Risk mapping has been used by trade unions, environmental groups and other organisations in the United States, Mexico, Canada, Brazil and Italy to assess occupational and environmental pollution risks in workplaces, communities and at state level.

Risk maps differ from other approaches by avoiding “expert” assessments. Workers look at where they work, what they do and any physical, chemical, biological or “psychosocial” problems that might arise when doing the job.

A US guide to risk mapping prepared by the University of California’s Labor Occupational Health Program (LOHP), says the technique takes the control away from occupational health professionals “by drawing upon the knowledge of workers and acknowledging the vital contribution they make. Risk maps are developed from everyday, on-the-job experiences.”

It also means the results are based on workers’ genuine concerns and symptoms and not somebody else’s perception of what is an “acceptable” risk or a “significant” problem.

In the case of official chemical standards, LOHP says: “Worker symptoms may be ignored in setting these limits, and interaction with other chemical and physical conditions are not adequately addressed.”

**Getting started**

The basic approach involves drawing up a map – it might be anything from a rough sketch of the workplace to a blueprint – and, with the help of a group of workers from the area mapped. Highlighting where hazards are found, where tasks are used, where jobs cause stress and strain, where there is too much to do and too few to do it... Don’t make the map too small - there will usually be a lot of information to squeeze in. Risk maps can be done very informally. This can be useful where workers are not confident or have literacy or language difficulties. However, the more effort involved, the more the maps are likely to reveal! A more thorough approach, according to LOHP, involves seven key steps:

**Step 1.** Form a risk mapping planning committee. This should involve union safety reps and stewards, but should also look to involve shopfloor workers from a range of jobs.

**Step 2.** Select or develop a workplace health and safety questionnaire. Most unions will have examples they can supply. A questionnaire may be unnecessary if relatively few workers are employed in the area under investigation... they can pass on their concerns directly.

**Step 3.** Where applicable, distribute the questionnaire among workers in a given workplace or work area, all who tend to face similar hazards. Make sure all problems affecting all workers are covered - workers on different shift patterns, non-routine workers like maintenance or deliveries, changes in work place to meet deadlines.

**Step 4.** Transfer the findings from the questionnaire onto the risk map. If a questionnaire has not been used, bring together workers and allow them to add a note of their problems directly onto the risk map.

**Step 5.** Bring together workers from the mapped area to review the risk map and add to it.

**Step 6.** With all the workers, review the completed risk map.

**Step 7.** Take action to improve conditions and revise the risk map to show where these improvements have occurred.

**Hazard type**

A clearer picture emerges if hazards are coded using colours or symbols, for example:

- **Red. Physical hazards.** Noise, heat/cold, shake, slippery floors, no guards on equipment, radiation, accidents.
- **Blue. Chemical hazards.** Dusts, vapours, fumes, gases, mists.
- **Brown. Ergonomic hazards.** Fast paced, repetitive work; work which requires physical stress or pressure on the body; work which requires an awkward posture, or any part of the body to stay still, for long periods of time; exposure to local or whole body vibration; poorly designed work procedures.

**Filling in the gaps**

Add on to the risk map what you know about the risks and what is being done about them.

**Statistics:** Is one job or process associated with a lot of complaints, compensation claims, injuries or sick leave?

**Reports:** Have management risk assessments, health surveillance or technical reports identified any existing or potential problems?

**Surveys:** Has the union conducted any surveys that have identified problem areas?

**Consultation:**What problems have management informed workers of?

**Information:** Do product labels, data sheets or warning signs give any dues?

**Drawing conclusions**

Soon a picture of all the workplace’s problem areas will emerge, an at-a-glance guide to the risks management should be doing all that is “reasonably practicable” to minimise. Risk maps allow workers to keep track of management’s activities to remedy the hazards the map identifies.

Risk mapping does work. In the US, risk maps have been used to influence public policy, including land use planning, goal setting for toxic use reduction (see page 4), and to initiate “toxics watching” surveillance programmes.

Risk mapping has another value; it frequently turns up unexpected results. One worker might think their bad back, sore wrists or blistered skin is their own personal misfortune. When they discover everyone working with a particular process or substance has similar problems, they know the problem is bad conditions, not bad luck.

**Information**

A group method for improving risk mapping. 1996. Details from University of California (LA) Labor Occupational Safety and Health Program. Institute of Industrial Relations, 10140 Gayley Avenue, Los Angeles, California 90024-1474. Tel: 0 1 310 740 0699.

Gaming workers’ health and safety research project. A guide. 1997. Details from: AWRG, 547 Victoria Avenue, Windsor, Ontario, N9A 4N1, Canada. Tel: 0 1 519 354 4192.

Mobilising for survival. Papers of the Canadian Union of Public Employees (CUPE) 7th National Health and Safety Conference. Details from: CUPE Health and Safety Dept, 21 Goddess Street, Toronto, Ontario, M5A 2A7, Canada. Tel: 0 1 416 237 2190. Fax: 0 1 416 233 3485.

**It’s just the job**

Casino workers expressed concern about the health risks of their work. A team of eight of the Casino Windsor workers, members of the Canadian AutoWorkers’ Union (CAW) and most on the health and safety committee, were selected to form a risk mapping research team. The union also drafted in workers from a local occupational health advice centre to assist the team.

The workforce was divided into mapping groups, each involving about half a dozen workers. Their initial maps revealed some hazards were universal, others were very specific; the dealers highlighted RSI and noise from slot machines. They also feared reprisal violence were important issues for them. They told of patrons who had tried to assault them or hit them with beer bottles or run them over with cars.

What were their problem areas? They included:

- Insufficient air conditioning.
- Bad acoustics.
- Poor lighting.
- Too hot!
- Dumb guts.
- In the office, aching legs, aching backs, bad backs, bad backs, bad backs and wrist problems.
- Headaches, sore eyes, bad acoustics.
- Bad acoustics.
- Dumb guts.
- Too hot!
- Dumb guts.

Risk maps must be distributed to all workers. The team recommended a health advice centre to assist the team.

Risk mapping does work. In the US, risk maps have been used to influence public policy, including land use planning, goal setting for toxic use reduction (see page 4), and to initiate “toxics watching” surveillance programmes. Risk mapping has another value; it frequently turns up unexpected results. One worker might think their bad back, sore wrists or blistered skin is their own personal misfortune. When they discover everyone working with a particular process or substance has similar problems, they know the problem is bad conditions, not bad luck.

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