

## Abstract

During emergencies, infants and young children are vulnerable. However, Australia lacks emergency planning and guidance specifically addressing the needs of these children and their caregivers. A total of 256 caregivers (predominately mothers) of children aged 0–4 years were surveyed or interviewed about their experiences during and after the summer bushfires in Australia in 2019–20. In addition, 63 emergency responders were surveyed or interviewed regarding their experiences supporting families with young children, including during the 2019–20 bushfires. Analysis of the surveys and interviews revealed parents were under prepared for the bushfires and preparedness was hampered by a lack of tailored guidance for families. Evacuations were often delayed due to lack of planning and were complicated because of the continuing care needs of children. Evacuation centres presented numerous child-safety risks and women who evacuated on their own particularly struggled to care for their children. Parenting children after the bushfires could be challenging and reports of child behaviour difficulties suggest the effects of the emergency on parents had adverse affects on children. Recovery interventions largely overlooked children younger than school age. Caregivers of infants and young children require targeted preparedness, response and recovery support. This research provides evidence to inform planning and to guide development.

# Experiences and support for caregivers of infants and young children: 2019–20 bushfires

Peer reviewed

**Dr Karleen D. Gribble**<sup>1</sup> 

ORCID: 0000-0003-4774-1589

**Dr Michelle Hamrosi**<sup>2,3</sup>

**Dr Susan Tawia**<sup>2</sup> 

ORCID: 0000-0001-7186-7929

1. Western Sydney University, Parramatta, New South Wales.
2. Australian Breastfeeding Association, Melbourne, Victoria.
3. Australian National University, Canberra, Australian Capital Territory.

### SUBMITTED

16 January 2024

### ACCEPTED

24 May 2024

### DOI

[www.doi.org/10.47389/39.3.34](https://www.doi.org/10.47389/39.3.34)



© 2024 by the authors.  
License Australian Institute for Disaster Resilience, Melbourne, Australia. This is an open source article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) licence (<https://creativecommons.org/licenses/by/4.0>). Information and links to references in this paper are current at the time of publication.

## Introduction

During emergencies, infants and young children experience heightened vulnerability due to their specialised nutritional needs, immature immune systems, greater susceptibility to heat, dehydration and cold, and total dependence on others (Gribble et al. 2019). These needs contribute to challenges faced by their caregivers (Nelson et al. 2002; Pascoe Leahy and Gay 2023), particularly mothers who may be pregnant, newly post-birth, or breastfeeding (Ratnayake Mudiyansele et al. 2022; Evans et al. 2022). Despite this, Australia has lacked emergency planning and specific guidance tailored to the needs of infants and young children (Gribble et al. 2019).

In response to this, the Australian Breastfeeding Association’s Community Protection for Infants and Young Children in Bushfire Emergencies Project (ABA Bushfire Project) was launched with funding from the Australian Government. Based in Eurobodalla Shire on the New South Wales South Coast, the ABA Bushfire Project aims to enhance community resilience by improving emergency preparedness for caregivers of infants and young children in disasters. The first stage of the project is the research reported here, the Babies and Young Children in the Black Summer (BiBS) Study. This research gathered evidence to inform emergency planning, guidance and interventions for families with infants and young children affected by emergencies.

## Method

A survey was conducted of caregivers of children 0–4 years who were affected by the 2019–20 summer bushfires and of emergency responders who had supported families during or after these bushfires. The survey used the online platform, Qualtrics® and contained open- and closed-ended questions. The survey was open to participants from anywhere in Australia to gather a breadth of information from a diverse and large number of individuals. Interviews were also undertaken with parents of children

0–4 years who had experienced the bushfires within Eurobodalla Shire or surrounds. This was to add an in-depth understanding of parent and child emergency experiences within one community. Finally, emergency responders who had supported families in any Australian disaster were also interviewed to gather in-depth information about the views and experiences of this group.

