NIHR | Public Health Intervention Responsive Studies Teams

PHIRST evaluation for Central Bedfordshire Council

Improving the mental health of 16-25-year-olds in Central Bedfordshire.

Final Report

30th September 2024

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PHIRST **South Bank**

- PHIRST South Bank is one of 8 Public Health evaluation centres funded by National Institute for Health Research (NIHR).
- The aim of these Centres is to provide timely and robust evaluations of locally led interventions to both inform future local decision making and contribute to an evidence base that is useful to the wider public health community.
- PHIRST South Bank is led by staff at London South Bank University (LSBU) and brings together an interdisciplinary team that have a wealth of experience of working with local authorities across a wide range of public health priorities.
- The Centre is based on a principle of co-production with local stakeholders, and it is intended that the joint working between local authorities and our academic team will result in greater mutual understanding, learning of new skills and will ensure evaluations are relevant and useful.
- Patient and Public Involvement and Engagement (PPIE) is central to the Centre's approach and public representation is embedded throughout the infrastructure and delivery of our work.

Approvals & Declarations

- Ethical approval was secured from the Institute of Health and Social Care Ethics Panel at London South Bank University (ETH2223-0200and ETH2324-0074). Centre ID: NIHR131568; Award ID: NIHR135744.
- The authors declare that they do not have any commercial or financial relationships that may result in a conflict of interest.
- The views expressed represent those of the authors and not necessarily those of affiliated organisations.

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Abbreviations

- CBC – Central Bedfordshire Council
- YP – Young People
- MH – Mental Health
- PH – Public Health
- PHM – Population Health Management
- SHEU – Schools Health Education Unit
- FGD – Focus Group Discussion
- Community Collaborations – CC
- Young Persons Wellbeing Navigator – YPWN
- KPI – Key Performance Indicator

The Intervention and Background

The Intervention: Improving the mental health of 16-25-year-olds in Central Bedfordshire

Background: A local investment of £500,000 to implement a Population Health Management (PHM) approach in Central Bedfordshire to improve population health outcomes for young people aged 16 to 25 years in need of mental health support.

Aim: To improve the mental health of young people in Central Bedfordshire, incl. young people from ethnic minority backgrounds, young men and young people from socially and economically disadvantaged backgrounds.

How: Working in partnership with organisations and residents across the region, taking a PHM approach, and being driven by local data incl. GP, Schools Health Education Unit (SHEU) survey, NHS, third sector and local authority sources, to target evidence-based interventions to young people who identify as LGBTQ+ or are questioning their identity; are young carers; neurodiverse; care leavers or looked-after children.

The intervention:

A complex Public Health (PH) intervention with four workstreams:

- **Upskilling the workforce** through training, including teachers, clinicians and other professionals working with young people.
- **Building resilience** in young people, taking a whole-school approach.
- Building on existing community assets through the creation of four* **Community Collaboration (CC) hubs,** networks of local organisations providing evidence-based mental health support to young people.
- Using **wellbeing navigators** to support young people through life and service transitions and connect them to available support. One based in each CC hub.

*N.B., Although the intervention design was for 4 CC hubs, only 3 were created due to lack of engagement.

A novel approach: Population Health Management (PHM)

Population Health Management (PHM) is a systematic **data-led** focus on **person-centred** care across a population.[1]

The PHM approach is regarded as a cornerstone to the quadruple aims of healthcare: **(1)** Improving the population's health; **(2)** Improving the experience of care; **(3)** Improving the health and well-being of the workforce; and **(4)** Reducing overall care costs[2]. PHM achieves this by identifying the population at risk, the drivers of cost, and the variability in services within a specific population.[3]

The approach often relies on data collected and reported electronically.[4] Using **joined-up data** across **health** and **care** partners, and techniques of **population segmentation** and **risk stratification**, PHM aims to reduce inequalities & provide targeted proactive, personalised and preventative health and care interventions.

