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Can adaptation to 'extraordinary' times teach us about ways to strengthen community-based chronic disease prevention? Insights from the COVID-19 pandemic

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ABSTRACT

The COVID-I9 pandemic represents a massive challenge to the ordinary work of community-based organisations. We present results from a study of the actions and experiences of community-based organisations and funding agencies in the context of a grants program for chronic disease prevention in Tasmania, Australia during 2020. Community-based organisations had just received funding to implement programs targeting smoking, obesity, nutrition and physical activity when the first lockdowns were put in place. Though the rapid changes triggered by the pandemic placed strain on organisations in certain ways, we record the adaptive practices that took place as the pandemic unfolded. We observed two levels of adaptation: 1) program-level adaptation, as new ways of reaching people and delivering planned services were devised; and 2) system-level adaptation, as funding agreements were revised and the range of organisational procedures were altered, new partnerships were formed and the span of operations were rewritten. The suspension of usual rules and activities gave permission to experiment with new roles and 'blue sky' ideas. Organisations who provided compelling accounts of adaptation had leaders and past history that enabled them to tap into wide networks to access resources and coordinate action. We suggest that these insights from 'extraordinary' times are helpful for priming or building greater adaptability and transformability in community-based prevention programs, their host organisations and their funders in 'ordinary' times. Drawing on the theoretical foundations of liminality theory, complexity, and viable systems theory, we consider how (better) system-level capability for chronic disease prevention is built.

Introduction

When the COVID-19 pandemic first hit, the immediate impact on health systems worldwide was to call epidemiologists, infectious disease scientists and health workers into frontline care and management. Alongside this upheaval, the rest of the health system was required to adjust to ways of working with displaced and relocated workforces, while face-to-face contact with communities was taken away. In these extreme circumstances the 'ordinary' practices of chronic disease prevention programs had to adapt to become extraordinary, or cease to exist.

Crisis events, such as a pandemic, are often considered to fall outside ongoing planning and management practices, with emergency responses conceived of as short-term departures from dominant modes of policy and practice (Novalia & Malekpour, 2020). Understanding conditions that underpin crisis responses, however, is important for learning how to transform out-of-date modes of operation (Novalia & Malekpour, 2020). Examining the crisis responses of chronic disease prevention programs and the governance conditions that fostered these responses may therefore have much to teach us about adaptation as a mechanism in the ongoing practice of community-based prevention.

In the health sciences, the concept of adaptation is commonly researched and understood as a program-level phenomenon: a process of making changes to evidence-based programs as they are transferred into new contexts (Moore et al., 2021). Transfer of programs is conceived by many as a threat to the fidelity and likely effectiveness of a program (Dusenbury et al., 2005) and, as a consequence, the advice associated with adaptation is cautionary.

However, complex system thinking invites a reconsideration of conventions in intervention design, development, evaluation and transfer/implementation (Hawe et al., 2004, 2009a, 2009b). Instead of adaptation being a secondary or additional consideration after the primary work of intervention design and testing is complete, context-level adaptation becomes part of intervention design at the outset (Hawe et al., 2004) and a primary space for learning that might be of use both locally and more universally. Program–context interaction is a generative space for knowledge discovery about change processes (Hawe, 2015). Further, with complexity thinking, implementation is thought of as an organisational process of adaptive self-organising (Lanham et al., 2013; May et al., 2016). The process of (ongoing) adjustment reveals not just the dynamics of program-context fit, it permits understanding of the role, function and position of the organisation as a whole in its environment.

In population-level ecology, adaptation is a collective, system-level phenomenon with strong foundations in evolutionary biology (Ayala, 1970). Uncertainty and surprise in the environment provide opportunities for agents in the system to test new behaviours (Folke et al., 2005). New patterns of organisation emerge if there is sufficient interrelationship among the agents (Hawley, 1986) i.e. to observe and be impacted by each other. When the system undergoes an external shock or change, the resilience of the system is gauged by the extent to which it can still retain the same operation and functions (Walker et al., 2004). The degree to which the system is capable of self-organisation in response to a stimulus or prompt demonstrates a system's adaptability. Transformability is the degree to which the system can build the capacity to learn and alter its structure, operations and functions (Carpenter et al., 2001; Folke, 2006; Walker et al., 2002).

