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The role of intermediaries in delivering an occupational health and safety programme designed for small businesses – A case study of an insurance incentive programme in the agriculture sector



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ABSTRACT

Intermediaries play an important role in disseminating national Occupational Health and Safety (OHS) programmes to small businesses but not much is known about the factors that influence their role. The aim of this paper is to elucidate the factors that influence intermediaries' contribution to the transformation and dissemination of a national OHS programme for small business that built on an insurance incentive scheme – the New Zealand Workplace Safety Discount scheme.

It is a case study of this scheme implementation in the agriculture sector. Data was collected from scheme documentation and semi-structured interviews with the scheme owner, representatives from intermediary groups and the targeted small businesses. The interviews were tape recorded, transcribed and thematically analysed in relation to the scheme's programme theory.

The intermediaries introduced new programme mechanisms and recruitment strategies that were not considered in the design. These were shaped by the intermediaries' understanding of the target group and by their own business interest. To engage Non-Governmental Intermediaries the scheme owner had to establish a close relation to them and to link the aim of the scheme to the intermediaries' business goal. The scheme had different benefits for the various types of intermediaries and this determined their contributions. In that way they reached different parts of the target group. Even though the intermediaries played an active role, the outreach was still limited.

This highlights the importance of analysing the business interests of intermediaries and their client groups when identifying intermediaries to integrate into OHS schemes for small businesses.

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1. Introduction

It is widely accepted that national Occupational Health and Safety (OHS) intervention programmes have difficulties in reaching and being implemented in small businesses (SBs). Thus there is a need to design specific interventions that work in the context of SBs (Baldock et al., 2006; Champoux and Brun, 2003; Fairman and Yapp, 2005; Hasle et al., 2012a; Hasle and Limborg, 2006; Legg et al., 2010; Olsen et al., 2010, 2012). Over the last 10–20 years, governmental agencies in many countries have started to design OHS intervention programmes specifically for SBs. Intervention programmes range, *inter alia*, from information material (Caple et al., 1997), internet based hazard management tools (Antonsson

and Alvarez, 2005) to free consultancy (Caple, 2006), insurance schemes (Department of Labour, 2006) and prevention packages (Hasle et al., 2012a). Many of these programmes have been criticised for not being designed with a proper understanding of the SB's context and for not being evaluated properly (Hasle and Limborg, 2006; Legg et al., 2009, 2010; Walters, 2006). Only a few successful interventions have been identified (MacEachen et al., 2010).

Even well designed government OHS programmes have difficulties reaching out to a larger number of SBs. The main reasons are the high cost of delivering the programme through personal contact, which is preferred by SBs (Hasle et al., 2012a,b; Hasle and Limborg, 2006; Olsen et al., 2010; Persson, 1991), and the fact that many SBs are reluctant to interact with OHS authorities (Hasle and Limborg, 2006; Olsen et al., 2010). The SBs may not even be aware of their needs and seldom actively seek information about health and safety programmes. It has therefore been suggested that OHS

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programmes should be promoted and disseminated by existing trusted intermediaries in order to reach out to the community of SBs (Haslam et al., 1998; Hasle and Limborg, 2006; Lamm, 1997; Olsen et al., 2010; Tait and Walker, 2000; Walters, 2001). Many different actors (organisations or individuals) can function as intermediaries. However very little is known about how they fulfil their role and influence the dissemination and implementation of the programmes.

This paper focuses on the Non-Government Organisation (NGO) intermediaries and the possibilities that exist for developing programmes which work systematically with such intermediaries. An intermediary in this paper is defined as an organisation or person who does not have ownership of the programme or constitutes part of the target group for the programme but who conveys or potentially can convey the programme to the target group.

As NGO intermediaries are not funded by the Government agency, it is necessary to consider the relation between the agency and intermediaries as a social exchange where both parties develop an understanding and interest in a joint cause. For an employer or business association it can be a matter of representing the interest of the members, for example in discussions about new regulation or enforcement practices. Such organisations may also have certain informational services for their members but it cannot be expected that they have the resources for actually implementing a programme. That would normally require additional funding from the government, which may happen through direct grants or various incentives. It is often the lack of sustainable funding systems which cause many promising pilot projects aimed at SBs to fail (Hasle and Limborg, 2006). In this paper we provide an analysis of the role of intermediaries and the mechanisms which influence the way the programme works in a government OHS programme – the New Zealand Workplace Safety Discount (WSD) scheme. This scheme was chosen because it provided a basic funding of intermediaries' activities.

The analysis contributes to our knowledge about the factors that influence intermediaries and how they contribute to dissemination and implementation of OHS intervention programmes. The paper analyses how the mechanisms of the New Zealand WSD scheme are adjusted and how this adjustment is influenced by intermediaries through the implementation process. The analysis is based on a case study of the scheme in the agricultural sector. We show how a well-designed scheme depends on the activities of intermediaries who 'carry' the scheme to the farmers, how the intermediaries develop their own versions of the scheme depending on their experience, motivation and resources to support the scheme. Further, the influence of the relations between the government body responsible for the scheme, intermediaries and target group on the uptake of the scheme are considered. Finally, the infrastructure's ability to maintain the intermediary's interest in the scheme is discussed.

We commence by describing the present knowledge about the role of intermediaries in SB programmes and about OHS insurance programmes. It is followed by a presentation of the theoretical approach which is built on realist analysis. Then we present the research as a case study design, methods and materials, followed by what we found in relation to the revealed programme theory, how the scheme was implemented in the agriculture sector, the role of the intermediaries in relation to their incentives to engage in the programme and their transformational activities, and identified opportunities to engage other intermediaries. The discussion focuses on the role of intermediaries and their active transformation of the mechanism of the scheme into something they believe may be successful and useful for themselves and the SBs. Finally we point out implications of the study for further research and for practice.

2. Background

2.1. Reaching out to small business

Previous research has identified distinctive internal and external contextual factors that explain why small businesses have difficulties managing OHS (for a discussion see Hasle et al. (2012a)). This paper focusses on the intermediaries' role in reaching the SBs.

Use of intermediaries to support the outreach of OHS programmes for SBs has been discussed by several researchers. Some have mapped the SBs' use of intermediaries especially in relation to distribution of OHS information and advice (Antonsson et al., 2002; Eakin and Weir, 1995; Haslam et al., 1998; Hasle, 2000; James et al., 2004; Lamm, 1997; Walters, 2001). In these studies labour inspectors were identified as the most important provider of OHS information, and they can in this respect be considered as intermediaries, but they are also part of the governmental enforcement system and therefore often met with reservation (Hasle and Limborg, 2006; Olsen et al., 2010). In this paper we focus on the NGO intermediaries which are not part of the enforcement system. Next to labour inspectors, the use of intermediaries depended on the national context. In some countries OHS advisory services were institutionalised and funded commonly in the form of occupational health services securing a basic service to SBs (Antonsson et al., 2002; Mizoue et al., 1999; Walters, 2001). However SB are reluctant to pay for such services, which therefore depend on some kind of external funding (Hasle and Limborg, 2006), that can be difficult to secure in many countries (For a discussion Cunningham et al., 2013). No matter whether OHS services are available or not, SBs are often not aware that they perform below compliance level and are in need of OHS advice (Olsen et al., 2010) and therefore rarely seek assistance on their own initiative. Thus OHS programmes need to be actively 'carried to' SBs.

