

Spillover effects from engaging the Darebin Women's Sports Club for flood risk reduction

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This study explores how flood risk awareness and risk reduction actions spillover through community group member's social networks after participating in an engagement targeting household flood risk reduction. Here, 'spillovers' refer to participants sharing of knowledge, experiences, and flood risk reduction actions with non-participants. Using members of the Darebin Women's Sports Club (DWSC) as a case study (n=64), it was found that 70% of participants generated a spillover to a non-participant. On average, each participant spilled over to two non-participants. Participants most frequently spilled over to other members of their household. Often, these spillovers were in the form of 'conversations' that took place with a spouse or partner following the initial engagement, as demonstrated below:

"[The initial engagement] prompted me to have conversations about [risk] with my partner, for instance, the location of our house and safety and things like that".

Another form of household spillover involved participant's discussions of risk leading to the adoption of preparedness actions. These actions include emergency planning conversations with their children living at home, as demonstrated below:

"We had some conversations with our children about [risk]... like, let my kids know about emergency numbers to call... made an emergency number chart and had a conversation with my eldest daughter about different scenarios".

The locations of participants who generated household spillovers were explored in relation to the 1% Annual Exceedance Probability (AEP). Less than half of all participants who lived in the 1% AEP spilled over to household members (n=5). This suggests that living in an area at risk of flooding has little effect on whether a participant generates a spillover within a household. Instead, participants tend to target their spillover behaviour at family and friends who live in areas at risk of flooding.

Spillovers to family and friends outside of the participant's household were shown to be motivated by perceptions of others' vulnerability to flood risk, with participants discussing risk and preparedness actions with others who they perceived to be at flood risk. Participants often mentioned that they shared risk reduction resources with people they believed to be at risk of flooding due to their proximity to a creek or prior experiences of floods, as demonstrated below:

"Because they live where we used to live- down where Merri Creek is, where there's flooding".

Another participant shared resources, which they obtained from the initial engagement, with three family members and friends they perceived to be at risk:

“I sent [the flood preparedness resources] to family and friends that I know were within the risk zones”.

In some cases, participants even helped family and friends take action to reduce their flood risk:

“I had a chat with her about what she was doing about [flooding] and how she was preparing”.

Unlike household spillovers, where the participant’s location within a flood risk area has little effect on them spilling over, perceiving others as living in a vulnerable location was a motivating factor for spillovers to family and friends. The role of participants spilling over to family and friends who they perceive as vulnerable demonstrates how existing social networks do impact risk preparedness in non-participants. In this way, participants act as the bridge between what the risk sector wants (i.e., targeting households that are at-risk) and the role of participatory approaches to engagement that support individuals to reflect on, discuss, and share risk awareness and preparedness actions. This includes increasing collective awareness of risks, as well as targeted spillover actions, which better prepare households for future flood events. This concept was articulated by a participant when reflecting on how the initial engagement prompted action:

“It’s actually talking to another person about it [clearing gutters and drainpipes], rather than the big broadcast ad on the TV that you can just dismiss [because it] relates to somebody else, probably made the difference”.

In this example, collective reflection is evident as the participant discussed their flood risk reduction actions – like clearing gutters and drainpipes – with a friend, suggesting this conversation was more impactful than ‘generic TV ads’. This personalised approach appeared to motivate the participant to continue their own risk reduction while also encouraging them to share these actions with others. Identifying the ways we think about spillover effects and how they are amplified through social networks has implications for community engagement practice in the context of disaster risk reduction. Despite the financial and time challenges of measuring these impacts, identifying and understanding how spillovers impact risk reduction could help justify participatory approaches to engagement. These non-deficit-based approaches, as demonstrated in this study, can result in spillover effects focused on risk reduction beyond the targeted participant. To date, the risk sector has been unable to prompt widespread, targeted behavioural changes due to prevailing approaches that rely on a one-way flow of information from experts to citizens. The findings from this study suggest that spillovers from participatory approaches to engaging community groups could be one way to increase the uptake of household preparedness behaviours.