










OPEN LETTER

Kailo: a systemic approach to addressing the social determinants of young people's mental health and wellbeing at the local level [version 1; peer review: 3 approved, 1 approved with reservations]

Tim Hobbs¹, Ediane Santana De Lima ¹, Dickon Bevington², Cristina Preece¹, Kate Allen ³, Pia Barna⁴, Vashti Berry³, Thomas Booker⁵, Karuna Davies ⁵, George Davis¹, Jessica Deighton², Leanne Freeman¹, Peter Fuggle², Ellen Goddard¹, Tamsin Greene Barker ⁵, Julie Harris¹, Amy Heather ³, Mary-France Jardiel⁴, Krishna Joshi², Megan Keenan¹, Laura Kennedy⁵, Tamanna Malhotra³, Anna March³, Steve Pilling⁵, Martin Pitt³, Katie Potter¹, Nirandeeep Rehill⁴, Jenny Shand ⁴, Rachel Surtees⁴, Peter Fonagy ⁵

¹Dartington Service Design Lab, Buckfastleigh, England, TQ11 0EE, UK

²Anna Freud Centre, London, England, N1 9JH, UK

³University of Exeter, Exeter, England, EX4 4PY, UK

⁴UCLPartners, London, W1T 7HA, UK

⁵Research Department of Clinical, Educational and Health Psychology, University College London, London, England, WC1E 6BT, UK

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Abstract

The mental health and wellbeing of children and young people is deteriorating. It is increasingly recognised that mental health is a systemic issue, with a wide range of contributing and interacting factors. However, the vast majority of attention and resources are focused on the identification and treatment of mental health disorders, with relatively scant attention on the social determinants of mental health and wellbeing and investment in preventative approaches. Furthermore, there is little attention on how the social determinants manifest or may be influenced at the local level, impeding the design of contextually nuanced preventative approaches. This paper describes a major research and design initiative called Kailo that aims to support the design and implementation of local and contextually nuanced preventative strategies to improve children's and young people's mental health and


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1. **Jo Henderson** , Centre for Addiction and Mental Health, Toronto, Canada
2. **Abigail Thomson** , Queen Mary University of London, London, UK
3. **Josefien Breedvelt** , University of Amsterdam, Amsterdam, The Netherlands
Sasha Arya, King's College London, London, UK

wellbeing. The Kailo Framework involves structured engagement with a wide range of local partners and stakeholders - including young people, community partners, practitioners and local system leaders - to better understand local systemic influences and support programmes of youth-centred and evidence-informed co-design, prototyping and testing. It is hypothesised that integrating different sources of knowledge, experience, insight and evidence will result in better embedded, more sustainable and more impactful strategies that address the social determinants of young people's mental health and wellbeing at the local level.

4. **Tessa Reardon** , University of Oxford, Oxford, UK

Any reports and responses or comments on the article can be found at the end of the article.

Keywords

Mental Health, Wellbeing, Social Determinants, Stakeholder Involvement, Co-design

Corresponding authors: Tim Hobbs (tim.hobbs@dartington.org.uk), Ediane Santana De Lima (Ediane.Santana_de_Lima@dartington.org.uk)

Author roles: **Hobbs T:** Conceptualization, Funding Acquisition, Investigation, Methodology, Project Administration, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing; **Santana De Lima E:** Investigation, Methodology, Project Administration, Writing – Review & Editing; **Bevington D:** Conceptualization, Methodology, Writing – Original Draft Preparation; **Preece C:** Investigation, Writing – Review & Editing; **Allen K:** Investigation, Writing – Review & Editing; **Barna P:** Investigation, Writing – Review & Editing; **Berry V:** Funding Acquisition, Investigation, Methodology, Project Administration, Writing – Review & Editing; **Booker T:** Funding Acquisition, Project Administration, Writing – Review & Editing; **Davies K:** Investigation, Writing – Review & Editing; **Davis G:** Investigation, Writing – Review & Editing; **Deighton J:** Investigation, Methodology, Writing – Review & Editing; **Freeman L:** Investigation, Methodology, Writing – Review & Editing; **Fuggle P:** Conceptualization, Writing – Review & Editing; **Goddard E:** Investigation, Writing – Review & Editing; **Greene Barker T:** Investigation, Writing – Review & Editing; **Harris J:** Methodology, Writing – Review & Editing; **Heather A:** Investigation, Methodology, Writing – Review & Editing; **Jardiel MF:** Investigation, Writing – Review & Editing; **Joshi K:** Investigation, Writing – Review & Editing; **Keenan M:** Investigation, Methodology, Writing – Review & Editing; **Kennedy L:** Investigation, Methodology, Writing – Review & Editing; **Malhotra T:** Investigation, Writing – Review & Editing; **March A:** Investigation, Methodology, Writing – Review & Editing; **Pilling S:** Methodology, Project Administration, Writing – Review & Editing; **Pitt M:** Methodology, Project Administration, Writing – Review & Editing; **Potter K:** Investigation, Methodology, Writing – Review & Editing; **Rehill N:** Conceptualization, Investigation, Writing – Review & Editing; **Shand J:** Conceptualization, Investigation, Writing – Review & Editing; **Surtees R:** Investigation, Writing – Review & Editing; **Fonagy P:** Conceptualization, Funding Acquisition, Investigation, Methodology, Project Administration, Writing – Original Draft Preparation

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Background

Need and inequalities

In general, the mental health of children and young people is deteriorating: the prevalence of many mental health disorders is on the rise; wellbeing is decreasing; and inequalities in mental health are widening for some groups (Castel Pietra *et al.*, 2022; Newlove-Delgado *et al.*, 2022).

The picture is, of course, more nuanced than this. There are some areas of progress, such as a modest reduction in youth suicide and substance misuse rates, and the introduction of waiting time standards for accessing first episode psychosis and eating disorder services for young people (NHS England, 2021; NHS England, NICE and NCCMH, 2016; Office for National Statistics, 2022).

