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Improving health through neighbourhood environmental change: are we speaking the same language? A qualitative study of views of different stakeholders

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Abstract

Objective To explore the perspectives of four groups of stakeholders to proposed improvements to the built environment—a neighbourhood renewal consisting of a home zone development and an extension of the National Cycle Network (NCN).

Design Qualitative focus group study.

Setting A deprived neighbourhood.

Sample Four focus groups were conducted with 10 residents from the neighbourhood undergoing change, nine pupils from a local primary school, 10 students and tutors from a local further education college and three local authority planners overseeing the developments.

Results We identified four main themes relating to the impact of environmental change. These were safety, space, antisocial behaviour and physical activity and health, the latter being the least important to all groups. A mismatch regarding environmental change emerged in perspectives between different stakeholders. The residents were most concerned about home and car (parking) safety and in particular felt that the new cycle/walk way would reduce their safety, whereas the planners felt that the environmental change would provide a safer and healthier environment for the residents.

Conclusion The assumption that planned provision of supportive environments will improve levels of physical activity, health and lifestyle may not be true if the developments do not take account of community concerns regarding personal safety.

Keywords: environmental change, focus groups, physical activity

Introduction

Physical activity is an important health behaviour. The scientific evidence is compelling that regular physical activity, even at moderate levels, reduces the risk of premature mortality, and of developing various chronic diseases, improves psychological well-being and helps prevent weight gain and obesity.[1,2] The recent focus on the influence of neighbourhood environments on physical activity in adults has in part been driven by evidence of the limited effectiveness of individual-level interventions.[3] Certain aspects of the built environment have been consistently associated with physical activity in adults, especially walking. They include aesthetics, safety, convenience and access to places to be active.[4–8]

The present UK National Strategy for neighbourhood renewal includes improving health status as one of its key outcome measures.[9] Area-based regeneration schemes have the potential to improve health in many ways,[9,10] including creating a more supportive environment for activity.[11,12] However, the effects of these schemes on health are not clear.[9] Further, it has been suggested that any effect on health outcomes is most likely to be realized if there is genuine community participation in the renewal process.[9,13]

Qualitative assessments of neighbourhood renewal programmes, including assessments of Home Zones,[14] suggest that residents generally feel positive about the results.[15,16] However, we are unaware of any study that has examined the attitudes of groups of different stakeholders—including planners, residents

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and others who use the neighbourhood—to the likely effects of a planned renewal programme on health outcomes. Obtaining this information is important to understand the expectations of planners, neighbourhood residents and users.

The aim of our study was to examine the attitudes of four groups of stakeholders—adult community residents, school children, adult students and tutors from a college in the area and local authority planners—on the perceived benefits (with a particular focus on health benefits and physical activity) of a planned neighbourhood renewal.

Methods

The neighbourhood and planned environmental change

The neighbourhood undergoing regeneration is in the south-west of England and located in one of the 10 per cent most deprived wards in the United Kingdom. The regeneration of the neighbourhood includes creation of a home zone and an extension of the National Cycle Network (NCN) into the neighbourhood. A home zone is a street system designed primarily to meet the needs of pedestrians and cyclists that opens up the outside space for social use. Features include traffic calming, shared surfaces, (no separate raised pavements), a variety of surface treatments that encourage pedestrian use of the street environment, trees and planters, benches and play areas (Fig. 1).[14] The NCN joins together miles of cycle and walking ways on traffic free and calmed routes.[11] Specifically, the extension of the NCN into this neighbourhood will convert a disused railway path, passing directly through the residential area, providing links to an existing traffic-free path and access to city centre shops, the local school and the central railway station (Fig. 2A–C).

