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From demonstration project to changes in health systems for child obesity prevention: the legacy of 'Good for Kids, Good for Life'

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Much of the disease burden in Australia is preventable. While evidence-informed policy and practice is an underlying principle of public health, research is not always aligned to the information needs of public health decision-makers. To address this need, governments may invest in demonstration projects. The New South Wales (NSW) Ministry of Health has invested in research funding to support the production of research to address public health priority areas since 2000.[1,2] One example is the Good for Kids, Good for Life (GfK) child obesity prevention program, which has transformed child obesity prevention services across the state.[3] In this Editorial, key policy and practice stakeholders describe the initiative and its impact.

In 2002, the NSW Child Obesity Summit and the subsequent *Obesity in Children and Young People Action Plan 2003–2007* provided the mandate for government action to arrest the alarming increases in child obesity in the state. The evidence-base to guide intervention was thin and health promotion approaches in NSW at the time lacked a common focus and were fragmented and small scale across and within community settings. Following a competitive selection process, core funding of $1.5 million per annum (2006–2010) was made available by NSW Health and the Hunter New England Local Health District (HNELHD)[3] to provide a 'critical mass level of funding' for the whole-of-community child obesity prevention demonstration program (GfK).

The program was led by HNELHD in partnership with government, non-government and private organisations. It sought to reduce the prevalence of child obesity and to generate evidence to inform child obesity prevention policy and practice for NSW. The program was delivered using a community settings approach and involved the delivery of initiatives to promote specified healthy eating and physical activity policies and practices in childcare services, schools, community service organisations, sporting clubs, health services and Aboriginal communities.[3] Initiatives delivered in each setting were prioritised using a public health planning framework informed by local stakeholder input, Aboriginal cultural review and expert review of published evidence. Evaluation of the program assessed the feasibility, acceptability, reach and effectiveness of setting-specific service delivery models designed to enhance the consistent implementation of evidence-informed child obesity prevention initiatives at-scale in and across the settings.

Common implementation science strategies used in the service delivery models included soliciting organisational leadership, provision of program resources and information, training workshops, follow-up support, accreditation schemes and feedback.[3] Implementation of program initiatives was further facilitated through the application of the first Australian surveillance system designed to address community implementation of child obesity prevention initiatives, routinely surveying senior representatives of community organisations including schools and childcare services to assess implementation of targeted policies and practices. The system provided data to establish performance targets, provide evidence to inform program planning, monitor program achievements and enable provision of feedback to community organisations.

The program was evaluated using an integrated research-practice approach involving co-located researchers and practitioners. The program achieved high community awareness (60%) significant reach (e.g. >80% of schools and childcare services), led to significant improvements in the adoption of policies and practices across community settings, improved student dietary intake and physical activity, and reduced population prevalence of child obesity by 1% per year against an otherwise increasing prevalence in the rest of the state.[3,4] Rigorous controlled evaluations of the service delivery models provided evidence for 'how' community settings could be re-oriented to more effectively deliver obesity prevention services at scale. These implementation trials were among the first of their kind and contributed an early and substantive body of evidence to an emerging field of implementation science in community settings.[5,6]

Evidence generated from GfK had a profound impact on population health services locally and in NSW. Locally, the service model for population-wide implementation has been adopted by HNELHD for use in obesity prevention and other health promotion services across all communities in the region. The capacity of health service staff, built during the demonstration project, has also spawned further innovation. For example, trials conducted by HNELHD staff have identified effective scalable interventions to improve student physical activity,[6,7] and to improve the packing of healthy student lunch-boxes;[8] and effective strategies to improve implementation of dietary guidelines by childcare services[9] and healthy school canteen policies.[10] These successful interventions and implementation support strategies have subsequently been adopted as routine service delivery practice by HNELHD in supporting 420 primary schools and 350 childcare services to promote healthy eating and physical activity.[10]

At a NSW level, GfK provided evidence for achieving state-wide impact at a time of significant national and state investment through the National Partnership Agreement

on Preventive Health.[11] Specifically, the program was identified as the most promising implementation model for delivery of the NSW Healthy Children Initiative (HCI), a $79 million program that sought to scale up obesity prevention programs in NSW schools, childcare services and other community settings.[12]

The HCI adopted the following core components of the GfK implementation model. Namely:

1. Specification of core evidence-informed nutrition and physical activity promoting policies, practices and programs that are to be implemented within and across community settings.
2. Introduction of a mandatory, evidence-based model of policy and practice implementation support, specifying the frequency and type of contact that local program implementers, Local Health Districts (LHD), use to assist schools and childcare services implement obesity prevention policies and practices; and
3. Establishment of the Population Health Intervention Management System (PHIMS).[4] The PHIMS uses policy and practice measurement items developed and validated by the GfK program[13] and provides feedback to LHDs on implementation progress. The data are also used at the state level to inform HCI quality improvement and innovation.

Furthermore, PHIMs data was used to establish and monitor key performance implementation indicators as part of the NSW Health Performance Management Framework, thereby embedding obesity prevention within service level agreements between LHDs and the Ministry of Health.[4] The ability to monitor implementation reach and outputs (via PHIMS) at the state level also meant NSW was more resilient when National Partnership Agreement on Preventive Health funding was withdrawn.