Survey participants were recruited through advertisements on social media. Parent interviewees were recruited via advertisements on social media, in local media, in community fliers, snowball sampling and purposeful sampling. Emergency responders who completed the survey were given an option to nominate willingness to be interviewed and were also recruited by snowball and purposeful sampling. Interviews were conducted alongside and following survey data collection and were undertaken by telephone, Zoom® or in person. All parent interviews were conducted in person. Emergency responder interviews were conducted by Zoom® or telephone according to the preference or internet bandwidth of the interviewee. Interviews were recorded and transcribed. Data was collected between August 2022 and February 2023.

Surveys and interviews explored parents’ experiences of the 2019–20 bushfires, including during evacuations and in recovery. Parents were asked about emergency preparedness, what they had packed for their children when they evacuated, where they evacuated to and their caregiving experiences during and after the bushfires. Emergency responders were asked to describe how they had supported families with very young children and what they observed had helped parents and children or not. Quantitative data was analysed using descriptive statistics and qualitative survey and interview data were uploaded to NVivo v14® and analysed alongside each other using conventional content analysis (Hsieh and Shannon, 2005).

Ethics approval was granted by the Western Sydney University Human Research Ethics Committee (approval H15019).

## Results

A final number of 233 parents and caregivers completed the survey. Of this, 97% were female. Survey respondents were predominantly from New South Wales (77%), 50% were in the age range 30–39 years, 55% were in households with an income of less than \$100,000 per annum and 61% had a university degree or postgraduate qualifications. Demographic information on parent survey participants is shown in Table 1.

Of the total, 176 survey participants provided information about the children in their care at the time of the bushfires. They had 360 children between them ranging from newborn to 17 years of age; 11 children were less than one month, 61 children were 1–11 months, 46 were 12–23 months and 105 were 24–47 months of age.

Table 1. Demographic characteristics of BiBS survey parent and caregiver participants.

Personal characteristic	N=233
<b>Sex</b>	
Female	226
Male	7
<b>Age</b>	
20–29	22
30–39	116
40–49	95
50 and over	3
<b>State of residence</b>	
New South Wales	179
Australian Capital Territory	12
Victoria	29
South Australia	5
Queensland	4
Outside Australia	3
Unknown	1
<b>Household income per annum</b>	
Less than \$40,000	26
\$40,000–\$59,999	34
\$60,000–\$79,999	30
\$80,000–\$99,999	39
\$100,000–\$124,999	45
\$125,000–\$149,999	17
\$150,000–\$199,999	26
\$200,000 and over	16
<b>Highest education level attained</b>	
Year 10	9
Year 11	1
Year 12	13
Certificate or trade qualification	38
Diploma	29
Degree	64
Postgraduate	79

Parent interviews were conducted with parents (22 mothers and one father) who had from one to 4 children (total of 44 children), from newborn to 7 years (average 2.3 years). Overall, for both the survey and interviews, 15% of the mothers who participated in the study were pregnant at the time of the bushfires.

There were 63 emergency responders who were surveyed or interviewed. These participants were in a variety of roles including health worker (doctor, nurse, midwife), emergency health manager, evacuation centre manager or volunteer, domestic violence manager, disability support specialist, donations manager, housing case worker, child-friendly space worker, family support recovery worker, foster care manager, catering manager, early childhood educator, social worker or recovery case manager. These emergency responders worked for organisations including the Red Cross, Salvation Army, Country Women’s Association, 54 Reasons, Ambulance Service, Rural Fire

Service, local government, state government health or welfare departments, or had volunteered independently.

The findings from the surveys and interviews were consistent with each other while the findings between the parent and caregiver and emergency responder participant groups complemented each other.

## Preparedness

The majority of surveyed parents were underprepared for the bushfires and indicated that they lacked a bushfire plan at the beginning of the bushfire season (65%). Of these, only half made a plan during the bushfires. Nearly 30% never made a plan. Among those who did make plans, the main sources of guidance were a fire service website (25%), government emergency website (24%), advice from family or friends (24%) or 'Bushfire Ready Day' events (12%). When making their emergency plan, 17% developed it without external help. Although 75% of parent participants packed an evacuation kit for their infant or young children before or during the bushfires, most did so without external guidance.