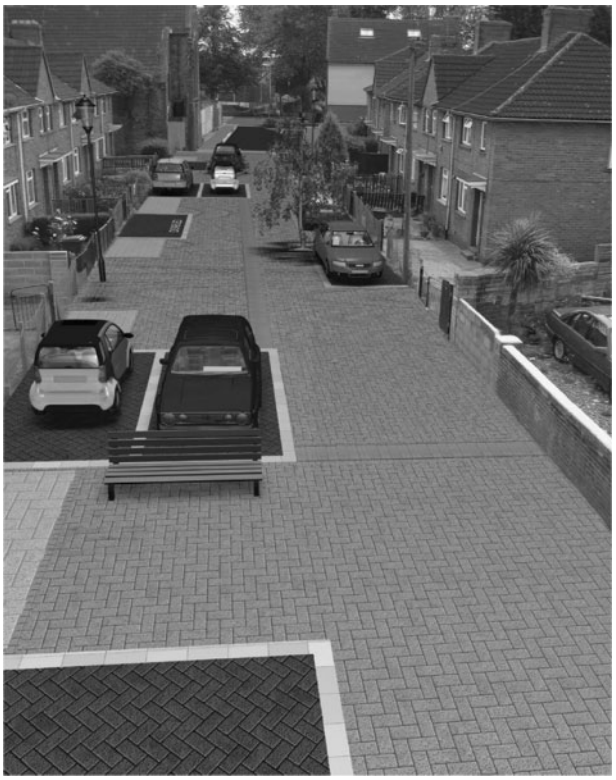

Figure 1 'Computerised image of the future Home Zone, by Sustrans Bristol UK'. A Home Zone is where residential streets are redesigned for equity between pedestrians, cyclists, social use and vehicles, to be completed in autumn 2005.

Participants and focus group interviews

Four focus groups were conducted in 2004 (before the environmental change). The deliberate order in which the focus groups were conducted, because of a wish to funnel information from the stakeholders' groups to the planner's group, was as follows; (i) local residents (1 group, n = 10), (ii) primary school pupils (aged 9–10 years) from a local school (1 group, n = 9), (iii) college students and tutors (1 group, n = 10) from a local further education (post-school) college and (iv) local authority planners overseeing the developments (1 group, n = 3). Local residents were recruited by letter, delivered to all 117 houses in the community, and children and students were recruited through the local school and college. Planners were recruited from an open invitation to the planners specifically working on the developments.

The focus group interviews

Two of the authors acted as facilitators at each of the focus groups (T.T. and R.D.). They used a brief topic guide, informed by a literature review. Participants were also encouraged to talk freely. The main focus of the topic guide was on potential health benefits of the environmental change, with a particular emphasis on the potential for the change to increase levels of physical activity. We asked similar questions of each group, with appropriate adaptations relevant to their situation, e.g. pupils were asked where they played and how they travelled to school, and residents and students/tutors were asked about their perceptions of the current neighbourhood and opportunities for physical activity.

Identification of themes

An iterative version of grounded theory was used for analysis, where constant comparison of incidents/themes[17] that emerged from the groups of residents, pupils and college students were made. These themes were subsequently re-introduced with the planners' focus group to explore their perspectives. We deliberately adopted this strategy to employ a 'bottom up approach' of initial engagement with stakeholders and then obtain feedback from planners.[14] At each session the discussion was audio-taped (with participants' permission) and all sessions transcribed. Field notes were collected by R.D. to supplement the transcripts. The approximate length for each focus group was 90 minutes.

