

Success of community interventions for childhood obesity varies depending on the target age group

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Community-based interventions designed to prevent obesity in children seem to work best in those under the age of five, while there is evidence of some success in primary school children, but very mixed effects in adolescents, a leading expert in the field said today.

In a presentation at the International Congress on Obesity in Stockholm, Professor Boyd Swinburn, chair of population health and director of the [World Health Organization](#) Collaborating Centre for Obesity Prevention at Deakin University in Australia, reported findings of an evaluation of the success of three community-based demonstration projects around the Australian city of Geelong. Each targeted a different age group for about three years and included a comparison population that got no intervention. One focused on [children](#) under the age of five, another intervened at the [primary school](#) age and the third targeted teenagers. The intervention program for teenagers also had similar sister projects in Fiji, Tonga and Auckland, New Zealand. The interventions included a range of strategies to increase [healthy eating](#) and physical activity and aimed to build the capacity of the community to continue with them once the project ended.

Comprehensive community-based interventions are in their infancy, Swinburn said. The first generation of demonstration projects included brief intervention periods with implementation limited to schools. Most of those showed relatively modest, or no, effects. However, more recent

studies in the last five years have become increasingly sophisticated, broadening beyond schools to the whole community, to include parents, local government, sports clubs and other settings. Such second-generation studies have been undertaken in a variety of locations around the world, but most have focused on primary school aged children, with few in pre-schoolers or adolescents.

"Our results, together with the evidence from other demonstration projects conducted elsewhere, suggest we should get moving to scale up efforts in the under-5s. There hasn't been that much research in this age group, but what has been done around the world indicates these children seem to be the most susceptible to change," Swinburn said. "For primary school children, the effects seen in studies aren't as strong, but there's enough evidence to say we should roll out what we know. But for adolescents, programmes seem to have an effect for some groups but not others. For Pacific populations, in particular, we saw little impact on weight gain and for those groups, unfortunately, we need to go back to the drawing board."

In Swinburn's study, the best results were seen in the programme that targeted children under five. It involved 12,000 children targeted in multiple settings, such as pre-schools, day care, homes and maternal and child health services. After three years, the prevalence of overweight and obesity among the children in the intervention group was about 3 percentage points lower than that in the comparison group. This programme was also notable for its very small budget for the interventions (AUD100,000 in total) so most of the work was 'in-kind' from the existing personnel and budgets of community organizations.

The project targeting primary school aged children also had a significant impact, Swinburn said. The intervention wasn't sufficient to reduce the prevalence of overweight and obesity, but it did slow down the rate of unhealthy weight gain - after three years, the children gained about 1kg

less than they otherwise would have. "One kilogram over three years sounds very unimpressive on an individual level, but if you are influencing a whole population, including normal-weight children, then because it's an average it's actually quite meaningful. Small changes applied across a whole population can have a significant impact on disease outcomes," he said.

When it came to the studies in adolescents across the four countries, three years of intervention had a variable effect, depending on the population group. The adolescents in the Australian schools were mainly European Australians and the programme had a significant effect on reducing overweight and obesity. However, at the other three sites in Fiji, Tonga, and Auckland, students were from a variety of Pacific Islands and Indian backgrounds and effects were mixed, with some populations showing no differences between the intervention and comparison groups.

"Once you get to high-school aged children, trying to implement an intervention at the whole community level becomes more difficult because high schools have a larger catchment area and parents and other organisations are less engaged," Swinburn said. "The usual health promotion activities - such as those aimed at increasing consumption of fruit and vegetables, improving the healthiness of foods available at school, improving body image and reducing inappropriate dieting, promoting breakfast, decreasing consumption of high-sugar drinks while increasing water consumption, and increasing active transport - haven't been enough for many ethnic groups and we now need to go back and think about how best to intervene with them."

Hallmarks of success and failure have emerged from the various studies, Swinburn said. "What the school principal says and does around what the rules are seems to be much more important than the programmes and activities that the teachers are running," he said. "For instance, if the

principal sets a policy that all children will participate in sports, or that the tuck shop will stock only healthy food, that does an enormous amount for change in cultural norms and expectations and the programmes tend to flow. Conversely, if the leaders are not on board and there are no policies or resources to support efforts, it is extremely hard to get meaningful changes."

One of the main challenges in establishing community-based intervention, Swinburn said, has been that the effort has been driven by professionals, rather than by a grass-roots movement demanding change.

U.S. First Lady Michelle Obama's campaign to tackle childhood obesity has provided a significant boost to the profile of community-based intervention, Swinburn said. However, he added that he and other experts in the field are watching the effort with guarded optimism.

"It's fantastic that she has picked it up and elevated it to that level of authority because if something has a high political mandate, it's more likely that things get done. However, as for the likely impact, I am concerned the high visibility means there will be a lot of pressure to produce TV-friendly events to launch - the so-called quick wins. However, despite the visible appeal of such events, they may not be evidence of real change," he said. "The very nature of what we are dealing with is that it's not that kind of early-win adventure. It's long-term structural gains, such as implementation of policies around school food service, regulations on food marketing to children and so on, and running against this will be commercial pressure and other political considerations. It takes time to get these less visible, policy interventions up and running and they are not very sexy."

Swinburn said lessons for scaling up successful demonstration projects could be learned from programmes, such as the EPODE programme which started in France, that have focused on systemic implementation

of [obesity prevention](#) programmes for children. He said that while those types of studies have lagged behind demonstration projects in presenting evidence that the interventions they are using work, they have been successful in getting programmes into national systems on an industrial scale, with centrally coordinated training, social marketing and funding, and in exporting the system to other countries.

"What needs to happen in the third generation of community-based intervention studies is a marriage of these two approaches. It's not about replicating the same demonstration-style projects in multiple communities, but a different way of implementing evidence-based interventions using a systemic approach," Swinburn said. His research on the three Australian projects was funded by Australian government agencies and research councils.

Provided by International Association for the Study of Obesity

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