Parents described how a lack of detailed guidance for infants and young children hindered their emergency planning and packing for an evacuation.

*The main sources of information didn't have age-specific advice.*

(Mother of 3, aged 2, 3 and 12 years)

*There was no information about what to pack for young children and no acknowledgment about how hard that is.*

(Mother of 2, aged 3 and 5 years)

## Evacuation experiences

Of the surveyed parents, 85% evacuated during the bushfires and 40% indicated that they had less than an hour to prepare. Over a third left later than intended, often due to packing items for children, caring for others or managing pets. One woman delayed evacuation suspecting she was in labour. Several women blamed their male partners for their delayed evacuation including one who said, 'Husband prevented me from leaving as I was "being dramatic"' (survey).

Of note, 3% of parent participants who were advised to evacuate did not. Reasons included child-related issues such as avoiding smoke and the difficulty of evacuating with young children.

*My son was a preemie baby. I stayed to try and avoid too much smoke for him.*

(Mother of one, aged 3 months)

*I had a 6-week-old and a 20-month-old and was not confident in handling 2 infants by myself out in the open*

*at the beach and thought the house was the safest place until there was an immediate threat.*

(Mother of 2, aged 6 weeks and 20 months)

Caregivers mostly evacuated to homes of a friend or a family member nearby (37%) or further away (18%). Caregivers also sought refuge in official evacuation centres (20%), at outdoor venues like a beach or sports field (9%) and at unofficial evacuation venue buildings (4%).

Factors that added to evacuation challenges included that parents did not know which evacuation venue would be suitable for children. They also reported that their decision-making was compromised by their tiredness and they felt overwhelmed with caring for young children.

*I did not have confidence in where was a safe place to take my children.*

(Mother of 2, aged 12 months and 2 years)

*I found it really difficult to make decisions as I was so exhausted already from having a baby that did not sleep very well. I found it hard to decide what to take with us to the evacuation centre.*

(Mother of 2, aged 4 months and 3 years)

Unsurprisingly, given the lack of emergency planning, time to prepare, the physical and mental challenges of parenting and the emergency itself, it was common for parents to evacuate without supplies needed to care for their children. One evacuation centre worker participant said, 'Many families arrived at the centre with not enough nappies, formula, clothes, bedding, etc.'

The continuing care needs of infants and young children posed significant challenges. This was illustrated by the experiences of mothers who had to undertake long car journey evacuations.

*Because we were going so slowly and we didn't want to get out of the queue, there were a couple of times where I unbuckled (my baby) from his car seat and fed him while we were pretty much stopped. It was quite a dilemma for me.*

(Mother of 2 aged 6 months and 2 years)

*We were told we were not allowed to stop once in the convoy. (My baby) did a giant explosion poo. All over her clothes, into her hair and over the car seat. My sister-in-law changed her while we were driving.*

(Mother of one, aged 3 months)

Evacuation centres were often very difficult environments for families with infants and young children. This difficulty was magnified for women who evacuated on their own (a common experience) and had the sole responsibility of caring for and protecting their children; some were also newly post-birth or heavily pregnant. Mothers on their own found it challenging to keep hold of toddlers who

wandered while also looking after an infant. They were worried about keeping their children safe from strangers, animals and other dangers.