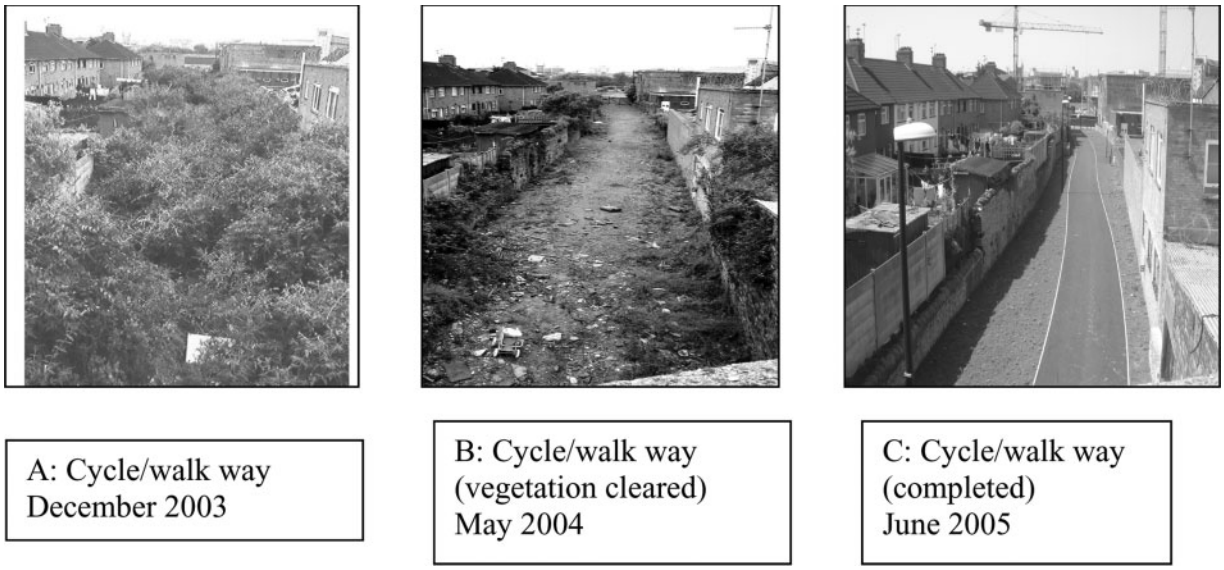

Figure 2 Development of the cycle/walk way from a disused over grown railway bed to a traffic free path, providing a link from the neighbourhood to the city centre and an existing traffic free path. (**A**) Cycle/walk way (December 2003), (**B**) cycle/walk way (vegetation cleared; May 2004) and (**C**) cycle/walk way (completed; June 2005). Photographs by author (T.T.).

Analysis of data

T.T. and R.D. analysed the transcripts and field notes for major issues and emerging themes using an established framework[18] for analysing qualitative data. This framework involved five key stages; familarization, identifying themes, indexing, charting and mapping and interpretation. Having agreed independently on appropriate themes and categories using the framework, T.T. and R.D. initially coded printouts of the data manually using fluorescent pens and then transferred this to a Microsoft word file and used the cut and paste function in Word to group the quotes in the transcripts by each theme.[19] To establish inter-rater reliability, the application of the framework approach to data analysis was carried out by further reviewers (K.R.F., residents' transcript, A.R.N., college and primary school pupils' transcript and C.J.R. planners' transcript) and these were compared to the initial application. Each theme was thoroughly examined for different viewpoints, how frequently or strongly a view was expressed and any alternative views. A high level of agreement was found between all raters across all themes utilized, and hence it was not felt necessary to apply a formal measure of this. A process of abduction[20] involving both inductive and deductive methods (use of a questioning schedule to examine the stakeholders' perceptions), progressing to deductive reasoning was employed to draw conclusions[21] from a combination of introduced and emerged themes. After sorting, categorizing and interpreting the responses, we constructed a matrix[22] of transcript excerpts to support the themes. Some of the excerpts were chosen to illustrate the themes (Tables 1–4).

Results

The main themes

Four main themes emerged (Table 5). Their order reflects the priority placed by groups on the particular theme. Although these themes emerged as separate identifiable issues, there was clear overlap between them. For example, antisocial behaviour and issues of space were related to each other and each of them impacted upon attitudes towards being physically active. There were also some cross-cutting issues. For example, the language used by both the residents and planners gave a strong sense of 'us' and 'them'. The adult residents had a strong feeling of pride and ownership of their neighbourhood (us) and expressed concerns about 'invasion' of their space by 'them'. 'Them' included people from outside the area who worked in the city and who used their streets for parking during the day, criminals coming into the area from outside and individuals from outside the area who were developing the current regeneration plans. The planners would refer to residents in the area as 'them' with the implication that they could all be summarized as one.

Safety

All four groups discussed various aspects of safety (Table 1). An important issue for the adult residents was concern about outsiders entering the area along the new cycle/walk way and possibly vandalizing or stealing from cars and generally making the area less safe. For some residents the new cycle/walk way changed the area directly at the back of their house from one that was inaccessible, because of barbed wire covered with an over growth of greenery, to one that was very accessible to anyone

