



**The Collection and Use of Occupational Information in Clinical
Settings
CREOD Research Summary
March 2023**

BACKGROUND

Work is an important determinant of health. Ideally information about determinants of health including work should be contained in the medical record and used by the clinician in their practice. This is particularly important for diseases where removing the worker from the workplace exposure is key to management. It also could be used for prevention in the clinical setting. If there was the ability to link medical records with other health records, this could also be used for epidemiological studies. There is a general sense that occupation is not captured in the medical record.

CREOD RESEARCH

CREOD research has addressed several aspects of this topic –

1. What patients and physicians report about taking an occupational history
2. Intervention studies to add occupational information to the medical record considering –
 - a. Primary care
 - b. Community health centres
 - c. Primary care – family health teams
 - d. Specialized clinical settings (lung cancer)

EXECUTIVE SUMMARY

There is evidence that some providers do collect some information related to occupation.

Trials to collect occupational information demonstrate it can be done in a systematic way but we do not know how sustainable these efforts are.

There is a lot more work to be done to effectively support the collection of data on occupational disease incidence.

WHAT DO PATIENTS AND PHYSICIANS REPORT ABOUT TAKING AN OCCUPATIONAL HISTORY?

TAKE AWAYS

- **Some physicians report taking a workplace history. Specialists were more likely to report this than family physicians.**
- **Patients being seen for possible work-related skin disease reported that over half of both family physicians and dermatologists asked about their job but rarely collected more detailed information.**
- **The main barriers to taking an occupational history included time constraints, lack of confidence in taking the history, patients not being able to provide the information, lack of knowledge of the compensation system, lack of adequate reimbursement, excessive forms, reporting that it was not their job and forgetting.**

CREOD researchers studied family physician, dermatologist and respirologist reporting of their practice related to occupational history taking.^{1,2} 107 Ontario family physicians, 70 dermatologists and 65 respirologists participated. The study took place in 2004. The results are presented in the table below.

	Family Physicians	Dermatologists	Respirologists
Take an workplace exposure history			
▪ Always/most of the time	57%	91%	92%
▪ Sometimes	40%	7%	6%
▪ Rarely/never	3%	1%	2%
If routinely not asked, why not?			
Time constraints	86%	50%	60%
Lack of confidence in taking history	26%	17%	20%
Patients not able to provide	47%	17%	40%
Lack of knowledge of workers' comp	74%	85%	60%
Lack of adequate reimbursement	23%	50%	0
Complicated/excessive forms to fill in	19%	67%	20%
Not my job	2%	33%	20%
Forget to ask	67%	17%	40%

Another study asked workers being assessed for possible work-related dermatitis about their experience with physicians taking an occupational history.³ The results are presented in the table below. 100 workers participated in the study and 78 had a diagnosis of work-related contact dermatitis. The results reported are for those with a diagnosis of work-related contact dermatitis.

	Primary care provided	Dermatologist
Asked about the worker's job	67%	53%
Asked about workplace exposures	3%	5%
Asked for MSDSs	0	3%

INTERVENTION STUDIES TO ADD OCCUPATIONAL INFORMATION TO THE MEDICAL RECORD

TAKE AWAYS

- **Collection of occupational information including job title and exposures was feasible in both primary care and specialized settings.**
- **While the information was collected, it was not necessarily used.**
- **Barriers included time, patient priorities, inadequate knowledge, precarious nature of some patient's work and frustration with the compensation system.**

Interventions to collect occupational information and include it in the medical record can be done in different health care settings. Occupational information may not only include job title but also information about workplace exposures.

a) Primary Care

Primary care is the setting where it would be helpful to have occupational information in the medical record. Given the findings of the previous physician reporting studies that identified barriers to taking an occupational history, community health centres (CHCs) were selected for the intervention. CHCs are multidisciplinary and have a mandate for not only clinical care but also health promotion. In this setting physicians are paid a salary, it is not a fee for service model.