Environmental scientists see adaptation as a type of system-level capability (Novalia & Malekpour, 2020). Scientists study pathways to adaptive transformation or betterment as well as maladaptation, for example, the negative consequences that might come about as a consequence of locked-in, narrow trajectories, where organisms are not able to generate diverse and new actions (Novalia & Malekpour, 2020). In health science, insights about how organisations and systems respond to abrupt changes to the environment are best seen in fields like disaster response (Dynes, 2006). Innovations made under extreme challenges can have applicability and benefits well beyond the acute context, such as the long-lasting impact to surgical practices that came about in the 1940s and 1950s as a consequence of mobile army surgical hospitals in war zones (Meddings, 2002).

In this article, we describe the opportunity we took to investigate how a grants program for community-based chronic disease prevention and newly funded grant recipients responded during the COVID pandemic. The grants program aimed to improve health and wellbeing of communities by funding projects aimed at reducing smoking, reducing obesity and improving healthy eating and/or physical activity. We were interested in both program-level change and change in terms of organisational structuring and positioning. Our research questions were (1) what happens when chronic disease prevention programs cannot be delivered as planned; and (2) what do the changes introduced in response to the crisis at the program and organisational levels

teach us about resilience, adaptability and ongoing system capability to promote community health in ordinary times? We set out to explore the experiences of grant recipients and funders and consider the wider meanings of these experiences for the capability of their organisations and local systems.

Methods

The research was conducted as part of a collaborative chronic disease prevention research partnership, involving university-based researchers and government policymakers (Wutzke et al., 2017). We launched a project exploring funding processes in chronic disease prevention in Tasmania, working in partnership with a funding body. After observing meetings of a funding panel, we were poised to begin interviewing successful grant recipients. The COVID-19 pandemic in early 2020 required us to pivot from face-to-face interviews to Zoom and telephone. Interviews with grant recipients were conducted by VL between May and August 2020, a period of time that overlapped with nationwide lockdowns in Australia, with restrictions easing toward the end of this period. Funders suggested that practice had been altered to cope with the pandemic. We therefore modified our semi-structured interviews to begin with open-ended conversations about 'how things had changed' for grant recipients and their organisations.

Grant recipients were identified through funding authority records and approached by us to take part in a study of how funding is used to support prevention and build community capacity. Of the 21 successful grant recipients, 16 agreed to participate, one chose not to participate and 4 did not respond to our invitations. Participants were based in both non-government organisations (n = 11) and local government organisations (n = 5) and were funded for programs across all three grant program priority areas (healthy eating, physical activity, smoking reduction). These interviews were supplemented with conversational interviews with four key policymakers and advisors working with the funding body who were involved in working to adapt funding arrangements.

The analysis was an iterative process that began during interviews. Transcribed interviews were coded in NVivo (2020) for themes relating to the range of adaptations happening due to the COVID pandemic. The first stage of the analysis was developed inductively by two authors (VL and PH), focusing on the social processes and actions surrounding these adaptations (Corbin & Strauss, 2015). As the analysis proceeded, we noted an overlap with the adaptation themes and theories of liminality from anthropology (Turner, 1967) particularly in relation to crisis and disaster (Jencson, 2001; Szakolczai, 2015). The analysis was further strengthened by contributions from KG, an 'insider', whose experiences as a policymaker/funder provided the team with contextual information on the grants program. This allowed for novel insights into the funding decisions, the governance environment and the experiences of grant recipients.

Results

Participants seemed willing to engage in an empathic interview and sense-making process about events affecting people everywhere. Those interviewed straight after lockdowns were enforced expressed more uncertainty than those interviewed later. Below we report on accounts of adaptation from grant recipients and funders in which they reflect on the sense of dislocation, how practice was reorganised in response to the pandemic and the ramifications for system transformation.

Initial dislocation and disarray

The first lockdown period (March-June 2020) constituted a particular crisis moment where basic norms of social interaction and ways of working were suspended. Group activities were postponed, face-to-face connections ceased, entire programs went into 'hiatus'. Numerous

organisations described how services that were still operating were under enormous strain. Telephone support services were inundated. Youth services were disconnected from young people as schools closed. Volunteers had to be sent home, even as demand for their help rapidly increased.

