Received: 30 July 2022 | Revised: 23 December 2022 | Accepted: 25 January 2023

DOI: 10.1002/hpja.698

Health Promotion Journal of Australia | Australian Health Promotion Association | WILEY

RESEARCH ARTICLE

Research translation to improve carer smoking cessation support in a paediatric ward of a regional hospital in the Northern Territory

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Funding information
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Handling editor: Karla Joy Canuto

Abstract

Issue addressed: Health professionals have described barriers to providing carer smoking cessation support in children's wards. This article reports the findings of a research translation process that explored opportunities and developed pathways for change.

Methods: A facilitated discussion workshop and scheduled stakeholder meetings were used to evaluate research evidence and translate it to an evidence-informed organisational change process, with actions for implementation. Workshop and meeting participants were senior health staff with either a pharmacist, personnel with expertise in alcohol and other drugs, medical or nursing backgrounds, and who held senior managerial roles who worked in a hospital in the Northern Territory. A qualitative approach was used. The data from the workshop were transcribed and analysed using thematic analysis. The first author took notes for meetings that were not recorded and analysed these alongside the transcripts.

Results: The process was able to initiate change to overcome barriers to providing carer smoking cessation support. All participants agreed to prioritise and make carer smoking cessation everybody's responsibility and supported a systematic approach, including provision of nicotine replacement therapy, new record-keeping systems, and training to address staff knowledge deficits and skills gaps. This movement to solution-focused change continued after the workshop.

Conclusions: With some preparation, a research translation workshop and meetings with selected leaders can initiate organisational change in similar settings and is consistent with theories of planned change.

So what?: This article describes the use of a process to support health promotion through new policies and practices following research which identified barriers in a hospital ward.

KEYWORDS
child*, health promotion, knowledge translation, smoking cessation

1 | INTRODUCTION

Second-hand smoke (SHS) exposure among children usually happens in the home where children spend time near carers and household members who smoke. In 2003, 40% of children globally were exposed to SHS.[1] In 2018–2019, 17% of Aboriginal and Torres Strait Islander children aged 0-14 in the Northern Territory lived in a household where people smoked inside the home, compared with 9% of all Aboriginal and Torres Strait Islander children and 2.1% of all Australian non-Indigenous children.[2,3]

Indoor exposure of SHS to children leads to an increase in preventable tobacco-related childhood illnesses such as chronic lung disease, otitis media, sudden infant death syndrome, and increased hospital presentations and admissions.[4–9] Initiatives such as the "Ottawa Model" for Smoking Cessation (OMSC) in Canada support the adoption of hospital-initiated tobacco cessation interventions.[10,11] Other literature suggests that such initiatives can improve the health and wellbeing of children by reduced exacerbations of acute respiratory illness and hospital presentation of children with respiratory illness.[12]

Organisations that have successfully implemented carer cessation support have tended to use a systematic and standardised approach. These programs centred around universal screening of families presenting to any health facility, provision of nicotine replacement therapy (NRT), and post-discharge follow-up.[12–15]

This study was carried out in a paediatric ward of a regional hospital in the Northern Territory where the majority of patients are Aboriginal families. Our previous research in the same setting conducted among Aboriginal carers and health staff in the paediatric ward identified cross-cultural communication as a significant barrier to staff providing carer cessation support.[16] This could be rectified by health staff recognising communication styles that promote health literacy and foster strong and protective therapeutic relationships.[16] As in other paediatric settings, smoking cessation was not prioritised compared to other medical and nursing tasks that were perceived to be more urgent.[15,17] Health staff reported that they lacked knowledge for providing intensive smoking cessation brief interventions.

Another finding from our previous research was responsibility misplacement among different health professional groups, whereby nurses and doctors believed it to be the responsibility of the respiratory educator and general practitioners in primary health.[16] This meant that carers were not getting any cessation support while in the hospital with a sick child. Health staff reported that they would feel confident to provide cessation assistance to clients if supported by organisational systems, processes and resources.[17] An organisation-wide and coordinated strategy would be required to guide the development and embedding of these changes.[18] A study in a children's hospital in the United States of America (USA) that used a similar systematic approach with the introduction of clinical decision support (CDS) systems and automated electronic health records demonstrated better efficiency in the clinical workflows that ensured consistent screening, treatment, and referral of carers requiring cessation support.[19]

