A mixed methods evaluation of a complex intervention: Improving the mental health of 16-25-year-olds in Central Bedfordshire

OVERVIEW |

In England, there has been a notable increase in the number of young people (YP) facing mental health (MH) challenges[1]. Interventions shown to be effective include psychosocial prevention initiatives delivered in educational environments[2], and community-based creative activities[3]. The use of Population Health Management (PHM) approaches has led to improvements in the accessibility and quality of care in YP mental health services[4]. However, there is limited evidence of their cost effectiveness and variable evidence on the effectiveness of risk stratification models[a] towards improving health outcomes.[5, 6]

This evaluation sought to understand the impact of a complex mental health intervention targeting YP aged 16-25 in Central Bedfordshire. It also looked to unpack the process and experience of implementing PHM and Community Collaborations (CC) approaches towards improving mental health outcomes for vulnerable YP groups (incl. ethnic minorities, LGBTQ+ individuals, and young carers). The evaluation was led by PHIRST South Bank, and aimed to provide insights into intervention effectiveness, barriers and facilitators (context), as well as provide recommendations for ongoing service improvements.

KEY MESSAGES |

Intervention effectiveness

The intervention was partially effective in meeting the mental health and wellbeing needs of young people, to date (short and interim outcomes partially met). The trajectory of short and interim outcomes suggests that longer-term outcomes will be partially met if interventions continue to be funded. However, significant adjustments to existing interventions would be required to deliver on a PMH approach that supports longer-term outcomes (e.g., fewer and less severe diagnosed health conditions in young people).

The CC approach

Piloting a Community Collaborations approach revealed insights for its future design and implementation, including the importance of relationships and peer-to-peer support; barriers to access and acceptability; the need for specificity (a proportionate universalism[b] approach and biographical specificity[c]), avoiding an over-reliance on diagnoses; and the need for engaging spaces to deliver interventions.

The PHM approach

The use of a PHM approach supported outcome delivery: data integration was particularly strong during intervention design; with noted gaps in linking social care and health data, as well as as associating health determinants with available health outcomes data.

Recommendations

PHIRST South Bank set 8 recommendations around: (1) PHM approach; (2) Co-produced involvement models; (3) Qualitative evidence training; (4) Life context is key; (5) Promoting and measuring engagement; (6) Focusing on relationships; (7) Considering environments and spaces; (8) Evaluation frameworks.

BACKGROUND |

What was the intervention about?

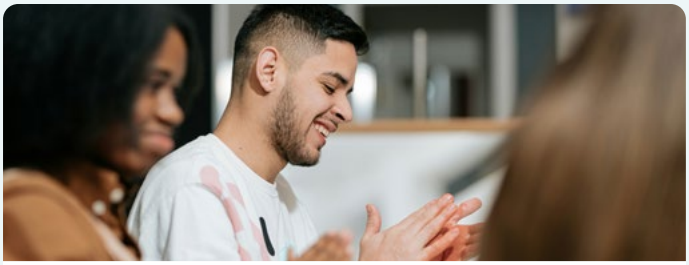
In England, young people are facing mental health challenges. The same is true in Central Bedfordshire. With a £500,000 Integrated Care Board (ICB) investment, Central Bedfordshire Council (CBC) designed a programme of mental health support for young people.

CBC used a method called the 'Population Health Management' approach, to find out which young people (YP) to target to improve their mental health. The PHM approach is a systematic data-led approach to person-centred care, with an aim to reduce inequalities and provide targeted proactive, personalised, and preventative health and care interventions. However, there are challenges in implementing the PHM approach, particularly around identifying individuals most at risk and assessing intervention cost effectiveness.

CBC developed four streams of mental health support:

Upskilling the workforce which trained professionals working with young people (e.g., teachers, clinicians).

Building resilience in young people within educational settings, taking a 'whole-school approach'.



Building on existing community assets through the creation of **Community Collaboration (CC) hubs**, which are networks of local organisations (incl. arts-based groups) providing evidence-based mental health support to young people.

Using **Wellbeing Navigators** to support young people through life and service transitions, connecting them to available support.

What was the evaluation trying to do?

PHIRST South Bank - with its expertise in co-produced public health intervention evaluations - investigated how effective the intervention was in supporting 16–25-year-olds in Central Bedfordshire (short and medium-term outcomes). We didn't intend to measure long-term outcomes with the expectation that these would not materialise during the timeline of the evaluation.

The team looked closely at the use of novel methods (a PHM approach and Community Collaborations) to create and carry out the intervention aimed at improving mental health outcomes for vulnerable YP groups including ethnic minorities, LGBTQ+ individuals, and young carers. The evaluation provided evidence for recommendations around future use of PHM and CC approaches in meeting the mental health needs of YP.