In the UK, PHM has been adopted to deliver the policy shift towards more joined-up care and place-based systems delivered through Integrated Care Systems (ICSs),[2] focusing on 3 'pillars':

1 Know — Evidence and knowledge as key incl. **risk factors** which support upstream prevention of multiple burden of disease

2 Connect — Shifting from competition to **collaboration** across health, social care, public services and voluntary sectors.

3 Prevent — Shifting from reactive to proactive, preventative care.

A novel approach: Community Collaborations

The CBC Community Collaborations (CC) approach relates to the **Connect** pillar of the PHM approach.

Three **CC 'hubs'** were formed by existing groups in the community to support YP outside of school:

1. **Next Generation Youth Theatre/Carers in Bedfordshire**: a performing arts programme with signposting to Carers in Bedfordshire, and with links into the STILL method, and Mind BLMK.

2. **Creative Mental Health Programme**: including the Poets In therapeutic writing programme.

3. **Bedfordshire Rural Communities Charity**: including the Y2A (Youth to Adult) transition programme.

Existing literature: what did we already know?

The need - nationally:	an **increase** in the number of YP experiencing probable mental health (MH) challenges[5] with the percentage of 7-16-year-olds with a probable mental health problem rising from **12.1% in 2017** to **16.7% in 2020.**[5,6]
The need – locally:	CB is an area characterised by relative deprivation and higher than national average rates of hospital admission for self-harm among 20-24-year-olds. The Schools Health Education Unit (SHEU) reported pupils in CB were less likely to report high resilience and happiness with life in 2021 compared to 2019, and local data and intelligence revealed a **deterioration** in some Mental Health and Wellbeing (MH&W) indicators, including increased rates of suicide and self-harm and higher demand for MH&W services.

Effective interventions – schools:

Psychosocial interventions are often employed in prevention initiatives, particularly in educational contexts.[7] Recent evidence[6] found that universal social and emotional learning interventions enhance YP's social and emotional skills and reduce depression and anxiety symptoms in the short term. But there is **limited evidence** on school-based interventions that prevent suicide and self-harm, improve MH outcomes for vulnerable YP and diverse groups, and effectively employ teacher-delivered interventions to address students' depression or anxiety symptoms.

Existing literature: what did we already know? (2)

Effective interventions – community-based:

- **Communities of Practice (CoP)**, designed to address complex problems through bringing individuals and organisations together to share knowledge and learning,[8] are increasingly used to improve PH service performance and professional practice.[9] Whilst there is increasing demand for MH support for YP in primary care, pathways are often fragmented and there is a need to consider alternatives, particularly as existing interventions have reported only short-term/medium-term benefits. Long-term effects require interventions to be sustained over an extended period.
- **Community-based creative activities** report positive effects on YP's behavioural changes, self-confidence, and self-esteem[10]. Additionally, the arts demonstrate a role in building resilience among young people, leading to positive effects on relationship building and a sense of belonging.[11,12]

Existing literature: what did we already know? (3)

Effectiveness of a PHM-driven complex intervention:

- Current population-based health surveys in schools often fail to include **YP who are not in school** and may face significant health inequities.[10] To address the increasing challenges of **fragmentation of data and resources** and ensure targeting to individuals most in need, the PHM approach has been promoted.
- The **PHM approach** systematically utilises linked datasets and segments populations (e.g. by their conditions, severity of illness, and sociodemographic characteristics) to help leverage resources to improve healthcare.[4]
- The use of PHM-based interventions has led to improvements in the accessibility and quality of care in YP MH services.[14]
- However, there is **limited evidence on the cost-effectiveness** of PHM-aligned approaches,[15] and while they have been successful in reaching some at-risk populations, they have been found to be less consistent amongst other at-risk populations who would directly benefit from the intervention.[16]
- To address this issue, the effectiveness of **risk stratification models** has been explored as a means to **identify individuals at risk of adverse health outcomes**[17] and to **develop additional strategies to improve the engagement** of intended recipients.
- Despite their potential, risk stratification models have not always led to improved health outcomes, as they **may not consider additional relevant information that could better direct resources** to those who need them.[18]

Gaps in evidence: considerations for evaluation design

We have a body of evidence on the mental health needs and experiences of YP and on the knowledge and skills of workers (especially teachers).