Kotter's change model is a useful framework for understanding planned change in health care settings.[20–23] The model is solution-focused and prioritises employee engagement and motivation to change the culture.[21,23] The eight steps of the Kotter model are: creating a sense of urgency, building a guiding coalition, developing a vision and strategy, communicating the change vision, empowering employees for broad-based action, generating short-term wins, consolidating gains, and producing more change, and anchoring new approaches in the culture.[20,22–24]

Given that carer smoking cessation support in our paediatric ward, and other similar settings is limited. Our research question was: What solutions can be used to overcome barriers to implementing carer smoking cessation support in a paediatric ward? This article describes work with senior managers to explore and move towards solutions to address identified barriers and explore opportunities for change that would promote carer cessation support within the children's ward.

2 | METHODS

This article forms part of a larger PhD research project that examined the role of health staff in delivering targeted smoking cessation programs in paediatric health care settings to reduce SHS exposure. This article describes data collected during initial stages of translating the evidence we produced from our first two papers into the clinical setting to improve policies and practices at the participating hospital.[16,17] The process aimed to work with a group of managers to drive change to implement carer smoking cessation support.

The first author was a female senior nurse in the hospital where the research was conducted and also a doctoral student. All the co-researchers are non-Indigenous but had extensive experience in conducting research among Aboriginal and Torres Strait Islander peoples. None of the health professional participants in this change process identified as Aboriginal and/or Torres Strait Islander.

The change process consisted of engagement with different departments within the paediatric service to develop a cohesive and coordinated approach. A key focus of the process was a research translation workshop which was held in April 2021. This was preceded by a series of meetings between the researcher and key staff to assist with planning. Follow-up meetings were then held to implement strategies agreed at the workshop. The change process was a standing item on the monthly paediatric services meetings with actionable items from 2018 when we started data collection for the PhD project. The first author continued to report progress from these meetings at the monthly paediatric services meetings until she left the hospital in October 2021.

A qualitative approach was used. The quotes were not attributed with a role as the group was very small and assigning roles could compromise the identity of the participants. Similarly, we have not disclosed the actual name of the hospital to protect the anonymity of the participants.

2.1 | Study participant selection

Senior medical, nursing staff and pharmacist from the paediatric ward, who were also members of paediatric services forum were directly approached to participate in the facilitated group discussion workshop using purposive sampling.[25] We also approached personnel within the hospital who had clinical expertise in smoking cessation programs to participate in the workshop. Purposive sampling ensured maximum variation of staff roles and backgrounds.[25] The terms workshop and meetings are used separately and not interchangeably to contextualise and differentiate one interaction from the other. The meetings were group or 1-on-1 discussions other than the workshop.

2.2 | Ethics

Approval for this study was granted by the NT Department of Health and Menzies School of Human Research Ethics Committee (TECA;20172863), Central Australian Human Research Ethics Committee (CA;17-2863), Charles Darwin University Human Research Ethics Committee, ratified the ethics approval. Permission to undertake the study was granted by the participating hospital. All the requirements of the Helsinki Declaration were fulfilled. Participation was voluntary and all participants gave signed informed consent following verbal and written information about the goals of the study and assurance about confidentiality.

2.3 | Data collection

Participants of the research translation workshop were managers who had either a medical or nursing background and were directly involved in policy and high-level decision making, hence, could implement changes to policy. The workshop had been preceded by a discussion of previous research results at a paediatric services forum, which generated interest in the topic among managers, and led to the identification and recruitment of suitable participants for the workshop.

The workshop was a structured group discussion facilitated by the first author who started with a presentation of findings from our previous research, especially identified barriers. Possible solutions and strategies to address these issues were then presented, drawing on existing models from two other locations. The first example was a paediatric ward in Australia which had successfully implemented cessation support for adolescents and carers of admitted children.[25] The second example was the Ottawa smoking cessation model as used in Canadian hospitals.[10,11] Common characteristics of each example were universal screening of carers, NRT provision, counselling, documentation in the medical record and follow-up.

An interview guide with broad-themed topics was used by the first researcher for the facilitated group discussion (workshop). Participants also discussed the concepts outlined in these models and discussed how they might be adapted and translated into the current setting, including prioritising strategies for implementation. The workshop discussion was recorded and transcribed. Data collection continued after the workshop where the team members started answering direct questions that were raised at the workshop.

