

Evidence based policy and practice: meeting sampling challenges in evaluating national OHS interventions

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Outline for my talk

1. Safe Work Australia
2. Evaluating national OHS interventions
3. Heads of Workplace Safety Authorities – industry campaigns
4. National Hazard Exposure Worker Surveillance Survey
5. Research aims
6. Results
7. Conclusion
8. Some preliminary thoughts on evaluating national OHS Interventions
9. Future direction



Who is Safe Work Australia?

- An Executive Agency established 1 July 2009
- Part of Commonwealth government
- Previously Office of the ASCC; NOHSC
- Role – develop OHS model legislation and regulations, policy



3

HWSA – Industry Campaigns

- The Heads of Workplace Safety Authorities (HWSA) is a group comprising the General Managers (or their representatives) of the peak bodies responsible for the regulation and administration of occupational health and safety in Australia and New Zealand.
- HWSA undertakes national compliance campaigns targeted at specific hazards within industries across all jurisdictions.
- These campaign initiatives support the National OHS Strategy 2002 – 2012 and facilitate the development of consistent approaches to nationally recognised priorities.



4

OHS Intervention Research

- Lipscomb (2005) “the evaluation of occupational injury interventions is an area in the greatest need of more attention and effort”
- Goldenhar et al (2001), “a dearth of occupational safety and health studies evaluating national policy interventions”

Sampling Issues in Evaluating National OHS Interventions

- What can evaluators do when sampling frames do not exist to enable the use of probability sampling and it is not feasible to use population sampling methods to access the target workforce?
- Zwerling et al (1997) proposed that surveillance data be used as a means to obtain comparison groups for OHS evaluations.

Manual tasks in road freight transport 2008-09

Evaluation Design

- Pre intervention survey:
 - Owners or managers
 - Owner drivers
 - Employee drivers
- Survey using CATI
- Post intervention survey planned early 2010
- Question: did the intervention result in change?
- Problem: which sampling frame can be used for employee drivers?



7

National Hazard Exposure Worker Surveillance (NHEWS) survey 2008

- First Australian nationally representative exposure survey
- Developed & funded by the Commonwealth, NSW, Vic, SA, Qld, WA & NT
- Wave one (n=1900)
 - Manufacturing
 - Transport & Storage
 - Health & Community Care Services
 - Construction
 - Agriculture, Forestry & Fishing
- Wave two mix priority & non priority industries (n=2600)
- Used CATI



8

Research Aims

- The aim of the analyses was to compare the evaluation sample of owner drivers with employee drivers from NHEWS on exposure to manual task hazards and rates of job strain.
- We hypothesised that owner drivers:
 - would be less likely to be aware of and report manual task hazards in their job because they have no incentive to do so and are under pressure to complete work quickly.
 - would experience fewer demands as they are in charge of their own work.

Table 1 – Demographic characteristics of the NHEWS and evaluation samples

	Employee Drivers NHEWS (n=89)	Owner Drivers Evaluation (n=93)	X ²	p
Demographic variables				
Age				
15/18-24	2	-		
25-34	7	2		
35-44	29	25		
45-54	37	36		
55+	25	37	7.0	ns
Gender				
Male	93	96		
Female	7	4	0.3	ns
Level of Education				
Year 12 not complete	35	57		
Year 12 complete	2	25		
Trade cert/TAFE	56	10		
Uni degree	1	7		
Other	5	1	62.3	p<.001
Employment arrangement				
For an employer	85	na		
Own business	7	na		
Contractor	7	na		
Owner driver – own business – solo operator	1	100	-	-

Table 2 – Manual task hazard exposures in NHEWS and the evaluation

Manual task hazard exposures	Employee Drivers NHEWS (n=89)		Owner Drivers Evaluation (n=93)		X ²	p
	Not Exp.	Exposed	Not Exp.	Exposed		
Carry or lift heavy Loads	32	68	54	46	9.3	p<.001
Make the same hand/arm movements over and over again	2.2	98	39	61	36.6	p<.001
Work with your body bent forwards	25	75	70	30	37	p<.001
Twisted or awkward posture	36	64	59	41	9.8	p<.005
Work with your hands raised above our head	30	70	55	45	11.1	p<.005
Work while sitting down	3	97	28	72	20.5	p<.001
Squatting or kneeling while you work	31	69	60	40	15.1	p<.001
Push or pull using some force	17	87	57	43	31	p<.001
Work standing in one place	49	50	43	57	0.8	ns

Table 3 – High manual task hazard exposures by pain and tiredness

Manual task hazard exposure	Employee Drivers NHEWS (n=89)				Owner Drivers Evaluation (n=93)			
	Low	High	X ²	p	Low	High	X ²	p
Experience consequence of physical demands								
Tiredness								
Never	20	0			58	11		
Rarely-all the time	80	100	5.62	p<.05	42	89	21.1	p<.001
Pain – back or neck								
Never	39	4			65	36		
Rarely-all the time	61	96	9.96	p<.005	35	64	7.35	p<.01
Pain - shoulders/ arms wrists hands								
Never	49	8			60	36		
Rarely-all the time	51	92	12.4	p<.001	40	64	4.89	p<.05
Pain – hips, legs, knees or feet								
Never	45	29			61	36		
Rarely-all the time	55	71	1.74	ns	39	64	5.65	p<.05

Table 4 – Psychosocial hazard exposures in NHEWS and the evaluation

	Employee Drivers NHEWS (n=89)	Owner Drivers Evaluation (n=93)	X ²	p
Job Quadrant				
Passive	22.5	54.8		
High Strain	6.7	18.3		
Low strain	46.1	14.0		
Active	24.7	12.9	36.18	p<.001
High demand	31	0		
low demand	69	100	33.0	p<.001
High control	73	71		
low control	27	29	0.7	ns

Conclusion

- What did we find?
 - employee drivers had higher levels of education
 - employee drivers were more likely to report exposure to manual task hazards
 - employee drivers experienced higher levels of demand
- What have we learned?
 - Need to think very carefully about the evaluation questions we are seeking to answer

Evaluating National OHS Interventions

We argue that the methodological requirements for evaluation of National OHS interventions depend on the evaluation questions:

- If we want to know whether an intervention will produce improved health and safety outcomes, where these are defined as reduced rates of deaths, injuries and disease - then we need representative samples and other methodological controls.
- But if we want know whether an intervention will produce a change in behaviour in the workplace - then we need case studies from a range of different contexts that enable us to develop and test program theory for the intervention.

Next Steps

- Ongoing development and refinement of our approach to evaluation of the HWSA industry campaigns
- Developing a framework for the evaluation of the model OHS legislation and regulations



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