One organization described the challenges of continuing their emergency food relief services without face-to-face contact:

> When they're face-to-face, you can gauge some of that communication, that body language, and figure out, maybe, a bit more what's going on. Whereas, when you're doing that sort of documentation over the phone, you're not getting that . . . so you may not be picking up on some underlying things that are really happening to that person.

The unpredictability and uncertainty during this time made it difficult to comply with regular accountability expectations. Workplans needed to be revised or completely rewritten. One grant recipient described how their local government organisation was operating in 'reactive' mode. Paperwork/documentation produced on Thursday would need changing by Monday, and this was not unique, 'there is no rule book, play book, crystal ball'.

Critical reflections on 'what matters'

A number of grant recipients reflected on how the disorientation triggered by the pandemic resulted in re-evaluation of priorities. Things that did not appear immediately important or urgent could be pushed 'to the periphery'. Grant recipients in larger organisations described a hierarchy of needs when it came to deciding what was worth funding in a crisis. One grant recipient was contemplating using the arts as 'a catalyst for community recovery'. But within their local government organisation, they felt community activation was usually treated as 'the leftover bits' when compared with basic needs like engineering and running water. At another local government organisation, there had been a freeze on all 'unnecessary spends' unless it was considered 'mission-critical'. Grants supporting local artists were initially deemed 'unnecessary', but when elected council members made it clear how important this program was, money came back in to continue to support creative and cultural activities. So critical reflections were also a process of testing out what activities really defined an organisation.

Reorganising resources and rearranging practice to respond to the pandemic

The turbulence of the lockdown period demanded a rethink of usual practice. Due to outbreaks of COVID in hospitals in April 2020, some parts of Tasmania experienced some of the toughest lockdown restrictions in the nation (at that point in time) enforced with the assistance of the military and police. Both funders and grant recipients described how they readied themselves should the entire state have to enter this kind of lockdown. Organisations had to increase production and repurpose resources – people, objects and infrastructure – for different activities at a whirlwind pace. Nearly all participants (13) reported that they had switched to provide whatever activities they could in a COVID-safe way, such as online cooking classes and socially distanced walks. A majority of participants (11) also introduced supplementary and support activities, such as telephone support services.

A number of organisations deliberately altered the sequence and cycle of the way they distributed resources. A local government organisation considered switching monthly payments to fortnightly, to try to 'stimulate' the local economy as much as possible. Another funded program intended to begin with cooking classes, garden workshops and family support, building incrementally toward a food-in-a-box program in partnership with local community markets. When COVID hit, insecurities around food supply meant demand for food boxes soared. They quickly rewrote the program and did 'the reverse' of what they originally planned in terms of sequence, delivering

boxes with 'all sorts of strange things' that people may not normally have cooked with, exposing people to new types of food in the process. With the closure of the restaurant industry and farmers markets, the food boxes also provided an avenue for local food suppliers and food growers to sell their food.

Experimenting with new roles, building new competences and confidence

Both grant recipients and funders described shifting power dynamics in relation to the flow of money. Funders quickly realised some grant recipients would not be able to do what they had proposed, but were well placed to respond to emerging needs, such as providing emergency food relief. The funding body had close relationships with a number of organisations that had been nurtured through long-term investments. They felt some organisations would benefit from extra funding, but others would be overwhelmed by more resources. By supporting trusted organisations to provide high-quality, nutritious food relief, they could simultaneously progress initiatives that would generate food resilient communities. The priority became 'getting money out there' to the organisations that were 'best placed to pick up the need'.

Funders looked for ways to maximise the flexibility of resources while avoiding fragmentation of efforts or competition for resourcing. The provision of additional resources was enabled by demonstrating a link between the core focus of the grants program and responding to the social and economic impacts of COVID. The funding body made an effort to reduce the 'hierarchy' and make contact with all grant recipients to find out whether they needed to pause or pivot, and worked out new arrangements for recording and reporting against their revised funding arrangements.