*I didn't feel that my son was very safe in the evacuation centre - I was so busy trying to look after my baby and I felt like I would lose track of my other son.*

(Mother of 2, aged 4 months and 3 years)

*I was worried about drunk people, dog fights and cigarette smokers harming my babies.*

(Mother of 3, aged 11 months, 2 and 4 years)

*There was nowhere really suitable for my bub to sleep - I had to put him on the floor on blankets and sit with him to protect him from anyone walking/stepping on him.*

(Mother of 2, aged 4 months and 3 years)

Emergency responders also identified safety issues at evacuation centres. One evacuation centre manager listed many concerns:

*Low power points that don't have covers on them, that they could stick fingers and toys in, balcony steps. Some of these big halls are right next to a main road and there's not necessarily any protections outside. Things like hot water urns for tea and coffee that little ones can reach up and touch. And of course, cords and cables and you name it, lying around the centre...somebody's got their backpack lying next to their bed and they've got medication in it, or they might have a knife in it... and they're not going to be watching their items, and of course, little kids being inquisitive.*

(Interview participant)

Buildings chosen for evacuation were noted by emergency responders participants as presenting or amplifying child-protection risks.

*In terms of child safety, the showground is full of dark spaces, poorly lit... There's nothing about it that is safe.*

(Interview participant)

Despite the challenges and risks, mothers often did not ask for help in evacuation centres because they were too busy looking after their children, did not know who to ask for help or did not feel confident asking for assistance.

A mother who struggled to breastfeed her 5-month-old baby in an evacuation centre (including due to lack of privacy) said, 'Lack of support during evacuation while caring for an infant was terrifying...It was unclear who was in charge or able to assist'. By the time this mother was identified as in need of support (after 12 hours), her infant required hospital treatment for dehydration.

Emergency responders explained how unrecognised needs and lack of support meant that some stressed and overwhelmed mothers made decisions that were risky or dangerous. For example, washing feeding bottles was

observed to occur in (often overused and unhygienic) restroom sinks. Cultural and language issues could also play a role, as illustrated by a situation where a puddle outside an evacuation centre was used to wash feeding implements.

*This lady was a new arrival in Australia, not a single word of English, had no support network around her at all. And for her culture, it wasn't okay to ask for help, you had to fend for yourself.*

(Interview participant)

In another example, an emergency responder participants described how a mother tried to protect her infant from one hazard (strangers) and exposed them to another (suffocation).

*We had a single mum in one centre ... didn't tell anyone she was heading off for the shower and buried the baby under all the blankets on the bed so nobody would know that the bub was still there while she was gone.*

(Interview participant)

Pregnant women faced additional challenges during evacuation including concerns about smoke exposure, physical demands of evacuating without assistance and fatigue due to pregnancy and caring for children. Limited access to water and suitable resting places exacerbated their struggles. One woman with pregnancy-related pelvic instability couldn't walk properly or stand for long while another, in advanced pregnancy, couldn't drive.

Parents who evacuated to a family or friend's home had more positive evacuation experiences. This was due to better access to resources such as refrigeration, hot water, suitable sleeping areas and support from other adults.

Parents and emergency responders also reported that multi-roomed evacuation venues provided better options as they allowed families with young children to congregate separately, offered containment for small children who might wander and could be more easily made child safe (including from a child-protection perspective). Ad hoc unofficial evacuation venues in locations such as child care centres or doctors surgeries provided environments that parents and emergency responders viewed as safer and made caring for infants and young children easier.

When asked what could be done to make evacuation centres better, almost half of parent suggestions were related to having a separate space for families with young children. Similarly, emergency responders repeatedly said that the emergency response would be improved if there were appropriately resourced separate spaces for very young children and their caregivers in evacuation centres. An evacuation centre manager suggested that inspection checklists for building suitability as evacuation centres should include information related to the needs of children, including child safety and whether suitable spaces and resources for child care are available.



## Parental priorities and emergency response

Women often prioritised their children’s needs over their own during the bushfires. This meant, for example, some did not eat or drink properly. One mother who was breastfeeding described losing 10kg over a matter of weeks and a pregnant mother of 3 said, ‘I was so worried about my kids... that I would just forget, just the simple things to eat myself, to drink’. The latter woman fainted while queuing for supplies.

When emergency responders identified and responded to the needs of parents and children, it made a difference. For example, operators of a child-friendly space in a recovery centre arranged for parents to be prioritised. This reduced the processing time from 8 hours to 2 hours and ameliorated parent and child stress and enabling access to needed support.

