#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
1	Formative work with stakeholders	Research- practice partnership to identify strategies, barriers/ facilitators to program dissemination, implementation and sustainability at scale	<i>TransformUs</i> research team with State-level partner organisations (support system)	Multiple stakeholder workshops to explore aspects of the support system and delivery context Co-develop resources and strategies for implementation and scale up	State-level partner organisations (system level) School principals and teachers (organisational/ implementer level)	Program reach and adoption, degree of implementation and sustainability	Over 6 months prior to state- wide implementation and scale up	Can enhance implementation by ensuring system level goals and objectives are established and priorities aligned <sup>1</sup> , and organisational implementation capacities and structures are considered <sup>2</sup>
2	Creation of coalitions and networks for program/policy advocacy	Active engagement with State education decision-makers, engaging opinion leaders (in government and non-government) to support and endorse implementation	State-level partner organisations (support system)	Consultation with key state- level stakeholders and decision makers to align program with state-level targets (e.g. Vic Education State target)	State-level partner organisations (system level) School principals and teachers (delivery system)	State-level program and implementation sustainability Organisational level reach/ adoption	Formal annual/ bi-annual stakeholder meetings Informal pursuit of opportunities over 5 years	Use of existing networks provides ongoing opportunities for training/ program promotion <sup>2</sup> . Formative work suggests promotes legitimacy, and implementation

## Supplementary File 3. *TransformUs* implementation and scale up strategies

#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
								infrastructure for schools
3	Utilise multiple dissemination routes/channels	Program dissemination and promotion will occur via multiple channels known to have high reach among relevant decision-makers	State-level partner organisations (support system) School principals and teachers (delivery system)	Program launch with media involvement. Dissemination via web links, email listservs, newsletters, teacher prof. learning networks, conferences and workshops	<i>TransformUs</i> school principals and teachers (delivery system)	Program reach and adoption	Ongoing over 5 years	Multiple dissemination routes can widen scale up reach <sup>2</sup>
4	Online program training to build	Teachers required to complete online	<i>TransformUs</i> school principals and teachers	Completion of online training provides a	<i>TransformUs</i> school principals and teachers	Online to maximise reach and adoption	~30minutes after registration and prior to	To increase implementation capacity <sup>3</sup> , skills,
	implementation capacity	training prior to gaining access to program materials, implementation resources	(delivery system)	unique log-in for access to online resources	(delivery system)	Training to enhance implementation (e.g. implementer skills, knowledge, self- efficacy to implement, perceived	accessing program materials. On completed, unlimited access over 5 years	knowledge, self- efficacy, perceived fit with existing practices, relative advantage, and ownership of program <sup>4-6</sup>

#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
						relative advantage, fit, ownership and sustainability of delivery)		
5	Online platform for program materials and training	All program materials, training, resources and data collection housed within an online platform aimed at schools, teachers and families. Schools and teachers must register to access training and materials	<i>TransformUs</i> research team with State-level partner organisations (support system)	Website hosted and maintained by <i>TransformUs</i> research team, link disseminated by all partner organisations.	School principals and teachers (delivery system) Parents of children at <i>TransformUs</i> schools	Reach, adoption	Ongoing over 5 years	Maximises potential program dissemination/ implementation <sup>7</sup> . Enables more efficient data collection, refinements to materials and resource updates over time
6	Enable implementation flexibility and contextual adaptation	Non-prescriptive approach to implementation. Schools and teachers encouraged via training and in resources to adapt program	<i>TransformUs</i> research team with State-level partner organisations (support system)	Resources include modifiable lesson plans and 'example' ways of delivering strategies (e.g. active breaks). Training videos	School principals and teachers (delivery system)	Adoption, implementation (e.g. perceived appropriateness, acceptability, feasibility) and sustainability (e.g. org-level	Ongoing over 5 years	Adaptability associated with increased effectiveness/ sustainability of real-world interventions <sup>8</sup> . <i>TransformUs</i> RCT showed

#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
		strategies for setting relevance		illustrate ways of adapting program to different contexts		program embeddedness)		differences in implementation unrelated to efficacy <sup>9</sup>
7	Enable both 'top-down' and 'bottom-up' program adoption	School-level adoption not required for teacher-level implementation. Schools and teachers can register to deliver the program independently	<i>TransformUs</i> research team with State-level partner organisations (support system)	Schools and teachers register via the program website. At registration schools encouraged to invite all teachers, and teachers encouraged to advocate for senior leadership support. Parents can advocate for school adoption. Template email invites provided	TransformUs school principals, teachers (delivery system) Parents of children at <i>TransformUs</i> schools	Reach and adoption	Ongoing over 5 years	Capturing both individual and organisational innovation- decision processes, can elucidate influences on adoption and implementation <sup>10</sup>
8	Utilise existing resources in the delivery system	Program strategies can use existing school resources, equipment and	<i>TransformUs</i> research team with State-level partner	Program training and resources include ways of using/adapting existing school	TransformUs school principals, teachers (delivery system)	Adoption, implementation, sustainability	Ongoing over 5 years	Using existing resources can promote sustainability <sup>2</sup> , reducing

#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
		facilities where appropriate	organisations (support system)	resources and delivering program within existing schools infrastructure to achieve effective implementation				potential costs for schools to deliver may enhance program uptake (esp. in lower resourced schools)
9	Development of recognition and incentive system	Online training mapped against current teaching standards, to contribute towards teachers' annual continuing professional development (CPD) requirements. Schools encouraged to recognise Champion role during staff appraisals	School principals and teachers (delivery system)	Certificate of completion provided after training to evidence CPD hours. Importance/role of champion promoted via online training, downloadable template position description provided for schools	TransformUs school principals, teachers (delivery system)	All RE-AIM dimensions	Certificate provided on completion of online training. Champion recruitment determined by school, ongoing over 5 years	Positive incentives may be necessary for widespread adoption and delivery <sup>1</sup> . Formative work identified CPD as an incentive for training completion
10	Alignment with existing state-	Program aligned with the	<i>TransformUs</i> research team	<i>TransformUs</i> included as part	TransformUs school	Reach, adoption, implementation	Program aligned with	Interventions which align with

#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
	level initiatives and guidelines	Victorian Achievement Program to count towards program physical activity benchmarks for schools. Program materials (e.g. health lessons) aligned with the Victorian Curriculum	with State-level partner organisations (support system)	of Achievement Program materials and promotion. Alignment with Victorian Curriculum promoted via website and in training	principals, teachers (delivery system)		Achievement Program for 3 years as part of planned promotion phase. Alignment to Curriculum guidelines updated as necessary over 5 years	state or national priorities/goals are more likely to gain political/ administrative support required for scale up <sup>2</sup>
11	Promote use of program champions	Schools identify champion(s) who advocate for are a point of contact for staff, students and families regarding <i>TransformUs</i> implementation	TransformUs champion/ teachers (delivery system) State-level partner organisations (support system)	Template champion position description provided to schools after registration. Online training encourages teachers to self- nominate	<i>TransformUs</i> school principals, champion/ teachers (delivery system)	Adoption, implementation and sustainability	Promoted to principals and teachers during online training and on website. Ongoing promotion via partner organisations during teacher prof. learning networks, conferences and workshops over 5 years	Champions can encourage the adoption of preventive interventions <sup>11</sup> Formal 'position description' identified in formative work as a strategy to increase legitimacy of role in schools