Yet generally speaking, the mental health and wellbeing of young people is deteriorating and the impact of this on life-course trajectories and for society remains a cause of significant concern to practitioners and policy-makers; with some describing it as being 'in crisis' (Gunnell *et al.*, 2018).

Treatment and prevention

Over the last two decades, there has been a substantial investment in mental health services, treatment responses, and research (Cohen, 2017). This has been, in part, driven by rapid and productive advances in the life sciences which have helped inform approaches to early identification, design, and implementation of targeted and universal interventions (HM Government, 2021).

However, much of this investment is heavily skewed towards individuals, treatment responses, narrowly defined health outcomes, and mono-causal assumptions (Knapp & Wong, 2020). While significant positive advancements have been made in the treatment of mental health difficulties, current service provision for young people is almost universally described as overwhelmed, inadequately funded, and lacking capacity to meet rising demand (Lennon, 2021).

If advancement and investment in the treatment of mental health difficulties are judged to fall short, then advancements and investments in the prevention of poor mental health may be deemed wholly inadequate.

The sheer scale of need and the treatment gap (Kohn *et al.*, 2004) means that, arguably, attempts to develop and deliver many specialised treatments require an extensive and narrow funnelling of finite resources to remedial responses (at the national and local level). This, in the language of systemic archetypes, may be considered a short-term 'fix that fails' (Hulme *et al.*, 2022; Wolstenholme, 2003): whilst necessary, treatment only responds to surface-level manifestations of need without addressing the underlying systemic and structural drivers that perpetuate the issues. This, in turn, may further drain the finite pool of resources away from health promotive and preventive efforts, further compounding the need. Specialised treatments that rely on specialised treaters

(numbers of whom cannot easily be scaled-up, especially commensurate to the extent of the existing treatment gap) paradoxically risks compounding inequality of access to help, which is in and of itself accepted as a key social determinant of mental health in a population (Compton & Shim, 2015).

So, whilst a continued and increasing investment is required in relation to the treatment of mental health disorders, this must also be accompanied by significant investment and redoubling of efforts to design, test and deliver at scale effective prevention and population-level mental health promotion approaches (Mc-Daid & Park, 2022; Muñoz *et al.*, 1996;).

The social determinants of young people's mental health: a systemic issue

Concordant with calls for an increased emphasis on prevention, there has been growing attention to the social determinants of population health, including mental health. It is now widely acknowledged that a range of demographic, neighbourhood, social, cultural, economic, and environmental influences interact to affect young people's mental health (and exert influence upon the access to, and efficacy and impact of, services and systems of support (Compton & Shim, 2015; Lund *et al.*, 2018)). These various social determinants of mental health reciprocally drive, and are driven by, social inequities, poverty, and deeply entrenched systemic discriminations (Alegria *et al.*, 2018).

As such, mental health may be considered a 'wicked problem' (Hannigan & Coffey, 2011) with multiple interacting synergies: it is no more attributable to a single causal agent (the rapid expansion of access to social media, for instance) than it is to, say, an inflationary redrawing of diagnostic boundaries that pathologises ordinary human distress (Lee, 2014) or the lowering of culturally-sanctioned thresholds for help-seeking (with the moral opprobrium that may accompany such observations (Thomas *et al.*, 2018)).

Given the multitude of interacting influences, we argue that young people's mental health and wellbeing must therefore be considered a 'systems issue' (Cohen, 2017; Fried & Robinaugh, 2020; Hodges *et al.*, 2012; Meadows, 2008). This perspective considers mental health and wellbeing as a dynamic state that varies over time and is influenced by the interactions of these wider social determinants.

It follows that efforts to improve young people's mental health require a nuanced understanding of local influences, and a multi-pronged approach to addressing locally relevant, high-impact leverage points (Betancourt *et al.*, 2011; Groark *et al.*, 2011; Salam *et al.*, 2022; Ungar & Theron, 2020).

Varying manifestations at the local level

In wider fields of public health, systemic intervention efforts tend to focus on macro-system policy levers such as poverty, economic inequality, employment, housing, and

transport (Marmot, 2020). There is significant potential for impact operating at this level, although sustained policy change is challenging and highly politicised.

We argue that as well as considering the macro-influences, it is also important to take a more nuanced local perspective, exploring how the social determinants of mental health are manifest at the micro/local level. The ways in which the social determinants influence young people's mental health will vary depending on local context, individual circumstance, and their local interactions (Alegría *et al.*, 2018). To take an over-simplified example: in an inner-city urban environment, poverty may contribute to overcrowded housing, in turn, driving young people into potentially unsafe neighbourhood environments, whereas in a rural context similar levels of poverty may manifest as limited access to transport, isolation and reduced opportunities. These different risks or contexts may, in different ways, lead to the same outcome, e.g., poorer mental health (i.e., the concept of equifinality (Cicchetti & Rogosch, 1996; Fried & Robinaugh, 2020)).

Understanding and designing preventative responses in a contextually nuanced way is critical if we are to meaningfully affect underlying dynamics over time. As such, we argue that as well as considering the macro-systemic influences it is also important that we take a more nuanced local perspective, exploring how the social determinants of mental health are varyingly manifest at the micro/local level, and from this local understanding, design and implement contextually relevant preventative responses.

Existing frameworks for understanding local needs and guiding prevention efforts

There are a wide range of different approaches by which local leaders and community partnerships seek to understand local needs and context and, in turn, design and implement strategies, policies and practices to improve population mental health and wellbeing. Local needs and context may be understood, for example, via community-led and participatory action research (Burgess *et al.*, 2022), quantitative needs assessments or school / community-based epidemiological surveys (Connors *et al.*, 2015; Hughes *et al.*, 2022), local stakeholder and asset mapping (Duncan *et al.*, 2021; Public Health England, 2018) and the mapping of local system dynamics (Noubani *et al.*, 2020; Stansfield *et al.*, 2021). Local action or intervention may result from local co-design efforts (O'Brien *et al.*, 2021; Tindall *et al.*, 2021), social action and community organising (Bolton *et al.*, 2016), through to strategic commissioning of new or existing practice, or evidence-based prevention or early intervention programmes (Boaz *et al.*, 2019).