2.4 | Data analysis

The transcribed workshop discussion was analysed using thematic analysis. The primary researcher familiarised herself with the transcript and identified general initial codes from the data. The codes were then presented to the rest of the team. All the co-authors reviewed and finalised the themes through an iterative process of checking back into the data to check if the data and identified themes were relevant to the questions. The broad themes were refined and assigned labels that defined a specific theme and described in detail what was contained in the theme[26] The first author took notes for meetings that were not recorded and analysed the notes alongside the transcripts of the workshop. The results are discussed using the eight steps of Kotter's change management model.[20,21]

3 | RESULTS

Nine senior managers participated in the change process. Five medical and nursing staff from the paediatric ward and one personnel within the hospital who had clinical expertise in smoking cessation programs participated in the workshop, which was held in a private room in the paediatric ward and lasted 75 minutes. Three managers from the pharmacy, nursing and medical departments, who were unable to attend the workshop due to other work constraints provided information that was included in the workshop. This included costings for NRT provision. These participants also provided answers to some follow-up queries raised in the workshop.

All participants were made aware of the barriers identified in the previous papers and were keen to discuss how these could be tackled.[16,17] An email was sent out to all participants before the workshop with the background of the research and vignettes of case studies of other paediatric settings which had implemented similar carer programs.

3.1 | Everybody's responsibility and support for a systematic approach

The first author created a sense of urgency for the participants to review their perspectives on prioritisation of carer cessation support. All participants recognised that carer cessation support should be prioritised, and an urgent systematic response was needed. There was also consensus that smoking cessation should be every clinician's responsibility and more should be done to increase carer engagement and visibility of carer cessation support. This should become embedded into the culture of the children's ward. A collaboration between

managers from different divisions within the hospital was mapped out to develop supportive systems and recruit resources:

> *I think that it's everybody's responsibility, and I think that the nursing team and the medical team can both play a vital role. The medical team should be identifying that this is someone who's come in with their fifth episode of bronchiolitis, and it's an important part of the past history.*

Participants explored establishing organisational policies which they thought created urgency by elevating the issue of carer smoking cessation support to be a priority for the hospital. They also approved the implementation of universal screening to be embedded into routine admission assessments. The group was confident that carer cessation support had a high chance of succeeding as its objectives aligned with the Northern Territory Government's strategic goals to reduce smoking and smoking-related burden of disease, particularly among Aboriginal and Torres Strait Islander peoples, who are the majority of hospitalised patients.[27]

Participants agreed that screening for smoking and exposure to SHS should be integrated into admission paperwork. Their responses demonstrated a commitment to finding solutions to barriers that had been raised in the previous interviews. A flexible and multidisciplinary approach was suggested, sharing responsibility between nurses and medical staff, so that a team could flag the opportunity for screening if it had not been done. Participants agreed that screening should be completed within 24 hours of admission. They also suggested putting alerts in the system to prompt staff to complete screening. This demonstrated commitment among the participants:

> *We are supposed to be seeing new admissions within 24 hours. If no one has got in there and done it, it should keep flagging that this part of the assessment hasn't been completed. Somebody needs to complete it.*

There were reservations that this could lead to the screening becoming a tick box without action. However, the general feeling was that if this is led by senior medical staff, there could be more attention to the quality of the screening performed:

3.2 | The proposed systematic approach

Developing a strategy was considered a very important aspect of the change process. A systematic approach would include screening tools to assist staff on how to ask carers about their smoking. The standardised approach would screen for carer smoking and SHS exposure in all children who present to the children's ward and not just those who present with conditions related to smoking such as bronchiolitis or otitis media.

> *A standard of care that this is something that we address, particularly and importantly, for people who come in with, you know, illnesses that are likely to be reflective of smoke exposure. But then, more broadly, everybody.*

A systematic approach would give direction to staff on how to frame a positive and effective message about smoking. Most participants stated that the biggest concern was the staff's lack of knowledge of a responsive pathway or action plan to respond to a carer who wants to quit smoking.

