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A co-produced cultural approach to workplace alcohol interventions: barriers and facilitators

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ABSTRACT

Background: There is increasing recognition that the workplace holds potential as an alcohol prevention/intervention setting. However, few robust studies of workplace interventions have been conducted. Research to-date has yielded mixed results. The current study aimed to address this knowledge gap by undertaking a process evaluation of the Workplace Alcohol Harm Reduction Project (WRAHP), a co-produced workplace alcohol intervention.

Methods: A process evaluation was embedded within the WRAHP intervention trial. It included site visits (n=41), site observations (N=8) and on-site semi-structured key informant interviews (N=50), conducted over the 3-year evaluation period.

Results: A 'whole-of-workplace' plus a 'co-production' approach during intervention development and implementation contributed to uptake and sustainability. Seven potential barriers or facilitators emerged: (i) attitudes toward alcohol in the workplace, (ii) policy development and awareness, (iii) referral pathways and access to support, (iv) participation and equity: production pressure, (v) participation and equity: language barriers, (vi) communication and (vii) sustainability of the intervention.

Conclusions: Embedding a tailored alcohol intervention within a 'worker-wellbeing' framework promoted acceptance. This approach enabled barriers to be addressed whilst identifying facilitators of success. These results add to a growing evidence base regarding the value of interventions that target alcohol and support replication of similar co-produced interventions in other workplace settings.

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KEYWORDS

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Introduction

There is increasing recognition of the need to address alcohol and drug-related harm in workplace settings. Globally, the annual cost of substance use disorders has been estimated at more than \$400 billion, including crime, health and lost productivity (US Department of Health and Human Services, 2016). Overall workplace productivity loss is estimated to cost \$249 billion in US, and \$6 billion in Australia. The cost of alcohol and drug-related absenteeism in the US is estimated to be 0.2% of the total payroll (Frone, 2013), and in Australian workplaces it is estimated to cost \$3 billion per year (Roche, Pidd, & Kostadinov, 2016). Australian research also indicates that 11% of all accidents are associated with alcohol use (Pidd, Berry, Harrison, Roche, Driscoll, & Newson, 2006). Beyond economic and workplace safety incentives, the workplace offers potential as an alcohol-related harm intervention site (Mcpherson & Boyne, 2017).

Despite the potential the workplace holds as an intervention site (Mcpherson & Boyne, 2017), research that has evaluated workplace alcohol and drug-related harm prevention strategies is scarce and provides mixed results (Frone, 2013; Lee, Roche, Duraisingam, Fischer, Cameron, & Pidd, 2014; Roche, Lee, Battams, Fischer, Cameron, & Mcentee, 2015). While some strategies have demonstrated effectiveness (Bennett, Patterson, Reynolds, Wiitala, & Lehman, 2004; Sieck & Heirich, 2010; Spicer & Miller, 2016), others have found either limited (Pidd & Roche, 2014) or no effectiveness (Ito, Yuzuriha, Noda, Ojima, Hiro, & Higuchi, 2014; Khadjesari, Freemantle, Linke, Hunter, & Murray, 2014).

One reason for the limited number of studies and inconsistent results may be a failure to acknowledge and address potential barriers to effective intervention implementation. The workplace contains numerous unique barriers to effective intervention implementation. These include adverse work schedules and work environments (Nicholls, Perry, Duffield, Gallagher, & Pierce, 2017), conflicting production demands (Person, Colby, Bulova, & Eubanks, 2010), inconsistency with existing organisational cultures and lack of management support (Wierenga, Engbers, Van Empelen, Duijts, Hildebrandt, & Van Mechelen, 2013). These barriers are likely to impede intervention implementation attempts.

Two strategies may help overcome workplace barriers to intervention implementation. The first strategy involves development of an intervention that acknowledges and aligns with the existing organisational culture. Cultural explanations of employee alcohol and drug use (Pidd & Roche, 2008) recommend that in order to be effective interventions need to adopt a comprehensive 'whole-of-workplace' approach (Brown, Bain, & Freeman, 2008; Pidd & Roche, 2008) that incorporates strategies to address workplace structural, organisational, environmental, and social factors that contribute to an organisation's alcohol and drug use culture. The second strategy is to adopt a 'co-production' approach in intervention development and implementation. Co-production is defined as direct involvement of service users in the design, management, delivery and/or evaluation of public services (Osborne, Radnor, & Strokosch, 2016). In health services, co-production can refer to the involvement of patients and/or healthcare staff in the design and production of their services (Vennik, Van De Bovenkamp, Putters, & Grit, 2015). Whilst resource intensive, potential benefits of a co-production approach include better quality services, better health outcomes, more accessible and acceptable health services, and more effective uptake and dissemination (Janamian, Crossland, & Jackson, 2016; Nilsen, Myrhaug, Johansen, Oliver, & Oxman, 2006). Co-production also allows for key stakeholder engagement in the design and implementation of health services and as such, fits with a 'whole-of-workplace' approach to a workplace alcohol intervention. Further, and perhaps most importantly, it involves shared decision making (Holmes, 2017).