In countries without institutionalised OHS services, SBs will depend on other types of intermediaries to provide information and assistance. It can be accountants (Hasle et al., 2010; Lamm, 1997), regional health and safety representatives (Frick and Walters, 1998) and a wide variety of NGOs (Hasle and Limborg, 2006; Walters, 2001) like employers and business associations, trade unions, suppliers of materials and equipment, training providers, and networks or local communities of owner-managers (Hasle et al., 2012b). With no specific services available these types of intermediaries are often included as key actors in national strategies (James et al., 2004; Legg et al., 2010). The strength of using such established intermediaries is that they are not part of government enforcement and that they have already developed trust and goodwill from the SB. However, it is not certain that the intermediary organisations have the interest and funds to serve SBs on occupational health and safety issues. It is therefore important to learn how NGO intermediaries can be engaged in OHS. It should happen in such a way that the interest can be sustained and funding secured without losing the SB's trust and goodwill. With one recent exception (Cunningham et al., 2013) the strategies to achieve such a goal is not discussed in the literature.

2.2. Insurance related schemes

A particular type of OHS intervention programme is insurance premium-related incentive schemes. They are implemented in many countries for larger firms (Clayton, 2012; Elsler et al., 2010) where the premium is graded according to claim experience. However, SBs have often been excluded from these programmes because the chance of an injury occurring in a particular SB has been considered as low, even though the risk of injuries is high (Elsler et al., 2010; Hasle et al., 2009). Another reason for excluding

SBs from experience grading schemes is that a SB which experiences just one injury would face serious economic consequences (Clayton, 2012). Some countries have introduced opportunities for SBs to apply for grants for particular improvements but even though funds were raised through the insurance system, these schemes tended to result in isolated one-off improvements (Elsler et al., 2010). Also, for the reasons mentioned at the beginning of Section 2.1, insurance programmes need to be ‘carried to’ the SBs. They cannot be expected to search for such an opportunity by themselves.

In 2006 the New Zealand Accident Compensation Corporation (ACC) introduced one of the few examples of an insurance incentive scheme – the Workplace Safety Discount (WSD) scheme. It gives SBs a reduction in insurance premiums for a certain level of OHS management performance. Specifically, the scheme gives a 10% reduction in the insurance levy for SBs in high risk sectors when their OHS management practices are at a level where they are able to identify and control the main hazards in the industry, investigate and record injuries and they have emergency plans and involve their employees. The dissemination of the WSD scheme was particularly designed to rely on NGO intermediaries that already had contact with SBs in the high risk sectors.

2.2.1. Introduction to the WSD scheme

The WSD scheme was introduced in 2006 because another OHS incentive insurance programme introduced by ACC five years earlier was perceived to be inaccessible for SBs. The reasons for this were that it was considered to have too extensive requirements for documented OHS management systems, including a formal external audit every two years (Department of Labour, 2006). This view is supported in the literature (Santos et al., 2013). ACC wanted to develop a similar incentive scheme for SBs in high risk sectors because they were perceived to have higher injury rates and higher cost of claims compared to medium and large businesses. ACC believed that this was due to SB owner's having a low level of health and safety awareness and poor hazard management practice (Department of Labour, 2006; Olsen et al., 2012). This view is also supported in the research literature (Hasle et al., 2012a; Hasle and Limborg, 2006). The aim of the WSD scheme was to reduce the number and severity of injuries and diseases in SBs in high risk sectors and make ongoing improvements in OHS management capability and practices in these businesses (personal communication with ACC injury prevention manager 29 March 2010) (Department of Labour, 2006).

The WSD scheme was open to SBs with fewer than 10 employees in specific high risk subsectors of agriculture, forestry, construction, road freight, motor trades and inshore fishing. SBs in these sectors could apply for 10% reduction of their ACC levies if they fulfilled three requirements: that they (1) demonstrated from training or prior learning, industry-relevant capability in hazard identification and management, injury and incident investigation, emergency readiness and employee training; (2) satisfactorily filled in a self-assessment form about their OHS management practice; (3) accepted the possibility of an audit by an independent auditor approved by ACC. The first requirement could be fulfilled by attending two half-day training courses developed by ACC in co-operation with the industry in focus. The training courses were free, delivered locally by ACC approved training organisations and developed in co-operation with ACC's industry programme managers and the industry. The self-assessment form was developed in co-operation between Department of Labour, ACC, the industries and the approved training organisations. SBs were selected for audits if their self-assessment was unsatisfactory. Additionally, approximately 15% of applications were randomly selected for audit by ACC. The WSD scheme was promoted primarily by the selected training organisations and secondarily on ACC's webpage.

Thus intermediaries specific to each industry were involved in the industry specific design, promotion and delivery of the scheme.

2.3. Realist evaluation theory

It has recently been suggested that realist evaluation theory (Pawson, 2006; Pawson and Tilley, 1997) could be used as an important analytical tool for research in OHS intervention programmes (Pedersen et al., 2012) and for research in SBs (Olsen et al., 2012; Hasle et al., 2012a). The basic idea is to study how, for whom and under which circumstances a programme works. The key concept is that a programme needs to have a mechanism that will make the target group in a specific context make changes resulting in the desired outcome. The model is: Mechanism + Contexts = Outcome. The point of departure in interventions is a programme theory, which is an assumption about how the programme will work. The assumption is about the mechanisms that in a specific context will reach out to and motivate the target group to make changes that should result in the desired outcome (Bickmann, 1987; Pawson, 2006) (see Fig. 1).

Intervention programmes are embedded in social systems where the involved stakeholders such as intermediaries influence and change the programme in accordance with their interpretation of the programme. How the intermediaries influences the programme theory will depend on their role in the development and discrimination of the programme, their perception of and relation to the target group and the external and internal contextual factors influencing their interest in the programme. Fig. 2 illustrates how the programme theory underlying the intervention programme can be influenced by intermediaries and changed so that the programme actually delivered to the target group differs from the programme theory of the programme owners. It shows that the Programme developer needs to have a programme theory (depicted by the clouds in Fig. 2) that includes the Context (C) and Mechanism (M) that should make the intermediaries engage in the delivery of the programme and how the Intermediaries engaged in a programme can modify or transform the programme theory from one assumption of the context and mechanism ($C_1 + M_1$) to another ($C_2 + M_2$).

It is the intermediaries' role in the transformation of the programme theory, and the resulting mechanisms facilitating or limiting the delivery of the programme to the target group which is the focus of this paper.

2.4. Aim of the study

The overall aim of the study is to understand the role of intermediaries in the transformation, implementation and dissemination of national OHS programmes into practice. The specific aim is to answer the following two questions: (1) How do intermediaries contribute to the transformation of the programme theory (understanding of context and mechanism) in the WSD scheme during implementation in the agriculture sector? (2) What factors influence intermediaries' transformation of the programme and the effort they put into the promotion and dissemination of the elements of the WSD scheme?

3. Methods

The study explores the implementation of the WSD programme in a qualitative case study of the agriculture sector. This sector was chosen because it had the highest numbers of SBs eligible to join the programme and is an important economic sector in New Zealand.

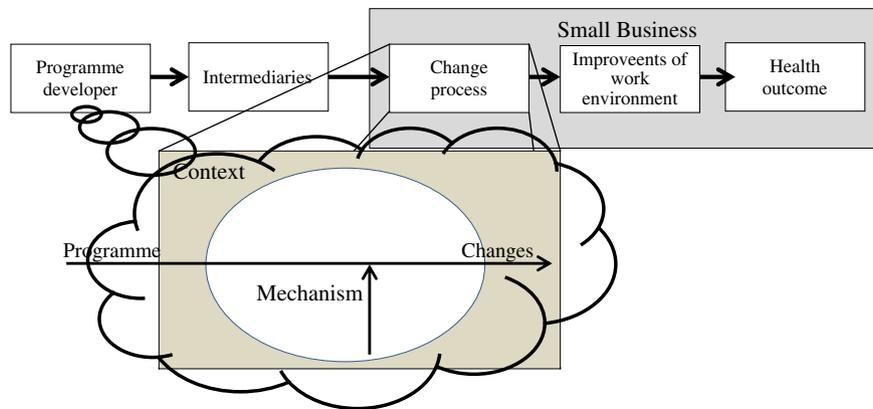


Fig. 1. The programme theory representing the developers' assumption about the contextual factors under which the chosen mechanisms should influence SB to make changes (developed for the present paper, based on Hasle et al. (2012a,b)).

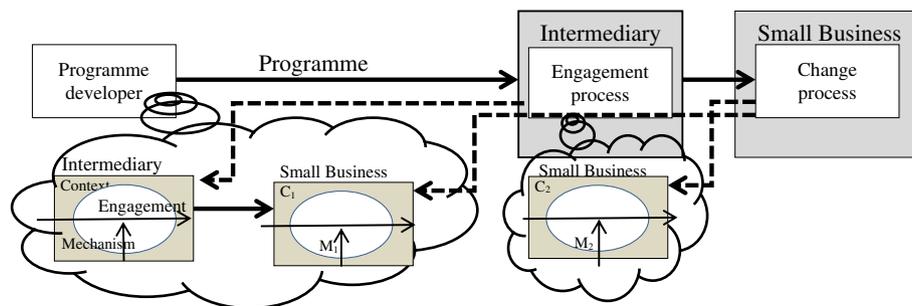


Fig. 2. Schematic illustration of how intermediaries can modify or transform the programme developers programme theory (depicted by the clouds) from one assumption of the context and mechanism ($C_1 + M_1$) to another ($C_2 + M_2$).

Data collection was organised in accordance with the programme chain from programme owner (ACC), through involved stakeholders (e.g. OHS training providers and financial advisors) to the receiver of the programme (the farmers). Data included documents and webpages describing the programme. The documents included written material from ACC as the owner of the scheme about justification for the development, content, evaluations and uptake and from intermediaries about the elements they delivered. Data also included the outcomes of semi-structured interviews conducted with key people (from ACC, intermediaries and participating farmers) involved in the various stages of design, development, delivery and uptake of the WSD scheme for the agriculture sector.

Interview guides were prepared according to the role of the interviewee. They generally covered the following topics: the interviewee's role and involvement in WSD scheme (identification of intermediaries role and contextual factors influencing the role), perception of other actors' role in the implementation of WSD (identification of intermediaries role and contextual factors influencing the role), knowledge of the background for scheme, knowledge and perception of the elements of WSD (identification of programme theory mechanism of the element and contextual factors for farmers), how the elements were adjusted and implemented and how well they worked (identification of change in programme and in programme theory and contextual factors for intermediaries and farmers), how WSD were promoted and disseminated, and about the uptake and effect of WSD.

3.1. Participants

Semi-structured interviews were conducted with key representatives from all links in the chain from ACC to farmers. Altogether 15 interviews were carried out, each lasting 1–1½ h. They included the senior manager in the ACC injury prevention department who

participated in the design of the WSD scheme; ACC's programme manager for the WSD programme; ACC's agriculture industry programme manager; one ACC injury prevention consultant for the agriculture industry; the Manager of FarmSafe; three FarmSafe trainers; one financial advisor promoting the WSD amongst farmers; five farmers that had applied for the WSD and achieved the discount; and one WSD auditor. The interviews were conducted at a place chosen by the interviewees. Representatives from ACC, the auditor and the financial advisor chose to be interviewed at their workplace. The farmers and two trainers chose their home. The third trainer chose to be interviewed at a café.

Interviewees were purposefully sampled (Carpentier-Roy et al., 2001; Sandelowski, 2000) to take into account different types of intermediaries, the trainers geographical placement and the spread of their clients/networks and farmers different approaches to OHS and different types agriculture subsector. The actual selection was mainly by snowball sampling (Atkinson and Flint, 2004). The ACC senior manager, WSD programme manager and ACC agriculture industry manager were selected because they all had central roles in the design, development and running of WSD. FarmSafe was selected as the central organisation involved in design, development and dissemination of WSD in agriculture. FarmSafe trainers, five farmers and one financial advisor were selected by snowballing. The FarmSafe manager suggested and facilitated contact to trainers who facilitated the contact to the financial advisor and five farmers. The local ACC office facilitated the contact to a local WSD auditor. All interviews were conducted between April and July 2011. A summary of interviewees' background is presented in Tables 1 and 2.

3.2. Analysis

Interviews were transcribed and coded in a qualitative data management programme (QSR NVIVO 9). The data analysis was

Table 1
Background data for interviewees representing authorities and intermediaries.

Interviewee	Organisation	Role in WSD	Background
ACC Injury prevention manager	ACC	Initiation, design, justification	OHS professional, previously worked in DOL
ACC WSD programme manager	ACC	Management of WSD scheme	10+ Years in ACC as programme manager
ACC Agriculture industry programme manager	ACC	Development of WSD in agriculture, cooperating with FarmSafe and Farmers associations	10+ Years in ACC employed to develop and promote injury prevention programmes in agriculture
ACC injury prevention consultant	ACC	Attended some WSD workshops General contact to small businesses that wanted advice on injury prevention	(no information available)
FarmSafe manager	FarmSafe	Participated in development of WSD in agriculture, Managed FarmSafe's regional advisors and trainers	Involved in the establishment of FarmSafe
FarmSafe trainer 1 North Island	Independent OHS agriculture consultant	Had conducted FarmSafe Awareness and Plans courses since their inception	Started own safety consultancy in agriculture in 1995 to help farmers implement safety management. Clients geographically close
FarmSafe trainer 2 South Island	Independent OSH, agriculture consultant	Involved in development of FarmSafe	Was the CEO of the tertiary training organisation that was one of the founders of FarmSafe. Clients geographically widespread
FarmSafe trainer 3 North Island	Independent OHS agriculture consultant	Helped develop FarmSafe Awareness and Plans courses, had conducted approximately 20 and 2 courses respectively and 5 WSD workshops	Chair of Health and Safety Committee in New Zealand Shearing industry. Started as a Sheep Shearer
Financial advisor	Independent advisor	Recruited farmers to apply for WSD and to attend the WSD workshop (charged NZ\$100 per participant)	Degree in farm management. Worked in insurance industry since 1987. Had a lot of clients and family in farming. Knew the FarmSafe Manager and WSD trainer personally
WSD Auditor	Independent OHS advisor	Became an ACC accredited auditor in 2009	Occupational Health nurse. Completed an Audit course in 2003 and had since done 10 WSD audits

Table 2
Background data for interviewee farmers.

Farm type	No. employees	The farmers' background
Beef and horticulture	3 Fulltime family, 10 casual	Always worked on farms, self-taught
Dairy 1	4 Family, 1 fulltime, 1 part time	Originally milk tank driver, went into share milking then became full time. Had completed farm management and technical courses
Horticulture	3 Family, 1 fulltime, 2 casual plus 15 casual (November–February)	Started part-time in horticulture and part-time managing a farm, took over from his father
Dairy 2	2 Family, 3 fulltime	Both (husband and wife) had university degrees, she in agriculture and he in science and business. He grew up on a farm
Sheep and beef	2 Family, contractors	Been a farmer all his life

conducted in relation to the theory of realist evaluation (Pawson, 2006; Pawson and Tilley, 1997) in order to understand the mechanisms involved in the transformation of the programme from creation through development, dissemination and implementation.

