HAASTE) to develop FOHS by clarifying farmers' needs and expectations and improving the focus of preventive services.

Kirsti Taattola, Senior Advisor described the continuous challenge to get farmers more active in adopting a safety culture and improving their working conditions. FIOH set up special training courses to give participants an overview of the health risks in farm work, basic skills for agricultural risk assessment and information about control measures. The effectiveness of FOHS is evident in the farmer's increased knowledge about hazardous exposures. Farmers accessing FOHS purchase more personal protective equipment (PPE) for respiratory, hearing and skin protection and first aid readiness is increased. Challenges for the future are to increase coverage of FOHS to 70% of insured farmers, increased networking and cooperation to get farmers to internalise the importance of safety behaviour and achieve a measurable reduction in injuries and ill health.

Kirsti also presented a collection of photographs to illustrate some of the common hazards on Finnish farms.

Anne Torpström, MD, Specialist in Occupational Medicine together with **Paula Kontio, Occupational Health Nurse Specialist** presented graphs and statistics from the Finnish Register of Occupational Diseases and the Farmers' Social Insurance Institution compensation scheme. Common occupational diseases reported each year in farmers include respiratory (asthma, rhinitis, allergic alveolitis), skin (contact dermatitis), and musculoskeletal conditions (carpal tunnel syndrome, epicondylitis, tenosynovitis), hearing loss and zoonotic conditions.

Kyösti Louhelainen, Project Manager highlighted some of the chemical and biological hazards on farms, illustrated by occupational hygiene measurements and photos. Carbon dioxide and ammonia can be measured in cowhouses as a proxy measure of ventilation. Hydrogen sulphide is a rare gas but has caused fatalities during liquid manure handling. Farmers' exposure to inhalable dust in cowhouses has dramatically reduced in the last 20 years. Cow dander is a major cause of occupational respiratory disease in Finland. Also,

several species of storage mite found in agricultural buildings are allergenic and sensitised individuals may suffer rhinitis and/or asthma.

The presentation was followed by a practical session looking at personal protective equipment and first aid equipment available to farmers from FIOH's vast collection.

The Kuopio declaration against fatal injuries in agriculture

In August 2006, participants of the Nordic Meeting on Agricultural Occupational Safety and Health held in Kuopio, Finland, discussed the tragic development with increasing numbers of fatal injuries in agriculture, and declared a number of suggested actions to improve this situation:

- Establish a vision and target for zero fatal injuries in agriculture
- By the year 2012 – there should be no fatal injuries in Nordic agriculture
- Develop national action plans against injuries in agriculture involving all relevant stakeholders, such as authorities, farmers' organisations, research institutes and universities, private companies, individual farmers as well as everyone else working in the agriculture sector
- Establish and enhance national resource/information and coordination centres for agricultural health and safety
- Comprehensive occupational health services should be available to everyone working in the agricultural sector
- Detailed and reliable statistics on injuries in agriculture should be presented at a yearly basis
- Information and education about health and safety needs to be further developed and implemented for farmers and others working in agriculture
- Education about health, safety & leadership should be implemented in the whole education system from pre-school to university.

With this declaration the Nordic Meeting challenged the authorities and stakeholders to join in the effort and work towards achieving the vision of zero fatal injuries in agriculture.

It is still too early to say whether the national action plans from the Kuopio declaration have made any difference. The next Nordic meeting will take place 22-24 August 2011 in Dublin, organised jointly by the Health and Safety Authority (www.hsa.ie) and Teagasc – the Irish Agriculture and Food Development Authority (www.teagasc.ie) as an occasional meeting in the rota of Nordic Meetings on Agricultural Occupational Safety and Health. It will be a further opportunity for international collaboration to establish prevention initiatives to achieve reductions in fatal accidents, serious injury and ill-health across the agricultural sector.

The Cochrane Occupational Safety and Health Review Group's Basic Systematic Review Course

In addition to the visit described above, I attended the Cochrane Occupational Safety and Health Review Group's Basic Systematic Review course as part of the Mobbs Travelling Fellowship. The following is my review of the course.

Who is it for?

Target groups are physicians, researchers and anyone interested in reading and interpreting medical literature and who wants to learn to synthesise it.

What are the course objectives?

After completing the course participants will be familiar with the aims and construction of Cochrane Reviews and understand the classification of occupational health intervention studies. Participants will gain skills in systematic searching, interpreting basic statistical data and critical assessment of the medical literature.