In another case, a woman described how emergency responders delayed a convoy so she did not have an extended drive with a crying infant.

*A couple of minutes before we left my baby woke up wanting a feed. So the men who were driving with us delayed the whole convoy so that I could feed my baby so he would be happy on the one and a half hour trip.*

(Interview participant)

Parents repeatedly expressed gratitude for assistance they received from emergency responders. When survey participants were asked what they would do differently if they were in another emergency, by far the most common response was first, pack an evacuation kit and second, leave earlier.

## Post-disaster recovery

Challenges for parents continued into the recovery phase. Emergency responders recognised that the busyness of recovery could make it very difficult for parents to be responsive to their children. One emergency responder noted that:

*The services that present to you after that initial emergency is so overwhelming, and the phone ringing and the demands on you, that it’s almost impossible to function and care for yourself, your children.*

(Interview participant)

This experience was reflected in what some parents described. One mother shared:

*We both got a lot more reactive with the kids, and it took a lot less to get either of us yelling. (We) had been really, really calm parents before then ... we just didn’t have the headspace.*

(Interview participant)

Emergency responders stated that anything that lightened parents’ (particularly mothers’) load would help children. Case management and practical support like providing prepared meals were mentioned as interventions that could assist parents to have the time and headspace to meet their children’s physical and emotional needs.

However, infants and young children were largely invisible in recovery programming with most child-focused interventions targeted at school-aged or at the very youngest, preschool-aged children. Yet, early childhood educators reported what they saw as adverse effects for children who had been infants or very young toddlers at the time of the bushfires. Three years later, these children were displaying behaviour they described as, ‘beyond our capacity to deal with... we’ve never had to deal with this before’.

One mother in a town where services were severely disrupted, said that she would have liked to have a place where she could meet with other mothers in her community following the bushfires.

*...somewhere you could go sit when those days were long ... sat at the Surf Club with other mums with something, a distraction, to sit in something other than the 4 walls of your house... more of a mental health thing. Just something to distract you from what you dealt with.*

(Interview participant)

## Discussion

The BiBS Study is, to the knowledge of the authors, the first research in any high-income country to focus on the breadth of experiences of caregivers of infants and young children during and after a disaster. The study confirmed that gaps in Australian emergency response adversely affect children and their parents and other caregivers during the bushfires and provides knowledge to improve practice.

It was identified that caring for an infant or young child made preparedness and evacuation more complex and difficult. However, existing emergency preparedness activities considering children tend to focus on those of school age (Newnham et al. 2023). This lack of emergency preparedness communications and resources for parents with very young children compromises parent’s ability to plan for an emergency and to evacuate in a timely manner with necessary supplies.

Although evacuation centres are purposed as a refuge from danger, for many parents, particularly mothers, they were a challenging and sometimes hazardous environment. Given the child safety and protection risks identified, there is a duty of care to improve support to those with infants and young children in evacuation centres. As suggested by parents and emergency responder participants, providing a separated, supported space in evacuation centres for families with very young children should be considered

and implemented where possible. Evacuation centres in Alberta, Canada, provide such support and could inform design of a similar model in Australia. Ideally, such support would be provided in a room separate from the main evacuation space. However, this may not always be feasible and, in such instances, a corner of a larger room may be reserved for this purpose. It is worth noting that this type of intervention is different from a child-friendly space as child-friendly spaces support children directly and are predominantly for children aged 3 years of age and older (Davie et al. 2014).

The invisibility of infants and young children in recovery programming is extremely concerning. For the very youngest children, it is often not the disaster that affects them adversely, but the effects of the disaster on the caregiving capacity of their parents. The BiBS Study and other research (Drolet 2021) shows that parents can struggle to meet the emotional needs of their children during and after emergencies. For infants and young children, having primary caregivers who are consistently unable to identify and/or meet their needs is a type of relational trauma that can alter their long-term development in a profoundly negative way (Schore 2017). Behavioural reports by the early childhood educators in this study suggest this may have occurred for some children who were infants at the time of the 2019–20 bushfires.