The material was thematically analysed (Braun and Clarke, 2006) specifically focusing on:

1. The programme theory behind the development of the ACC WSD scheme.
2. Intermediaries understanding of the mechanisms that encouraged farmers to join the scheme, attend training courses and implement changes to improve the working environment.
3. Intermediaries' influence on and modification of the programme.
4. The motives and interests of the intermediaries causing them to act in certain ways related to implementation of the programme.

Triangulation between the different informants and interviews and documents was used to assess the validity of the identified mechanisms and contextual factors and interest. It was done in accordance with Maxwell's suggestion for realist analysis of qualitative research (Maxwell, 2012).

4. Results

4.1. The programme theory of the WSD scheme

The programme theory that ACC used to design the WSD scheme is not directly outlined in the official documents from ACC. Thus information was extracted from documents and interviews with ACC officials about the mechanisms that should make SBs join the scheme and make changes, and the understanding of the SB's context. The programme theory was based on a prior assumption that implementing systematic hazard management, investigating injury, preparing for emergencies and training employees will improve the working environment and reduce injuries or improve health. Building on this prior assumption the results of our analysis is outlined for each design feature of the WSD scheme in Table 3. The design features of the scheme are listed in the left column. The underlying reasons for giving priority to these features are listed in the middle column (context). The right column outlines the basic mechanisms that should make the SB owners join the scheme and make changes in their business.

The uptake of the scheme was lower than originally expected by the designers. After the first year (2007) 1735 firms had joined the scheme. ACC's target was 3300 firms out of the 165,250 estimated

Table 3

Design features of the WSD scheme with the related contextual features and change mechanisms.

WSD design feature	Context	Mechanism
10% Levy discount	SB perceive ACC levy as a burden. They do not have much money	Incentive (economic) to join the scheme and to fulfil the scheme's requirements
Demonstrate OHS capability	SB owners have poor OHS knowledge and practice. They need to show that they have good knowledge and practice	Control
Training courses	Knowledge is brought to SBs. They want to be good employers and will make changes if necessary	Information provision
½ Day courses	SB owners do not have much time. ½ day courses are minimal time requirements	
No course fee	SB do not have much money	Economic incentive
Locally delivered	Limited time and money required for travel.	Convenience
Delivered by industry providers	They are known by SB owners and trusted. They know how to reach SB owners.	Trust
Self-assessment of OHS management practice	SB owners need to show they have capability to manage OHS (they generally do not). Little time resources. More informal than documenting an OHS management system (also an encouragement to make change)	Control
Possibility of an OHS audit	SB owners would maybe cheat. SB owners would maybe not make sufficient changes	Control/punishment
Promotion of the scheme		
Information letter to all eligible SBs from ACC	SB react to a written letter about the 10% levy	Knowledge about levy makes SB join the scheme
Industry specific promotion by ACC's industry injury prevention departments and industry stakeholders involved in the programme	They know the specific external and internal context of SBs in the sector and can design promotion to fit these SBs. This presumes that the stakeholders have an interest in the WSD scheme e.g. funding of workshops	For workshop providers: financial incentive. For industry associations: financial incentive for their members

eligible businesses ([Accident Compensation Corporation, ND](#)). The number of SBs joining the scheme has since grown steadily but at a rather slow rate. In 2011, 3357 SBs had joined the scheme. This was around a third of what ACC predicted the uptake would be in 2009 (9300 SBs) ([Department of Labour, 2006](#); [Teng, 2011](#)).

ACC has not been able to measure the effects on the SBs in terms of reduction in injury claim rates. It has not experienced a reduction in claims, but the ACC WSD programme manager indicated that this could be due to more SBs becoming aware that they could make claims when injured. The injury claims rate is also considered to be a problematic outcome measure ([Shannon et al., 1999](#)). ACC reported a reduction in the number of injuries among SBs participating in the scheme ([Accident Compensation Corporation, 2009](#)) but did not present any supporting evidence. It was the ACC Injury prevention consultant's impression that the main changes implemented in SBs after attending training courses were increased training of staff and implementation of hazard management and injury investigation.

4.2. Implementation of WSD in the agriculture sector

ACC's agriculture programme management team, Federated Farmers (the industry association for farmers), the agriculture industry training organisation and FarmSafe (an agriculture industry OHS training provider established by the three first mentioned organisations) formed a group to tailor WSD to agriculture. FarmSafe was chosen as the primary promoter of WSD and the primary training provider. Two types of training were accepted as demonstration of capability of OHS management. The preferred training was two of the established FarmSafe courses: 'FarmSafe awareness' (half-day) and 'FarmSafe plans' (one day) already delivered by FarmSafe. The less preferred option by FarmSafe and ACC's agriculture manager was a half-day WSD workshop designed by ACC. The FarmSafe courses were preferred by the ACC agriculture manager because they were found to reach a large part of the farming community ([Morgaine et al., 2006](#)) and perceived to be effective. The FarmSafe courses were funded by the Ministry of Education until April 2011 and were free to attend. The WSD workshop was funded

by ACC and free for farmers eligible for the WSD scheme. FarmSafe began to deliver this workshop by the end of 2010, just before the funding for the FarmSafe courses ended. The audience for the FarmSafe courses was wider than for the WSD workshop. The ACC Agriculture programme manager saw FarmSafe as having some sort of influence on the initiation of the WSD programme in general and in agriculture in particular:

"FarmSafe was where it all started. There was the FarmSafe Awareness and FarmSafe Plans and FarmSafe skills courses were up and running well before the WSD came into being. We saw value in having some small incentive for farmers to come to the workshops and so I think the initial thinking was it was about motivating people to attend the training because we saw the training as valuable.... I think the idea was that rather than give those things [voucher worth NZ\$40-50 for safety equipment] we should give people some sort of a discount on their levies if they're doing the right thing and so that turned into be the Workplace Safety Discount programme".

FarmSafe did not directly employ trainers but it contracted trainers who were mostly local OHS/agriculture consultants based throughout New Zealand farming communities. It mainly relied on these local trainers to contact the farmers and deliver the courses. These trainers based their livelihoods on the delivery of FarmSafe training courses and other OHS consultancies. Some were farmers themselves. [Fig. 3](#) illustrates the WSD programme development and dissemination in the agriculture industry. The Auditor and the application process are not included in [Fig. 3](#).

When WSD was introduced the scheme was promoted by ACC's agriculture group who ran campaigns in the agriculture sector's magazines focusing on stories about the economic and social consequences of injuries for farmers. The campaigns encouraged farmers to manage health and safety and take FarmSafe training courses, thereby indirectly promoting WSD (as indicated by the ACC agriculture programme manager). Promotion of the scheme in agriculture was through FarmSafe and particularly the local trainers and was as follows. ACC financially supported FarmSafe's promotion of the two training courses and WSD scheme in the first

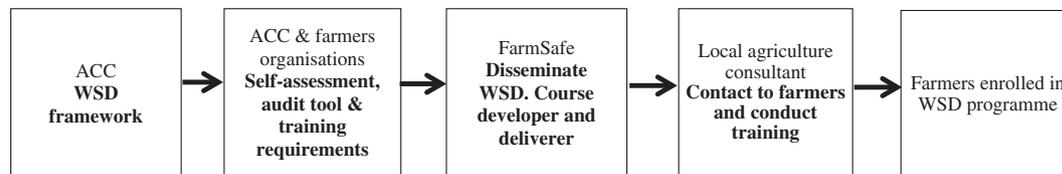


Fig. 3. The WSD programme development and delivery in the agriculture industry.

years. Since then FarmSafe had to finance the promotion itself. From 2010 ACC organised regional meetings with financial advisors. The purpose was to convince the financial advisors to promote ACC's products including the WSD scheme (and indicated by the financial advisor).

The numbers of small farmers that obtained WSD grew slowly during the first four to five years. Thereafter it seems to have stagnated around 1% of the eligible farmers (Table 4). The uptake in agriculture was much lower than ACC expected but the attendance on FarmSafe courses was considered by ACC to be satisfactory. Between 2002 and 2010, 4862 farmers attended the FarmSafe course, four times as many as obtained the WSD discount (Teng, 2011).

The ACC agriculture manager initiated a survey in 2010 to find out why farmers attended FarmSafe courses and then subsequently may not have applied for the WSD. The survey found that 40% attended courses because they wanted to be responsible employers, 20% because they thought it was an OHS requirement (e.g. fear of prosecution), and only 7% because they wanted a discount on their ACC levy. Based on this information, the ACC Agriculture manager concluded that the uptake of the WSD was low because farmers did not see the 10% reduction as a sufficient economic incentive and because they had to be away from the farm to attend the course. In contrast to this, the five interviewed farmers that joined the WSD saw the 10% discount as an incentive to join but they also emphasised that either being a good employer or avoiding prosecution motivated them to join (Olsen et al., 2013).

4.3. The role of intermediaries in the agricultural sector

4.3.1. Incentives for intermediaries

Two types of incentives were found to motivate intermediaries to promote the training courses and the WSD: (1) An economic incentive which was needed to cover actual costs and make it worth the effort for the intermediaries to promote the scheme, recruit, conduct training and help farmers apply for the WSD: (2) Normative incentives which were related to the stakeholders' image in helping the farmers to improve health and safety and reduce risk to their business. This can be seen as caring for the farmers and promoting their business/consultancy.

As described earlier, when the WSD scheme was launched two types of courses could give access to it. FarmSafe and the affiliated trainers preferred their own courses because they perceived them to be more thorough and because they received payments that were four times higher. However, this type of payment ceased in 2010 and hence so did the incentive for the FarmSafe trainers to promote the courses. FarmSafe trainers did not begin to promote

the WSD workshop but were happy to run the workshop when the financial advisor had gathered a group:

"Unfortunately, there's not a great amount of money behind WSD to actually be motivated to go out and actually make it happen whereas Plans there was a lot more money behind it. It means that you are more motivated to go out and actually pull them [the farmers] together to do them [FarmSafe courses]. Personally I haven't been motivated to go out and get on the phone and actually pull groups together because there's not enough money in it for me to do that. Whereas he's [the financial advisor] got the client list right there and he's got them coming together to talk about other things." (FarmSafe trainer 2)

The primary incentive for the FarmSafe trainers to promote WSD was the payment for running the courses. The financial advisor considered the connection between the FarmSafe courses and the WSD to be weak, as many of his clients had taken some FarmSafe courses but had not learned about the WSD. This could be a consequence of weak economic incentives for the FarmSafe trainers to promote the WSD scheme.

The opportunity to expand consultancy by including help to farmers that wanted to complete WSD self-assessment forms was an additional incentive for FarmSafe trainer 1, who had close proximity to his network. However, FarmSafe trainer 2 mentioned that farmers went home with the intention of finalising the self-assessment form but often did not get around doing it. It was considered to be too costly for him to travel far in order to help them and the farmers were not willing to pay for it. Thus there was no financial incentive for the trainers to make sure farmers applied for the WSD after the course.

An additional driver for FarmSafe trainers was that they wanted to influence farmers to prevent injuries and make farming safer: *People like myself and FarmSafe believe that... it's not just a job, it's actually trying to improve... There are a lot of people in the industry and if you can encourage them to take an interest in preserving health and safety, then we've gained something...* (FarmSafe trainer 2).

From 2010 financial advisors began to promote the WSD discount and organise WSD workshops (FarmSafe manager and trainer 1). The financial advisor's core business was to reduce cost and risk to his clients. His motivation to promote the WSD was that he considered it to be an additional product he could offer his clients. He perceived being associated with the WSD as promotion for his business: *"It's good for our business. You're putting your brand against something that's positive and if you do that, that's actually good for your branding"*. The Financial advisor also had a personal motivation to promote safety and the WSD in agriculture: *"...we've got to get the farming community to isolate what causes the risk and*

Table 4
Numbers of farmers in WSD 2007–2012.

Levy year	2007	2008	2009	2010	2011	2012
Numbers of farmers in WSD ^a	460	777	903	989	1045	957
Approximate percentage of farmers in WSD of eligible agriculture businesses ^b	0.5%	0.9%	1.1%	1.2%	1.2%	1.1%

^a Data obtained from ACC, 1 May 2013.

^b The approximate numbers of eligible agriculture business (84,900) is obtained from (Accident Compensation Corporation, ND).

cure it because we care. The last thing I want to see is one of my farming friends hurt or their kids hurt or worse that we have someone on the farm killed. . . As a firm, we help our client base and the general public at large, it'll come back to us in positive ways from somebody so I think it's just good PR."

The financial advisor charged each participant NZ\$ 100 for the WSD workshop. This covered more than the cost of organising the workshop and can also be seen as a (self-introduced) economic incentive to promote the WSD.

The ACC agriculture manager mentioned that ACC was considering finding ways of supporting FarmSafe trainers to visit the farmers: "We're looking at ways in which we can make economic sense of that for them [FarmSafe trainers] to visit the farm but it's a difficult one. Obviously if you tried to visit every farm in New Zealand it would be far too much. But we think while we can visit a few, especially common types of incidents, get that knowledge [about the causes] and share that with the wider community then we are doing the right thing". This was mentioned in relation to ACC using FarmSafe trainers to analyse the causes of farm incidents.

4.3.2. Transformational activities

As described earlier, ACC promoted the WSD scheme to all eligible farmers through letters. However FarmSafe was also expected to promote and run courses, and through that recruit farmers to the scheme as a reward for attending the courses and implementing the knowledge they gained on the courses. FarmSafe and the individual trainers realised that the farmers did not join the courses or the WSD scheme on the basis of the general information. They therefore developed a series of recruitment strategies which stood out as their main contribution to the transformation of the scheme. At the same time recruitment to the courses became a goal in itself and the WSD an incentive, whereas the goal of recruiting to the WSD scheme weakened. An overview of the strategies is outlined in Table 5. The sections below consider in more detail the recruitment strategies and the mechanisms used to motivate farmers to take the courses and join the WSD.

4.3.2.1. Trainers' development of strategies. FarmSafe first promoted WSD through advertisement campaigns and direct mail to farmers. These channels did not give many contacts (FarmSafe Manager). FarmSafe regional coordinators and trainers subsequently telephoned farmers on the Farmsafe course register in their local areas to encourage attendance at FarmSafe plans courses. The WSD discount was used to encourage farmers to attend this course in the first place (FarmSafe trainer 1):

"All we really had to do was to ring them up and say: "Look, you've done this. If you follow this on, at the end of the Plans course you can actually apply for the safety discount" and of course, that was a big carrot for them to come along. They could see they were going to get a 10% discount."

To gain further out-reach FarmSafe trainers used other arguments that could be categorised as mechanisms related to punishment, economic benefits and other incentives. As an example of the punishment mechanism the trainers highlighted that it would be more likely that Department of Labour would prosecute them if they did not have an OHS plan (FarmSafe trainers 1 and 2), and that if the farmer had an injury he would not only be injured and incur time off work, or potentially could die, but furthermore the family could also go out of business and lose their lifestyle (Agriculture programme manager, FarmSafe trainer 3). As an example of the economic benefit FarmSafe trainer 1 told his client group how other farmers had implemented FarmSafe plans and experienced that their farm ran more efficiently afterwards. An example of another incentive mechanism was the opportunity to socialise with other farmers during the course. FarmSafe trainer 3 also focused on the farmers' desire to be seen as a decent employer, and the negative impact an injury could have on the farm:

"The other thing is the message we try to get through is: "Don't do any of this stuff because 1) you're going to get a 10% discount and 2) because you're worried about the Department of Labour... or ACC. You do it because you don't want anybody injured and what affects somebody being injured is productivity and profitability."

All FarmSafe trainers saw Farmers' low literacy as a barrier for attending courses and for filling in the self-assessment form. Further, they saw the design of the self-assessment form as a barrier. This was supported by the five farmers' perception of the form. To overcome this barrier FarmSafe trainer 1 offered his assistance with filling in the form, which the interviewed farmers made use of. The other two FarmSafe trainers did not use this strategy. FarmSafe trainer 3 had attempted to influence how the self-assessment should be revised, but found that it was difficult to get his views through with the ACC WSD programme manager.

4.3.2.2. A financial advisor's development of strategies. The financial advisor became an intermediary in late 2010 after attending a meeting with ACC. Financial advisors provide insurance and other financial advice to businesses. This financial advisor had many small farmers as clients.

Table 5
Recruitment strategies developed by the intermediaries in agriculture.

Intermediary	Recruitment strategy	Mechanism to make farmers attend courses and/or join WSD	Results (relative to the different strategies)
FarmSafe	Advertisements	Advertisements are read and knowledge about scheme is sufficient for recruitment	Limited enrolment on courses – inexpensive
	Direct mail	Advertisements are read and knowledge about scheme is sufficient for recruitment	Limited enrolment on courses – inexpensive
	Telephone calls to FarmSafe contacts	Personal contact more convincing. Incentive: 10% discount	Medium enrolment on courses – higher cost
Individual trainers	Networking	Personal relation more binding. Motivators: 10% discount, increased efficiency, opportunity to socialise, lower risk of prosecution, prevention of injuries and adverse economic impact	Higher enrolment on courses – but time consuming
Financial advisor	Networking with clients Charged a fee for the workshop	Personal relation more binding. The fee signals quality and would be wasted if not attending. Motivators: 10% discount, help with application, opportunity to socialise	Higher enrolment in WSD workshops and application for WSD discount – but time consuming
	Networking with accountants and banks	Personal relation more binding. Trust in existing business relations	Higher enrolment in WSD workshop

He contacted his farmer clients and informed them about the possibility of saving 10% of the ACC levy if they attended the WSD workshop and completed the self-assessment which he would then deliver to ACC. Before this formal contact, whilst duck hunting with his farming friends he asked them if they had heard about WSD. None of them had – even though two out of ten had been on Farm Safe courses. This “informal survey” was the basis for him getting involved in promoting the WSD. The financial advisor organised FarmSafe to run the WSD workshop and an ACC consultant to attend and collect the self-assessment forms. He emphasised the importance of having a lunch at the end of the workshop as an opportunity to meet and socialise with other farmers. He believed that charging a fee for the workshop was important to increase the perception of the workshops’ quality and importance. The FarmSafe manager and trainer 3 believed that the financial advisor reached farmers that they would not be able to reach, because: “*when a financial advisor suggests that they attend a course then it must be of economic benefit to them*” (FarmSafe trainer 3). Still, the financial advisor was surprised that it was so difficult to motivate farmers to attend the workshops. The financial advisor also promoted the WSD through accountants he knew in order to gain further out-reach. In addition, he had encouraged some rural banks to promote the WSD to farmers, considering it to be good business for the bank and the farmers.

The financial advisor had SB clients in other industries that were eligible for the WSD scheme. However since he did not know training providers in these industries he did not know how to go about it. In contrast, it was easy for him to organise the WSD workshop in agriculture because the FarmSafe manager was his personal friend.

The financial advisor built on his personal relationships to farmers when he explored the market for the WSD workshops and his personal relation to other stakeholders when he recruited and organised the WSD workshop and the applications for the WSD scheme. He also found that he had to change the farmers’ negative perception of ACC. Many farmers only saw the levy side of ACC and did not see that there were possible benefits, such as the WSD.

4.3.3. Opportunities to use other Intermediaries

During the interviews other potential intermediaries were mentioned. FarmSafe trainer 1 mentioned that he had helped more clients to set up OHS systems or plans and to apply for the WSD because the big corporates demanded it of the farmers. Farmer 1 mentioned that they had a more developed OHS system which was required by [Global G.A.P.](#) (Good Agriculture Practice) and that they were audited annually by [Global G.A.P.](#) “... *from an audit point of view we have to do more [for the Global Gap then for the WSD]. Way more and they’re more proactive and see that we are actually doing what we should be doing compliance wise [for Global Gab]*”. ([Global G.A.P.](#) is an NGO organisation that sets voluntary standards for the certification of agriculture products which include safe production methods).

5. Discussion

This study shows that ACC had reasonably advanced recruitment strategies (involving NGO industry OHS training providers) in their programme theory but limited consideration of intermediary incentives. The analysis illustrates how a governmental body owning an OHS incentive scheme reached out with some success to a part of the SB target group by building a programme theory that involved an NGO OHS training provider with close relation to local business community as intermediary. However this success was restricted by focusing on one type of intermediary and the programme owners’ limited consideration of the incentives

for the intermediaries to promote and deliver the programme. These findings are discussed below in more detail and in relation to the two research questions.

5.1. How do Intermediaries contribute to the transformation of the programme theory (the understanding of the context and the mechanism)?

Whether the intermediaries change the main understanding of the mechanism that should make farmers improve OHS is debatable. If the mechanism was to bring knowledge through courses to the farmers so that they would make changes because they are good employers, then the intermediaries did not change this central mechanism. All intermediaries focused on getting farmers to take either the courses or attend the workshop. However the financial advisor focused more on making the farmers apply for the discount. This leads to the conclusion that the intermediaries focused on the mechanism that is most likely to further their own interests.

The mechanism that should make the Farmers attend courses was maintained as an economic incentive by using the 10% discount. Some of the more peripheral mechanisms like the time spent on courses and the course fees were altered slightly by the different intermediaries. Further, other arguments or mechanisms were included to motivate the farmers to take the courses and make changes. These were related to punishment - like prosecution if they had an accident and could not show that they had an OHS system/plan in place, other economic benefits and social benefits - like networking. The introduction of these mechanisms were all based on the intermediaries’ deeper experience and understanding of the farming community, but were not considered by the programme designer (ACC).

The main contribution of the intermediaries was in the transformation of the recruitment strategy. The two different types of intermediaries used networking as the main strategy, but reached different segments of the target group because their networks were based on different businesses areas – OHS consultancy and financial advice. Further, the financial advisor used his personal network to banks and accountants to widen the target group for his promotion of the WSD and the workshops.

The above interpretation of the findings confirms the importance of including trusted intermediaries in the dissemination of OHS programmes emphasised in previous research ([Hasle and Limborg, 2006](#); [James et al., 2004](#); [Legg et al., 2010](#)).

5.2. What factors influenced intermediaries’ transformation of the programme?

The initial ACC campaigns did not result in a large uptake but the training provider and the trainers were able to develop a promotion strategy that better fitted and reached their networks. Their promotion strategy and effort were influenced by the financial incentive built into the programme. The incentive was mainly linked to funding of training courses by another governmental authority. This resulted in a transformation of the WSD programme into a training programme and the WSD discount was seen as a vehicle to recruit participants to courses. When the financial incentive ended so did the effort of the trainers to promote the courses. This illustrates the strength and the risk of relying of funding from sources outside of the control of the owner of the programme. The intermediaries only committed themselves if they considered the programme beneficial for their organisational and personal goals. One of the reasons for the limited uptake in the scheme may therefore be a lack of active promotion of the WSD scheme and of help to enter the scheme by the trainers.

