

A Literature Review on Qualitative Health Risk Assessment Approaches:

Advantages, Limitations, and Implementation in the New Zealand Workplace Context

Juliette Lyons



Introduction

There are multiple methods for occupational hygienists to conduct health risk assessments, particularly in consulting settings. This diverse range of approaches is essential, given the wide variety of industry contexts and workplace sizes across New Zealand. Various studies discuss combining approaches for a comprehensive assessment³, but there is less research into qualitative focused assessments. These qualitative assessment types could be prioritised prior to extensive sampling and to enable focus on control implementation.

Objectives

The purpose of this literature review is to explore different qualitative approaches used in different industries, particularly for smaller-sized businesses where monitoring is often an expensive undertaking. This review aims to:

1. Examine the advantages and limitations of different qualitative risk assessment approaches
2. Discuss how qualitative approaches may help to improve health risk communication to clients and workers

Methods/research

Three qualitative approaches were chosen for this literature review to assess advantages, limitations, points of interest and applicability in the New Zealand context. This included the following assessment approaches:

- Online risk assessment tools: e.g. control banding
- Risk matrices e.g. AIOH qualitative assessment
- Community engagement with a variety of stakeholders e.g. surveys or interviews

Background

Occupational hygienists often use integrated approaches to health risk assessments, combining qualitative and quantitative elements⁷. When implementing health risk assessment strategies, consultants are often driven by unavoidable considerations such as client budget and the site context e.g. available worker numbers⁶. Particularly in New Zealand, there are a large number of small to medium sized businesses in industry⁶. These businesses often have higher levels of observed health effects compared to larger enterprises. Influencing factors include limited risk communication research, challenges associated with reaching these enterprises/ workers, and how the information is received⁶. There are many available risk assessment models globally which follow the key components of hazard identification, exposure assessment, and risk characterisation¹². However, there is limited advice on which type of model is best for specific contexts, and professional judgment is frequently used⁴. Improvements are needed regarding the application of risk assessments for smaller businesses, how we communicate this information, and which types of assessments may be most useful.

Findings

Method	Advantages	Limitations
Online risk assessment tools and control banding	• Easy to use for small to medium sized businesses^{8,14} • Useful to larger businesses for prioritizing/ communicating hazards⁸ • Easily accessible • Good for contaminants with no WES⁸ • Applicable to a range of work environments • Existing resources and literature	• Overestimation and uncertainty of risk¹⁴ • Additional help needed from hygienists; may not accurately capture margins of error in exposure levels⁸ • Not a substitute for comparison to relevant WES⁸ • Relies on existing resources and client knowledge of processes
Risk matrices	• Well established methodologies • More frequently used and understood • Can reduce the costs prior to monitoring by highlighting which areas/SEGs are most important	• Often relies on subjective judgment of the hygienist^{12,16} • Some resources are not freely available; can be quite complex to communicate to clients¹ • Professional judgement may overestimate potential exposure levels⁵.
Community engagement & communication	• Involvement of multiple parties in collaboration • Can help to identify different SEGs which may be missed from data, e.g. through interviews; may help to validate quantitative methods later² • May identify improvements for work practices, communication and psychosocial factors¹⁰	• Time intensive • Relies on full participation from all stakeholders • Only as good as the information that can be provided and the collaboration with individuals¹⁰



Discussion

- Qualitative assessments such as online tools are applicable for small to medium sized enterprises in New Zealand. These are good alternatives for budget constrained businesses, where quantitative methods with high sample numbers can be expensive.
- Combined approaches are recommended however, increasing creativity in how we approach our clients and engage operators within workplaces will both increase our understanding of health risks and boost understanding of occupational hygiene within industry.

Food for thought: There is a gap in typical occupational hygiene assessments for identifying psychosocial risk factors however, there is potential to include this into the scope of a qualitative assessment, particularly for interviews/surveys amongst staff.

References:

