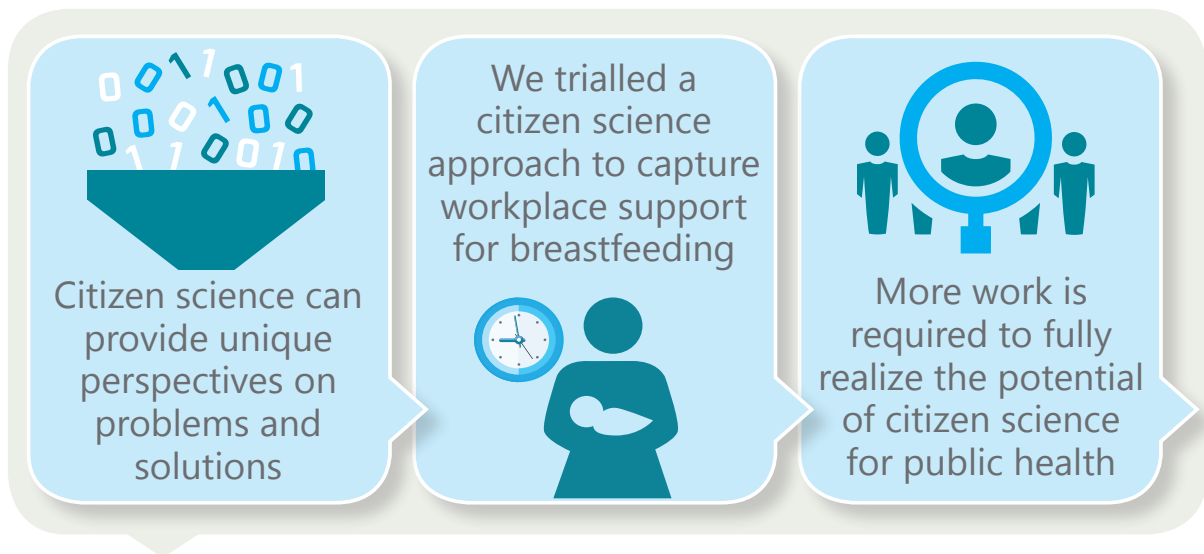




How can citizen science help public health research?



Key messages

- Citizen science is the involvement of the public in scientific research as co-researchers, for example, to collect and analyse data.
- Citizen science can provide valuable insights to monitor the ongoing impact of policy.
- We piloted a citizen science approach to monitor workplace support for breastfeeding.
- The project provided novel insights that would not be picked up through more traditional approaches.
- We are in the process of exploring what these findings mean for policy and practice around workplace breastfeeding and how we can take this work forward.
- More work is required to advance the application of citizen science approaches in public health research and practice.

The project: Using citizen science to engage the public in monitoring workplace breastfeeding support (part of the Communicating prevention project)

Project team: Professor Penny Hawe (University of Sydney), Dr Samantha Rowbotham (University of Sydney), Leah Marks (University of Sydney), Australian Breastfeeding Association, and South Western Sydney Local Health District

Project start: January 2017

Project end: December 2018

Why is this issue important?

Citizen science offers a powerful approach to population health research. It provides in depth information from the public and has the potential to influence policy. While citizen science has a long history in conservation and ecology research, its benefits to public health have yet to be widely explored.

“Through engaging with citizens to collect and analyse data we can tap into the perspectives of communities in identifying the features of their environments that they see as being important to health,” said project lead Dr Samantha Rowbotham. “This might surface new insights and enable action to be tailored to the needs identified by community members themselves.”

In practical terms, citizen science can enable access to many more participants than traditional approaches such as researcher-led interviews or observations. Citizen science also offers opportunities for ongoing engagement with the public, for example to monitor the implementation and effectiveness of policies and programs over time.

In collaborating with researchers, citizen scientists can help to define problems and contribute to understanding, become familiar with how decisions are made and participate in evaluating the resulting policy changes. Through this process, citizen science can create grassroots support and mobilise the public around important issues. Policy changes based on citizen science may be less likely to be publicly judged as ‘nanny-state’ impositions. Critically, citizen science offers the real voices of community members to policy makers, lending greater validity to findings.

What did we do?