It can therefore be concluded that ACC's programme theory lacked considerations regarding the intermediaries' interest in the scheme and an understanding of how this interest influenced the scheme. This was a development which on one hand proved innovation in recruitment but on the other hand changed the direction of the scheme into a training effort. This case study therefore indicates that economic incentives operate as strong motivators for the intermediaries, and that the programme owner needs to consider the possible mechanisms underlying the incentives for the intermediaries. The ACC agriculture industry manager seemed to have been made aware of this late in the process and was considering incentives for the FarmSafe trainers to contact farmers at the farm, but this was assessed as being too expensive. This highlights the difficulties that exist with implementation of OHS programmes through personal contacts to the SB owner, and is consistent with previous research findings (Hasle et al., 2012a,b; Hasle and Limborg, 2006).

However, even though it is important to secure funding for intermediaries, there may be types of intermediaries that have an interest in promoting the intervention program without direct and explicit funding, because they see it as a way of expanding their own business. Such an observation fits with earlier research into accountants' interest in OHS advice to SBs (Hasle et al., 2010). To make use of such opportunities the programme owner needs to approach intermediaries and demonstrate how they can benefit from engaging with the programme, as ACC did when organising meetings with financial advisors. The study also illustrates the advantage of disseminating a programme using different types of intermediaries including some that relate to the business side of SBs. The financial advisor reached a new segment of the target group. This strategy only worked because he had personal contact with the training provider. It did not work for him in relation to his clients in other industries because he did not know the programme infrastructure. Thus it is important for the programme owner to make the infrastructure clear to all involved intermediaries.

The close relation between intermediaries and the target group is another factor that both influenced the intermediaries' engagement in the programme and their ability to engage with the target group. The trainers and the financial advisor were all passionate about improving safety in farming and had a trusting relation to a large group of their farming clients. They had all been part of the farming community. Thus it seems important that the programme designer gives priority to developing and maintaining a close relationship with the intermediaries in the sector, and that this also opens up opportunity for feedback that can be used to evaluate and revise the programme.

Even though the WSD scheme was designed in accordance with current knowledge about SBs, it had a limited outreach. A closer analysis by ACC of different possible intermediaries at the beginning of the programme could perhaps have led to the selection of a wider range of intermediaries, who could reach more segments of the SB target group. In the case of the WSD they could have involved the large farming corporates and Global G.A.P., who require OHS systems or plans of their suppliers and members. The opportunity to involve key actors in the supply chain, like large costumers and certification organisations, have been identified and discussed in earlier research (Olsen et al., 2010; Walters, 2006) but has not been used as a strategy for the dissemination of national OHS interventions. As for most other SB programmes, it seems necessary to base the design of OHS intervention schemes on a broad spectrum of activities using a variety of intermediaries that can supplement each other in reaching a larger proportion of SBs.

It was not possible in this study to assess the effect of the WSD on the work environment in the SBs that joined the scheme. As in other OHS interventions (Hasle et al., 2010) the designer of the intervention did not evaluate the effect on the working environ-

ment. In the case of the WSD, the random audits could be an option to assess the effect of the scheme on SBs' OHS management and work environment.

This paper has presented the results of the case study on one OHS incentive programme in one sector in New Zealand. The case study was built on a selection of actors on the basis of their different experiences with the programme. Thus the findings may not have identified all the ways in which intermediaries could influence OHS programmes and the programme theory or all the factors that could influence the intermediaries' engagement in OHS programmes. There may therefore be other mechanisms for the involvement of intermediaries and for their relations with the target group. However the study still illustrates factors that need to be considered when designing an OHS programme and choosing intermediaries to disseminate it i.e. the context of the intermediaries and the mechanisms that should make them promote and encourage SBs to join an OHS scheme.

6. Conclusion

This study indicates that intermediaries are driven by their own interest in an OHS scheme, such as the WSD, and this determines their role in the schemes' transformation, implementation and dissemination. Both economic and normative incentives that align with their business interests drive the intermediaries' contribution.

Economic incentives particularly influenced the trainers' transformation of the WSD into a training scheme while funding for the courses was high and could support their personal promotion of training courses. When the economic incentive changed and was linked to the numbers of completed WSD applications the trainers' role changed to delivering workshops that resulted in the completion of applications.

Normative incentives (e.g. to be associated with a reputational scheme and to provide clients with a product that could save money) were particularly a driver for the financial advisor. His promotion was linked directly to the WSD and the training became a means to achieve the discount.

The intermediaries' knowledge of the target group was based on their interaction with a segment of the target group and was used to transform the recruitment strategy: the way the target group was contacted and the arguments used to persuade them to participate. The different intermediaries reached different segments of the target group.

The WSD scheme is an example of an insurance discount scheme for SBs that has reached out to the target group and achieved a certain but rather low uptake. The promotion of the scheme depended on intermediaries and the inclusion of elements which provided financial or other benefits to intermediaries. The study identified other NGOs (large corporates and voluntary certification schemes) related to the supply chain that could have been considered as intermediaries in the WSD scheme to reach out to other segments of the target group.

The findings in this study can be used strategically by programme designers to reach a larger proportion of SBs. Programme designers should allocate resources to different types of intermediaries that fit with their specific needs and organisational interests. Analysis of intermediaries' business goals should form the basis for their role in the programme and for allocating resources.

It is important to further develop our understanding of the mechanisms which can motivate intermediaries to participate in OHS intervention programmes for SBs. This could be achieved by conducting more case studies of similar programmes in other sectors and other types of OHS intervention programmes. Further studies also need to evaluate the effects of these kinds of programmes on the working environment in SBs and their relation to the intermediaries' role.