b) Community Health Centres

The goal for this study was to identify whether it would be possible for community health clinics to systematically screen patients for occupational, discuss patients' work exposures, and enter this information into the EMR.^{4,5} The intervention took place from 2015 to 2017. Six community health centres were recruited from diverse areas of the province, with rural and urban populations. The questionnaire contained eight questions to reduce the time burden. Information included job title and exposure to common hazards including job/occupation, industry, exposure to chemicals, noise, heavy lifting and repetitive movements an exposure to asbestos. Additional questions were added at two clinics about exposure to dusts/fumes/chemicals and vibration. In addition, the type of appointment, the provider who reviewed the survey and time to review were documented.

Each centre developed their own process. The aim was to collect this information for 100 clients. Four clinics completed between 84 and 98 while one collected 51 and the other 36. The length of collection was between three and five months. Over 350 patient surveys were collected. Interviews were conducted with 54 clinicians to gain insight into the problems they may have had with the intervention.

The results of the survey. Fifty percent were collected at a regular or follow-up appointment, 19% at a meet and greet and 15% at a periodic health examination or annual review. The majority were reviewed by nurse practitioners. Almost half were reviewed in less than two minutes. The most common industry sectors were health/social services, manufacturing, accommodation/food services, construction and business services. Approximately 65% reported exposure to repetitive movements, 52% to noise, 50% to heavy lifting and 43% to chemicals. For those instances when asked, approximately 55% reported exposure to dust, 45% to dust or fumes and 32% to vibration. Asbestos exposure was reported by 1% as all days/most days, 5% occasionally, 12% rarely and 8% never. 22% didn't know or was left missing.

From the interviews, we learned that although clinicians said they thought that work was an important determinant of health, they were still reluctant to routinely ask workplace exposure questions and make it part of standard care. Despite the additional assistance proved by the study, clinicians continued to find adding these questions too time consuming. Patients also determine the content of clinical visits. Despite having filled in the surveys (which would have raised awareness), patients remained focused on their immediate pressing needs, and not future illnesses that may be caused by risk factors at work. Clinicians were aware of the precarious nature of the employment of their marginalized patients, and

knew that their patients would have neither the ability, nor the wish, to challenge their employers. Related to this, is that physicians said they were reluctant to take on workers' compensation, since it was usually a frustrating and not very productive process.

Physicians feel inadequately prepared to deal with occupational exposures, so this study developed factsheets and facilitated easy referrals to experts at an occupational health clinic.

c) Primary care – family health team

Following the community health centre study, another study tested a questionnaire to collect information about work, focusing on both work precarity and workplace exposures.⁶ This study took place in a multi-site primary care practice in Toronto. In addition to asking about occupation and exposures, this study also mapped occupations to the Occupational Information Network (O*NET) which allowed a comparison between their self-reported exposures and the O*NET information on likelihood of exposure to hazards based on the job classification. 204 employed adults participated. The majority of job titles (89%) were matched to O*NET categories. Reporting of exposure to hazards included 78% repetitive arm movement, 31% to lifting heavy loads, 30% to vapours/gas/dust/fumes and 30% to noise. Those with precarious employment were more likely to report exposure to vapours/gas/dust/fumes. Collecting the information was feasible in this primary care setting.

d) Making the Link between Lung Cancer and Workplace Exposure

While there has been focus on occupational history-taking in the primary care setting, other specialized clinical settings where there is a reasonable likelihood of workplace agents causing cancer is another site that could be used to obtain occupational information. Lung cancer is a common cancer. It is estimated that from 9% to 15% of lung cancers are probably related to exposure to asbestos and other workplace pollutants. Mesothelioma, a relatively rare lung cancer, is commonly associated with workplace asbestos exposure. 85%-90% may be related to asbestos exposure when only pleural mesothelioma cases in men are considered. A series of studies has been conducted to collect occupational information in the setting of lung cancer clinics.