Recovery interventions supporting infants and young children are fundamentally different from those for older children or adults as support cannot be delivered directly to them but must be via their caregivers. A scoping review on psychosocial support programs for children following disasters by Gibbs et al. (2021) did not find any interventions targeted at preschool-aged children, including infants. However, there is a long history of supporting mothers in order to support children in humanitarian emergencies via an intervention called the Mother-Baby Area (MBA) (also called Baby Tents or Baby Friendly Spaces) (Hargest-Slade and Gribble 2015). MBAs provide a safe and comfortable space for mothers where they can meet with other mothers and their children and receive infant feeding, health care, parenting and psychological support. MBAs can reduce maternal suffering, increase perceived social support, assist in overcoming breastfeeding difficulties and improve the quality of interactions and the relationship between mothers and their children (Dozio et al. 2020). Where mothers are able to provide responsive care during emergencies this can protect their very young children from developing post-traumatic stress responses (Feldman and Vengrober 2011). MBAs have not been widely deployed outside of humanitarian contexts. However, what was, in essence, an MBA for breastfeeding women was established for a short time in an empty hospital ward after the Christchurch earthquake in 2011 (Hargest-Slade and Gribble

2015). In addition, the Australian Childhood Foundation instigated an MBA-like program called ChildSpace in Corryong, Victoria, after the 2019–20 bushfires. Other Australian research supports the desirability of recovery interventions that bring new mothers together (Hine et al. 2023; Davis et al. 2024). Resources for supporting infants and young children in humanitarian emergencies (e.g. Solon et al. 2020; Save the Children et al. 2020) may assist in improving support in Australia.

The vulnerability of women as the primary caregivers of infants and very young children must be recognised. This sex difference is not a result of gendered expectations but a function of women's reproductive work in gestating, birthing and breastfeeding (Gribble et al. 2023). Mothers' infant and young child caregiving work needs to be considered and adjustments made to ensure that women's needs are accounted for during and after emergencies. For example, mothers may find it more difficult to ask for assistance, access support or attend community consultation meetings because they are caring for their children and require proactive support and engagement.

The ABA Bushfire Project has developed and is developing resources for parents and emergency responders based on the findings of the BiBS Study. These resources include a free, short, e-module training for emergency responders on supporting families with very young children in emergencies; an infant- and toddler-specific emergency preparedness guide and evacuation kit lists; infant feeding in emergencies and safer infant sleep in evacuation fact sheets; preparedness information for pregnant women; evacuation centre signage (e.g. 'do not wash bottles here' for restrooms); child-safety checklists; evacuation centre training scenarios; social media templates with messages specific to parents; model policies for managing donations and distributions of infant formula in emergencies and an MBA for Australia Guide. Resources are and will be available on the ABA website (ABA 2023). The findings of this study are informing the ABA Bushfire Project activities and advocacy to improve emergency planning and response for infants and young children and their parents and other caregivers in emergencies.

In 2023, Eurobodalla Shire Council and the NSW State Emergency Service (SES) commenced a program for parents of preschool aged children called Playdates with Emergency Services. Gatherings were held in local parks in the late afternoon including a sausage sizzle. The playdates events were attended by local emergency organisations including the NSW Rural Fire Service, Marine Rescue NSW, NSW Ambulance, NSW SES, NSW Police, Australian Red Cross and the ABA Bushfire Project team. The playdates had the dual purpose of assisting young children to feel comfortable around emergency services personnel and educating and supporting parents about planning and preparing for emergencies.

**FREE**

## Disaster support for babies, toddlers and their caregivers

An interactive eLearning module for emergency workers and preparedness teams

Learn more and enrol

Follow us @ozbreastfeeding

The Australian Breastfeeding Association is a Registered Training Organisation and receives funding from the Australian Government. ABN: 64005081523 RTO: 21659

Learn more and enrol now [aba.asn.au/emodule-prepare](http://aba.asn.au/emodule-prepare)

Oct 2023




The project developed free e-module training for emergency responders for families with infants and young children.