The evaluation questions were:

1. **Was the intervention effective in meeting the mental health and wellbeing needs of young people?**

2. **What was the process and experience of implementing the novel Population Health Management and Community Collaboration hubs approaches, in the design and delivery of the intervention?**

FINDINGS |

Our evaluation found the CBC intervention to be partially effective in meeting the mental health and wellbeing needs of young people, to date. The use of a PHM approach supported outcome delivery and the piloting of a CC approach. Understanding of the Community Collaborations (CC) approach revealed insights for future design and implementation of CC hubs as part of a complex intervention.

What were the benefits to Young People?

Short term

- Timely and appropriate engagement with mental health services increased, as well as satisfaction levels amongst YP who accessed the interventions.
- However, resilience among YP in target schools was not sufficiently measured, making it difficult to assess the key intervention outcome of increased resilience.

> **"It was a really great first step into therapy. I liked how open it was and unstructured it was. It meant I could dig more into my mental health and understand it better. I think talking to an outsider confidentially about my mental health was really useful."**
>
> *Wellbeing Navigators Service user (YP)*

Medium term

- Improvements were seen in young people's readiness for life transitions and overall wellbeing.
- There was insufficient evidence to assess reductions in self-harm and mental health stigma.

What were the benefits for the service/workforce?

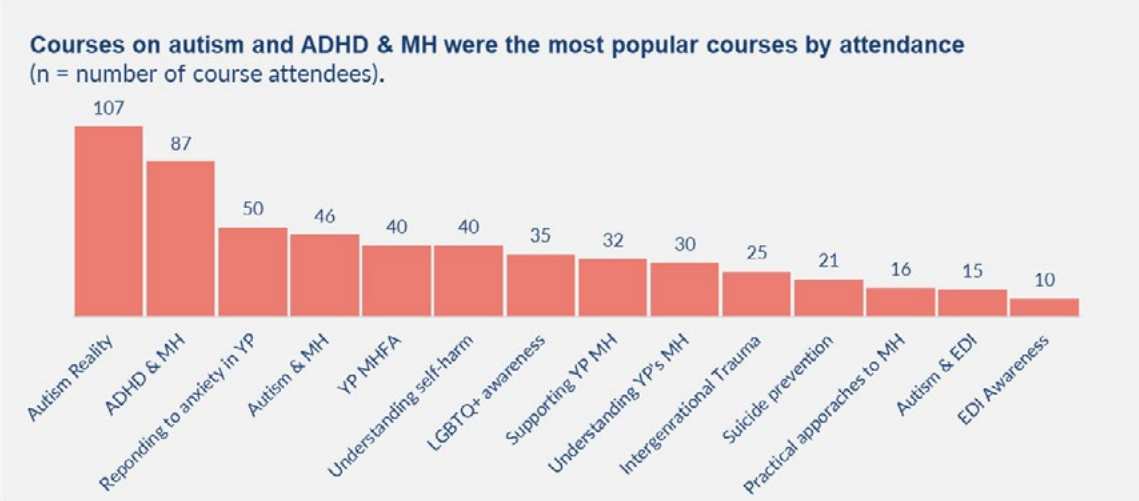
Short term

- The range of provisions for YP increased, and workforce skills and confidence around supporting and signposting YP to services improved: staff reported highly positive training experiences.
- Although schools (and other educational settings) demonstrated an improved understanding of the 'whole school approach', capacity and system constraints limited its successful implementation.

> **"The biggest impact the training has had for me is definitely the self-confidence, and having attended the training, gaining the additional knowledge to better support the young people that I work with."**
>
> *Upskilling the workforce participant*

Medium term

- The goals to upskill the Voluntary, Community and Social Enterprise (VCSE) sectors and deliver on service Key Performance Indicators (KPIs) were partially met.
- There was insufficient evidence to demonstrate that practices of those working with YP had been embedded.



Upskilling the Workforce KPI data

What were the benefits for understanding implementation of a PHM approach?

Short term

- Integration of data was particularly strong during service design, where use of linked quantitative datasets together with incorporation of qualitative evidence supported establishing a picture of YP's mental health in CB.
- However, integration of social care and social determinants data was a challenge (incl. availability, completeness and usability of data) and limited the ability to target at-risk populations.

"...particularly the social markers were really difficult...first of all some of it just wasn't available, so particularly the more social parts, if a young person hasn't attended a GP then you wouldn't have that data, but also even if they had it wouldn't necessarily be done in a way that would flag up on a system."

Public Health professional

Medium term

- YP's lived experiences revealed invaluable insight towards supporting service re-design and re-commissioning. Emerging themes included: the importance of relationships and peer-to-peer support, and barriers to service access and acceptability.

"I can remember one of the other members also shared her honest feelings of similar incidents that happened to her whilst she was a child and when she was giving her information, she said it had worked for her so for another person, someone of my age group, to share this information and it worked for her."