Grant recipients also felt permission to ask funders for extra funds beyond the money originally allocated. One organisation described how they had put together a proposal for funding for a new project based on the needs of the community in the crisis. The unusual nature of this scenario was evident in the way the grant recipient described this turn of events:

> Miracle happened, the Public Health Service actually agreed to fund it … [The grants program] is normally not this sort of flexible pool of money, but of course, weird times, of course we're doing things completely differently.

Many organisations described how staff were given opportunities to try new roles. Staff employed on programs put on hold during COVID were redeployed to work on emerging projects or those scaling rapidly during the crisis. Public health staffing outside the COVID-19 response was also drastically reduced, meaning funders had to devise ways to use limited resources (staff, time and funds) to assist grant recipients to adapt services. Policymakers were placed in new roles and sometimes found themselves wearing 'six hats'. This 'freed up' funding by streamlining decision-making. Risk assessments were still conducted, but fewer people and perspectives needed to be negotiated.

Not all organisations were able to adapt staffing roles in ways that were beneficial. Many times, grant recipients described how extra resources needed to cope with the 'unrelenting' workload came from their personal time. One grant recipient described being so consumed with meal deliveries that they had no time for the vital work of applying for future grants. This was a significant setback for this organisation, because they relied on finding funding for any events or programs they wanted to run.

In some cases, staffing strategies meant bringing people in to work on 'health' programs from new sectors. One organisation that was dealing with a huge demand for prepared meals was forced to send most of their volunteers home, even as they were producing an extra 600 meals a fortnight over their usual 1300 meals. But they were able to recruit a new volunteer, a chef who had been stood down from a renowned restaurant due to its closure during lockdown. The chef was teaching them new skills and developing recipes that were 'a little bit more fancy', expertise that would be beneficial to share with the other volunteers once they returned.

Scale of operations changed

Organisations scaled-up their programs and services in ways previously unimaginable. The food-box program described earlier had planned to incrementally increase to supplying 30 boxes per week over a period of 2 years. But within a fortnight of lockdown, things 'ramped up' and they were servicing more than 60 food boxes a week and delivering to a broader geographical 'footprint' than originally intended. They repurposed a music festival site after an event was cancelled early in lockdown, using facilities such as the big tent and builders (to build crates) as 'all of that work just fell out of circulation'. The grant recipient found the expertise that came with those workers was helpful for rapidly growing the project and though scaling was 'painful', it was logistically doable once up and running. Another organisation had nearly all their community programs deferred during lockdown, so the grant recipient used the 'quiet' time to prepare resources for when activities resumed. Aided by the preparatory 'groundwork' done during lockdown, the grant recipient planned to run double the usual number of programs when things opened up.

Funders described how they had been concerned that people would not be able to eat if COVID escalated as it had in Europe. So they worked closely with school canteens to get them ready to feed communities from schools. This never eventuated, but the funding body recognised these schools were now primed to try a new way of feeding school children under normal circumstances:

> [It] gave the canteen management some confidence to think, "Well, if I can mass produce at my end meals for the community, then why can't I do it for my school children?" . . . If you'd asked them 12 months ago, could you provide meals for all the kiddies? They would have said no.

With support from the funding body, the canteen association went on to develop a trial of a school meal program to provide regular healthy food to school children. After preparing to feed communities, 'they already had those thought processes for how you could upscale' so providing school meal programs came to seem like 'a reasonable next step'.

Ramifications for ongoing practice and system transformation

Across the range of accounts from grant recipients and funders, it was clear that shifts were not only taking place within the grant-funded programs and organisations. There was also a sense that larger changes were underway in the landscape of community development and prevention.

In terms of funding opportunities, many described how there was a lot of extra funding around for COVID grants. Some described it as a good time to be looking for grants. But others found it constrained the general community work they wanted to do, as grant applications now had to be written around COVID recovery. One grant recipient explained how they had been looking for funding for young to people develop podcasts and while there were 'some elements of them talking about COVID' it was not a COVID-related program:

> We want to give youth a voice, not just to talk about COVID, youth a voice around a lot of different things. So, I have managed to find a grant, but it wasn't as easy as pre-COVID, where there was lots of variety of different grants.