### Strengths, limitations and future research

A strength of this study is that it triangulated data using multiple methods and included study participants from multiple locations with experiences as both caregivers of infants and young children and diverse emergency responder roles. The study has limitations in that parent views and experiences were from only a single emergency type and fathers were very underrepresented. It is unknown how representative caregiver study participants are of those affected by the 2019–20 bushfires. It is a further limitation that the effects of the emergency on children were not formally assessed nor measured. Future research should consider experiences in other emergency types and assess the effects of disasters on the development of children who were in utero or were infants

or very young children at the time the emergency. The implementation and benefits of separate spaces for families with infants and young children in evacuation centres and of MBAs should be a subject of future research.

### Conclusion

This study exposed the challenges faced by the parents and other caregivers of infants and young children during the 2019–20 bushfires. The study confirmed the need for government and non-government organisations to improve preparedness, response and recovery support. Existing emergency planning needs to be reviewed with infants and young children in mind to identify changes that should be made at the national, state/territory and local government levels. Targeted support in preparedness (tailored information), response (separate spaces in evacuation centres) and recovery (MBAs) should be implemented. Existing guidelines should add content related to protecting and supporting infants and young children in emergencies. Resources that have been developed for the humanitarian context can be drawn from to improve guidelines, preparedness and response planning to better support the needs of infants and young children in Australian emergencies.



Playdates help children feel comfortable around emergency services personnel and educate parents about being prepared.

### References

ABA (Australian Breastfeeding Association) (2023) *Emergency resources for babies and toddlers* (Online). Available: [www.breastfeeding.asn.au/emergency-resources-babies-and-toddlers](http://www.breastfeeding.asn.au/emergency-resources-babies-and-toddlers) (Accessed 10 January 2023).

Davie S, Stuart M, Williams F and Erwin E (2014) 'Child friendly spaces: protecting and supporting children in emergency response and recovery', *Australian Journal of Emergency Management*, 29(1):25–30.