> *So, it's probably all very good and well to ask the question, but, "Yeah, I smoke. But what's it to you?" to know where to go with that response as well.*

Participants suggested a flowchart or algorithm with steps on how to provide cessation support. This would help provide action plans, referral pathways and provide a solution to barriers raised in published research.[28,29]

3.2.1 | Record-keeping systems

Participants agreed that new record-keeping systems were possible. These would provide information to alert all clinicians about a child's exposure to SHS and would trigger a response for action. This section of the medical record should be completed within 24 hours of admission. If not completed, it would keep flagging as a reminder to staff that the admission process has not been completed. The importance of this record-keeping supporting a meaningful process was highlighted.

> *The documentation needs to be, I think, like a tick and flick, but I think the conversation shouldn't be. Do you know what I mean? Like being able to have a proforma that, "Yes, this question's been asked. This is the response". But it's really important that we're not—that's not how we are engaging with the person.*For example, keep flagging that it hasn't—that if no one has got in there and done it, it should keep flagging that this part of the assessment hasn't been completed. Somebody needs to complete it.

There was the opportunity to embed smoking cessation into the new electronic record system that was planned for the hospital in the next 12 months. However, in the interim, participants were happy to have a paper-based checklist. Participants also highlighted that sometimes medical staff would not necessarily go back to look at checklists completed by nurses. Implementation of the new screening, whether paper-based or an electronic record, needed to be accompanied by extensive education and staff awareness to make the initiative meaningful, and worthwhile and enable the people implementing the change to communicate their vision.

> In the interim then, the equivalent would be a standalone like, A4 piece of paper *that's a screening checklist*

> *or something like that. Because once somebody has done, like half done—then they're seeing admission checklist like—it seems like it's difficult for people to find time to go back and fill in the gaps—to do the bits that haven't been completed. And the doctors are not particularly goodwe're* not particularly good at reading through those nursing admission checklists to see what conversations have happened.

3.2.2 | Provision of nicotine replacement therapy

The vision was to communicate a pathway for supplying NRT for carers in the ward, who are themselves not admitted patients. Previously, there were barriers around funding and accessing NRT as paediatric staff believed that this was not their role. The managers resolved these uncertainties during the workshop and sought pathways to provide NRT to carers.

> I think having access to NRT for you know, young adults on the ward, or for parents on the ward—I think *it's* excellent. Of course, we should be able to offer that, and we need to have some thinking about pathways and how do we prescribe for people that are not admitted

Managers in the group were keen to engage the pharmacist very early in the project to explore what pathways could be created to overcome barriers that the carer was not an admitted patient. This was the biggest barrier that staff felt needed to be resolved for the carer cessation support to be implemented.

> *Don't know whether the pharmacy would be able to get around the fact that that person isn't admitted to the hospital, but we can supply them because it's part of the care of the child. I don't know. I think pharmacy would be important to be part of the conversation.*So, we have to tell people who've got kids who are sick on the ward, to leave the ward to go and have an appointment—to get a nicotine replacement therapy?

Some participants were critical of the time a carer would have to spend going to another department within the hospital grounds to go and seek help for cessation support. The consensus was reached that staff from AOD would instead visit carers in the ward to avoid carers spending prolonged times out of the ward and away from their sick children. The managers suggested that opportunistically supplying NRT for carers was timely and effective and removed barriers for carers. A representative from the regional Alcohol and Other Drugs (AOD) service was tasked by the other participants to explore if AOD could extend the scope of the service to support carers of admitted children. The AOD service within the hospital only provided smoking cessation support and NRT to admitted adult patients and did not cater to carers. A follow-up meeting was suggested after the workshop, to be led by the AOD service.

3.2.3 | Addressing staff knowledge deficits and skills gap

Participants said that the skills gap to be addressed was more than just the biomedical content of smoking and its effects. Training was also required for broad-based action plans that empowered clinicians to be comfortable having cross-cultural discussions without appearing judgemental. Cultural competence was considered as important as medical knowledge about smoking.

> I think we need to have the right sort of approach; and the right philosophy and mentality, and then we also need to have clinicians who are comfortable entering into that conversation. So, if you train clinicians to have conversations that the recipients *aren't* going to feel offended by or shut down in response to being asked about their smoking.

The representative from the AOD service offered to provide broad-based education to assist building a culture where all staff prioritised smoking cessation support. There would also be educated to increase staff confidence in safe prescribing and administration of NRT.