Over the last two decades, a number of structured 'strategic prevention frameworks' or 'operating systems' have been designed, tested and implemented (National Research Council (US) and Institute of Medicine (US) Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults, 2009). These incorporate a

series of structured steps, typically including: (i) identification of local prevention needs based on existing or new data; (ii) forming local partnerships and governance structures to identify priorities and build local capacity and momentum; (iii) identification and implementation of evidence-based programmes and practices; and (iv) ongoing monitoring, evaluation and learning. Examples include broad frameworks or guides (e.g., the US SAMHSA Strategic Prevention Framework, 2019) through to more structured approaches (such as Communities that Care (Fagan *et al.*, 2018), PROSPER (Spath *et al.*, 2013) and Getting to Outcomes (Chinman *et al.*, 2008). These prevention frameworks have, in some contexts, demonstrated positive impacts on outcomes (Brown *et al.*, 2011; Crowley *et al.*, 2011; Oesterle *et al.*, 2018; Spoth *et al.*, 2017;).

Key features and strengths of these approaches include:

- Collection and synthesis of robust local data to help make the case for local action and identify priorities (Arthur *et al.*, 2002; Axford & Hobbs, 2010).
- Development of local partnerships, governance and system leadership arrangements to guide decision-making (OECD, 2019).
- Drawing upon repositories of evidence-based programmes (EBP) or practices that have been demonstrated through rigorous experimental evaluation to improve outcomes (Burkhardt *et al.*, 2015; Catalano *et al.*, 2012).

However, we argue there are some important limitations or inhibitors to impact at scale for such prevention frameworks, particularly when considering the systemic nature of the social determinants of young people's mental health and wellbeing. The following critiques do not amount to a rejection of the approach, but rather point to ways they may be further optimised:

- Local epidemiological data and profiles of risk and protective factors may be valuable in identifying specific areas of need or strength, but alone they can obscure the systemic influences, dynamics and inter-dependencies of specific local influences (Patel & Goodman, 2007).
- Local partnership and governance arrangements - whether situated within local government, health systems or local community forums - tend to concentrate decision-making within existing and dominant power structures (and not often with young people and/or lesser-heard or marginalised voices within communities) (Anderson-Carpenter *et al.*, 2017; Chilenski *et al.*, 2023; Fagan *et al.*, 2019).
- A reliance on existing evidence-based programmes (EBP) may: (i) be undermined by the increasingly recognised challenge of replicating the impact of EBPs in new contexts (Shidhaye, 2015); (ii) reduce availability of provision options, based on limited EBP

provider availability in the local area (Harvey & Gumpert, 2015); (iii) miss opportunities to build local ownership, alongside disenfranchising or critically undermining relationships and trust with local providers of similar, albeit not so strongly (formally) evidenced practice (Mullen & Streiner, 2004); (iv) stifle local innovation (Dryden-Palmer *et al.*, 2020); and (v) not adequately reflect the nuance of local needs or context (Baumann, 2010).

As such, we hypothesise that the impact and uptake of prevention frameworks may be further enhanced if they are better able to: (a) move beyond narrow conceptualisations of risk and protection and also consider and address the systemic nature and social determinants of young people's mental health; (b) elevate and integrate youth and community voices when setting local priorities; and (c) more effectively balance evidence-informed practice with local innovation and co-design. It is in response to these gaps and opportunities that we have designed and plan to implement and test 'Kailo'¹: a new systemic prevention framework to address the social determinants of young people's mental health at the local level.

Aims and objectives

Our long-term vision is to demonstrably improve, at the local level, youth mental health and wellbeing outcomes via the design and implementation of preventative approaches that address contextually relevant social determinants of health.

Our objectives are:

- 1) To create a prevention framework (Kailo) that:
 - a) Helps local public system and community partnerships better understand how the social determinants of young people's mental health and wellbeing manifest at the local level;
 - b) Elevates youth and community voice in determining priorities for change;
 - c) Highlights inequalities in experiences and outcomes as a focal point for change;
 - d) Brings young people, community partners and professionals together in co-designing systemic and evidence-informed strategies to address these social determinants, inequalities and improve young people's mental health and wellbeing; and
 - e) Integrates these priorities and designs into local strategic planning and commissioning to enable sustained change.

- 2) To implement this framework in two distinct geographical contexts, and through practice-based learning and developmental evaluation seeking to explore what works, for whom, under what circumstances, and how (Wong *et al.*, 2016);
- 3) Incorporate learning into a refined, replicable and locally owned framework that is adopted in new contexts and evaluated for impact on population-level mental health and wellbeing outcomes.

These objectives are underpinned by the following research questions:

- RQ1: How does Kailo function as an initiative? Why and for whom?
- RQ2: How is Kailo received in a local context and what conditions are necessary for place-based systems change to be achieved through Kailo?
- RQ3: What is the impact of Kailo, in relation to the alignment and coordination of local resources and systems of support (and how does this vary by context)?
- RQ4: What is the impact of Kailo in relation to young people's mental health and wellbeing outcomes and associated inequalities (for whom, and how does this vary by context)?
- RQ5: What is required in order to effectively scale the Kailo framework?

Kailo Framework

Kailo is a prevention framework designed to help local community and public system partnerships elevate the voice of young people in designing systemic, evidence-informed strategies and interventions that systemically address the social determinants of young people's mental health and wellbeing in the local context.

Kailo is a framework that operates across three main phases:

1. **Early Discovery:** including building strong and trusted local partnerships, understanding what matters locally, and community forming around shared priorities.
2. **Deeper Discovery and Co-Design:** A structured method of youth-centred co-design that takes a systemic, equitable and evidence-informed approach.
3. **Prototyping, Implementation and Testing:** A process of embedding designs into local infrastructures and iteratively testing and refining them.

Within each phase is a series of tools and structured research and design activities (see Table 1). These include system mapping methods, co-design, data (through existing

¹ Kailo is a word with Indo-European roots meaning 'connected, healthy and whole'.

