



Something might be missing from OHS audits: findings from a content validity analysis of five audit instruments

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Outline

- Background
 - Concepts
 - Previous literature review
- This study
 - Larger study context
 - Methods and results of content validity analysis



OHS management audit

- A method of assessing OHS *management*
- Involves auditor(s)
- Data collection methods
 - Documentation review
 - Key informant interviews
 - Worksite observations
- Collected data evaluated against audit criteria
- Audit report summary



Audit report

- Areas for improvement → qualitative output
- Summarized by a score, etc. → quantitative output
 - # non-compliances
 - # of points
 - % of possible points (i.e. score out of 100)
 - % of criteria fulfilled

Quantitative audit results are often treated like measures of a firm's OHS performance



Uses of quantitative audit results as performance measures

- Assuring that a particular OHS standard is met
- Intra- or inter-organizational comparisons (i.e. benchmarking)
- Monitoring change in OHS performance over time
- Leading indicator of future incidents

Sometimes individual and organizational rewards or penalties depend on these results!



Literature review on measurement properties of OHS management audits

- Searched six databases in business, medicine and OHS
- Found information on 17 distinct audit methods
- Overall: research gap
- Findings to date on inter-auditor consistency:
 - Consistency can be low, even when auditors are experienced

Bigelow PL, Robson LS. Occupational health and safety management audit instruments: a literature review. Toronto: Institute for Work & Health, 2005. Available online from www.iwh.on.ca

Robson LS, Bigelow PL. Measurement Properties of occupational health and safety management audits: a systematic literature search and traditional literature synthesis. Canadian Journal of Public Health (in press)



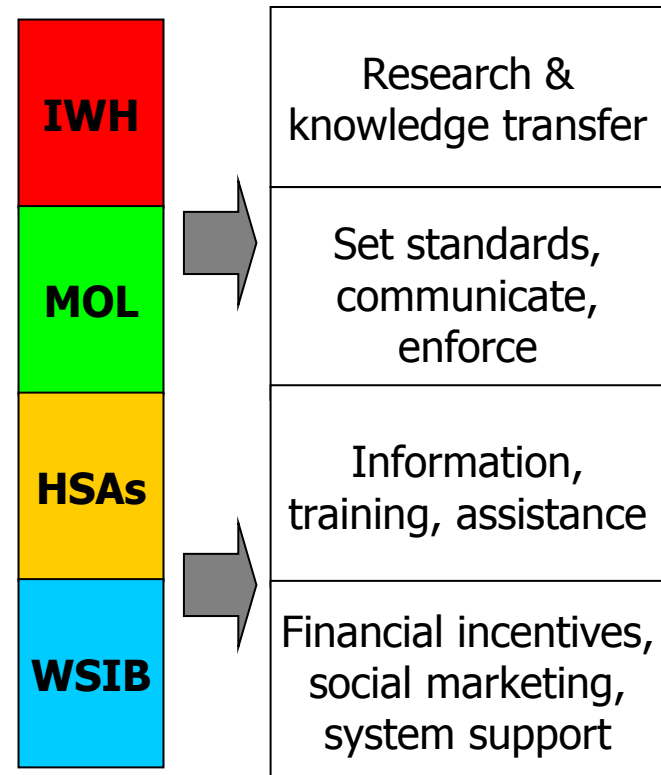
Research objectives of this study

1. Describe the audit methods of the Ontario Prevention System.
2. Examine their content validity.
3. Determine the feasibility of further study of reliability and validity.



Ontario Prevention System

- Seventeen public and not-for-profit organizations with a mandate in primary prevention in OHS
 - Ministry of Labour (MOL)
 - Workplace Safety & Insurance Board (WSIB)
 - Health and safety associations (HSAs)
 - 12 sector-based
 - 2 worker-focused
 - Institute for Work & Health (IWH)



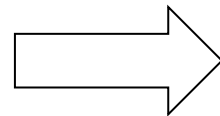
Highlights from study

- Seventeen audit methods belonging to ten organizations were identified
- Eight methods were used in a performance measurement application
- Nine methods were designed to be comprehensive audits
 - Selected 5 methods for content validity analysis
 - Used CSA Z1000 to define universe of relevant content



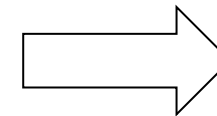
Structure of CSA Z1000 management standard

CSA Z1000
standard

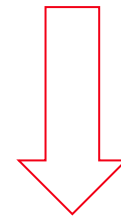


5 CSA Z1000
major elements

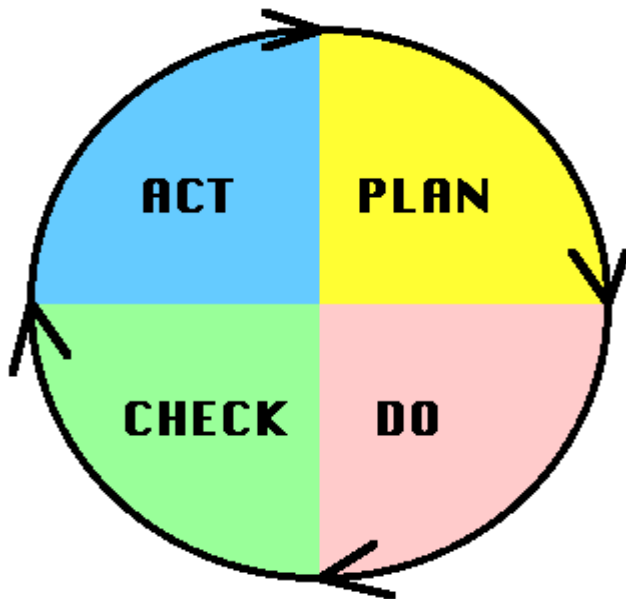
- Commitment, leadership, etc.
- Planning
- Implementation
- Evaluation
- Mgmt review