3.3 | Movement towards a solution-focused change

Managers saw themselves as the change agents, and importantly recognised that the need to change intrinsically came from within the group. The discussion progressively moved towards seeking solutions for barriers identified by participants in the earlier research from this project. The combined group expertise ensured that the discussion stayed focused. Participants had ownership and desire to prioritise and treat carer cessation with urgency.

> This is a place where we want to facilitate people to stop smoking, and you know, we know there will be tangible benefits for kids and the culture will change over time.

The participants were optimistic they could make changes to better support carers to access cessation assistance promptly. There was also a shift from dismissing carers as not being admitted patients to a recognition that assisting the carer was considered as providing care to the admitted child.

There was an overall expectation that if they invested enough time and resources providing cessation support will become normal, standardised practice.

> I think again, it becomes routine—a part of normal conversation, and that everybody when they—over time, patients will start coming in, and carers will start saying, "Can I get that patch?"

Some of the members were concerned about the transferability of the interventions from other settings, but the group identified culturally appropriate resources that were more suitable for the Northern Territory.[29] These resources are written in simple English and have pictorial illustrations that easily convey the harms of smoking and positive steps that can be taken to protect children. The group suggested a framework with steps to guide and prompt clinicians and therefore increase their confidence in providing cessation support for carers.

3.4 | After the workshop

After the workshop, the AOD representative who had attended the workshop updated the AOD management team about the presentations and recommendations suggested at the workshop. The AOD team then invited the first author to a follow-up meeting where a working group was formed to discuss an action plan of how to implement carer cessation support. The AOD service would be responsible for procurement of NRT, supply to carers and designing the necessary documentation for assessing and monitoring carers who joined the program. The working group has commenced discussions about how to monitor and evaluate the program. The first author relayed back information from the working group to the managers of the children's ward and the paediatric services forum.

The hospital's Policy and Guidelines committee agreed to trial a modified paediatric admission assessment form with smoking cessation screening questions, which was then being designed.

4 | DISCUSSION

The proposed systematic approach after our translational workshop was similar to interventions implemented in paediatric settings in Australia and other parts of the world,[19,28–30] This incorporated routine screening for carers' smoking status, exposure of children to SHS and provision of NRT to carers.[28,29]

At the translation workshop, senior clinicians, both medical and nursing, wanted to make smoking cessation everyone's business to ensure optimal engagement and that all children are screened for exposure to SHS. This was a big shift in their perspectives, as in our earlier study they believed screening for carer smoking cessation status was only necessary if the child presented with a respiratory illness.[17]

The workshop, to our knowledge, was the first time where representatives from the paediatric services and AOD had met to discuss carer smoking cessation support. Previously they addressed carer smoking cessation in a siloed approach with limited interdepartmental collaboration. The key step was to strategically bring AOD and paediatrics into a forum where both teams agreed to a common goal and steps to achieve that goal. Standardisation and systematisation of carer cessation support meant that the collaboration had to be formalised and embedded into the organisational processes.

Similar programs implemented elsewhere had strong clinical governance, which demonstrated that these initiatives were supported by organisational processes. For example, the Tobacco Dependence Program in a children's hospital in the USA had a dedicated team of seven, comprised of a director and six staff with smoking cessation expertise to coordinate the implementation of planned change.[28] Similarly, in another study in the USA Intervening with Smoking Parents of Inpatients to Reduce Exposure (INSPIRE), the team consisted of a diverse cohort of health staff that included cessation coaches, respiratory therapists and research staff to implement the program.[29]

Another project in the USA used a systematic approach incorporating clinical workflow systems such as the embedded electronic health record which was similar to electronic health record that became an objective of the working group.[19] They described a multidisciplinary team of clinicians leading the change. There was evident buy-in from the organisation as they were able to implement system-wide automated systems to remind clinicians to support carers to quit. Similarly, we put together a team of senior management who had decision-making powers and were more likely to successfully drive the required change.