And yet while some areas of work may have been contracting with less money available, in other areas, the crisis had presented opportunities.

One grant recipient described how their organisation was able to leverage opportunities presented by the crisis in ways that were simultaneously serendipitous and judiciously executed. They found that issues they had been advocating for were suddenly thrust into the spotlight:

> There are lots of things that weren't working well and the pandemic's kind of laid those things bare, hasn't it? Particularly in the sector that I work in, in food, we've really seen what the implications are . . . people want something different anyway.

They had been pushing the idea of getting Tasmanians to eat seasonal local food, but people had treated it as an interesting idea that wouldn't ever happen. Now with COVID, food was harder to export overseas and their organisation was able to step in and connect local consumers with local suppliers. It became an urgent issue as policy scrambled to keep up. 'All of a sudden' their ideas around local food procurement were 'very on point'. As policy priorities began to shift, connections and networks in the food space 're-awakened':

> We're very much about advocating for each other, amplifying each other's effort … there are some great organizations that are doing a good job. And of course, we push them forward in all of our advocacy talking about how they deserve to be well resourced financially.

This grant recipient described a sense of urgency, as everyone from across the food networks came together to make the most of the window of opportunity to transform the food system.

Discussion

The initial COVID-19 lockdown periods presented us with an unexpected opportunity to observe and reflect on the responses of community organisations facing radical disruptions to their everyday work and communities. This was a particularly intense moment of the pandemic when there was no structure or guidance on how best to proceed. Though adaptive responses will have morphed beyond this period of time, a strength of this study is that we have been able to document these immediate reactions and experiences. We acknowledge that the sample size is small and trajectories of organisations were not tracked beyond the time of the interviews. We cannot say whether some organisations may ultimately have been derailed, or how transformational processes evolved in the long-run. This would require follow-up interviews and observations.

Table 1. Actions and adjustments made in response to the pandemic conditions.

	Form of adaptation	Examples	Consequence for the organisation's strategic position in the wider system
1	Change in proportion of time allocated across the usual span of activities.	Time spent in frontline service either shrinks or expands.	Flow-on effects for planning and development, i.e. either increasing time spent in planning and development and potentially increasing organisational capability, or the opposite if time on planning and development is forgone.
2	Change in cycles of usual practices.	Paying bills fortnightly, instead of monthly, to get cash flowing locally.	Accelerates resource flow across network. Reinforces role of larger organisations supporting viability of smaller providers.
3	Change in the scale of operations.	Plans to scale-up operations are brought forward to meet immediate expanded need.	Increased volume and type of activity changes the profile and identity of the organisation.
4	Change in access to resources (time and funding).	Work hours expand even further into staff's personal time. Fewer layers of decision-making required for funding approval.	Work hour expansion is a resource increase, but potentially a threat to ongoing organisational viability. Expanded program activity. Trust building is reinforced. Knowledge flow increases.
5	Repurposing of physical resources.	Event space turned into workspace for scaling-up food delivery.	Increase in scope of program operations. Formation of new intersectoral partnerships. Collaboration and coordination enabled across wider networks.
6	More diversification and multiplicity of roles.	Volunteers deployed differently in the organisation. Funders 'wear many hats'.	Creates resilience in that more than one person can do more than one role in an organisation. Increases a funder's decision latitude enabling faster organisational action.
7	Increase in size and diversity of professional networks	Out-of-work restaurant staff teach cooking skills to health program volunteers	Increases access to skills. Enables a larger frame of reference (boundary) for problem solving.

Community organisations were not in control of their immediate circumstances. However, Table 1 summarises how they used what levers and power they had to alter work practices and reposition programs of activity. We see, for example, that resources were repurposed. Cycles of activity were shortened. Scope of enterprise was increased. Roles were changed and usual rules were broken. There was, in the words of one grant recipient, 'no rule book, no playbook, no crystal ball'. In these times we also saw intense reflection on values – on what really mattered to organisations and how past visions once not thought possible, could be brought into being. The intensity of the experience described by grant recipients during this period conveyed that COVID-19 was a pivotal moment in the crystallisation of new ideas and practices.