There is a dearth of literature concerning both workplace alcohol interventions that have adopted either a whole-ofworkplace and/or co-production approach, and evaluations of the effectiveness of such an approach. To address this gap, a 3-year trial of the Workplace Alcohol Harm Reduction Project (WRAHP) intervention was undertaken. A full description of the intervention, method and outcome effectiveness of WRAHP are presented elsewhere (Pidd, Roche, Cameron, Lee, Jenner, & Duraisingam, 2018). Briefly, the intervention was effective in raising employees' awareness of workplace alcohol and drug policies and employee assistance programmes for alcohol and drug-related problems (Pidd et al., 2018). The current study reports on a separate process evaluation conducted to identify barriers and facilitators to a whole-of-workplace/co-production approach. Process evaluations are increasingly used in health research to help understand the setting, context and effectiveness of more complex interventions (Atkins, Odendaal, Leon, Lutge, & Lewin, 2015; Moore et al., 2015; Palmer et al., 2016). The Medical Research Council (Moore et al., 2015) suggests that process evaluations are essential to understand the potential for replication of complex health interventions.

The WRAHP intervention

The WRAHP intervention combined a whole-of-workplace and co-production approach in the intervention development and implementation. It was delivered at both group and individual levels and comprised five sequential co-produced phases implemented over 12 months. The first phase included a gap analysis undertaken in order to tailor the intervention to individual workplaces. Each subsequent phase was co-produced with workplace stakeholders, and incorporated into existing workplace processes to maximise uptake, acceptability, and sustainability.

Phase 1: Gap analysis

A gap analysis identifies factors that need to be addressed in order to move from a current to desired state and can include a risk and/or needs assessment. The gap analysis collected data from multiple sources including surveys, interviews and observations. The gap analysis revealed high-stress, fast-paced shift work, long hours, low-level policy awareness, and variability in managers' and supervisors' ability to manage alcohol-related risk. It further identified risk and protective factors relevant to the proposed cultural model (Pidd & Roche, 2008).

Phase 2: Development of policy package

Development of a co-produced workplace alcohol policy package with procedural guidelines included workshops with team leaders, supervisors and managers to ensure content matched existing organisational and environmental structures. Workshops informed the development of resources to assist policy implementation including production of policy posters, flyers, and tool box talk information sheets.

Phase 3: Implementation of employee awareness programme

Employee training was undertaken to raise employees' awareness of the policy, local community services, and alcoholrelated health and safety issues implemented with delivery timed to fit with production demands and embedded within new employee induction training.

Phase 4: Implementation of supervisor training programme

Supervisor training was provided to enhance supervisors', managers', and team leaders' capacity to implement the policy and respond to alcohol-related harm.

Phase 5: Implementation of referral pathway to access community support

Supervisor training was offered to enhance supervisors', managers', and team leaders' capacity to refer employees to established Employee Assistance Program (EAP) or other community-based services to respond to alcohol-related harm.

These five phases of the intervention were based on a cultural model of employee alcohol and drug use developed by Pidd and Roche (2008). The model proposes that workplace structural, organisational, environmental and social factors contribute to workers' alcohol and drug use culture through:

- workplace customs (e.g. social networks, managerial practices)
- working conditions (e.g. physical conditions, working hours)
- workplace controls (e.g. levels of supervision, policies)



factors external to the workplace (e.g. individual and wider social norms).

The WRAHP intervention targeted each of these areas and aimed to minimise the impact of each on workers' alcohol use. For example, development of a formal policy introduced a workplace control mechanism to restrict work-related alcohol use. Supervisor/manager training increased workplace controls by building capacity of supervisors to implement the policy and identify affected employees. It also improved supervisors' understanding of the relationship between working conditions and consumption patterns. Employee awareness sessions targeted existing workplace customs and practices, individual behaviours and beliefs, and awareness of contributory workplace factors. Referral pathways established a workplace managerial process for dealing with affected workers and a method of enabling individual behaviour change through treatment/counselling.

Study design

A comparative study design was used for the WRAHP trial and involved four workplaces. Two workplaces were allocated to the intervention group and two to the comparison group. For the current process evaluation only, data from the two intervention workplaces was utilised.

Participants

Participants were Australian manufacturing companies. One produced plastic products and employed 110 employees at one worksite, all of whom were invited to participate (Site 1). The other produced recreational vehicles and employed 1000 employees of whom 100 employees in one discrete section of the workplace were invited to participate (Site 2). This section was physically located in a separate area and could be described as a 'factory within a factory' with its own workforce, process and structure. This made it an ideal comparison site as the workforce was very similar to Site 1 in terms of gender, ethnicity and age of workers, as well as its geographical location, type of manual labour and production process.