Table 1 Perceptions relating to safety

Residents
I think it was mentioned before the possibility of some over hanging spikes (referring to the boundary walls of the path) that could deter people (resident 2: female)
Once this becomes a cycle track there is going to be potentially continuous traffic down there until the small hours, especially late at night in the summer, lots of kids around here go out until 2 am (resident 6: male)
Pupils
Cause the cars don't really care what they are doing, they just drive like headless chickens (pupil 2: male, age 9)
Also by my house there is a school, and you have to cross a very big street, and there are no islands in the middle or a zebra crossing, or a lolly pop lady, the council or somebody else should complain and somebody should do something about it (pupil 5: male age 10)
College
You need a visible deterrent, cause it could be a place for antisocial behaviour (referring to opening up of the cycle/walk way), drug abuse, whatever, that is the general perception for that sort of area, that is dodgy territory, so they have to have a visible deterrent (college student 8: male)
Planners
We were trying to make it greener with the trees and everything (referring to the cycle/walk way), but the police said that trees cut out light, so we are trialling up-lighters (referring to lighting from the bottom up in planting areas), so there are not areas that are black spots, that people can get up to no good (planner 2: male)
Well one thing that we are doing, the street lighting for instance has been changed, it is going to be a white light, so higher quality, so we are trying to strike a balance between getting it safer without looking like Blackpool (planner 1: male)

Table 2 Perception relating to space

Residents
Once a resident takes their car away in the morning, you can forget about finding a parking space when you come home (resident 6: male)
The other thing that I am concerned about, is that if there is a problem with the parking, however they arrange it, is that I don't want to leave my car around the corner where it is out of sight, cause I have already had it vandalised (resident 1: female)
Pupils
I don't like to play in my street, cause it is not safe cause I live in a dangerous area...and there is dog pooh everywhere and glass (pupil 8: female, age 10)
On my way to school there is this thing that people write on (referring to a wall with graffiti), and spray paint and they do pictures and things (pupils 5: male, age 10)
College
But in terms of people using it, if it is hidden away, out of the way, it can be scary, which is what happened in York, cause if there is a fair amount of space away from the houses, it then became quite inconvenient (student describing route locations and an incident that was in the media last year about an attack on a students in York who was walking along a cycle path) (college student 5: male)
Planners
The road outside their house isn't there for the parking of their car....., it is like talking on different levels. There is conflict even with themselves, and there is not an ideal situation and we are struggling (planner considering issues relating to parking) (planner 1: male)
The people that live in the neighbourhood will be able to get out to the river and walk along there (planner 3: female)

from outside the area, and this had created a direct link from the city centre into the back of their houses (Fig. 2A–C). For all residents the new cycle/walk way provided a new route of entry into the neighbourhood. The college students spontaneously expressed similar anxieties about the potential lack of safety on the new path. A key concern among school pupils related to cars, with reports that busy traffic and parked cars made it unsafe for them to play or move around in the neighbourhood; they welcomed planned changes that might improve this situation. The planners were able to reflect on previous experiences of similar developments and on the themes that had emerged in the focus groups with the residents, college students and school pupils. They acknowledged that these developments did not necessarily result in completely safe environments but felt on balance the regeneration was likely to make the area safer than it was currently.

Space

Residents viewed the space outside their house as a defensible space, a place they had to protect, in particular for car parking. This subject was remarked upon with some frustration by the planners. In response to a general question which simply asked what it was like 'around here', almost all of the school children spontaneously mentioned points relating to neighbourhood aesthetics. Pupils were aware of the lack of care for space, commenting upon dirt, litter and graffiti. They wanted a safe, clean place to play. College students considered the current area to be isolated. Ironically, even with the link provided by the new cycle/walk way, isolation on paths of this type was mentioned repeatedly by the college students. This contrasted with views of planners who considered that the path would provide better links to local amenities (Table 2).

Antisocial behaviour

All four groups reported problems relating to antisocial behaviour in the community, focusing on the contribution of 'youths' (Table 3). The adult residents saw the rundown nature of the neighbourhood as contributing to the problem of antisocial behaviour and yet were skeptical that the proposed changes would improve matters. Planners suggested that the improvements would result in less antisocial behaviour.

Physical activity and health

Adult residents did not appear to expect that the proposed development would bring health related benefits to them. A built environment that encouraged physical activity was not seen as a priority; they were more concerned with safety and vandalism of their cars. When asked about physical activity, the