But we know less about:

- How a PHM approach can help to shape goal-oriented interventions.
- How segmentation and impact ability models can help identify those at risk, especially in relation to MH.
- How stakeholders can work together to understand, develop and support a PHM approach.
- How the views of YP can be included within a PHM approach.

Co-producing the Evaluation

Co-producing an evaluation plan

A series of co-production workshops were carried out to reach a shared understanding of:

- the aims and processes of the intervention
- a logic model and theory of change underpinning the intervention
- the existing evidence and gaps in knowledge
- an evaluation question that was feasible and useful to both the local intervention and the wider public health community
- an appropriate evaluation design plan

Representatives from: the evaluation team, local stakeholders and a PPIE representative.

Joint decision-making continued following this formal process around specific aspects of the protocol

The workshops produced a logic model of stakeholders' initial ideas to guide the evaluation design. This model is described in the next slide and then presented in the slide that follows

Logic model description

The logic model assumes that the PHM-led design of CBC's intervention will increase its acceptability and accessibility, improve service users' health outcomes and establish a sustainable and coherent partnership system.

The model encompasses a series of 'if…then…'[19] statements and assumptions:

a) If existing local linked datasets and intelligence (a PHM approach) are used alongside qualitative data, it will be possible to identify the mental health needs and target populations amongst young people.

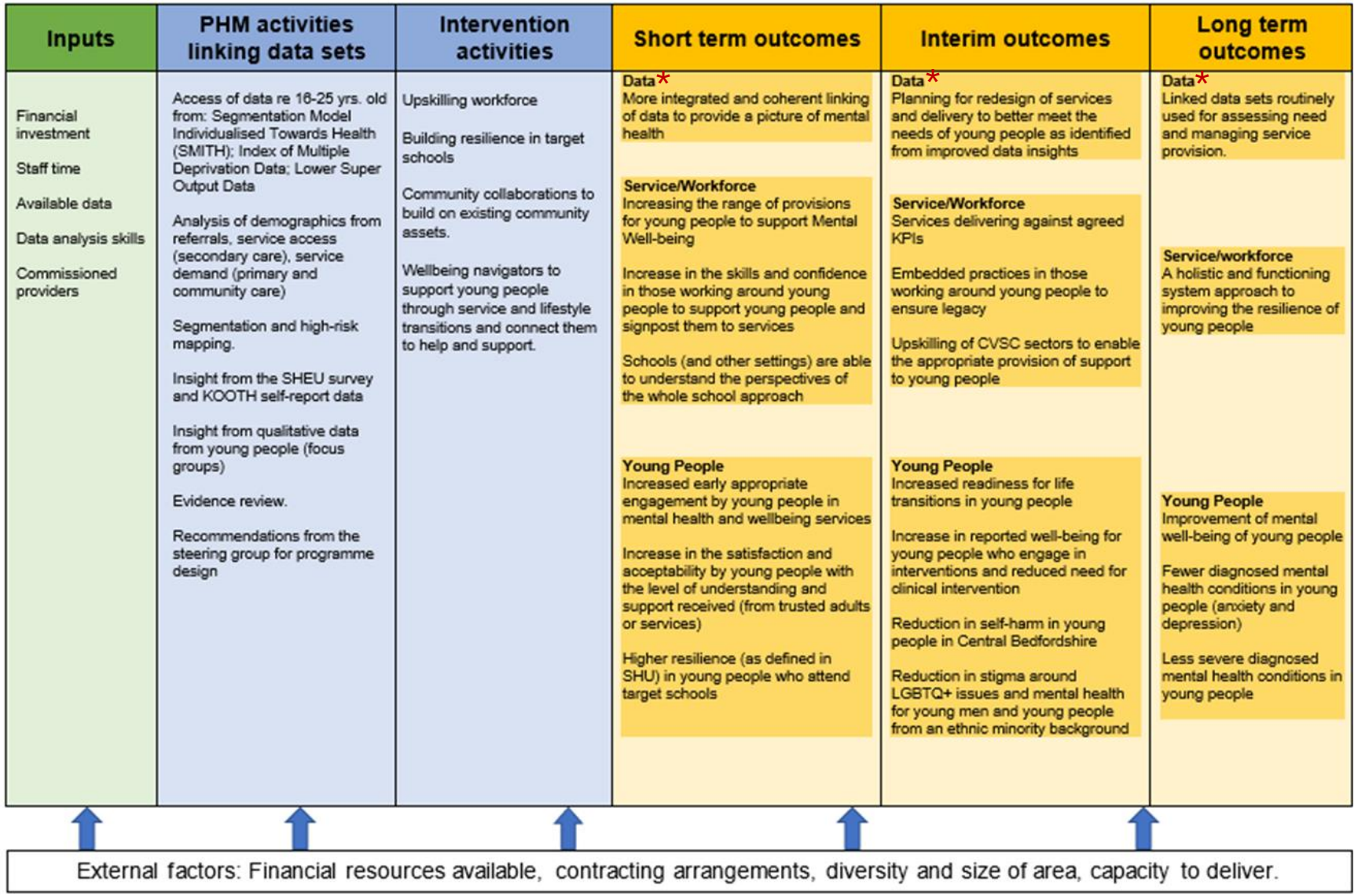
b) If interventions are designed based on a PHM approach, service provision will grow, and the workforce will be better able to respond to the needs of young people.