Ethics approval was provided by Anglicare Victoria's Research Ethics Committee (AVREC). Participant consent was sought from both worksite management and individual employees. Employees were informed of the study's rationale, aims and progress through regular workplace meetings and notice board updates.

Method

All data collection tools (the anonymous paper survey, interview schedule, observation templates and project log) were purpose designed by the research team. The survey was hand-delivered by the researchers (J.C., K.P.) and completed by employees during work hours, usually during a safety or team meeting. Interviews were conducted by J.C., with a matrix used to select potential participants. The matrix included details of factory areas, shifts, gender, and work roles (i.e. worker, team leader, supervisor, manager). In order to minimise bias, at least one participant from each area/ shift/demographic group was invited to participate. Researchers also attended as many shifts as possible to maximise exposure to workers (e.g. morning, afternoon shift, night shift). The observations were recorded by K.P., J.C. and the project log recorded by J.C. after each site visit.

- Forty-one site visits (18 pre-intervention and 23 during/ post-intervention) were undertaken over the 3-year study period. A project log was completed after each visit detailing the date, time and general purpose of visit, actions from visit, and a general summary of any issues raised and discussed regarding the intervention implementation.
- Eight pre-intervention site observations were conducted using specifically designed templates that recorded details of the environment and day-to-day work practices of each workplace. The observations varied in length from 20 to 30 min. The purpose of the observation was to develop a clear understanding of the work environment of each workplace. For example, the level of heat, noise and dust on the factory floor, location of suitable spaces to undertake information/training sessions, locations where workers were likely to take breaks (to ensure materials, policy, papers were located in appropriate places), and interactions between employers/employees to understand the dynamic of the workplace. It was also important to understand the pressure on employees in terms of production demands in order to minimise our imposition on them. These observations also enabled the identification of ways to implement the intervention that were consistent with normal production processes. For example, one factory line included machines that were operational 24/7 and needed to be monitored at all times, thus we could not complete information sessions with these workers as a single group but had to do so in several groups consistent with rotating shifts.
- Fifty on-site semi-structured qualitative key informant interviews were conducted using a specifically designed open-ended schedule. Interview topics included: perceptions of alcohol and drug use in workplace; current policy awareness; delivery of alcohol policy training and consultation; delivery of toolbox talks; usefulness of strategies to address alcohol and drug-related harm in the workplace; implementation issues; good things about a workplace intervention; less good things about a workplace intervention; general comments. The interviews were conducted at the pre-(N=27) and post-(N=23) intervention and lasted for 20-45 min in duration.

Analysis

Qualitative process evaluation data were analysed using QSR NVivo qualitative data analysis software, Doncaster, Victoria, Australia (2014). The qualitative data collection and analysis were guided by preconceived theories as well as new and emerging 'cues' that presented during the data collection and analysis process (Ezzy, 2002). The first step in this process

was to transcribe the interviews verbatim to allow for first cycle and second cycle coding as defined by Saldaña (2009). A thematic analysis was then completed of the key informant interviews and other evaluation data. The six phases of thematic analysis by Braun and Clarke (2006) provided structure for this analytic process. The thematic analysis involved coding for themes, followed by interpretations of the coded data. The thematic analysis approach allowed for theory to develop that was 'grounded in the data'. This reflective process involved listening and re-listening to the interviews, reading the transcripts and identifying potential themes that were discussed and agreed upon by research team.

Results

Seven domains were identified that related to barriers and facilitators of the WRAHP intervention implementation. A summary table that describes these domains in terms of the barriers, facilitators and outcomes is provided (see Supplementary Appendix 1).

Domain 1 attitudes toward alcohol in the workplace

Alcohol-related harm was recognised by key informant(s) (KI) as a workplace issue. Prior to the intervention, key informants at both sites (Site 1 and Site 2) recalled incidents related to alcohol and drug use in the workplace.

I believe I've still got a number of staff with an alcohol issue. And I believe I've probably got one or two still with an illicit drug issue. But not to the degree that it's impacting on the work. (KI Site 2)

We've had a few people who had an alcohol problem that I know of that I've had to send home who turned up to work not safe to work ... (KI Site 1)

One key informant reported a specific incident that had extreme consequences and expressed remorse that they did not have the knowledge to help.

We had one person who was on drugs who was a fork truck driver and she was caught asleep and the other one was one of my better fork truck drivers, he was on alcohol. (KI Site 1)

Despite recalling these incidents, a common theme that emerged in the pre-intervention key informant interviews was that alcohol use was not seen as 'an issue'.

Generally, alcohol and drugs has not been an issue... (KI Site 1)

I wouldn't say there is any particular problems going on. (KI Site 2)

Policy development workshops, held with key stakeholders in the initial stages of the project, included a presentation to raise awareness of the issue of alcohol and drug-related harm in the workplace. Post-intervention key informant interviews indicated that attitudes toward the issue of alcohol and drug-related harm in each workplace had changed, with a recognition that signs of harm were not always obvious.

I thought that we were not a company that would need help... but after going through some of the talks we have done it made me more aware of the signs you look for etc. and to understand better that it's not necessarily just my workers but their family and friends ... (KI Site 1)

Domain 2 policy development and awareness

Policy development: The co-development of the policy was critical to the successful implementation of the intervention. Participants in the policy development workshops felt they had made important contributions to improving the final policy.

There was some things that supervisors they wanted changed. What the steps to go through on it, they were spelled out a bit clearer, some of the wording was a little bit not specific enough for when you enforce policy. So those sorts of things were fixed. (KI Site 1)

Taking a co-production approach to policy development, where employees worked with the 'experts', was seen as positive by informants.

... we had a policy that [we] created, but giving it to you guys to have a look at and make changes to ... made it very tight, and made it very user-friendly as well. (KI Site 2)

... the policy was 'skinny' before so [it is] good to have more detail now and to be able to have something that is relied upon and developed by experts was extremely valuable. (KI Site 1)

Policy awareness: During the baseline data collection, awareness of existing workplace alcohol and drug policy was poor.

... when we started off - when you did your survey, nobody knew we had a drug and alcohol policy. (KI Site 1)

During the implementation process, there was increased consistency in policy awareness and a shared understanding of the policy and how it was to be implemented.

 \dots we've gone from having no awareness whatsoever to having awareness, to then having some good conversations about it \dots (KI Site 1)

Employee awareness sessions were implemented in Phase 3 to raise awareness of the policy, procedures and alcohol and drug-related harm. The employee awareness sessions consisted of a brief oral information presentation, supported by other handouts (flyers, notice board poster, etc.) that provided an overview of the policy and procedures, its purpose and content. Information presented included an overview of the policy and the roles and responsibilities of employees and employers with regards to alcohol and drugs at work.

... just realising what our rights and obligations are as both employees, managers and whatever else. It's not until you actually delve into it a little bit deeper that you actually realise what the ramifications can be of people being under the influence or hungover. (KI Site 2)

Another way awareness was facilitated was to co-produce and disseminate the policy by developing different versions of the policy (e.g. full policy document in lunch rooms, policy principle posters on notice boards, summary version flyers in English and other languages). There was evidence that the policy displayed on noticeboards was being read by employees as it was 'dog-eared' and dirty (see Figure 1). As part of

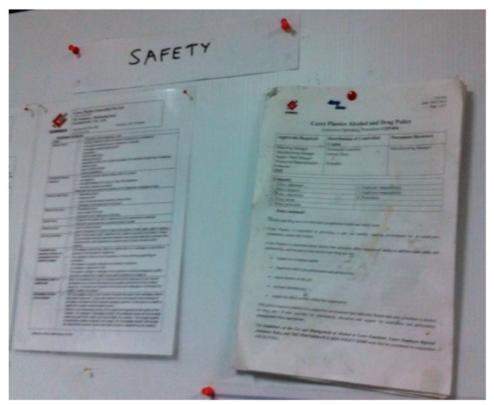


Figure 1. Policy on noticeboard on factory floor.

the co-production process, we encouraged maximum dissemination of the policy by management to increase knowledge. For example, displaying the policy in prominent areas of the factory floor, using pay slip inserts, emails, intranet notices, paper notices on notice boards, flyers in lunchroom, etc. to raise awareness.

There was a view that distilling the policy into simple, easily understood 'key policy principles' was an important part of the awareness raising process.

Having the shorten versions, the versions in different languages, was terrific. That wouldn't have been something we'd be able to do. (KI Site 1)

Well, I'd say that the part of that that really did work, was that sometimes these policies can be a little bit word heavy and page heavy, and you guys definitely did the distilled version or the summary version, and we did it in all the different languages. (KI Site 1)

During site observations at Site 1 and Site 2 we witnessed copies of the different policy materials displayed in prominent areas of the workplaces such as noticeboards, lunchrooms, offices and administrative areas.

Domain 3 referral pathways and access to support

As one site did not have an Employee Assistance Program (EAP), the intervention involved the development of a guide for accessing local community services that could provide support for employees who needed assistance with a range of issues such as alcohol or drug problems, mental health issues, stress, financial problems, literacy and language, and relationship problems. Two versions were created: a

manager/supervisor version containing comprehensive details for each service; and a brief employee version (in flyer format) that included brief contact details for main services.