Table 3 Perceptions relating to antisocial behaviour

Residents	It would be lovely to think that this beautiful new home zone with the trees and artwork, the benches....(people) would be encouraged to look after it and feel good about the community and all those wonderful things that are meant to happen to people when they live in lovely places...whether it will make a blind bit of difference....(resident 2: female)
Kids	Nearly every day, there are boys, who are teenagers on the motorbike who are going up and down the road, fast, speeding, and they don't wear helmets or anything and once one of them, well he doesn't know how to ride it, and he was going down the road, speeding and the police were chasing him (pupil 2: male, age 9)
College	Six windows smashed in the night here, on Monday night, numerous thefts from people just walking in and walking away with coats, crash helmets, and wallets. The problem is we don't know where they come from, are they local lads; do they come down the cycle path or whatever? (tutor 2: male)
Planners	With the Home Zone you are encouraging use of the street for other things, but course that could mean a bunch of teenagers playing football in the street outside my house. You are trying to encourage use of the street for other things but in that there may be some element of anti social behaviour. (planner 1: male) There is always this problem which we are constantly dealing with, is if you open something up for cyclists, it also means a motor bike can get through so that is the problem we are constantly dealing with and there is not one solution for it. We just hope that it will be well used enough, that it won't become an unsociable area (planner 3: female)

Table 4 Perception relating to physical activity

Residents	It's a nice day they (referring to bike commuters from outside the community) are going to whiz down there (referring to new cycle/walk way) to work and leave the car at home (resident 10: male) I'd have to throw my bike over the wall (referring to their garden wall that forms a boundary between their garden and the new path) or come all the way down (referring to the road that links to the new path) to get onto it unless you want to go to Bath on your bike (all laughs) (resident 3: female)
Pupils	The most things I like doing is going out playing with my friends and going on my bike, and chatting and riding on my bike (pupil 5: male, age 10) I go to a girls football club on a Wednesday, but I would like to go two days a week (pupil 8: female, age 9) Well I ride my bike, go up to the park, and I walk up to the shops with my mum (pupil 7: female, age 9) My dad has this strider thing, one of the machines, that it runs along, and I get on it when I just wake up in the morning (pupil 2: male, age 9)
College	There are a couple of pubs that we would go to in the summer, which we would actually sit on our push bikes, but what we did last year was walk, but we only did it once in a blue moon because of the distance, but with the cycle path there it would be a lot quicker and direct (tutor 2: male)
Planners	Yes they could use it to get to the railway path, and there is the opportunity to use it as a place to sit, if it opens up to the social club, that could become a nice area (planner 3: female) I think it is great that you are opening it up, and the people that live in there will be able to get out to the river and walk along there, but how much are they going to use it, that is the question (planner 1: male) Yes I think they will use it (sceptical tone) (planner 2: male)

Table 5 Emergent themes relating to environmental change in a deprived ward in southwest United Kingdom

Safety
Space
Antisocial behaviour*
Physical activity and health*

* These themes were included from the topic guide prepared by T.T. and R.D.; other themes emerged spontaneously in the groups.

pupils described many activities they enjoyed, particularly group-based activities. An interest in health and the benefits of physical activity were voiced among school children and they also commented on the importance of their parents doing activities with them. However, little forethought was given to the future developments and the potential for increased physical activity, possibly because of their young age. In addition, when the new developments were described to the school children in the focus groups, very few of them had any previous knowledge of these plans. Only the college students appeared to welcome the extension of the path as a means of providing them with possible alternative travel options that might result in increased physical activity and health benefits, though this was tempered by their concerns about safety on isolated pathways. Planners were confident of the benefits of traffic free paths; however, they recognized that the impact on physical activity among residents was likely to be modest (Table 4).

Discussion

Main findings of this study

Whilst similar themes emerged in each of the groups, we found important differences in attitudes between the four groups of stakeholders studied here. Primary-school children interviewed, who all live in the area perceived their neighbourhood as dirty and unsafe. Adult resident respondents were mainly concerned about their own personal car parking space and were worried that the new development might bring in outsiders and increase vandalism and crime in the area. Planner interviewees expressed some frustration with the residents 'obsession' with car parking in front of their house and felt that overall the new development

would make the neighbourhood safer and provide a healthier environment. Student participants from the local college shared the residents concerns that the NCN extension might result in increased antisocial behaviour in the area but also saw some potential for increased physical activity from the new development, supporting a change in mode of transport. However, the potential impact of the development on physical activity opportunities was not central to any of the four groups. A clear mismatch in perspectives between the planners and residents existed, particularly relating to the benefits of the new cycle/walk way.