Initially, patient charts were reviewed at Princess Margaret Hospital in Toronto which confirmed that physicians were not taking work histories. 150 charts of lung cancer patients were reviewed. Thirty (20%) contained occupational information ranging from 18 that contained job title and 12 that contained more detailed information about exposure. The exposures noted were asbestos, radiation and metal fumes. 30 charts of mesothelioma patients were also reviewed. Occupational information was recorded in 26 (87%) with none reporting job title, 11 reporting work history and 18 commenting about asbestos exposure. Physician type (respiratory, thoracic surgery, medical oncology or radiation oncology) were not associated with a greater likelihood of reporting.

The second study tested an exposure screening tool and interviewed clinicians about barriers and facilitators to taking an occupational history. The screening tool collected information about job title and industry, information about prevention activities such as training,, perception of health problems related to work and then asked about exposure to a number of agents known to cause lung cancer. Twenty nine patients completed the survey. Seventeen were also interviewed by a clinical occupational

hygienist. The most common exposures reported were asbestos and second hand smoke. The hygiene interview was generally consistent with the patient's self-report. Seven clinicians (2 nurses and 5 physicians) were interviewed. They noted they were aware of some occupational causes lung cancer but did not obtain an occupational history in a consistent way or suggest pursuit of a worker's compensation claim. Key barriers to taking an occupational history were lack of knowledge, lack of time, administrative bureaucracy and lack of clear referral sources. A template for occupational history taking and easily accessible information and jobs and sectors and exposures were suggested as facilitators.

In summary, a exposure assessment is feasible though modifications were suggested (decreasing complexity of exposures). A clear process for identifying those for further investigation and an expert source are important. In the context of a lung cancer clinic, the main focus of clinicians is diagnosis and treatment. A fundamental question posed is which clinician is responsible for the overall care of the patient.

A third study, conducted at the Juravinski Lung Cancer Clinic in Hamilton, distributed a modified survey focused on asbestos exposure and if patients said they thought they had been exposed to asbestos, the research coordinator referred them to an occupational hygienist in Hamilton for a more detailed history. The hygienist conducted an occupational health assessment and made recommendations whether to proceed to file for compensation. In addition the patients were interviewed to gain insight into barriers and facilitators for pursuing further investigation of workplace causes and filing a compensation claim. Sixty-two questionnaires were completed and 29% reported asbestos exposure. Of the 14 patients referred to the hygienist for follow-up, only nine followed up. Barriers to follow-up perceptions of exposure, effects of illness and treatment and burden of proof. Of the nine participants who had an interview, follow-up at six to twelve weeks found that two decided to file a claim, three decided not to and four were undecided. Participants reported a number of reasons cited for not pursuing a claim. These included the fact that they were often sick and old, and were already overcome by their illness and its symptoms; if they were smokers, they thought their exposure to asbestos would be dismissed. But mostly, they had difficulty remembering their work histories and the burden of proof felt overwhelming. Those that did file for compensation strongly suspected that they had had significant asbestos exposure, and appreciated the help, expertise, and flexibility of the occupational hygienist.

A fourth study was based upon what had been learned. The goal of this study was to determine whether someone else, besides a physician, could take workplace histories in a clinical setting, and whether there was a simpler way to take these histories. A four-question survey was created on work history and possible exposure to asbestos. Multiple methods were tried to discover the easiest way to get the surveys filled out. If the patient said they may have been exposed, they were given a referral to an occupational hygienist who would help them create a more intensive work history. In the clinic at Princess Margaret Hospital in Toronto, a clinical occupational hygienist was in the clinic part of the time. In the clinics in London and Sarnia, referrals to an occupational hygienist was available. Researchers also provided the clinics with the forms required to file for compensation, and with fact sheets on the benefits of compensation and on the health impact of exposure to asbestos. Even with the hygienist on site, there was little uptake in use. Discussions were held with the Lung Cancer group at Cancer Care

Ontario to explore including collection of occupational information in the lung cancer pathway and the possible use of navigators to be involved in this process.

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