Why did you do it?

I developed an interest in occupational injuries in the agricultural industry and came across a Cochrane systematic review during a search of the literature. I had been aware of Cochrane systematic reviews since medical school but had not invested the time to read full systematic reviews before. I attended this course to gain a greater understanding of systematic reviews.

Where does it take place?

The course is run at the Finnish Institute of Occupational Health, Helsinki, Finland. This location is easy to access by tram from the city centre.

The language of the course is English.

There are other Cochrane courses in the United Kingdom but the Finnish Institute of Occupational Health holds the distinction of hosting the Cochrane Occupational Safety and Health Review Group. Also, the course attracts international colleagues for cross pollination of ideas and collaboration. Course leaders **Jani Ruotsalainen** and **Jos Verbeek** teach both days of the course.

How is it structured?

This is a two-day course delivered in an interactive style in a relaxed and informal atmosphere. Each day starts at 0900h and finishes at 1600h with regular coffee breaks and a 45min lunch break. The format includes a mixture of lectures, group discussions, demonstrations and interactive practical sessions to give participants the knowledge, tools and confidence to formulate questions, undertake a literature search and critically assess methodological quality.

What is covered?

The course starts with general background to Cochrane systematic reviews with an introduction to the different roles in a review team and the procedure involved in making a Cochrane review. Basic statistics is covered early to aid interpretation in later exercises.

Each candidate is encouraged to formulate review topics in the **Participants Intervention Comparison Outcome (PICO)** format and think about study designs. Individual feedback is given and improvements are suggested. Other practical exercises include coding of abstracts and use of a measurement tool (AMSTAR) to assess the methodological quality of a couple of systematic reviews.

There is a course meal in the evening.

The second day starts with tips on how to read a Cochrane systematic review. Practical exercises cover systematic search strategies, data extraction, study inclusion/exclusion and risk of bias assessment. The course leaders provide a live demonstration of Review Manager (RevMan5), the software used for preparing and maintaining Cochrane systematic reviews and useful information on how to download it for free. The course leaders highlight several other useful online resources.

The course ends with a taste of the Advanced Course, covering meta-analysis (a statistical procedure that integrates the results of several independent studies considered to be “combinable”) and appropriateness of combining results of studies.

Is there an assessment?

There is no formal assessment during the course. Close supervision during the practical sessions and the interactive tutorials mean delegates get plenty of constructive feedback.

How much does it cost?

The course costs 430 € which includes all course materials and refreshments but does not include lunch, course dinner or accommodation. Low cost carriers fly to Helsinki and reasonably priced hotel accommodation can be found in the city centre.

Was it worth it?

The course is excellent value for money. The course is well designed to cover a general overview of systematic reviews without being too intense. I found the course very practical and enjoyable and it achieved all the objectives. Attending the course has increased my confidence in systematic searching and interpretation of the medical literature. The course would benefit trainees who are looking for ideas for their dissertation. It would also benefit anyone interested in undertaking a review of the medical literature.

Tips: Register your interest and book early to ensure a place on the next course. No formal preparation or specialist knowledge is essential. Time devoted to reading before the course

will pay dividends in discussions. If you are not familiar with the format of Cochrane systematic reviews, visit the Cochrane Occupational Safety and Health Review Group's website (<http://osh.cochrane.org/>). To make the most of the course, think about a topic that is of interest to you to help formulate a research question and get feedback. For further information contact **Jani Ruotsalainen**, course leader (jani.ruotsalainen@ttl.fi).

Conclusion

The Mobbs Travelling Fellowship 2011 enabled me to visit the National Centre for Agricultural Health and gave me the opportunity to listen to and network with some of the leading experts in working conditions and occupational health within the agricultural sector. The development of occupational health services for Finnish farmers is a model of how to organise occupational health services in a particularly hazardous line of work. Through its multidisciplinary research and expert organisation, provision of training, information and specialist services, FOHS has developed a solid base for improving working conditions on farms. The occupational disease registers and compensation statistics are important sources of data for tracking trends over time. I hope to use the knowledge gained to raise awareness and engage rural General Practitioners in an educational programme and other initiatives to improve the delivery of occupational health services to a farming community in North Cumbria. In addition, having attended the Cochrane Occupational Safety and Health Review Group's Basic Systematic Review course, I hope to collaborate on a Cochrane systematic review of interventions to prevent fatal accidents in agricultural workers.

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