c) If interventions are designed based on a PHM approach, young people will engage with services earlier, find services more acceptable, and have higher resilience.

d) If young people engage with services earlier, find services more acceptable and have higher resilience they will be more ready for life transitions, report improved mental health and well-being, reduce self-harm episodes, and experience less stigma.

e) If a PHM approach is successfully applied, linked data sets will be routinely used for assessing need and managing service provision.

Co-produced logic model of intervention



Inputs	PHM activities linking data sets	Intervention activities	Short term outcomes	Interim outcomes	Long term outcomes
Financial investment Staff time Available data Data analysis skills Commissioned providers	Access of data re 16-25 yrs. old from: Segmentation Model Individualised Towards Health (SMITH); Index of Multiple Deprivation Data; Lower Super Output Data Analysis of demographics from referrals, service access (secondary care), service demand (primary and community care) Segmentation and high-risk mapping. Insight from the SHEU survey and KOOTH self-report data Insight from qualitative data from young people (focus groups) Evidence review. Recommendations from the steering group for programme design	Upskilling workforce Building resilience in target schools Community collaborations to build on existing community assets. Wellbeing navigators to support young people through service and lifestyle transitions and connect them to help and support.	**Data*** More integrated and coherent linking of data to provide a picture of mental health **Service/Workforce** Increasing the range of provisions for young people to support Mental Well-being Increase in the skills and confidence in those working around young people to support young people and signpost them to services Schools (and other settings) are able to understand the perspectives of the whole school approach **Young People** Increased early appropriate engagement by young people in mental health and wellbeing services Increase in the satisfaction and acceptability by young people with the level of understanding and support received (from trusted adults or services) Higher resilience (as defined in SHU) in young people who attend target schools	**Data*** Planning for redesign of services and delivery to better meet the needs of young people as identified from improved data insights **Service/Workforce** Services delivering against agreed KPIs Embedded practices in those working around young people to ensure legacy Upskilling of CVSC sectors to enable the appropriate provision of support to young people **Young People** Increased readiness for life transitions in young people Increase in reported well-being for young people who engage in interventions and reduced need for clinical intervention Reduction in self-harm in young people in Central Bedfordshire Reduction in stigma around LGBTQ+ issues and mental health for young men and young people from an ethnic minority background	**Data*** Linked data sets routinely used for assessing need and managing service provision. **Service/workforce** A holistic and functioning system approach to improving the resilience of young people **Young People** Improvement of mental well-being of young people Fewer diagnosed mental health conditions in young people (anxiety and depression) Less severe diagnosed mental health conditions in young people

External factors: Financial resources available, contracting arrangements, diversity and size of area, capacity to deliver.