What is already known on this topic

Environmental strategies such as the one described in this paper aim to regenerate neighbourhoods, with the additional aims of providing supportive environments for improved health and physical activity in both adults and children through the provision of safe play areas and a means of walking or cycling to local amenities. Variation exists among population groups in physical activity behaviour. Although no comparative intervention from an affluent neighbourhood exists, concerns relating to safety were reported to have less of an impact on physical activity levels in more affluent neighbourhoods.[23] Living in a deprived neighbourhood often necessitates walking as a mode of transport, particularly among women, because of the lack of car ownership.[24] Subsequently, Bostock[25] reported high stress levels in low income mothers when looking after young children, that was related to littered and neglected areas and having to walk near busy roads. Thomson,[26] found that neighbourhood aesthetics and perceptions of safety were associated with use of local facilities and self-rated health.

What this study adds

Our data, whilst small scale and exploratory, provides some useful insights and possible directions for future research, planning and policy. For example, the data suggests that supportive environments may require more than just hard landscaping, i.e. creative street design for a home zone and opening of a traffic free path. Attention to adequate lighting on the paths, possible CTV cameras and identifying solutions for antisocial behaviour and litter may be equally important. In addition, attempts to introduce residents to the potential benefits for health and activity of supportive environments may improve their perceptions.

In a related element of this study we measured physical activity levels in school pupils, using accelerometers, and found that the vast majority of these pupils were as active as children from more affluent areas that had been the subject of other studies.[27] However, the present qualitative work revealed that these pupils felt that their neighbourhood was unsafe and antisocial as a place for outdoor play. Work carried out by Mullan *et al.*[28] suggests that if safety concerns of children are addressed, they are more likely to remain active as they grow up. Thus, although children in the study appear to be active, our recent findings from this focus group suggests addressing their safety concerns is likely to be important for their enjoyment and maintaining levels of activity in the future.

Our most important finding was the mismatch in perceptions between the different stakeholders interviewed. The intervention, with its broad aims of addressing the adverse effects of deprivation, increasing physical activity levels and improving lifestyle factors, was viewed differently by each group. The assumption that an environmental intervention will convince users that their lives will be enhanced was found here to be not necessarily the case. Planners need to accommodate the concerns and opinions of the community.[29,30] Consultation was carried out with this community; however, despite this, a mismatch in perceptions appeared from our data to remain. The proposed environmental change was not perceived by the residents as a better option to their current situations, since those interviewed felt that it failed to address (and possibly exacerbated) their most pressing concerns relating to fear of crime and antisocial behaviour.

Limitations of the study

The weakness of the study related to the small numbers included in each focus group. Owing to the purposive sampling strategy used, the variety and diversity of opinions that emerged cannot be generalized to all residents of the area under investigation. Those who volunteered were likely to be a relatively well-motivated sample from the community, who wanted to voice their opinions. However, despite this, the structure imposed by the facilitator and the formal environment of the group setting may have resulted in some viewpoints remaining unspoken. The study was conducted in one geographically defined area and therefore results cannot be generalized to other communities undergoing regeneration. The work nevertheless highlights a policy implication, namely the extent to which future environmental interventions may need to stress the full participation of communities in neighbourhood regeneration programmes from their initiation to their completion.

As the renewal in this neighbourhood is completed, it is possible that the views of all four of the groups that we have assessed here will change. However, if the reported residents' views regarding the safety of the neighbourhood are realized, the net effect of the development may be to widen, rather than narrow, health inequalities. Simply, listening to resident concerns without actually addressing them could decrease the potential of any beneficial effects of the renewal.

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Study ethics

The University of Bristol ethics committee approved the study.

Author contributions

T.T. helped to develop the study design, recruited the focus group participants, carried out the interviews with R.D., analysed the transcripts with feedback from K.R.F., A.R.N. and C.J.R. and wrote the first draft of the paper.

R.D. contributed to obtaining funding for the study, to the study design, acted as a facilitator for the focus groups, contributed to analysis of transcripts and final version of the paper.

K.R.F. contributed to obtaining funding for the study, to the study design, analysis of transcripts and final version of the paper.

A.R.N. contributed to obtaining funding for the study, to the study design, analysis of transcripts and final version of the paper.

C.J.R. contributed to obtaining funding for the study, to the study design, analysis of transcripts and final version of the paper.

D.A.L. contributed to obtaining funding for the study, to the study design, advised on the analysis and final version of the paper.

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Competing interest

None.

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