The team conducted a pilot study to explore the feasibility of using citizen science for monitoring policy and practice, using breastfeeding at work as a test case.

Despite existing legislation and guidelines protecting women’s right to continue breastfeeding when returning to work, it is not well understood whether or how policies are implemented in workplaces. Citizen science offered the potential to capture data on workplace support for breastfeeding from the perspective of community members.

In the Breastfeeding at Work project we employed citizen science by asking community members to submit photographic data and personal insights about workplace support for breastfeeding and expressing breastmilk.

We partnered with the Australian Breastfeeding Association (ABA), and South Western Sydney Local Health District for this project. We advertised the project through community groups and social media. Although women with children were the natural target group for this study, anyone could take part regardless of gender, whether they had children or had breastfed.

“We were really keen to encourage it not to just be breastfeeding mothers that took part. When it comes to fighting for change, the burden is too often on those affected by the issue.” said project lead Dr Samantha Rowbotham. “Citizen science can shift that burden, it doesn’t have to be just breastfeeding mothers – anyone can be scientists on the ground.”



Through engaging with citizens to collect and analyse data we can tap into the perspectives of communities in identifying the features of their environments that they see as being important to health.”

Dr Samantha Rowbotham
Project lead

What did we find?

The project provided novel insights that would not be picked up through more traditional approaches.

We found some workplaces were extremely supportive, providing comfortable and private spaces to breastfeed and express breastmilk, and facilities for storing milk. However, there is still some way to go for others to ensure that mothers in the workplace who wish to continue breastfeeding are supported to do so. For example, some participants reported that they had to use a toilet, shower cubicle or storeroom to express breastmilk or were not able to express at work due to a lack of suitable spaces to breastfeed or express.

The findings also revealed that workplaces with good facilities were not necessarily supportive in terms of workplace culture around breastfeeding, highlighting the need for employers to not only provide physical facilities to support breastfeeding, but to foster a supportive culture to support breastfeeding women to return to work.

Finally, this project revealed how good breastfeeding facilities can enable a support network of other breastfeeding mothers in an organisation as well as offering working mothers' confidence that an employer has their needs at heart. These details may not have been captured by researchers or accreditors without regular needs-based engagement with the space.

While this study gave rise to rich data and novel insights, due to ethics committee restrictions the level of participation was much lower than hoped.

Citizen science represents a relatively new way to do public health research and requires flexibility and different ways of thinking about issues such as consent and risk.

What did we produce?

Articles

- Rowbotham S, McKinnon M, Leach J, Lamberts R, Hawe P. Does citizen science have the capacity to transform population health science? *Crit Public Health*. 2017. doi: 10.1080/09581596.2017.1395393
- Rowbotham S, Hawe P. Making the most of citizen science. *MJA Insight*. 5 November 2018.

Blogs

- Prevention Centre blog, November 2018: How can citizens contribute to the science and practice of public health?
- Prevention Centre news, October 2018: Engaging citizens in monitoring workplace support for breastfeeding.
- Prevention Centre news, April 2017: Engaging the bystanders of public health.



We have double electric pumps available for staff on three of the five floors at our work place. There are fridges dedicated to breastmilk storage on most floors...there was also a beautiful community of women pumping that I met throughout pumping at work!"

Survey participant



I work in the film industry...and I couldn't even imagine it would look upon kindly to have your baby brought in for feeding. I have been expressing in the bathrooms and because I have nowhere to store the milk, pouring it down the sink. Breaks my heart! Long term this led to me losing my milk supply as I often have to wait up to 6 hours before expressing. [This is why I will] not to go back to work in the foreseeable future. This has an impact on my earning capacity / career progression."

Survey participant

Next steps?

We are currently working with our partners to write up the findings for publication in peer-reviewed journals.

We developed a strong working relationship with our partners and are in the process of exploring what these findings mean for policy and practice and how we can take this work forward.

We have also been involved in the development of a new university-wide node in citizen science at the University of Sydney and are exploring ways to build capacity for citizen science approaches amongst researchers, policy actors and ethics committees.

We hope to see a greater uptake of citizen science approaches to identify problems and potential solutions in public health and to monitor the implementation of programs and policies to improve the health of populations.

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