Key Informants felt that these resources provided them with knowledge about what to do if they had an employee presenting with alcohol and/or drug, or other issue. As a result of supervisor training to enhance supervisors', managers', and team leaders' capacity to implement the policy and referral procedures and respond to alcohol-related harm, they were now better informed about what to do in these situations and had resources to help manage them.

... knowing where to go, having the pieces of paper, and being able to say well you have a problem and here are the contact points for you to go are helpful. (KI Site 1)

As a result of these resources one key informant referred an employee to counselling in the local area who was having mental health and physical health problems, who otherwise would not have been referred.

... someone [in my team] was struggling with some mental health sort of issues, and subsequently health issues, or one might have brought on the other... I gave them that information [local area resource guide] and they followed it up with their doctor as well. And ongoing treatment's happening. (KI Site 1)

Key informants also felt that having a local area resource guide available was not only useful but comforting as they now knew how to respond to employees when presented with issues.

I don't know, it's sort of just there [pointing to the local area resource guide in their office]...it's a reference. So, I said, 'If you've got some issues that you need help with, there's plenty of contacts there' ... (KI Site 1)

At the site with the EAP, dissemination of the brief employee flyer version of the local area resource guide included contact details for the EAP provider. One KI revealed that this led to an increased use of the EAP.

We got inundated... when we started talking about it and we had managers coming to us going, 'Oh my God I need more cards', ... I was ringing the providers saying, 'I need more cards, I've run out,' and they're like, 'What do you mean you've run out?' (KI Site 2)

Domain 4 participation and equity: production pressure

One barrier that presented was the constant production pressure and shift work patterns which made it difficult to ensure equal participation at each workplace. As both workplaces were involved in manufacturing, there was a constant tension between the intervention activities and the need to meet production targets.

We come across these sort of barriers, that's because of the shift pattern, especially with the night shift. We've come across [this barrier], especially when we implement a policy. It's always really hard for us to basically go right through every member ... and all that following it up as well. It's a real challenge ... (KI Site 1)

To overcome this barrier, flexibility and repeat attendance at every shift was required to ensure that we achieved maximum reach of as many employees as possible. Working with the workplaces, we created information and training sessions that could be repeated over many shifts and didn't require everyone to be off the floor at the same time.

One key informant believed the production demand barrier could be further overcome by providing team leaders with more training to enable them to manage alcohol and drug-related harm on the factory floor. The role of team leaders was seen as crucial element to successful implementation of the WRAHP intervention.

I think more training and awareness should be given to the team leader. The team as well, but the team leaders should have more awareness and they should have been made responsible for this thing. (KI Site 1).

I think, again, it all goes back to because the team leaders, they're like the extension of us [management] on the floor. They will have to basically take up the responsibility and then take it on from there, monitor the progress, and things like that. (KI Site 1)

One of the sites also decided to include workplace drug testing as part of their policy. This strategy seemed to have the largest impact on production demands, particularly in the case of positive test results.

I think the testing definitely helps, but it's hard work [laughter] ... the first one was terrible because we had 20 people selected, and 10 failed. We had all 10 of them go home and it massively impacted their line. But it set the example, because everyone panicked. (KI Site 2)

Domain 5 participation and equity: language barriers

The gap analysis data indicated that a substantial proportion of employees were from a non-English speaking background. Key Informant interviews indicated that many of these employees were relatively recent migrants with limited English language skills. One method to overcome this potential barrier was to produce policy principle fliers in relevant languages. Translating alcohol and drug policy statements into languages other than English required careful attention to detail to ensure that the meaning or intent was not altered. For example, 'fit for work' is a phrase that doesn't translate easily into many other languages. There was a recognition among key informants that creating policy summaries in different languages not only assisted with raising policy awareness, but also increased levels employee engagement.

We did it [the summary version of the policy] in all the different languages... we represented all the guys in that respect. I think a lot of them really appreciate that that it was sort of respectful or give them a bit of pride and being acknowledged in that respect. (KI Site 1)

Domain 6 communication

During the intervention implementation, key informants noted that the issue of alcohol and drugs was now being openly discussed in the workplace and was becoming part of the 'normal' talk and part of the culture of the workplace, much in the same way that other occupational health and safety issues have become the 'normal' talk for similar workplaces.

I think we were in the Dark Ages a few years ago. And by just getting it out on the table, it just becomes more normal when it's [alcohol and drugs] talked about. (KI Site 1)

Everyone's just talking about it like it's normal. (KI Site 1)

A common theme identified in the key informant interviews was the improvement in communication between employees and managers, with employees being more open and honest and more likely to disclose issues upfront.

The fact that it's improving communication is a fantastic thing. That's great. (KI Site 2)

If they can come and talk to you about that that's a good thing. They don't have to make up a story that they're sick or anything else, they can be honest and it's so much easier to deal with honesty, so that side of it has been positive, very positive. (KI Site 1)

Increased workplace communication was not restricted to alcohol and drug issues, but also other employee wellbeing issues such as mental health and this had a positive impact on employee morale and workplace productivity.