Table 1. Describes the different stages of the Kailo programme, their aims, activities, intended outcomes and indicators of success.

Phase	Aim	Inputs and Prerequisites	Activities	Intended Outcomes	Key Indicators of Success
EARLY DISCOVERY	Build strong and trusted relationships with local partners.	Openness of local partners to embrace a public health approach to mental health promotion. Resources to enable equitable engagements of young people and community partners.	Ecosystem and Power Mapping: (a) <i>Snowballing</i> key stakeholders and influencers (Leventon et al., 2016); (b) identifying lesser-heard or marginalised voices (Pratt, 2019); (c) compiling local strategies and initiatives. Relationship Building: (a) mutual value activities; (b) mutual value agreements for working together (Rycroft-Malone et al., 2015).	Creation of trust and conditions for local ownership	Number and diversity of local community partners involved in the Early Discovery workshops and events.
	Understand what matters, locally.	Capacity for Kailo team and/or partners to undertake and synthesise discovery research. Data sharing agreements.	Social Determinants Lens: (a) Evidence summaries; (b) Systems map of the social determinants of young people's mental health (causal loop diagrams (Sharma et al., 2021)). Local Data: (a) Synthesis of existing data on mental health and local influences; (b) New epidemiological school-based data via #BeWell Survey (Black et al., 2023). Local Insight Generation: (a) qualitative engagements about 'what matters locally', from young people, community representatives and local system practitioners and leaders (Schivano, 2021). Sense-making: (a) thematic analysis and clustering (Braun et al., 2019); (b) identification of 'opportunity areas' translated into 'how might we' questions.	Shared understanding of local social determinants of young people's mental health and wellbeing.	Number of engagements involving local partners and young people. Diversity of local community partners and young people involved. Opportunity areas surfaced are related to social determinants identified in wider literature and contextually relevant. Opportunity areas surfaced represent what is needed and wanted locally.

Phase	Aim	Inputs and Prerequisites	Activities	Intended Outcomes	Key Indicators of Success
	<p>Forming communities around youth- and community-centred priorities</p>	<p>Building upon prior foundational relationship building.</p> <p>Time and resources to facilitate and further engage local partners.</p>	<p>Playbacks: (a) sharing back emerging themes and learning; (b) iterative refinement and validation (<i>Santana de Lima et al., 2023, unpublished report</i>).</p> <p>Prioritising Opportunity Areas: (a) focus groups; (b) voting (or Delphi or nominal group technique (<i>McMillan et al., 2016</i>)).</p> <p>Community Forming around priorities: (a) Engaging community partners around priorities; (b) youth peer researcher recruitment (<i>Spuerck et al., 2023</i>); (c) establishing a 'larger circle' of supporters.</p>	<p>Communities formed around shared priorities for addressing local social determinants of young people's mental health and wellbeing.</p>	<p>Number of engagements involving local partners and young people.</p> <p>Number and diversity of local partners interested in Kailo formalised community partner roles.</p> <p>Prioritised opportunity areas are related to social determinants identified in wider literature and contextually relevant.</p>
<p>DEEPER DISCOVERY AND CO-DESIGN</p>	<p>Co-designing systemic responses to social determinants</p>	<p>Local commitment to youth-centred co-design</p> <p>Time and resources to engage and support young people and co-design teams.</p>	<p>Co-design Team Formation: (a) formation of youth and community 'small circle' co-design teams (<i>Mckercher, 2020, pp. 1–225</i>); (b) mutual value agreements; (c) building trust and relationships (<i>Clarke et al., 2021</i>).</p> <p>Deeper systemic Discovery: (a) refinement of Opportunity Area definition; (b) participatory group model building (<i>Siokou et al., 2014</i>); (c) identification of systemic intervention or leverage points (<i>Glenn et al., 2020</i>).</p> <p>Evidence Reviews: (a) Production of evidence briefings; (b) rapid realist review (<i>Saul et al., 2013</i>); (c) Youth and Community Research into topic areas (<i>McCabe et al., 2023</i>).</p> <p>Youth-centred Co-design and Theories of Change: (a) Design Thinking ideation (<i>Adikari et al., 2016</i>); (b) intervention design (including associated theories of change); (c) determination of necessary implementation conditions, resources and requirements.</p>	<p>Locally owned, evidence-informed designs addressing the local social determinants of young people's mental health and wellbeing.</p>	<p>Number of co-design sessions involving community partners and young people</p> <p>Diversity of actors engaged in the circles of co-design</p> <p>Strategies developed in co-design and prototyping sessions:</p> <p>Have a youth and community voice-centred approach;</p> <p>Address/consider contextually relevant social determinants;</p> <p>Are based on young people and community members views and key needs;</p> <p>Are focused on prevention rather than services interventions;</p> <p>Challenge local inequalities related to the prioritised opportunity areas;</p> <p>Are feasible and sustainable within the constraints of local assets and resources; and</p> <p>Are informed by extant evidence on what works to support young people's mental health.</p>

Phase	Aim	Inputs and Prerequisites	Activities	Intended Outcomes	Key Indicators of Success
PROTOTYPING, IMPLEMENTATION AND TESTING	Local system integration, prototyping and iterative refinement	<p>Engagement of local system leaders.</p> <p>Human and/or financial resources to support implementation.</p> <p>Research skills and capacity to support early-stage monitoring and testing.</p>	<p>Playbacks to system-leaders and communities: (a) Review likelihood of impact and sustainability; (b) Identification of implementation opportunities, partners and enablers.</p> <p>'Low fidelity' prototyping and testing: (a) prototyping via system dynamic simulation modelling (Darabi & Hosseinichimeh, 2020); (b) small-scale implementation; (c) rapid-cycle testing (Green et al., 2021); (d) refinement of theories of change and service/practice/policy refinements required for sustained and impactful implementation.</p> <p>'High fidelity' sustained implementation: (a) embedding into local infrastructures; (development of data systems and monitoring, evaluation and learning frameworks.</p>	<p>Interventions that are locally embedded.</p> <p>Improved youth mental health and wellbeing outcomes.</p>	<p>Strategies are implemented in the local contexts.</p> <p>Community partners are confident in their ability to implement local strategies.</p> <p>Robust evidence of intermediate and longer-term impact on young people's mental health and wellbeing outcomes.</p>

administrative and new local epidemiological data) and different forms of evidence (practice- and lived experience evidence alongside rapid reviews of existing research and robust evaluations).

Implementation of the Kailo Framework and the activities described in [Table 1](#) are underpinned by a set of guiding principles for those implementing it:

- Working collaboratively with the people and communities that will be impacted;
- Adding value and building capabilities, rather than being extractive or burdensome;
- Recognising bias and inequalities and striving to reduce them;
- Making space for reflection and learning throughout.

The integration of these principles and different sources of insight and knowledge through a systemic lens is intended to inform a contextually nuanced set of intervention points and local priorities with potential for impact. In turn, evidence-informed co-design approaches are hypothesised to result in a coordinated portfolio of high-leverage local interventions that, in turn, will lead to intermediate community-based outcomes and longer-term improvements in adolescent mental health and wellbeing (by addressing the locally relevant social determinants of health).

Audiences and roles

The Kailo Framework is primarily intended for use by local authority and integrated health partnerships (such as Integrated Care Partnerships in England, or Health and Social Care Partnerships in Scotland) working in partnership with local communities. The framework and phases are designed to gradually shift ownership of the work in a local area from a facilitating Kailo team to the local community partnership (as illustrated in [Figure 1](#)). This relates to one of the underpinning principles (i.e., to add value and build local capabilities).

Understanding, prioritising, co-designing and testing local responses to the social determinants of young people's mental health is a complex task, requiring a wide range of activities - as illustrated in [Table 1](#). Kailo is designed as a 'modular' approach in that different activities may be undertaken (or may have already been undertaken) in a local area in different ways by different local stakeholders or actors, to varying degrees of intensity or depth. Kailo acts as a framework or guide to prioritising, designing and testing local approaches to the social determinants of young people's mental health and wellbeing, with an accompanying set of tools and methods which can be adopted as required.

It is our hypothesis that each element is required, and that the rigour and depth of each stage will be associated with greater buy-in and likelihood of impact, but that all stages need not necessarily be led by a central Kailo team. For example, if

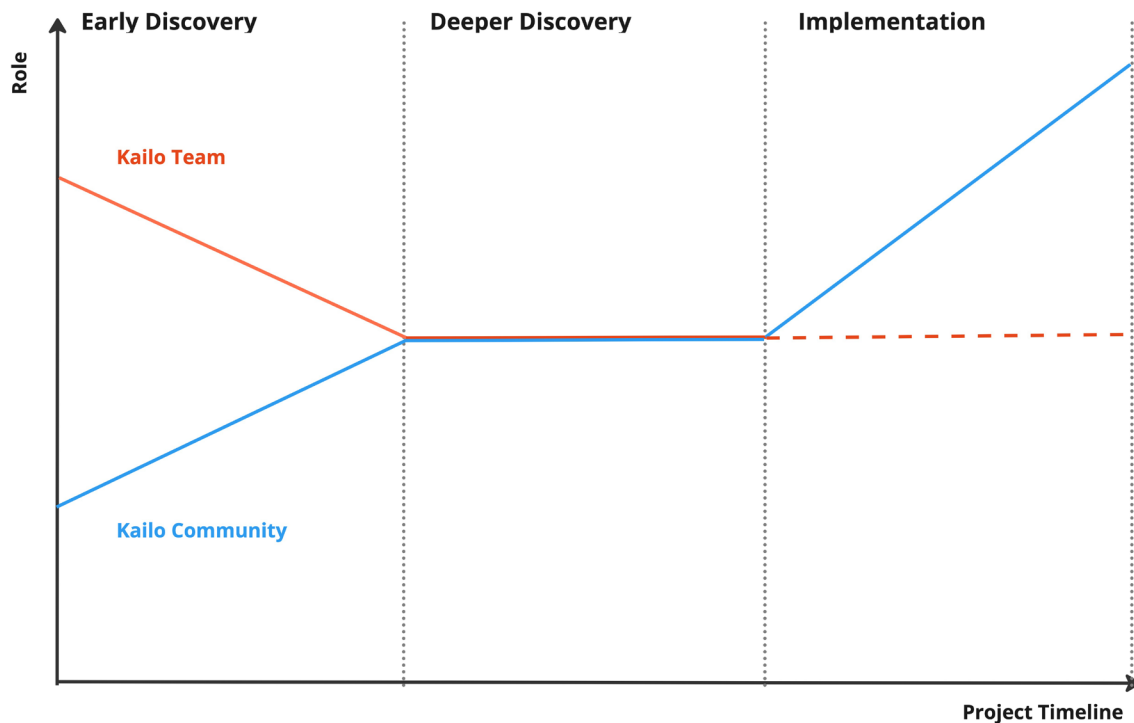


Figure 1. Shifting ownership of Kailo over phases. This image demonstrates how the Kailo team hopes to shift their role through the different phases of the Kailo Programme. The Kailo Community (blue), which includes local community members and young people, should become the main drivers of the Kailo programme locally, with the support of the Kailo team that initially was steering the project.

robust existing local data and analysis of the social determinants of young people's mental health has already been undertaken by local partners, or local community partnerships are already well established around local priorities associated with the social determinants of young people's mental health, then such activities or infrastructures may (and indeed should) be drawn upon, rather than replicating existing efforts.

Kailo v1.0: Initial implementation sites

An initial version of the Kailo Framework (v1.0) is being implemented in two intentionally distinct geographical contexts Northern Devon (a rural/coastal region in the Southwest of England) and in the London Borough of Newham (a densely populated and highly diverse urban context). These two contrasting implementation contexts were identified in order to test the Kailo Framework's ability to surface locally and contextually specific manifestations of the social determinants of young people's mental health, and in turn inform locally nuanced and relevant policy and practice responses.