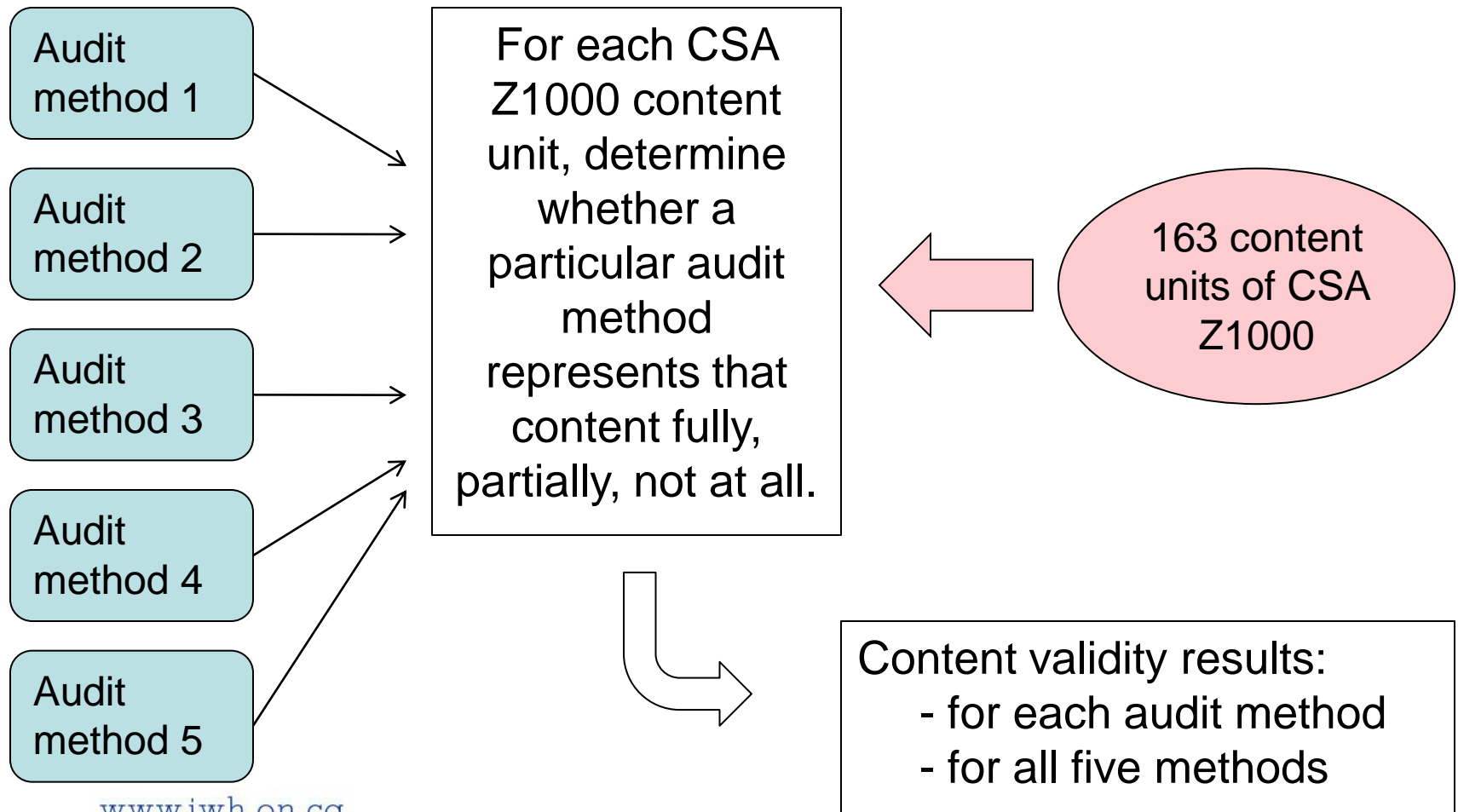
24 CSA Z1000
minor elements



163 content units



Content validity analysis





% CSA content units represented in five audit methods

CSA Z1000 Element (no. of content units)	% of CSA Z1000 content units represented in audit methods*		
	Not at all	Partially	Fully
All Elements (163)	26	40	34

* Average of five audit methods



Weakness in the elements of self-regulation and continuous improvement

CSA Z1000 minor OHS management element*	% of CSA Z1000 element content <u>not</u> represented at all**
OHSMS General (re: integration)	40
OHS Objectives and Targets	38
Documentation	38
Internal Audits	74
Management Review Input	51
Management Review Output	50

* Of the 24 minor elements, these listed had 33% or more of its respective content not represented in the audit methods

** Average of five audit methods



Reasons for variation in completeness of content: early observations

- Audits based on *system* framework were more complete
- Newer audits (or more recently revised audits) had more complete content



Recommendation

- Those who use an audit method or its results and want a comprehensive assessment of the management of OHS....
- ... should compare the audit method's content against a recent OHS management standard, e.g. CSA Z1000, OHSAS 18001, so that it reflects recent expert consensus
 - especially if the audit method was initially developed in the early 1990s or earlier



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For more information

- Lynda Robson, lrobson@iwh.on.ca
- Robson LS, Macdonald S, Van Eerd DL, Gray GC, Bigelow PL.. Something might be missing from occupational health and safety audits: findings from a content validity analysis of five audit instruments. J Occup Environ Med. 2010;52(5):536-43.



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