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Title: Evaluation of the New Jersey Silicosis Surveillance System, 1993-2008
Committee: Occupational Health Sub-Committee
Topic: Strategic planning and evaluation of occupational health surveillance programs
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Background:

The New Jersey Department of Health and Senior Services (NJDHSS) Silicosis Surveillance System was evaluated to develop recommendations for improved data quality and targeted interventions. Silicosis is a preventable but fatal occupational lung disease caused by the inhalation of respirable crystalline silica.

Methods:

Simplicity, timeliness, stability, flexibility, positive predictive value (PPV) and representativeness were evaluated according to the 2001 updated CDC guidelines by performing staff interviews and a review of system documentation, databases, publications and relevant literature. The PPV (number of cases confirmed over the total number of cases reported) was calculated for each report source. Report source PPV for 'No', 'Insufficient', 'Coal', 'Asbestosis', 'Missing' and 'Unknown' case confirmation status was calculated to determine the levels of incorrect case reporting. Proportions of gender, race, ethnicity and occupation for confirmed cases of silicosis were compared to the potentially silica-exposed New Jersey workforce (farming, construction, installation, production, transportation and architecture industries) using a chi-square goodness of fit test. Univariate analysis of Hispanic ethnicity by demographic and radiologic characteristics was performed using a Fischer's Exact test to determine factors associated with Hispanic misrepresentation.

Results:

The system receives a score of fair for simplicity, timeliness and PPV, good for stability and representativeness and excellent for flexibility. Overall PPV is low (36%). Hospital discharge data has the highest PPV reinforcing the usefulness of this data source. Over half of reported cases from death certificates result in 'Insufficient' conclusions, while all workers' compensation data result in a 'Missing' classification. Gender and racial distributions in the silicosis system are representative of the New Jersey potentially silica-exposed workforce. Ethnicity is misrepresented with Hispanic workers representing 35% of the workforce but only 7% of the surveillance registry. Hospitals were more likely to report non-Hispanic cases as compared to cases of Hispanic or unknown ethnicity (92% vs. 75% vs. 89%). Physician reports, death certificates and worker's compensation were more likely to report Hispanic cases as compared to cases of non-Hispanic or unknown ethnicity.

Conclusions:

Report source relationships should be examined, especially workers' compensation reporting. Inclusion of occupational information in hospital data will improve timeliness, simplicity and PPV. The large "unknown" ethnicity category enforces the need to make ethnicity a priority data collection field. Interventions to increase healthcare provider reporting should be performed. The Hispanic workforce should be targeted for silicosis awareness and education interventions.

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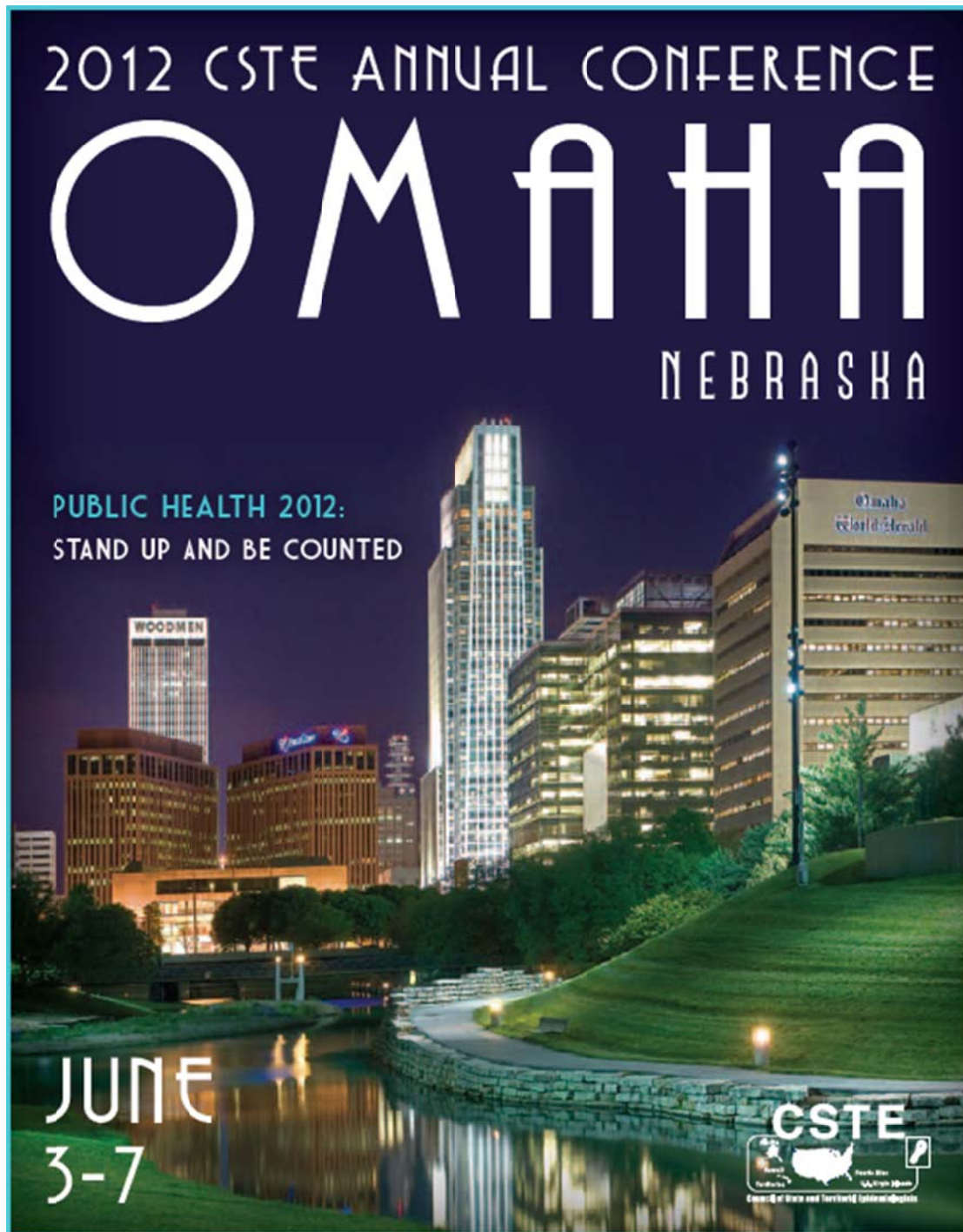
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