Conclusion of the 'Early Discovery' phase in each site has, as intended, resulted in local priorities that reflect contextually nuanced manifestations of the social determinants of young people's mental health, whilst also surfacing and recognising some cross-cutting priorities. For example, in Northern Devon a lack of diverse opportunities for young people and a diminished sense of identity and belonging has been prioritised, whilst in Newham priorities related to community safety and discrimination have emerged. Yet, priorities around mental health-related norms and expectations emerged across both sites. This suggests promise in relation to the Kailo Framework's ability to bring into focus locally relevant manifestations of the social determinants of young people's mental health.

Evaluation framework and Kailo v2.0

It is intended that insights from early implementation and the developmental evaluation of v1.0 of the Kailo Framework in the two pathfinder areas will inform a refined version of the framework (v2.0) that can be implemented in additional sites. These learnings will also inform wider replication and the subsequent contributory impact evaluation to assess how the framework contributes to improvements in adolescent mental health, changes in the wider social determinants, and local shifts in commissioning practices.

Given the complexity of the Kailo Framework, a developmental realist-informed evaluation will be conducted in the two pathfinder sites (Kennedy *et al.*, 2023, in preparation). This evaluation will move beyond the binary question of effectiveness (Raine *et al.*, 2016) and seek to explore what works, for whom, under what circumstances, and how. As such, a developmental realist-informed evaluation will be conducted (Pawson & Tilley, 1997; Westhorp, 2014). This will investigate how and why Kailo works, for whom, and under what circumstances. This mixed-methods evaluation will engage key members of the Kailo consortium, local stakeholders, and young people who have interacted with Kailo in

the pilot sites. The initial phase incorporates a rapid realist synthesis, interviews with key informants, observations, and document analyses to formulate the initial programme theory (Jagosh, 2019; Manzano, 2016). The second phase will employ semi-structured interviews, focus group discussions, observations, and analyses of routinely collected data to test the initial programme theory (Manzano, 2022). The final phase will employ focus group discussions to refine and consolidate the initial programme theory (Shearn *et al.*, 2017). The developmental nature of this evaluation will facilitate sharing of feedback to improve programme implementation and support continuous learning and adaptation (Gamble, 2008).

As the Kailo framework matures and is scaled to new sites, a summative impact evaluation will be designed and implemented, addressing research questions related to impact on sub-group and local population-level outcomes and inequalities.

Inherent tensions, anticipated and early challenges and how Kailo is responding

In this section, we outline six key anticipated challenges, some of which are being experienced in the early stages of implementation, and how Kailo is responding.

First, there has been a legacy of national and local reorganisation and change initiatives that are not sustained. It is commonplace in local government and community partnerships for there to be history of change and reorganisation, which may not lead to tangible or observed change to community outcomes or experience (Alderwick *et al.*, 2022). Kailo, as another initiative, risks perpetuating such change fatigue. As such, the principle of adding value is critical. Rather than acting as another initiative on top of others, Kailo is positioned in local areas as feeding into and bolstering existing initiatives and policy directives. This may include seeking to build capacity, resources and precision to hotspots of pre-existing community-based practice, social action and alliances (where sufficiently aligned), as well as integrating priorities and emerging designs into local strategies and existing governance arrangements.

Second, early experiences of implementation of the Kailo framework suggest a strong pull from senior leaders and commissioners towards focusing on service and treatment responses - the status quo - rather than a preventative focus centred on the social determinants of mental health (Mc-Daid & Park, 2022). This is particularly expressed from public system leaders, commissioners and practitioners, albeit much less so from young people and community partners and representatives. To mitigate against this risk, in most of our communications, articulation of aims and interactions in local areas, we consistently and routinely emphasise the intentional focus on prevention and the social determinants of young people's mental health and wellbeing (Faust & Menzel, 2011; World Health Organisation: Department of Mental Health and Substance Dependence, 2002). We are also at pains to communicate this is not to say that further

coordination and investment in treatment services is not critical, but that this is not the role for Kailo (although insights and learning from early discovery phases can support and make the case for such investments).

A third tension is the systemic focus of Kailo, the iterative and emergent approach to discovery and co-design (Pailthorpe, 2017), and the evaluative frame of considering contribution in relation to context (oftentimes at odds with positivist causal assumptions and attribution) (Nyein *et al.*, 2020). These tensions are expressed less-so in local communities, but more so within the academic and research contexts (as well as within our own multi-disciplinary research consortium). This speaks to wider debates in the field about what types of evidence are valued (Glasgow & Emmons, 2007; Rycroft-Malone *et al.*, 2004).

Fourth, as introduced above, is the tension in considering what types of evidence are valued, by whom, and in what contexts (Beames *et al.*, 2021). It is not uncommon for lived/living experience, youth and community voice to be considered less rigorous, valuable or at odds with other forms of evidence, such as quantitative data or more generalised evidence (O'Leary & Tsui, 2022). Within Kailo we are seeking to break down such false divides, through generating and surfacing different sources of insight and viewing points on specific issues in different ways, that are proportionate and appropriate to the specific questions being explored. For example, youth and community voices can explore and challenge the generalisability of existing evidence to local context, whereas existing research evidence may challenge poorly substantiated beliefs and help strengthen emerging intervention designs (based on what has been tried and tested elsewhere). It may be that different sources of insight and evidence can be aligned and reconciled, or it may transpire that they are in more fundamental opposition. Yet what Kailo seeks to advance a dialogue between multiple 'positions' in order to advance at least a shared understanding and respect of these different viewing points so that 'epistemic trust' and an openness to differing sources and forms of knowledge, insight and learning may be built (Fricker, 2007; Schröder-Pfeifer *et al.*, 2018; Tuomela, 2007).