Whereas adaptation is typically studied as a program-level phenomenon (Moore et al., 2021), we were also able to capture insight into wider understandings of the host organisation's place-in-the-world (column 3, Table 1). If we think of programs as systems, that is as organised, inter-connected sets of elements performing a specific function (Meadows, 2008), then two ideas from system-thinking help us understand what we witnessed. First, we observed chronic disease prevention programs 'self-organising' in response to the COVID pandemic (Lanham et al., 2013). Grant recipients worked out how to do the same things differently, for example, by switching activities online or incorporating COVID-safe practices into group activities. But beyond program-level adaptations, we saw self-organising occurring on a wider front, affecting the organisaton's structural position vis-a-vis other organisations. We saw system-level adaptation. In a complex system, change happens through interactions among system parts. Agents in the system (here, frontline workers delivering programs) harness relationships, ideas, information and resources to devise new patterns of practice. Inter-relationships and interdependencies across a complex system enable strands of activity to come together in ways that might otherwise seem far-fetched, such as when people from the music festival industry and hospitality sector suddenly becoming part of community nutrition work. Inter-connections across the system create opportunities to bring together new combinations of people, place and time. Funders wearing 'many hats' (i.e. having multiple roles in the system) embodied the notion of interdependency as they were able to access information and to coordinate action at an unparalleled level.

Second, we witnessed a realignment of activities and priorities within organisations, with some activities struggling to remain viable under extreme conditions, while others prevailed. According to viable systems modelling, to survive (and thrive) an organisation has to have sufficient diversity within itself to match the diversity or changing nature of its environment (Midgley, 2007). Five essential functions must be in operation and interacting to allow new patterns of working to evolve: identity (as seen in organisational purpose); intelligence gathering and planning; control and audit; management of operations and co-ordination (Lowe et al., 2016). In this way, the key to an effective organisation is to ensure all five functions exist and that communications between these functions are appropriate and effective. Some organisations were able to spend more time on planning and development, without detracting from other functions. For others, time devoted to new modes of program delivery meant they had to sacrifice crucial activities such as grant writing that were necessary to support ongoing organisational activities. The mismatch between their capability and the breadth of environmental demand was too great.

For those who had been able to invest in past planning, ideas for new circumstances could be quickly enacted. Still, hard choices had to be made. Decisions around which activities to support and which to cut could have ongoing repercussions for the identity of the organisation and how it is positioned within the broader overall network of organisations. If, for instance, an organisation becomes defined by its food-box programs, they may suddenly find themselves on new email lists, forming new relationships with food suppliers such as farmers, allowing the organisation to strengthen its networks across new parts of the system. More time on one thing also means less time for something else. As more networks and activities are generated around the food-box program their expansion reinforces a key feature of the organisation's identity. However, like others using viable systems modelling to interpret response to acute events, we found our participants

seemed less concerned with the viability of their organisation per se, than they were with the viability of their operational effectiveness (Preece et al., 2013). Their focus on the latter had ramifications for the former.

The key question, however, is what can these insights from observing prevention programs during a time of turbulence teach us about building greater adaptability and transformability of prevention capacity in 'normal' times? Here we look further to a concept known as liminality, an idea that has grown out of anthropological theorisation of rites of passage (Turner, 1967; Van Gennep, 2019). Liminality has similar features to complexity but complexity has a different disciplinary history (Rickles et al., 2007). Liminality refers to 'in-between situations', boundary experiences characterised by 'the dislocation of established structures, the reversal of hierarchies, and uncertainty about the continuity of tradition and future outcomes' (Horvath et al., 2015, p. 2). Drawing on liminality theory provides explanatory and interpretive structures when analysing seemingly tumultuous experiences at the threshold of change. Organisations are constantly changing and, at any one time, an organisation may be at a point on a natural trajectory, a threshold, where heightened sensitivity and understanding of change processes may enable quicker or better action, if processes are devised to increase this awareness. During the initial COVID crisis, we witnessed adaptations under a dramatic upheaval of usual rules. But suspension of usual rules could, in theory, be imagined, and opportunity taken to anticipate a range of responses. One could argue that this is simply 'scenario planning' or future proofing (Rollier & Turner, 1994). We do not disagree but suggest that the experiences assembled in this paper illustrate depth and breadth of change capacity that is unprecedented. As such, they demonstrate exactly *how much system change is truly possible*. Table 1, for example, illustrates a 'menu' of adaptive change possibilities including some in previously 'taboo' areas like accessing more funds, and changes in the levels of hierarchy needed for funding approval. Moreover, the Table should be read as an array of 'how-to' suggestions for diversifying an organisation's operations and restructuring networks to increase its capability. For instance, an organisation might deliberately tap into wider networks by seeking staff – such as those who work in music and events – with skills outside of the usual 'health' roles.