- Davis D, Barnes K, Williamson R, Behie AM, Phillips C, Aroni R, Roberts C, Kurz E, Schoenaker D and Nolan CJ (2024) 'Pregnant women's experiences of extreme exposure to bushfire associated smoke: a qualitative study', *Environmental Research: Health*, 2, 015003.
- Dozio E, Le Roch K and Bizouerne C (2020) 'Baby friendly spaces: an intervention for pregnant and lactating women and their infants in Cameroon', *Intervention Journal*, 18(1):78–84. [http://dx.doi.org/10.4103/INTV.INTV\\_61\\_18](http://dx.doi.org/10.4103/INTV.INTV_61_18)
- Drolet J, McDonald-Harker C, Lalani N, McGreer S, Brown MRG, Silverstone PH (2021) 'Early childhood development in the aftermath of the 2016 wildfires in Alberta, Canada', *Journal on Education in Emergencies*, 7:54–79. <http://dx.doi.org/10.33682/u3ar-wwzm>
- Evans J, Bansal A, Schoenaker DAJM, Cherbuin N, Peek MJ and Davis DL (2022) 'Birth outcomes, health, and health care needs of childbearing women following wildfire disasters: an integrative, state-of-the-science review', *Environmental Health Perspectives*, 130, 086001.
- Feldman R and Vengrober A (2011) 'Posttraumatic stress disorder in infants and young children exposed to war-related trauma', *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 645–658.
- Gibbs L, Marinkovic K, Nursey J, Tong LA, Tekin E, Ulubasoglu M, Callard N, Cowlshaw S and Cobham VE (2021) 'Child and adolescent psychosocial support programs following natural disasters—a scoping review of emerging evidence', *Current Psychiatry Reports*, 23, 82.
- Gribble K, Peterson M and Brown D (2019) 'Emergency preparedness for infant and young child feeding in emergencies (IYCF-E): an Australian audit of emergency plans and guidance', *BMC Public Health*, 19, 1278.
- Gribble KD, Smith JP, Gammeltoft T, Ulep V, Van Esterik P, Craig L, Pereira-Kotze C, Chopra D, Siregar A, Hajizadeh M and Mathisen R (2023) 'Breastfeeding and infant care as 'sexed' care work: reconsideration of the Three Rs to enable women's rights, economic empowerment, nutrition and health', *Frontiers in Global Women's Health*, 11. <https://doi.org/10.3389/fpubh.2023.1181229>
- Hargest-Slade A-C and Gribble KD (2015) 'Shaken but not broken: supporting breastfeeding women are the 2011 Christchurch New Zealand earthquake', *Breastfeeding Review*, 23(3):7–13.
- Hine RH, Mitchell E, Whitehead-Annett L, Duncan Z and McArdle A (2023) 'Natural disasters and perinatal mental health: what are the impacts on perinatal women and the service system?', *Journal of Public Health*, 4:1–8. <https://doi.org/10.1007/s10389-023-01855-y>
- Hsieh H-F and Shannon SE (2005) 'Three approaches to qualitative content analysis', *Qualitative Health Research*, 15(9):1277–1288. <https://doi.org/10.1177/1049732305276687>
- Nelson V, Meadows K, Cannon T, Morton J and Martin A (2002) 'Uncertain predictions, invisible impacts, and the need to mainstream gender in climate change adaptations', *Gender and Development*, 10, 51–59.
- Newnham EA, Dzidic PL and Kelly LM (2023) 'Child disaster resilience in action: post-bushfire qualitative perspectives on a school-based preparedness program', *International Journal of Disaster Risk Reduction*, 96, 103925.
- Pascoe Leahy C and Gay C (2023) 'Care and crisis: disaster experiences of Australian parents since 1974', *History of the Family*, Online 19 sept 2023, pp.131–156. <https://doi.org/10.1080/1081602X.2023.2278161>
- Ratnayake Mudiyansele S, Davis D, Kurz E and Atchan M (2022) 'Infant and young child feeding during natural disasters: a systematic integrative literature review', *Women and Birth*, 35(6):524–531. <https://doi.org/10.1016/j.wombi.2021.12.006>
- Save the Children, World Health Organization, UNHCR and UNICEF (2020) *Roadmap to Accelerate Progress for Every Newborn in Humanitarian Settings 2020-2025*, Save the Children. <https://resourcecentre.savethechildren.net/document/roadmap-accelerate-progress-every-newborn-humanitarian-settings-2020-2025/>
- Schore AN (2017) 'Modern attachment theory', in: Gold, S. N. (ed.) *APA Handbook of Trauma Psychology: Foundations in Knowledge*, American Psychological Association, Washington DC.
- Solon P, Henderson P, Banin E, Murphy K and Daelmans B (2020) *Nurturing Care for Children Living in Humanitarian Settings Thematic Brief*, World Health Organization, Geneva.

### About the authors

**Dr Karleen Gribble** is an Adjunct Associate Professor in the School of Nursing and Midwifery, a member of the steering committee of the international interagency collaboration the Infant and Young Child Feeding in Emergencies Core Group and Project Lead on the Australian Breastfeeding Association Community Protection for Infants and Young Children in Bushfires Project.

**Dr Michelle Hamrosi** is a General Practitioner and International Board Certified Lactation Consultant based in Eurobodalla Shire, New South Wales. She is a Clinical Lecturer in the Australian National University's Rural Clinical School and the Community Engagement Officer for the ABA's Community Protection for Infants and Young Children in Bushfires Project.

**Dr Susan Tawia** is a member of the ABA's Learning and Innovation team. In her role as Breastfeeding Researcher and Health Professional Educator she undertakes research about the impact of ABA services on the experiences of breastfeeding women and facilitates ABA collaborations on joint infant and young child feeding research.