Community Collaborations service user (YP)

What was the resource impact?

- The benefits derived in our evaluation relative to the costs incurred, compare highly favourably to National Institute for Health and Care Excellence (NICE) thresholds for funding decision making (not withstanding data limitations).
- NICE thresholds (cost per quality-adjusted life year (QALY) gain) are typically set between £20,000 and £30,0007, whereas cost per engaged participant in the intervention ranged from £252 to £3,952 per engaged participantd (lowest cost associated with Upskilling the Workforce).
- Costs for the Wellbeing Navigator intervention were relatively low. There were a range of costs associated with self-reported improvements in:

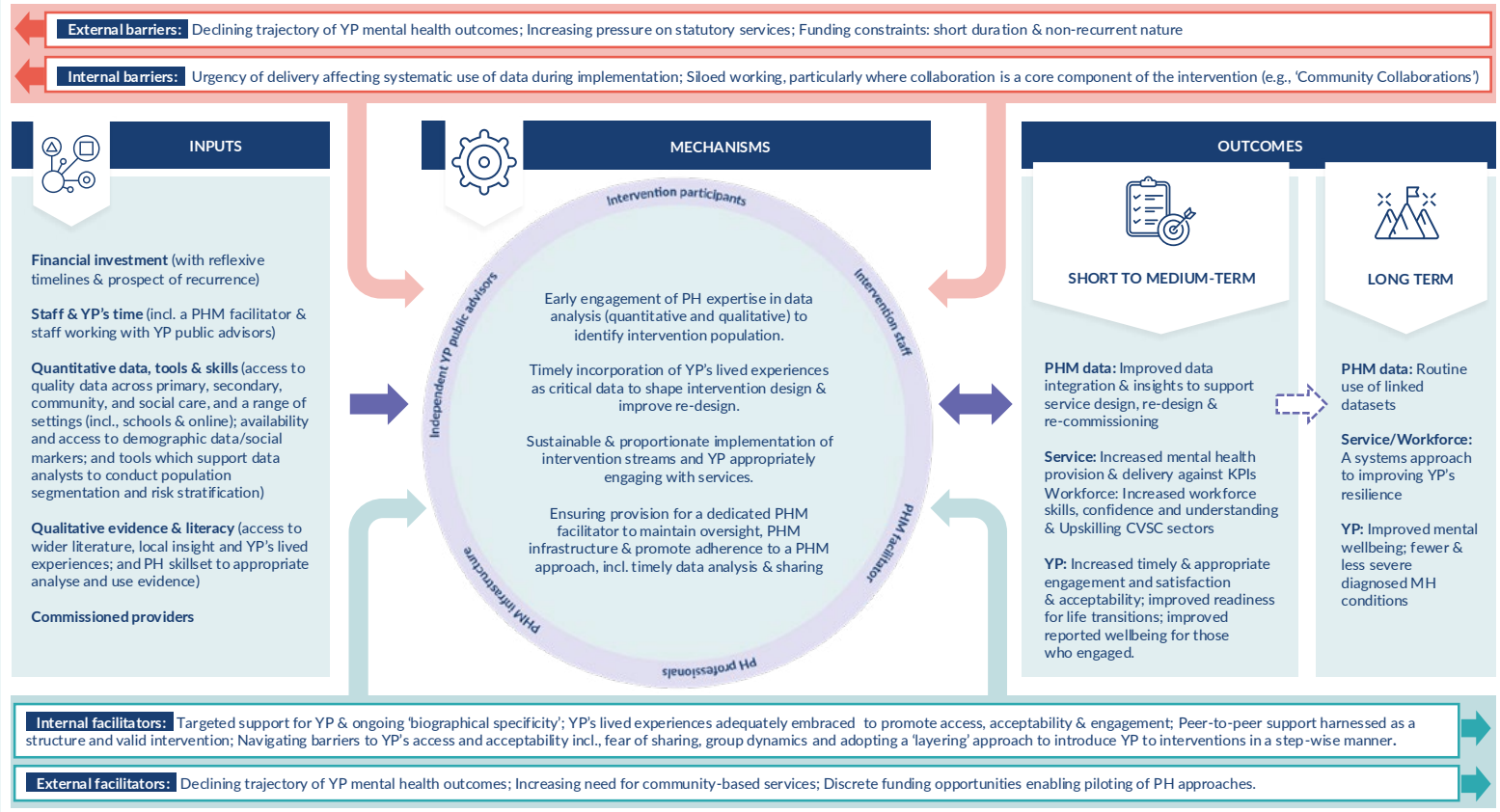
Satisfaction with 8 areas of life (£1,919 to £8,982/unit of improvement in Dialog score), with the lowest cost per unit of change in wellbeing score for YP's improved satisfaction with mental health.