* Data outcomes hereby referred to as 'PHM approach' outcomes

Research questions

Research aim: To investigate whether the CB programme is effective in meeting the mental health and wellbeing needs of young people.

Research questions:

1. Was the CB programme effective in meeting the mental health and wellbeing needs of young people?
2. What was the process and experience of implementing the novel PHM and CC hubs approaches, in the design and delivery of the programme?

Research outcomes:

1. An empirically based real-world logic model and/or Theory of Change that identifies contexts and mechanisms influencing programme outcomes.
2. Recommendations on the future use of programme approaches towards meeting the mental health and wellbeing needs of YP.

Research objectives:

1. To evaluate the effectiveness and resource impact of the four intervention streams in improving young people's mental health and wellbeing: the Pin-badge scheme ('Upskilling our workforce'), Wellbeing navigators, CC hubs and a whole-school approach ('Building resilience').
2. To assess the process and experience of implementing a PHM and CC hubs approach in the design and delivery of a programme aimed at improving the mental health and wellbeing of young people.
3. To explore how deeply adults working with YP engage with the school's programme.
4. To explore the lived experience of YP participating in the programme.

Evaluation design
Data collection

WP1: Programme effectiveness	• CBC to electronically share programme KPI data • 2 in-depth qualitative interviews with CBC PH stakeholders to gather context around preliminary KPI analysis and resourcing (x1 for KPI context; x1* for resource/cost context)
WP2: New ways of working	• In-depth qualitative interviews with CBC PH stakeholders (x3) • FGDs with YP who participated in CBC's intervention design FGDs (x1)** and Community Collaborations leads (x1)*** **Due to scheduling challenges, we conducted 3 in-depth qualitative interviews for resource context* ***We also interviewed a non-CBC stakeholder who coordinated YP who participated in CBC's intervention design FGDs (x1)* ****Due to scheduling challenges, we also conducted an in-depth qualitative interview with a Community Collaborations lead who was unable to attend the FGD.*
WP3: Involvement and engagement of adults working with YP	• 3-4 FGDs with representatives from 4-5 schools**** *****Due to challenges in recruitment, we conducted 2 in-depth qualitative interviews with Community Collaborations delivery leads in place of the above.*
WP4: Lived experience of YP	• *n* <40 in-depth visual qualitative interviews with YP across the four intervention streams***** ******Due to significant challenges in recruitment, we conducted 10 in-depth qualitative interviews with YP who participated in the Community Collaborations intervention.*

Evaluation design (2)

Data analysis

WP1	• Within-group repeated measures analyses (primary analysis) using SPSS (statistical analysis software) • Sub-group analyses where data permits (secondary analysis) using SPSS
WP2	• Collaborative thematic synthesis of interview and FGD data with an inductive approach using Delve.io (qualitative data analysis software)
WP3	• Collaborative thematic synthesis of interview data using Delve.io
WP4	• Collaborative thematic synthesis of interview data using Delve.io

Rationale and relevance

- There is high demand for mental health support for YP,[5] with calls for an increase in psychosocial interventions, particularly in an educational context, as they are often reported to be at the forefront of prevention initiatives.[7] However, **evidence about the effect of these interventions is inconsistent**.

- **Population-based health surveys often fail to include YP who are not in school** and may face significant **health inequities**.[10] The **PHM approach** has been promoted to ensure that **resources and interventions targets individuals in need**.

