

12-OH-01

**Committee:** Environmental/Occupational/Injury

**Title:** Inclusion of Occupation and Industry as core data elements in Electronic Health Record (EHR) systems and in recommended elements in other minimum data sets

### **I. Statement of the Problem**

Current developments in the implementation of electronic health records (EHRs) in US health care offer great promise for improved care delivery and population health. The 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act has provided the financial stimulus for EHRs to be widely adopted while establishing mechanisms to standardize core elements to be included. For a number of reasons it is critical that occupational health information be accepted as one of those core elements.

The U.S. population currently exceeds 308 million, and nearly 60 percent of the population is employed. These employed U.S. residents spend almost half their waking hours at work. CSTE has long recognized that occupational illnesses, injuries, and exposures are important causes of morbidity and mortality in the US. Approximately 6500 job-related deaths from injury, 13.2 million nonfatal injuries, 60,300 deaths from disease, and 862,200 illnesses are estimated to occur annually in the civilian workforce. The total direct (\$65 billion) plus indirect (\$106 billion) costs have been estimated to be \$171 billion annually.

The work environment can have a significant impact on workers' health and on the health of family members. Work is a well-recognized influence on health through exposures to physical, chemical, radiological, biological, and ergonomic hazards; psychosocial factors; and organizational attributes of the workplace. Less well understood by health care providers is how demands and risks of work influence non-work-related health conditions. Providers who take full account of work when guiding patients through recovery from acute or chronic illnesses, can expect better healing and reduced likelihood of relapse and can manage chronic conditions with the expectation of better long-term outcomes. Readily available occupational information in the EHR would provide health care providers with this critical information to guide treatment, rehabilitation, and prevention of recurrence for both work-related and non-work-related conditions.

In addition to the value that occupational information brings to the clinical setting there is significant importance of this information to serve population health. Current public health surveillance systems do not fully capture the impact of the work environment on morbidity and mortality partly because information in health data systems usually does not include information about the occupation of patients. Surveillance has effectively used usual industry and occupation in the few data sets that collect this information, including cancer registry data and mortality data. Much has been learned about work-related cancer from occupational information obtained by cancer registries. This information is gathered directly from the clinical record. Should this be lost in conversion of paper to electronic health records, further advances would be greatly hindered.

Occupational public health surveillance is essential for the detection, control, and prevention of occupational illnesses, injuries, and exposures. The collection of occupation and injury in the medical record is strategically important for states and CDC to identify risk factors and causes of

diseases and injuries. Routine inclusion of information about work would facilitate early event detection, rapid assessment, and timely intervention by designated authorities to emerging diseases threats. Situational awareness of the incidence of disease or illness by industry and occupation can assist in identifying clusters, determining the magnitude of a problem, and targeting high risk groups for interventions to prevent and reduce disease transmission through a better understanding of exposure-disease/injury relationships. For injury, activity associated with the injury event exists as part of the injury diagnostic code sets.

It is important to note that occupational health surveillance programs include infectious disease (e.g., blood borne pathogens, needle stick injuries), chronic disease (e.g., work-related asthma), injury control, cancer, and other conditions. The ability to capture and monitor industry and occupation through analysis of electronic medical records data may prove especially critical during emergency response scenarios, like pandemic influenza. Occupation and industry information is important for identifying the health impacts of the disaster on workers in critical services such as health care, including medical transport workers and laboratory technicians, as well as nurses and physicians; medical waste treatment facility workers; emergency response workers; decontamination workers; postal workers; and power, water, and transportation industry employees.

Electronic health records (EHRs) that include occupational information provide an opportunity to improve both public health surveillance interventions and clinical medicine. A 2011 Board on Health Sciences Policy, Institute of Medicine (IOM) report, examined this issue, in light of the Health Information Technology for Economic and Clinical Health Act of 2009, and made a series of recommendations directed at the U.S. Department of Health and Human Services. This report outlined the potential benefits of including information about individuals' occupations, industry, and work environment in their electronic health records. A person's job title or occupation may already be asked of patients for administrative and reimbursement purposes, but it is rarely integrated with clinical data. Although a job title alone will not provide data on the individual's work exposures, it can be an indicator to prompt a healthcare provider to consider it in diagnosis and treatment decisions. Furthermore, this data can be used for reporting to public health authorities for cancer registries, syndromic surveillance, and other disease tracking (such as lead poisoning, pesticide illness, and work-related asthma).

The IOM's report illustrated how existing occupation coding systems (e.g., BLS's Standard Occupation Classification) have been linked to employer-specific job titles, such as in the Dartmouth-Hitchcock Healthcare System, but such practices are the exception, not the rule. Further, IOM described how a patient's work experience by industry could be integrated into their health record using existing coding schemes (e.g., North American Industry Classification System or NAICS), as is already done by state and federal agencies, and other organizations, but is not typical in administrative or clinical records.

The IOM committee examined how "work-relatedness" could be integrated into the EHR to characterize the relationship between the health event or outcome and the patient's work environment. Most clinicians receive little if any training on the effects that work exposures can have on health, and some practitioners will avoid exploring the work-relatedness of a condition to avoid a foray into the workers' compensation reimbursement system. Despite these challenges, the IOM report suggests that a data element denoting work-relatedness could prompt practitioners

to recognize and seek information about the connections between work exposures and health status.

## II. Statement of the desired action(s) to be taken

CSTE recommends that occupation and industry be required as data elements for Stage III Meaningful Use.

To advance this recommendation, CSTE further recommends that the National Institute for Occupational Safety and Health (NIOSH) implement the recommendations outlined in the IOM 2011 report “Incorporating Occupational Information in Electronic Health Records” in a time period that informs stage III Meaningful Use development. These include:

- Conduct demonstration projects to assess the collection and incorporation of information on occupation, industry, and work-relatedness in the EHR.
- Define the requirements and develop information models for storing and communicating occupational information in the EHR.
- Recommend the Health Information Technology Standards Federal Advisory Committee adopt the use of standardized systems to code occupation and industry in the EHR.
- Use findings from demonstration projects and feasibility studies to develop meaningful use metrics and health care performance measures for including occupational information in the meaningful use criteria.
- Convene a workshop to assess ethical and privacy concerns and challenges associated with including occupational information in the EHR.

In addition, CSTE recommends as part of Stage III Meaningful Use that the diagnostic codes for injuries include the activity associated with the injury event.

## III. Public Health Impact

The inclusion of industry and occupation in electronic health records will improve clinical recognition and management of work-related injuries and illnesses; enable public health agencies to track and prevent significant causes of morbidity and mortality in the US; and assist patients and their families in improving their health and well being.

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