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References

- Accident Compensation Corporation, 2009. Annual Report 2009. Accident Compensation Corporation, New Zealand, Wellington, pp. 136.
- Accident Compensation Corporation, ND. Operational review of the Workplace Safety Discount Scheme (WSD). Accident Compensation Corporation, Wellington, New Zealand.
- Antonsson, A.-B., Alvarez, E., 2005. An interactive internet tool supporting chemical risk management in SMEs – the chemical guide (KemiGuiden), IOHA 2005, South Africa. <<http://www.kemiguident.se>>.
- Antonsson, A.-B., Birgersdotter, L., Bornberger-Dankvardt, S., 2002. Small enterprises in Sweden. Health and safety and the significance of intermediaries in preventive health and safety, first ed. National Institute for Working Life, Stockholm, Sweden.
- Atkinson, R., Flint, J., 2004. Snowball sampling. In: Lewis-Beck, M.S., Bryman, A., Liao, T.F. (Eds.), *The SAGE Encyclopedia of Social Science Research Methods*. Sage Publications, Inc., pp. 1044–1045.
- Baldock, R., James, P., Smallbone, D., Vickers, I., 2006. Influences on small-firm compliance-related behaviour: the case of workplace health and safety. *Environ. Plan. C-Gov. Policy* 24, 827–846.
- Bickmann, L., 1987. The functions of program theory. *New Dir. Program Eval.* 33, 5–18.
- Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3, 25.
- Caple, D., 2006. Provision of free consultancy to SME workplaces to improve OSH performance, Maastricht.
- Caple, D., Hodgson, R., Greig, J., 1997. Dissemination of OHS information into small businesses. *J. Occup. Health Safety – Australia New Zealand*, 157–159.
- Carpentier-Roy, M.C., Simard, M., Marchand, A., Ouellet, F., 2001. Towards a new model of intervention for occupational health in small firms. *Relat. Ind.-Ind. Relat.* 56, 165–194.
- Champoux, D., Brun, J.P., 2003. Occupational health and safety management in small size enterprises: an overview of the situation and avenues for intervention and research. *Safety Sci.* 41, 301–318.
- Clayton, A., 2012. Economic incentives in the prevention and compensation of work injury and illness. *Policy Pract. Health Safety* 10, 27–43.
- Cunningham, T.R., Sinclair, R., Schulte, P., 2013. Advancing research on delivering workplace health and safety to small businesses: a U.S. perspective. In: Laird, I., Olsen, K. (Eds.), *Understanding Small Enterprises – From USE to Action*. Massey University & AUT University, Nelson, New Zealand, pp. 66–78.
- Department of Labour, 2006. Regulatory impact statement for proposed workplace safety ACC levy discount for small businesses in six high risk industries. In: Labour, D.o. (Ed.), Department of Labour.
- Eakin, J., Weir, N., 1995. Canadian approaches to the promotion of health in small workplaces. *Can. J. Public Health. Revue Canadienne de Sante Publique* 86, 109–113.
- Elsler, D., Treutlein, D., Rydlewska, I., Frusteri, L., Kruger, H., Veerman, T., Eckelaert, L., Roskams, N., Van den Broek, K., Taylor, T.N., 2010. A review of case studies evaluating economic incentives to promote occupational safety and health. *Scand. J. Work Environ. Health* 36, 289–298.
- Fairman, R., Yapp, C., 2005. Enforced self-regulation, prescription, and conceptions of compliance within small businesses: the impact of enforcement. *Law Policy* 27, 491–519.
- Frick, K., Walters, D.L., 1998. Worker representation on health and safety in small enterprises: lessons from a Swedish approach. *Int. Labour Rev.*, 137.
- Global G.A.P., 2013. Global G.A.P. Who we are.
- Haslam, S., James, J., Bennett, D., 1998. Developing proposals on how to work with intermediaries. Health and Safety Executive, UK, Norwich, UK, pp. 1–66.
- Hasle, P., 2000. Health and safety in small enterprises in Denmark and the role of intermediaries. Centre for Alternative Social Analysis, Copenhagen, Denmark.
- Hasle, P., Bager, B., Granerud, L., 2010. Small enterprises – accountants as occupational health and safety intermediaries. *Safety Sci.* 48, 404–409.
- Hasle, P., Kines, P., Andersen, L.P., 2009. Small enterprise owners' accident causation attribution and prevention. *Safety Sci.* 47, 9–19.
- Hasle, P., Kvorning, L.V., Rasmussen, C.D.N., Smith, L.H., Flyvholm, M.-A., 2012a. A model for design of tailored working environment intervention programmes for small enterprises. *Safety Health Work* 3, 181–191.
- Hasle, P., Limborg, H.J., 2006. A review of the literature on preventive occupational health and safety activities in small enterprises. *Ind. Health* 44, 6–12.
- Hasle, P., Limborg, H.J., Kallehave, T., Klitgaard, C., Andersen, T.R., 2012b. The working environment in small firms: responses from owner-managers. *Int. Small Bus. J.* 30, 622–639.
- James, P., Vickers, I., Smallbone, D., Baldock, R., 2004. The use of external sources of health and safety information and advice: the case of small firms. *Policy Pract. Health Safety* 02, 91–104.
- Lamm, F., 1997. Small business and OH&S advisors. *Safety Sci.* 25, 153–161.
- Legg, S., Olsen, K., Harris, L.-A., Lamm, F., Laird, I., Massey, C., Battisti, M., 2009. Small business owners' awareness of Health and Safety legislation and targeted programmes. *Understanding Small Enterprises*. National Research Centre for the Working Environment, Denmark, Elsinore, Denmark, pp. 469–490.
- Legg, S., Olsen, K., Lamm, F., Laird, I., Harris, L.-A., Hasle, P., 2010. Understanding the programme theories underlying national strategies to improve the working environment in small businesses. *Policy Pract. Health Safety* 8, 5–35.
- MacEachen, E., Kosny, A., Scott-Dixon, K., Facey, M., Chambers, L., Breslin, C., Kyle, N., Irvin, E., Mahood, Q., The Small Business Systematic Review, T., 2010. Workplace health understandings and processes in small businesses: a systematic review of the qualitative literature. *J. Occup. Rehabil.* 20, 180–198.
- Maxwell, J.A., 2012. *A Realist Approach for Qualitative Research*. Sage, Los Angeles.
- Mizoue, T., Huuskonen, M.S., Muto, T., Koskinen, K., Husman, K., Bergstrom, M., 1999. Analysis of Japanese occupational health services for small- and medium-scale enterprises in comparison with the Finnish system. *J. Occup. Health* 41, 115–120.
- Morgaine, K., Langley, J.D., McGee, R.O., 2006. The FarmSafe programme in New Zealand process evaluation of year one (2003). *Safety Sci.* 44, 12.
- Olsen, K., Harris, L.-A., Laird, I., Legg, S., Perry, M., Hasle, P., 2010. Differential intervention strategies to improve the management of hazardous chemicals in small enterprises. *Policy Pract. Health Safety* 8, 57–76.
- Olsen, K., Legg, S., Hasle, P., 2012. How to use programme theory to evaluate the effectiveness of schemes designed to improve the work environment in small businesses. *Work: A J. Prevent. Assess. Rehabil.* 41, 5999–6006.
- Olsen, K.B., Harris, L.-A., Gunnarsson, K., 2013. Realist analysis applied to an occupational health and safety economic incentive programme for micro businesses in high risk industries. In: Laird, I., Olsen, K. (Eds.), *Understanding Small Enterprises (USE) 2013*. Massey University & AUT University, Nelson, New Zealand, pp. 319–334.
- Pawson, R., 2006. *Evidence-Based Policy. A Realist Perspective*, first ed. SAGE Publications Ltd, London.
- Pawson, R., Tilley, N., 1997. *Realistic Evaluation*. SAGE Publications Ltd, London.
- Pedersen, L.M., Nielsen, K.J., Kines, P., 2012. Realistic evaluation as a new way to design and evaluate occupational safety interventions. *Safety Sci.* 50, 48–54.
- Persson, O., 1991. Att leva som småföretagare. En studie om företagande, livssituation och stress. Göteborgs Universitet, Psykologiska Institutionen, Göteborg.
- Sandelowski, M., 2000. Combining qualitative and quantitative sampling, data collection, and analysis techniques in mixed-method studies. *Res. Nurs. Health* 23, 246–255.
- Santos, G., Barros, S., Mendes, F., Lopes, N., 2013. The main benefits associated with health and safety management systems certification in Portuguese small and medium enterprises post quality management system certification. *Safety Sci.* 51, 29–36.
- Shannon, H.S., Robson, L.S., Guastello, S.J., 1999. Methodological criteria for evaluating occupational safety intervention research. *Safety Sci.* 31, 161–179.
- Tait, R., Walker, D., 2000. Marketing health and safety management expertise to small enterprises. *Safety Sci.* 36, 95–110.
- Teng, S., 2011. ACC responses to data question raised by Centre for Ergonomics Occupational Safety and Health researcher Dr. Kirsten Bendix Olsen. Accident Compensation Corporation, New Zealand, Wellington.
- Walters, D., 2001. Health and safety in small enterprises. European strategies for managing improvement. P.I.E.-Peter Lang, Brussels.
- Walters, D., 2006. The efficacy of strategies for chemical risk management in small enterprises in Europe: evidence for success? *Policy Pract. Health Safety* 4, 81–116.