The GfK model of implementation, support, monitoring and feedback has produced a significant increase in the proportion of NSW community settings implementing evidence-based policies and practices. For example, the proportion of primary schools implementing practices to improve nutrition and physical activity to an agreed standard has increased from 32% in 2012 to more than 80% in 2017,[14] exposing hundreds of thousands of children from more than 2,050 NSW primary schools to best practice health-promoting school environments. Modelling suggests that implementation of HCI at scale could reduce child obesity by up to 3% by 2025.[15]

GfK provides an example of how government-funded demonstration projects can yield transformative change in models of population health service delivery and monitoring. Alignment of the program's positive outcomes with a policy need for an effective model of state-wide implementation were important determinants of the positive impact of the program. The engagement of end-users, the ongoing collection and feedback of data to capture and document effects, and local and state-level leadership and engagement were further important ingredients in achieving translation across NSW. The program and its impacts provide important insights for funders, governments and other agencies interested in maximising the return from large-scale health demonstration initiatives.

References

1. Milat AJ, Laws R, King L, Newson R, Rychetnik L, Rissel C, et al. Policy and practice impacts of applied research: A case study analysis of the New South Wales Health Promotion Demonstration Research Grants Scheme 2000-2006. *Health Res Policy Syst*. 2013;11:5.
2. Stickney B, Campbell D, Milat A, Thackway S. The Prevention Research Support Program: supporting innovation in research, translation and capability building. *Public Health Res Pract*. 2018;28(3):e2831819.
3. Wiggers J, Wolfenden L, Campbell E, Gillham K, Bell C, Sutherland R, et al. *Good for Kids, Good for Life, 2006-2010: Evaluation Report*. Sydney (AUST): New South Wales Ministry of Health; 2013.
4. Conte KP, Groen S, Loblay V, Green A, Milat A, Persson L, et al. Dynamics behind the scale up of evidence-based obesity prevention: protocol for a multi-site case study of an electronic implementation monitoring system in health promotion practice. *Implement Sci*. 2017;12(1):146.
5. Wolfenden L, Reilly K, Kingsland M, Grady A, Williams CM, Nathan N, et al. Identifying opportunities to develop the science of implementation for community-based non-communicable disease prevention: A review of implementation trials. *Prev Med*. 2019;118:279-85.
6. Sutherland RL, Campbell EM, Lubans DR, Morgan PJ, Nathan NK, Wolfenden L, et al. The physical activity 4 everyone cluster randomized trial: 2-year outcomes of a school physical activity intervention among adolescents. *Am J Prev Med*. 2016;51(2):195-205.
7. Sutherland R, Campbell E, Lubans DR, Morgan PJ, Okely AD, Nathan N, et al. 'Physical Activity 4 Everyone' school-based intervention to prevent decline in adolescent physical activity levels: 12 month (mid-intervention) report on a cluster randomised trial. *Br J Sports Med*. 2016;50(8):488-95.
8. Sutherland R, Nathan N, Brown A, Yoong S, Finch M, Lecathelinais C, et al. A randomized controlled trial to assess the potential efficacy, feasibility and acceptability of an m-health intervention targeting parents of school aged children to improve the nutritional quality of foods packed in the lunchbox 'SWAP IT'. *Int J Behav Nutr Phys Act*. 2019;16(1):54.
9. Seward K, Wolfenden L, Finch M, Wiggers J, Wyse R, Jones J, et al. Improving the implementation of nutrition guidelines in childcare centres improves child dietary intake: Findings of a randomised trial of an implementation intervention. *Public Health Nutr*. 2017;21(3):607-17.
10. Wolfenden L, Nathan N, Janssen LM, Wiggers J, Reilly K, Delaney T, et al. Multi-strategic intervention to enhance implementation of healthy canteen policy: A randomised controlled trial. *Implement Sci*. 2017;12(1):6.
11. Wutzke S, Morrice E, Benton M, Milat A, Russell L, Wilson A. Australia's National Partnership Agreement on Preventive Health: Critical reflections from States and Territories. *Health Promot J Austr*. 2018;29(3):228-35.
12. Innes-Hughes C, Bravo A, Buffett K, Henderson L, Lockeridge A, Pimenta, N, et la. *NSW Healthy Children Initiative: The First Five Years July 2011 – June 2016*. Sydney (AUST): New South Wales Ministry of Health; 2017.
13. Nathan N, Wolfenden L, Morgan PJ, Bell AC, Barker D, Wiggers J. Validity of a self-report survey tool measuring the nutrition and physical activity environment of primary schools. *Int J Behav Nutr Phys Act*. 2013;10(1):75.
14. Innes-Hughes C, Rissel C, Thomas M, Wolfenden L. Reflections on the NSW Healthy Children Initiative: A comprehensive state-delivered childhood obesity prevention initiative. *Public Health Res Pract*. 2019;29(1). pii:2911908
15. Roberts N, Li V, Atkinson J-A, Heffernan M, McDonnell G, Prodan A, et al. Can the target set for reducing childhood overweight and obesity be met? A system dynamics modelling study in New South Wales, Australia. *Syst Res Behav Sci*. 2019;36(1):36-52.

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