But all these existing people [are] finally coming forward and saying, 'Hey, I've got an issue.' One manager, in particular, had three people in his area come and say, 'Look, I'm suffering from depression, this is where I'm at blah, blah, blah' and he said the change in their attitude at work now, and what we're getting out of them, is amazing. He's actually taking the time to talk to them. If they're having a bad day they go and tell him, and he's okay with that and he's like, 'Thanks for letting me know', because they feel more comfortable, it's great. (KI Site 2)

Whilst an improvement in communication was seen as a positive benefit to stem from the intervention, it also



highlighted for some key informants that communication could be a major barrier.

We can't necessarily take everybody off the line and talk to them at the same time. So, those are the challenges that we always have with communication in this business, and when it comes to trying to put it back to team leaders, most definitely they could be talking while they're in the lunch room with the guys. But that's a bit of a challenge. That would be the main barrier, I think. (KI Site 1)

Domain 7 sustainability

In addition to developing the policy and local area resource guide in a way that they could be reviewed and updated annually as part of quality improvement processes, an additional strategy involved embedding the intervention process and content into exiting workplace communication practices. One existing workplace strategy identified during the co-production of the policy, was the 'toolbox talk'.

Toolbox talks are commonly used in the manufacturing industry and involve a workplace team meeting to discuss safety or production topics related to the specific job, such as safe work practices and changes in production processes. Meetings are normally short in duration and are generally conducted at the job site prior to the commencement of a job or work shift.

Although the intervention's focus was alcohol, other topics of interest were incorporated into the series of toolbox talks. These topics were identified by employees and management, and included mental health, drugs, stress and fatigue. This broader focus facilitated sustainability, as toolbox talks concerning wellbeing were of interest to all employees and could be rotated without becoming monotonous. The intervention content was also imbedded into ongoing workplace safety and production practices. To assist awareness raising, facts sheets addressing relevant topics were also handed out to employees during the toolbox talks.

Toolbox talks became critical in raising awareness levels and having these issues become part of the everyday communication between employee and managers.

I was very interested in doing the talks with the staff, and because a lot of people have issues, they will talk about it when they see that you're interested in them and if they've got problems. (KI Site 1)

The toolbox meetings have been terrific because they're so informative, and you've got the option of just giving them a little bit of a spiel, or you can read the whole thing, or you can just give them a hand out, so it will work different for everybody. (KI Site 2)

Many key informants felt the actual process itself of delivering toolbox talks had increased communication and strengthened relationships within teams to the extent that employees were now disclosing mental health issues to team leaders, supervisors and managers rather than hiding their issues.

The funny thing was when we did this toolbox talk... we started talking about statistics of depression and suicide ... and the next day he [the team leader] rang me going, 'What do I do, I've got three people, they've come to me, what do I do, what do I do?'

I said to just talk to them, just talk to them, and he's had the best success from that because he's actually got people that are willing to talk to him, and he's knows what's going on. (KI Site 2)

The fact that he can come and tell us he's got a problem. I think's a positive sign. Yes, I've had time off, I've got a problem, this is what it is, I'm sorting it out, I'm going to need a bit more time, well what can you say? So, on that front, yes, I think it's been beneficial. (KI Site 1)

This focus on wider wellbeing issues in toolbox talks was seen as a real advantage and contributed to success of the intervention implementation. Key informants reported that toolbox talks often led to ongoing employee discussion about the topic.

Yes, it goes on for a couple of days afterwards. It just depends on who in the group has an issue or continues to talk about it. (KI Site 1)

We leave the forms on the canteen table for basically a couple of weeks until we do another one ... they were left there so people had the opportunity to read them again. They're all get given a copy and what's left people can take it or someone left it so it's there. They know it's there and that's the important part. (KI Site 2)

One key informant noted that delivering toolbox talks had also assisted in developing his confidence as a new team leader.

As I said, at the time I was pretty new at being team leader anyway. At that time and actually getting that across to my guys as well, actually gave me more confidence and all. These toolboxes that we do actually do that as well.... we're communicating a lot more. (KI Site 1)

The toolbox talks also appeared to result in improvements in productivity. One key informant had an employee with performance management issues due to continued lateness and absenteeism. After the toolbox talk on 'medicines at work' the employee realised she was experiencing side effects from prescribed medicines. She subsequently talked to her doctor and changed her prescription, and as a result improved her overall performance at work.