#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
12	Online implementation support network	Schools can access an online discussion forum to share implementation strategies and ways of overcoming barriers.	TransformUs champion/ teachers (delivery system)	Online discussion forum hosted on the program website, accessible only to registered teachers/schools	<i>TransformUs</i> champion/teache rs (delivery system)	Adoption, implementation	Ongoing for 5 years	Pilot trials suggested knowledge sharing can increase implementation capacity. Peer networks can increase rates of adoption <sup>11</sup>
13	Provision of resources to support implementation processes and sustainability	Providing schools resources and suggested strategies to enhance implementation and sustainability in their setting	<i>TransformUs</i> school principals and teachers (delivery system)	Online video clips showing implementation, downloadable resources (e.g. active break strategies) and tools to support embedment (e.g. template school PA policy doc and implementation plan)	<i>TransformUs</i> school principals and teachers (delivery system)	Implementation (e.g. skills, knowledge and capacity to implement program) and effectiveness. Institutionalisa- tion within the school	Post registration, available online over 5 years	Increasing general and intervention- specific capacity within support system can enhance implementation <sup>7</sup> and sustainability <sup>12</sup> . Implementation plan can increase accountability <sup>8</sup>
14	Monitoring and evaluation to adjust scaling strategy,	Multilevel data (system, organisational, implementer and	<i>TransformUs</i> research team and state-level partner	6 monthly monitoring of partner organisations	State-level partner organisations (support system)	State-level sustainability of program promotion	6-monthly monitoring over 5 years	Monitoring and evaluation key to identifying obstacles and

#	Strategy	Definition	Actors (those who deliver imp strategy)	Action (specific action or process)	Action target (who its meant to affect)	Implementation outcome(s) affected	Temporality and dose	Justification
	feedback to support schools	recipient level), on partner organisations. dissemination activities (type, freq. and dose) and setting-level implementation	organisations (support system) School principals and teachers (delivery system)	dissemination activities Recruitment for interviews and surveys embedded within program website Schools submit implementation case studies via website; shared in quarterly newsletters	School principals and teachers (delivery system) Parents of children at <i>TransformUs</i> schools	School-level reach, adoption, implementation and organisational level maintenance	Baseline (pre and post online training) and annually thereafter for 5 years Requests for case studies 4 times/year	opportunities to adjust scaling approach <sup>2</sup> . Feedback can increase teacher implementation performance.

## References

- 1. Koorts, H., et al., *Implementation and scale up of population physical activity interventions for clinical and community settings: the PRACTIS guide*. International Journal of Behavioral Nutrition and Physical Activity, 2018. **15**(1): p. 51.
- 2. World Health Organization, *Practical guidance for scaling up health service innovations*. 2009, World Health Organization: Geneva, Switzerland.
- 3. Leeman, J., et al., *What strategies are used to build practitioners' capacity to implement community-based interventions and are they effective?: a systematic review.* Implement Sci, 2015. **10**(1): p. 80.
- 4. Fleuren, M., K. Wiefferink, and T. Paulussen, *Determinants of innovation within health care organizations: literature review and Delphi study.* Int J Qual Health Care, 2004. **16**(2): p. 107-23.
- 5. Chaudoir, S., A. Dugan, and C. Barr, *Measuring factors affecting implementation of health innovations: a systematic review of structural, organizational, provider, patient, and innovation level measures.* Implement Sci, 2013. **8**.

- 6. Michie, S., et al., *From Theory to Intervention: Mapping Theoretically Derived Behavioural Determinants to Behaviour Change Techniques.* Applied Psychology, 2008. **57**(4): p. 660-680.
- 7. Wandersman, A., et al., *Bridging the gap between prevention research and practice: the interactive systems framework for dissemination and implementation.* Am J Community Psychol, 2008. **41**(3-4): p. 171-81.
- 8. Meyers, D.C., J.A. Durlak, and A. Wandersman, *The quality implementation framework: a synthesis of critical steps in the implementation process.* Am J Community Psychol, 2012. **50**(3-4): p. 462-80.
- 9. Koorts, H., et al., *Is level of implementation linked with intervention outcomes? Process evaluation of the TransformUs intervention to increase children's physical activity and reduce sedentary behaviour.* Int J Behav Nutr Phys Act, 2022. **19**(1): p. 122.
- 10. Rogers, E.M., *Diffusion of Innovations*. 3rd ed. 1983, New York: The Free Press.
- 11. Rogers, E.M., Diffusion of preventive innovations. Addictive Behaviors, 2002. 27(6): p. 989-993.
- 12. Wiltsey Stirman, S., et al., *The sustainability of new programs and innovations: a review of the empirical literature and recommendations for future research*. Implement Sci, 2012. 7: p. 17.