Kotter posits that organisations require a parallel system to run alongside the corporate systems to ensure that change is successful.[20] The parallel system is made up of champions who add a social dimension to the project and are committed to setting up structures to support the change as well as ensuring that colleagues follow recommended best practices after implementation.[31,32]

We were aiming to undo long-standing health staff experiences and perspectives steeped in the history and culture of the organisation and introduce new structures within the organisation. We therefore needed to choose a framework that was vested in engaging, gaining the trust of, and motivating staff to embrace change and develop appropriate solutions. A more top-down approach driven by legislation and policy requirements would have been inappropriate in this context.[23]

Although the Kotter model has eight steps, we only completed the first six steps.[20–22] We targeted mid-level managers in line with Kotter's model of change.[20,21] Setting up the guiding coalition was the major step we undertook at the workshop and the members of the team started to suggest solutions to overcome implementation barriers for carer cessation support. The members came up with suggestions to modify current health records to incorporate screening tools which would help to standardise universal screening of children and carers on admission to the paediatric ward. The group brainstormed and identified barriers, which they explored and worked through to arrive at tangible and actionable items such as referral pathways and action plans for assisting carers wanting to quit.

The third stage was achieved when members of the guiding coalition shared the vision by relaying the information about the proposed change to their respective networks and enabled post-workshop

activities. The discussion at the workshop and post-workshop unified the team and motivated members of the guiding coalition to engage stakeholders outside of the workshop whom they felt were most compelled to provide support. Most importantly the discussion led to development of a model for supplying carers with NRT, which had always been an impassable barrier.[13]

Moving to the fourth and fifth steps of the model to engage and enable the organisation change was easier as we had already established a climate of change and had very motivated champions to empower action. This resulted in the formation of the NRT for Carers working group which developed governance structures and resources to lead the project. The planned proposal was clear to all, and each member of the working group had allocated tasks. It was important for us to celebrate quick wins, such as the decision by AOD to provide NRT and the Policy and Guidelines committee's decision to trial a modified paediatric admission assessment form.

The scope of our study was limited and did not progress to the last two stages; however, plans are already in motion to start the implementation of carer smoking cessation support in the paediatric ward.

4.1 | Strengths, limitations, reflexivity, rigour and validity

This article was a part of a PhD thesis. Any evaluation of the new processes will need to occur after the completion of the PhD. The insider positioning of the first researcher as an educator in the ward while undertaking this study was a strength as she had good knowledge of the systems and useful resources.[33,34] Participants might have found it easier to share their experiences with a researcher who they believed understood the challenges they faced in their practice and was supporting them to put systems in place to improve clinical practice.

However, the role of the first researcher may have caused an element of coercion for colleagues who would not have otherwise participated.[33,34] The risk of coercion was mitigated by informing participants about confidentiality and their right to withdraw their consent at any time, without having to state their reason and without risk of victimisation. The study was also limited by not having an Aboriginal researcher and co-author to guide the data analysis. There was however engagement with Aboriginal Elders who provided cultural support for the project but were not available at the time to take a more central role in the research. The Standards for Reporting Qualitative Research (SRQR), and statement and Consolidated criteria for reporting qualitative research checklist (COREQ), were used to strengthen the rigour of this article.[35,36]

5 | CONCLUSION

The paper demonstrates significant wins to protect children from exposure to SHS and related childhood illnesses. After some preparation, a research translation workshop with selected leaders is an achievable model to produce change in similar settings.

AUTHOR CONTRIBUTIONS

Sukoluhle Moyo, David Thomas and Marita Hefler designed the study. Sukoluhle Moyo conducted interviews, the initial coding and sorting and organising of the data into simple codes. All the researchers contributed to formulating the emerging categories. All authors contributed to the interpretation of the data, and the preparation of the manuscript.

ACKNOWLEDGEMENTS

We would like to thank the participating hospital and ward managers for supporting the study and all the participants for their contributions. Open access publishing facilitated by Charles Darwin University, as part of the Wiley - Charles Darwin University agreement via the Council of Australian University Librarians.

FUNDING INFORMATION

Sukoluhle Moyo receives a Research Training Program scholarship through Charles Darwin University.

CONFLICT OF INTEREST STATEMENT

The authors declare no competing interests.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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How to cite this article: Moyo S, Hefler M, Carson-Chahhoud KV, Thomas D. Research translation to improve carer smoking cessation support in a paediatric ward of a regional hospital in the Northern Territory. Health Promot J Austral. 2023;34(4):867–74. https://doi.org/10.1002/hpja.698