I know that [an employee] went back and had their doctors review their pills after it because they were then able to recognize some side-effects they were having ... and I know their doctors changed their medication after they were able to verbalise what they were feeling ... Yes, it's only little things but it means that they've been beneficial... She felt better because of it. I know she's got a problem, but after getting all the drugs reviewed she is now I would say back to almost 100%. (KI Site 1)

For the toolbox talks on wellbeing topics to be effective and sustainable, team leaders and supervisors adapted delivery to suit their individual styles. The length of the delivery depended on the group size, topic and general response to each topic being delivered and who was delivering the topic.

It depends on the chat yeah. Some of them have been done in 10-15 minutes some of them have taken three quarters of an hour. The drug and alcohol took a bit longer, prescription drugs took a bit longer, anxiety was another one. (KI Site 1)

At Site 2, one area was finding it difficult to deliver the toolbox talks in 'one' go. So, they adapted their process to 'topic of the month' and would talk through one small section of the complete topic each week, breaking it down into



Figure 2. Team leader delivering toolbox talk on factory floor.

more manageable chunks and delivering it to each group of workers. The onsite trainers were then able to deliver the information to smaller groups (Figure 2).

One of the things we were focusing on, say for example was depression, and then we spoke about different issues around depression for the next five weeks. We spoke about what it means, and signs and symptoms and then how to approach someone with it. Then from a management point of view how to deal with someone with depression, and then also how to get help, who to see, side effects, how you turn to alcohol, you turn to drugs, and things like that. (KI, Site 2)

Discussion

The aim of the current study was to conduct a process evaluation to identify barriers and facilitators to the implementation of the WRAHP intervention. The process evaluation was also undertaken to examine the effectiveness of a whole-ofworkplace and co-production approach to overcome barriers and utilise facilitators. Such an approach to a process evaluation is essential for replication of complex interventions (Moore et al., 2015). Seven key barrier and facilitator domains were identified.

Attitudes toward alcohol in the workplace

A key barrier identified in the gap analysis was the common belief among stakeholders that alcohol use was not a major issue in the workplace. This is not uncommon in workplace health promotion studies, similar studies have encountered barriers including concern about workplaces 'interfering' with personal lives, as well as concern about cost, time and negative workplace culture (Hannon, Hammerback, Garson, Harris, & Sopher, 2012). We addressed this barrier by presenting the results of the gap analysis (conducted early on in the process) back to the management group at each intervention site, which gave them a chance to ask questions,

seek clarification, raise concerns and generally allowed the research team to build trust and rapport going forward.

Policy development and awareness

Prior to the intervention, awareness of pre-existing workplace alcohol and drug policy varied widely among stakeholders, with little apparent employee involvement in policy development and dissemination. Employee (stakeholder) involvement is not only essential for an effective co-production approach, but is also likely to result in other positive workplace outcomes such as increased job satisfaction and productivity (Grawitch, Gottschalk, & Munz, 2006). To facilitate employee engagement, policy development workshops were held with stakeholders that allowed for employee input into the development process, which is regarded as critical to the co-production process (Freeman et al., 2016). Awareness of the co-produced, management-endorsed policy increased dissemination of the policy materials (policy principles, policy document, policy principles in various languages) across the workplaces. Translating key policy materials into different languages commonly used amongst the workforce also increased employee awareness and engagement.

Referral pathways and access to support

A key facilitator was the identification of referral pathways and the provision of access to support for employees with alcohol, drug, or other wellbeing issues. This included identifying community support organisations, providing resources detailing information on community and employer sponsored support services, and training managers to assist employees access these services. The development and implementation of referral pathways involved the active participation of stakeholders, a key component of the co-production approach (Bate & Robert, 2006). Substantial increases in numbers of employees accessing services were subsequently reported

by stakeholders. Benefits extended beyond the workplace, with reports of information concerning alcohol and drug issues and the availability of local support services being disseminated to employees' families and friends. This outcome was especially positive given other studies have indicated that males working in male-dominated industries are subject to workplace and structural risk factors for alcohol use problems (Roche et al., 2015), but are less likely than females to seek help (Schlichthorst, Sanci, Pirkis, Spittal, & Hocking, 2016), especially for alcohol (Moos, Moos, & Timko, 2006) and drug (Grella, Greenwell, Mays, & Cochran, 2009) or mental health issues (Barney, Griffiths, Jorm, & Christensen, 2006).

Participation and equity: production pressure/ language barriers

Workplace production demands and work schedules can be a substantial barrier to participation in both co-production process and intervention implementation (Hannon et al., 2012; Leininger, Adams, & Debeliso, 2015). In addition, workplace conditions and other unique organisational factors such as long working hours and shift work can contribute to these barriers (Nicholls et al., 2017). To overcome these barriers, our study employed maximum flexibility with repeat attendance to every shift to ensure maximum reach of as many employees as possible.