Fifth, we anticipate ongoing tensions in relation to where decision-making power resides, and how such power is shared or transferred (Joseph-Williams *et al.*, 2014). Typically, power and decision-making for setting regional and local

priorities, strategies and associated resource allocation sit with senior leaders within public systems (often with wide and geographically distributed remits). This inevitably means that decision-making may not closely reflect a nuanced understanding of needs, contexts and what matters locally (Seixas *et al.*, 2021). Conversely, grassroots, youth or community-based designs may be removed or disconnected from the policy, fiscal and commissioning constraints. This speaks to the need to better connect and bridge local public system decision-making and design with the assets, insights and power that resides within local communities (Local Government Association and NHS Clinical Commissioners, 2020). This is something we are attempting to do with Kailo, and the way in which 'small circle' co-design teams are nested within 'big circles' of community and public system leadership. Our early implementation experiences suggest how critical it is to carefully nurture and connect local relationships and build trust within and between different stakeholder groups - something echoed in wider research (Frerichs *et al.*, 2017; Metz *et al.*, 2022; Vangen & Huxham, 2003; Wilkins, 2018;).

Finally, as we embark on the co-design phases of the Kailo Framework, we anticipate tensions and challenges in relation to responsible, embedded and sustainable design (Goodyear-Smith *et al.*, 2015)- which relates to the first tension about change or initiative fatigue. Given the highly constrained economic climate (The Health Foundation, 2022), it is necessary and essential that what gets designed locally can be implemented and sustained within existing and available local resources and assets - be these financial, human (e.g., through existing workforces) - or within existing infrastructures (physical/environmental, economic or social).

Subsequent papers and results from the developmental and realist evaluation will report on further learning, findings and how the Kailo Framework evolves.

Data availability

No data is associated with this article.

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Tessa Reardon 

Departments of Experimental Psychology and Psychiatry, University of Oxford, Oxford, England, UK

The authors present a convincing case for the need for systemic approaches that address the social determinants of young people's mental health and wellbeing at a local level. They clearly articulate the implications of focusing only on treatment at the expense of preventive efforts, and the need to consider the complex, interconnected influences on mental health and how this varies across contexts. Limitations with existing prevention frameworks are presented, including limitations related to underpinning data, the absence of young people's voices, and neglecting local practice and innovation. The paper moves on to present aims to create, implement and refine the Kailo prevention framework that seeks to address limitations with previous frameworks. The guiding principles of Kailo, together with inputs, activities, intended outcomes and indicators of success across three phases of the programme are clearly spelled out. An overview of initial evaluation plans is provided and expected challenges and responses helpfully discussed. It may help to clarify how evaluation is considered in the early phases of the programme. For example, does co-designing systemic responses incorporate co-designing evaluation of these responses? Adolescent mental health outcomes are mentioned in later parts of the paper – it would help to clarify and specify earlier in the paper if the initiative focuses on a specific age range.

Is the rationale for the Open Letter provided in sufficient detail?

Yes

Does the article adequately reference differing views and opinions?

Yes

Are all factual statements correct, and are statements and arguments made adequately supported by citations?

Yes

Is the Open Letter written in accessible language?

Yes

Where applicable, are recommendations and next steps explained clearly for others to follow?

Yes

Competing Interests: No competing interests were disclosed.**Reviewer Expertise:** child mental health; school-based interventions**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.**

Reviewer Report 25 May 2024

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**Josefien Breedvelt**

University of Amsterdam, The Netherlands; Centre for Urban Mental Health, University of Amsterdam, Amsterdam, The Netherlands

Sasha Arya

King's College London, London, England, UK

This is an open letter which details the research and design initiative 'Kailo' which combines research and design to inform better embedded and sustainable strategies to address social determinants of young people's mental health at a local level.

Overall, it provides an overview of an innovative and relevant approach which highlights crucial issues as working with local partners and involving young people in systems change activities when supporting and delivering preventative interventions and changes for mental health that address social determinants.

BackgroundNeed and inequalities

- The references and sources provided in the first two paragraphs of the Needs and inequalities section are England/UK (and one EU) focused, We think it would be helpful to clarify that the statements given specifically relate to the area cited (e.g. UK/England/EU). Or if the authors wish to make a more generic statement, we suggest to seek international references to support their statement (especially in the second paragraph).

- If space allows, it would benefit us to know which aspects of mental health the authors would like

to address (perhaps by a definition of mental health and wellbeing or at minimum highlight that it is all mental health conditions and wellbeing that Kailo is concerned about, and/or that outcomes will be co-determined with young people and local partners (for example)).

Existing frameworks for understanding local needs and guiding prevention efforts

- "These prevention frameworks have, in some contexts, demonstrated positive impacts on outcomes (Brown et al., 2011; Crowley et al., 2011; Oesterle et al., 2018; Spoth et al., 2017)." - please can the authors specify on which outcomes there was an improvement and whether these effects were sustainable. At minimum we would recommend the authors highlight that it is "some" outcomes, as the references cover mainly substance use and knowledge outcomes. It may also be helpful to mention the specific positive impacts in each citation (e.g. Oesterle et al. (2018) found a reduction in substance use, antisocial behaviour and violence, whereas Crowley et al. (2011) found increases in expert knowledge of evidence-based interventions).

Accessibility

- Where possible, providing definitions to concepts introduced in the manuscript would support the reader's understanding and would ensure this article is accessible to a wider audience. This includes concepts mentioned, such as: "place-based", "power mapping", "design thinking ideation", "epistemic trust" and "summative impact evaluation".

- Regarding summative impact evaluation it may be helpful to add some examples / definitions of approaches used and how such an impact evaluation may be co-designed.

- Some wording in the abstract could be simplified, for instance this sentence could be shortened: "...manifest or may be influenced at the local level, impeding the design of contextually nuanced preventative approaches"

Is the rationale for the Open Letter provided in sufficient detail?

Yes

Does the article adequately reference differing views and opinions?

Yes

Are all factual statements correct, and are statements and arguments made adequately supported by citations?

Partly

Is the Open Letter written in accessible language?

Partly

Where applicable, are recommendations and next steps explained clearly for others to follow?

Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Breedvelt: Mental health prevention, children and young people's mental health. Arya: Young people's perspectives on preventative interventions, mental health prevention, children and young people's mental health

We confirm that we have read this submission and believe that we have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however we have significant reservations, as outlined above.