Ability to live as well as they can (£488 - £919 per 10% improvement in Wellbeing Star score), the lowest costs per unit of change in wellbeing score for YP's positivity, confidence and ability to manage symptoms.

Logic Model informed by evaluation findings (Empirically-based Logic Model)

The evaluation employed a Logic Model to guide the assessment of intervention design, implementation, and intended outcomes. The Model provided a structured way to understand how the intervention's components – including the four intervention streams - led to observed outcomes.

Our Logic Model illustrates the mechanisms, facilitators, and barriers (contexts) that were important in achieving intervention outcomes.



Inputs describe the activities, resources, knowledge and skills required to design and deliver the intervention.

Mechanisms: Inner circle - core ways in which the intervention worked. Together, mechanisms steered progress towards outcomes against the current of external and internal barriers; Outer ring – 'Mechanism facilitators':- key components – mostly people - that supported the core intervention mechanisms to function.

Outcomes: Short to medium term outcomes - Partially met during the first 1.5 years of the intervention; Long term - Anticipated outcomes that result from short to medium-term outcomes being met.

Barriers and Facilitators (context) describe national, local and intervention-specific moderators that impact outcomes both positively and negatively.

RECOMMENDATIONS |

1. PHM training

Local government public health teams and commissioned stakeholders to receive further training in PHM principles to better align services and improve data use. Local governments to consider the use of a PHM approach as 'Business as Usual' in complex Public Health interventions.

2. Co-produced involvement models

Local governments and commissioned stakeholders should collaborate on timeline agreements, design needs, and service evaluation using Gantt charts for agreed timelines on milestones and deliverables and other tools for structured collaboration, particularly where community-based organisations are required to work across organisations and sectors.

3. Qualitative evidence training

Local governments to ensure the inclusion of wider literature, local insight and YP's perspectives when identifying the most vulnerable and knowing how best to target them. To consider use of in-depth interviews to complement KPI data in understanding intervention progress and impact.

4. Life context is key

In delivering interventions, employ principles of formulation (context, meaning and consequence) and engage YP in collaboratively meeting their needs.

5. Promoting and measuring engagement

Adopt a stepped approach to engaging YP and increase biographically specific outreach efforts to engage YP who are not in school or otherwise underrepresented in health data.

6. A focus on relationships

Therapeutic relationships between staff and YP, and peer support systems, should be central to intervention strategies. Peer Support Workers (PSWs) could be formalised as part of service delivery.

7. Consider environments and spaces

Creating informal, inviting spaces for intervention delivery can foster more relaxed and effective engagement.

8. Evaluation framework

Develop a robust evaluation model that includes both qualitative and quantitative data to measure medium-term and long-term outcomes.

Information about the Study |

Methods

This was a mixed methods study which combined the statistical analysis of routine data with in-depth qualitative interviews and Focus Group Discussions. Specifically, **Quantitative data analysis:** Pre and post intervention KPI data to assess intervention effectiveness; **Qualitative data analysis:** - In-depth interviews and Focus Group Discussions (FGDs) with YP (using photo-production), CBC staff, Intervention stream leads, Intervention stream delivery staff, and community stakeholders. Interviews with YP used photo-production methods. Thematic analyses to identify mechanisms, facilitators, and barriers (contextual factors) influencing outcome delivery; **Resource impact analysis:** Quantitative and qualitative intervention KPI and cost/resource data to assess resourcing impact; **Sampling:** Over 40 qualitative interviews and FGDs with YP and stakeholders. However, difficulties in recruitment resulted in a reduced sample size, which limited the ability to generalise findings. We held 21 in-depth interviews (mostly 1-1) and 2 FGDs.

Sources for further information

Website: www.phirst.nihr.ac.uk/about-phirst/phirst-southbank/

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PHIRST South Bank conceived the evaluation in collaboration with the Central Bedfordshire Council. The evaluation was strengthened by the involvement of a PPIE panel was made up of 6 young people.

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Footnotes

[a] Risk stratification is a key PHM approach which seeks to assign appropriate levels of care through identifying and categorising populations into groups according to their level of risk of poor health outcomes.

[b] Proportionate universalism describes interventions that are implemented for whole populations whilst being proportionate to the need.

[c] Biographical specificity describes the taking into account of past and ongoing individual circumstances of an individual, in addition to a person's characteristics and identity.

[d] In the absence of controlled study, we used pre and post data (data from intervention participants who completed a survey about their experience both before and after the intervention) as 'complete' data for our resource impact analysis (there was no such data available for the Community Collaborations intervention stream). We have described these participants as engaged - which differs from the total number of people that may have taken part in the intervention - and acknowledge the limitations of available data in assessing resource impact. Given that the total number of participants was higher than 'engaged' participants, should the total participant numbers have reflected complete data for our analysis, this would have further reduced already favourable costs of the intervention.