In a liminal phase or crisis, when people can no longer take structures for granted, it has been argued that 'they need models to follow' (Szakolczai, 2015). We found that the role of funders and their leadership during this moment was crucial in facilitating adaptation and may offer ideas for future ways of working. Others have observed this also. Writing within a university context, Jones et al. (2020) recount how the lockdown period accelerated a transition from hierarchical leadership to 'adaptive leadership' characterised by flexibility and shared decision-making. Similarly, in our case, the funding body deliberately adopted a flexible approach to funding arrangements in response to lockdown. Though many community organisations displayed ingenuity in repurposing resources during this period, some programs would not have been able to get off the ground or scale without additional funds. The flattened structure of decision-making, typified by one person wearing 'six hats' allowed for rapid and responsive distribution of funds. There was a clearer link between knowledge of what to do (among community organisations) and the authority to give money (among funders) to make this happen.

Though we witnessed multiple forms of adaptation across programs from all designated priority areas in the grants program (tobacco control, physical activity and nutrition) early signs of transformative adaptation (Novalia & Malekpour, 2020) within the food system were particularly apparent. This was evidenced through the actions and interactions among funders and grant recipients in working to address the significant disruptions to the food system during lockdowns. Early on in the crisis response, a particular approach to funding meant resources could be rapidly deployed in ways that both responded to the immediate needs of the community while simultaneously affecting system level change. Rather than simply funding emergency food relief, the funding body used the opportunity to further thinking about how they could support high quality food relief *and* build more food-resilient communities. The funding body facilitated this transformation through assiduous selection and resourcing of well-placed community organisations to bring about systemic change. Long-term investments in

food system initiatives had established a strong network of organisations who could support one another to implement emergency innovations such as school canteens readying themselves to feed communities. And when emerging policy priorities aligned with campaigns for local food procurement, a coalition of organisations was uniquely positioned to seize an opportunity to create lasting changes in the food system.

Future research could explore the extent to which adaptations such as the ones we observed here become embedded or whether they get washed out as programs and networks of service delivery revert back to previous practices. In complexity terms, a phase transition can be reversed (Rickles et al., 2007) but a transformation is different. Our chief point is that we observed extraordinary elasticity and the possibility of multiple states. This demonstration was instructive about possible new futures and capabilities for organisations who might never have imagined anything other than business-as-usual.

Conclusion

The early stages of the COVID-19 pandemic has prompted dramatic changes across the funding and chronic disease prevention landscape. This study illustrates factors that may facilitate adaptive practices and strengthen community-based chronic disease prevention in 'ordinary' times. Adaptation appears as both a program-level phenomenon and also a system-level phenomenon in that organisations adapt roles, identities and scales of operation to match the diversity of challenges in their environment. In doing so, their structural position potentially changes, prompting a need to reassess how their viability will be maintained in the new environment. The suspension of usual rules and the inversion or flattening of hierarchies provided opportunities for funders to have conversations with community organisations about how to adapt. Latitude in the remit of funding – the general provision for community strengthening (broadly defined) – provided the legitimacy for fast action. Ironically, funding tied to specific COVID-recovery potentially narrowed the focus for opportunity, raising the possibility of a detrimental effect in chronic disease prevention. We invite others to explore how adaptation works at both a program and system-level. When considering innovations, we encourage practitioners to ask 'how does this better deliver our service?' alongside 'how does this affect our structural position and capability within our delivery system?'

Ethics

Ethics approval was obtained from La Trobe University, SHE Low Risk Human Ethics Committee (HEC19500). All participants provided informed written consent.

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