- Despite the promising **potential** of the PHM approach in **improving accessibility and quality of care**,[15] the **identification** process of **population in need** is reported to be **less consistent** amongst other at-risk populations who would directly benefit from the designed intervention.[16]

- **Not enough is known about the implementation and effectiveness of the PHM approach in designing mental health interventions for YP**. A modified realist evaluation approach could support **assessment of whether and how the intervention works in a specific context**, whilst testing and refining programme theory.[20]

- **Limited data on PHM implementation strategies** across mental health settings has led to ambiguity in the implementation of each facet of the approach[13] and gaps and challenges in the application of PHM. Challenges include access to linked data, collaboration between health and social care systems, and the need to develop digital and analytical skills.

- **Mindset and workforce-related challenges** have also been identified, which include the proactive against the reactive nature of care, patient mistrust of data sharing, political mindset and workload pressure. **Regulation challenges** include innovation speed and technologies' unintended consequences.[13]

Rationale and relevance (2)

- CBC has designed a range of interventions aimed at improving the mental health of some of the most vulnerable YP in their locality. Working in partnership with organisations and residents across CB, CBC have adopted a PHM approach to target evidence-based interventions to young people aged 16-25 years most in need of mental health support.

- We proposed taking advantage of the opportunity to **document and evaluate the formation and implementation** of a PHM approach-driven complex PH intervention using a mixed methods evaluation approach.

Conclusions

Conclusions

Our evaluation found the Central Bedfordshire programme 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 revealed insights for its future design and implementation.

Most **short and interim outcomes** were **partially met***.

In line with the expectation that long-term outcomes would materialise following the evaluation period, we collected insufficient evidence to suggest these were met. However, the trajectory of short and interim outcomes suggest the possibility that longer-term outcomes will be partially met if interventions continue to be funded.

However, given the evidence presented, significant adjustments to existing interventions would be required to deliver on a PMH approach that supports longer-term outcomes.

Suggested adjustments are detailed in our 8 recommendations, and span intervention-specific changes through to adjustments in the overarching PHM approach.

*N.B., Both short and interim outcomes were partially met within the timeframe of the evaluation, therefore the partial achievement of short-term outcomes, does not appear to be a factor of time, but an issue of needed context-specific adaptations.

We present a logic model based on our evaluation findings (an empirically-based Logic Model) which shows the **mechanisms, facilitators and barriers** (contexts) that were important in achieving programme outcomes.

Conclusions – Young people outcomes

SHORT-TERM OUTCOMES	Increased early appropriate engagement by YP in mental health and wellbeing services – **partially met** Increase in the satisfaction and acceptability by YP with the level of understanding and support received (from trusted adults or services) – **partially met** Higher resilience (as defined in SHEU) in YP who attend target schools – **not met / insufficient data to assess**
INTERIM OUTCOMES	Increased readiness for life transitions in young people – **partially met** Increase in reported well-being for young people who engage in interventions and reduced need for clinical intervention – **partially met** Reduction in self-harm in young people in Central Bedfordshire – **not met / insufficient data to assess** Reduction in stigma around LGBTQ+ issues and mental health for young men and young people from an ethnic minority background – **not met / insufficient data to assess**
LONG-TERM OUTCOMES	Improvement of mental wellbeing of young people – **not met / insufficient data to assess** Fewer diagnosed mental health conditions in young people (anxiety and depression) – **not met / insufficient data to assess** Less severe diagnosed mental health conditions in young people – **not met / insufficient data to assess**

Conclusions – Service/workforce outcomes

SHORT-TERM OUTCOMES	Increasing the range of provisions for young people to support Mental wellbeing – **partially met** Increase in the skills and confidence in those working around YP to support and signpost them to services – **partially met** Schools (and other settings) understood the perspectives of the whole school approach – **fully met**
INTERIM OUTCOMES	Services delivering against agreed KPIs – **partially met** Embedded practices in those working around young people to ensure legacy – **not met / insufficient data to assess** Upskilling of CVSC sectors to enable the appropriate provision of support – **partially met**
LONG-TERM OUTCOMES	A holistic and functioning system approach to improving the resilience of young people – **not met / insufficient data to assess**