Reviewer Report 24 May 2024

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Abigail Thomson 

Centre for Psychiatry and Mental Health, Queen Mary University of London, London, England, UK

This paper introduces Kailo, a novel prevention framework designed to support local community and public system partnerships to design and implement local and contextually nuanced preventative strategies to improve children's and young people's mental health and wellbeing.

The authors provide a strong rationale for their framework, highlighting several limitations of current mental health treatment and research for young people, noting an overreliance on mono-causal assumptions and narrowly defined health outcomes. They frame young people's mental health and well-being as a 'systems issue', emphasising the role of wider and interacting social determinants. Further, they suggest that despite advancements in treatment responses, issues with funding, resources and capacity hamper these efforts and exacerbate inequality in access to mental health support (a crucial social determinant of population mental health). The authors describe the need for a more nuanced local perspective, exploring how the social determinants of mental health are manifest at the micro level, in addition to considering macro-systemic influence (e.g. poverty, housing). Further, they describe the need for better preventative support that more meaningfully elevates youth and community voices and balances evidence-informed practice with local innovation and co-design. Greater consideration could be given here to those groups of young people who are most underserved by current approaches, whose voices are underrepresented, and for whom the 'systems' described may have a greater impact on their mental health and well-being.

Overall, the Kailo Framework is described as aiming to improve, at the local level, youth mental health and wellbeing outcomes via the design and implementation of preventative approaches that address contextually relevant social determinants of health. It is described as operating across three phases: (i) Early Discovery - building local partnerships and shared priorities (ii) Deeper discovery and Co-Design - youth-centred co-design methods (iii) Prototyping, Implementation and Testing - embedding designs into local infrastructures. The framework's modularity and flexibility are highlighted, alongside the importance of evaluation and future

development. The authors could consider describing how their approach plans to better serve the many small and successful community health projects that operate under the radar of formal evaluations and those that are dynamic by nature (i.e. participatory methods) where changes often occur long after formal evaluation.

The initial and anticipated challenges of the Kailo framework are well considered, and the authors outline some of the steps needed going forward to address these challenges. Attention is given to understanding how different types of evidence manifest within a local and community context and how this may be at odds with current recognised approaches. Further discussion could be given around plans to address this, beyond developing a shared understanding, particularly for those stakeholders or community partners most impacted by systemic inequalities that are contributing their voice to the project.

Is the rationale for the Open Letter provided in sufficient detail?

Yes

Does the article adequately reference differing views and opinions?

Yes

Are all factual statements correct, and are statements and arguments made adequately supported by citations?

Yes

Is the Open Letter written in accessible language?

Yes

Where applicable, are recommendations and next steps explained clearly for others to follow?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Community-based participatory research; Youth engagement/involvement in mental health research; Community-based implementation; Digital interventions; Transdiagnostic approaches to treatment/prevention of adolescent psychopathology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 15 December 2023

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**Jo Henderson** 

Centre for Addiction and Mental Health, Toronto, Canada

The authors of this paper present a compelling case for re-imagining conventional approaches to addressing child and youth mental health problems. They argue that improved mental health and wellbeing for children and youth will not be achieved through individual-level treatment of mental health disorders alone, though investment is argued to be warranted here. Instead, the authors argue that significant investment must be made in designing, testing, and scaling effective, locally determined population-level prevention and promotion approaches. The authors convincingly articulate the limitations of current approaches and amplify the important message that existing single-factor causal explanations for deteriorating child and youth mental health, such as those based on social media, redefining mental ill health, or expanding help-seeking options are inadequate. Instead, given the importance of the social determinants of mental health in understanding child and youth mental health, the authors argue that child and youth mental health must be considered a 'systems issue'. While acknowledging the important role of macro-system consideration, the authors argue for attention to micro/local social determinants, delineating the value of exploring local manifestations of the social determinants of mental health and building local preventative approaches.

In particular, the authors describe the creation of 'Kailo', a new systemic prevention framework designed to address, at a local level, the social determinants of mental health impacting children and youth. Kailo builds upon existing prevention frameworks to be more inclusive of youth and community voices, local innovation and systemic considerations. The authors describe Kailo as operating in three distinct but interconnected phases: 1. Early discovery (building partnerships, learning, prioritizing); 2. Deeper discovery and co-design (structured youth-centered co-design emphasizing equity, evidence and systems approaches); and, 3. Prototyping, implementing, and testing (in local infrastructures). The authors provide concrete aims, inputs, pre-requisites, activities, intended outcomes, and indicators of success for each phase, providing the reader with a foundational map for implementing the Kailo framework. An addition that could strengthen the Kailo framework as presented in this article is greater attention to capturing the relationship components that are centered in the model. It is unlikely that critical relationship factors will be captured by numbers of engagement activities or diversity of participants. These are necessary but not likely sufficient for achieving Kailo's goals. Instead, quality or strength of relationship, as well as youth or community member perceptions of empowerment could be considered. In terms of principles, it is surprising that commitment to measurement/understanding impact is not articulated as a key principle.

The authors describe current efforts to test the Kailo framework in two distinct UK communities and an intention to revise Kailo to Kailo v2.0 based on learnings from early implementation and developmental evaluation. Notably, the methods described align very well with the articulated commitments to centering youth and community voices. Consideration of a Learning Health Systems approach (e.g., Menear et al., 2019) in the discussion of implementation and learning over time may also strengthen the discussion. Future work by the Kailo team will include scaling to additional sites and a summative evaluation. Initial and anticipated challenges are well articulated. Additional discussion of how to address the issue of who holds power in defining evidence and how evidence is defined would be informative, as would even a very brief discussion of the optimal skills and capabilities required for a successful Kailo team.

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Is the rationale for the Open Letter provided in sufficient detail?

Yes

Does the article adequately reference differing views and opinions?

Yes

Are all factual statements correct, and are statements and arguments made adequately supported by citations?

Yes

Is the Open Letter written in accessible language?

Yes

Where applicable, are recommendations and next steps explained clearly for others to follow?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Clinical and health services research in child and youth mental health; youth, family and community engagement

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.