Language and communication can also be a substantial barrier to participation among non-English speaking new migrants (Li, 2012) and a substantial proportion of employees were relatively recent migrants with limited English language skills. This issue was identified in the policy development workshops. One method to over coming this barrier was to produce policy principle fliers in site relevant languages, the translations were carefully checked and re-checked for accuracy. Using plain language and providing different versions of the policy facilitated better access and equity for all employees.

Communication

Effective communication for all stakeholders plays an important role in the co-production process and intervention implementation (Grawitch et al., 2006; Rasmussen, Lindberg, Ravn, Jorgensen, Sogaard, & Holtermann, 2017). The co-production approach and intervention implementation strategies utilised in the current study led to improved workplace communication with employees and they were more likely to disclose personal well-being issues to team leaders and supervisors. Well-being issues were now only discussed and had become part of the 'normal' everyday talk regarding workplace health and safety conversation.

Sustainability

Sustainability is critical for workplace intervention effectiveness and is assisted greatly by integrating the intervention into current day-to-day work production and management practices (Chu et al., 2000). Substantial efforts were made by

the research team to ensure that the various components of the intervention would continue as part of normal day-to-day work practices. For example, 'toolbox talks' are a normal part of the workplace operating procedures and stakeholders identified embedding intervention talks into the existing and familiar process was key to facilitating a process that would be maintained beyond the life of the intervention. This strategy was identified by stakeholders in the policy development workshops. In addition, the local area resource guide to assist employees with alcohol or other wellbeing problems was linked to on-going support services within the local community and incorporated into the workplace policy monitoring and evaluation process.

Future application

The current study highlights numerous issues to consider when planning similar workplace alcohol harm reduction interventions.

Inclusion of other substances

Although primarily an alcohol harm reduction intervention, there was value in incorporating other issues such as drug use, mental health, fatigue and stress as part of the intervention.

Alcohol and drug testing

Alcohol and drug testing is not typically included within harm reduction interventions. However, one site was committed to including testing as part of their approach. In this instance, our role was to provide the best available evidencebased practice regarding the implementation of a drug and alcohol testing policy. We also encouraged this site to review the value of testing after 12 months.

Implementation

The 12-month implementation process, and our ability to work to the timelines of our sites (rather than just our own), was instrumental in contributing to the success of the intervention. We spent time building rapport and trust as early as possible, and this was critical to the success of the intervention.

Transferability

A number of lessons were learned that can be transferred to future workplace interventions. These included being flexible and understanding that production issues were a priority for our sites. Our approach was not simply to implement off-theshelf resources, but rather to tailor the tools and resources to the specific needs of the site and thereby increase acceptability and sustainability using a co-production approach.

Process evaluation

Any alcohol harm reduction intervention should include both outcome and process evaluation. The evaluation was critical



to understanding the value of co-production, and also provided a mechanism for participants to give feedback, which in turn allowed amendments to be made to the intervention as required.

Resources

The success of WRAHP was partly due to the amount of time and effort spent on site, but equally as a result of our regular ongoing communication with sites and being available to attend multiple and complex shift patterns. However, we recognise that not all future projects may have the resources for this level of engagement. The potential for replication is still possible with some thought and creativity. For example, many of the co-production processes could be implemented online by using Skype or similar medium to obtain feedback and have ongoing consultation with a small group. In addition, the intervention could be implemented in a smaller section of a larger factory before a larger roll-out. This occurred at Site 2, within the research team supporting the local training team to implement the intervention in a smaller area, which was later expanded to other areas of the factory.

Limitations

One limitation of the current study is that it focussed on employees' subjective accounts to determine the effectiveness of strategies used to overcome identified barriers. Future studies should also include quantitative indicators of effectiveness. In addition, only a relatively small proportion of employees were involved in the key informant interviews and as such, there may have been some selection bias, despite our efforts to minimise this risk.

Conclusion

The current study identified barriers and facilitators to the successful implementation of a workplace alcohol harm reduction intervention (WRAHP). The co-production approach adopted by WRAHP was essential to overcoming many of these barriers, whilst components of the co-production process enhanced facilitation. Adopting this 'whole-of-workplace' approach recommended for such interventions was consistent with other workplace literature (Brown et al., 2008; Pidd & Roche, 2008). All employees were involved in the intervention development and implementation. Key stakeholder interviews and policy development workshops were conducted to assist with the gap analysis and policy development, and also utilised as a tool for leadership and frontline worker engagement. Emphasis was also placed on the importance of incorporating intervention strategies into existing day-to-day workplace processes to maximise uptake and ensure sustainability.

Despite the limitations, we found that a tailor-made alcohol co-produced intervention that embeds a 'worker-wellbeing' framework and incorporates site relevant issues increases acceptance and uptake of the policy and subsequent interventions. Moreover, using a 'co-production' and 'whole-of-workplace' approach enabled any barriers to be

addressed as they presented and helped identify the facilitators of success.

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