Conclusions – PHM Data outcomes

SHORT-TERM OUTCOMES	More integrated and coherent linking of data to provide a picture of mental health – **partially met**
INTERIM OUTCOMES	Planning for redesign of services and delivery to better meet the needs of young people as identified from improved data insights – **partially met**
LONG-TERM OUTCOMES	Linked datasets routinely used for assessing need and managing service provision – **not met / insufficient data to assess**

Logic model based on evaluation findings (Empirically-based Logic Model)

External barriers: Declining trajectory of YP mental health outcomes; Increasing pressure on statutory services; Funding constraints: short duration & non-recurrent nature

Internal barriers: Urgency of delivery affecting systematic use of data during implementation; Siloed working, particularly where collaboration is a core component of the intervention (e.g., 'Community Collaborations')

INPUTS

Financial investment (with reflexive timelines & prospect of recurrence)

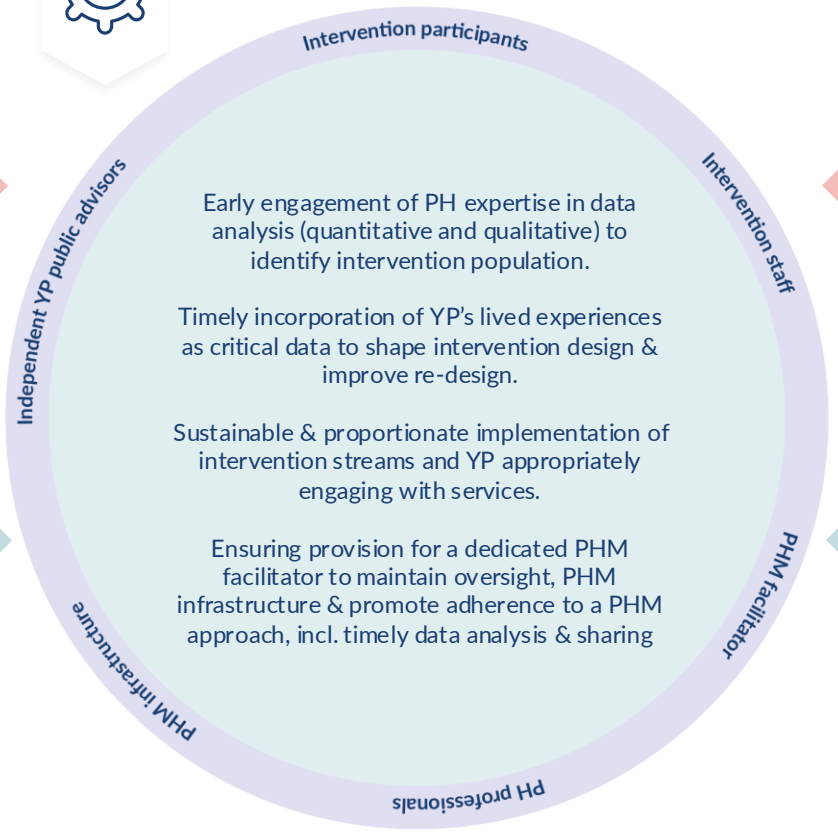
Staff & YP's time (incl. a PHM facilitator & staff working with YP public advisors)

Quantitative data, tools & skills (access to quality data across primary, secondary, community, and social care, and a range of settings (incl., schools & online); availability and access to demographic data/social markers; and tools which support data analysts to conduct population segmentation and risk stratification)

Qualitative evidence & literacy (access to wider literature, local insight and YP's lived experiences; and PH skillset to appropriate analyse and use evidence)

Commissioned providers

MECHANISMS



Early engagement of PH expertise in data analysis (quantitative and qualitative) to identify intervention population.

Timely incorporation of YP's lived experiences as critical data to shape intervention design & improve re-design.

Sustainable & proportionate implementation of intervention streams and YP appropriately engaging with services.

Ensuring provision for a dedicated PHM facilitator to maintain oversight, PHM infrastructure & promote adherence to a PHM approach, incl. timely data analysis & sharing

OUTCOMES

SHORT TO MEDIUM-TERM

PHM data: Improved data integration & insights to support service design, re-design & re-commissioning

Service: Increased mental health provision & delivery against KPIs
Workforce: Increased workforce skills, confidence and understanding & Upskilling CVSC sectors

YP: Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

LONG TERM

PHM data: Routine use of linked datasets

Service/Workforce: A systems approach to improving YP's resilience

YP: Improved mental wellbeing; fewer & less severe diagnosed MH conditions

Internal facilitators: Targeted support for YP & ongoing 'biographical specificity'; YP's lived experiences adequately embraced to promote access, acceptability & engagement; Peer-to-peer support harnessed as a structure and valid intervention; Navigating barriers to YP's access and acceptability incl., fear of sharing, group dynamics and adopting a 'layering' approach to introduce YP to interventions in a step-wise manner.

External facilitators: Declining trajectory of YP mental health outcomes; Increasing need for community-based services; Discrete funding opportunities enabling piloting of PH approaches.

Empirically-based Logic Model: Inputs explained

External barriers: Declining trajectory of YP mental health outcomes; Increasing pressure on statutory services; Funding constraints: short duration & non-recurrent nature

Internal barriers: Urgency of delivery affecting systematic use of data d… …ularly where collaboration is a core component of the intervention (e.g., 'Community Collaborations')

INPUTS

Activities, resources, knowledge & skills required to design and deliver the intervention

INPUTS

Financial investment (with reflexive timelines & prospect of recurrence)

Staff & YP's time (incl. a PHM facilitator & staff working with YP public advisors)

Quantitative data, tools & skills (access to quality data across primary, secondary, community, and social care, and a range of settings (incl., schools & online); availability and access to demographic data/social markers; and tools which support data analysts to conduct population segmentation and risk stratification)

Qualitative evidence & literacy (access to wider literature, local insight and YP's lived experiences; and PH skillset to appropriate analyse and use evidence)

Commissioned providers

Early engagement of PH expertise in data analysis (quantitative and qualitative) to identify intervention population.

Timely incorporation of YP's lived experiences as critical data to shape intervention design & improve re-design.

Sustainable & proportionate implementation of intervention streams and YP appropriately engaging with services.

Ensuring provision for a dedicated PHM facilitator to maintain oversight, PHM infrastructure & promote adherence to a PHM approach, incl. timely data analysis & sharing

Independent YP public advisors · Intervention staff · PHM facilitator · PH professionals · PHM infrastructure

OUTCOMES

SHORT TO MEDIUM-TERM

PHM data: Improved data integration & insights to support service design, re-design & re-commissioning

Service: Increased mental health provision & delivery against KPIs
Workforce: Increased workforce skills, confidence and understanding & Upskilling CVSC sectors

YP: Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

LONG TERM

PHM data: Routine use of linked datasets

Service/Workforce: A systems approach to improving YP's resilience

YP: Improved mental wellbeing; fewer & less severe diagnosed MH conditions

Internal facilitators: Targeted support for YP & ongoing 'biographical specificity'; YP's lived experiences adequately embraced to promote access, acceptability & engagement; Peer-to-peer support harnessed as a structure and valid intervention; Navigating barriers to YP's access and acceptability incl., fear of sharing, group dynamics and adopting a 'layering' approach to introduce YP to interventions in a step-wise manner.

External facilitators: Declining trajectory of YP mental health outcomes; Increasing need for community-based services; Discrete funding opportunities enabling piloting of PH approaches.

Empirically-based Logic Model: Mechanisms explained

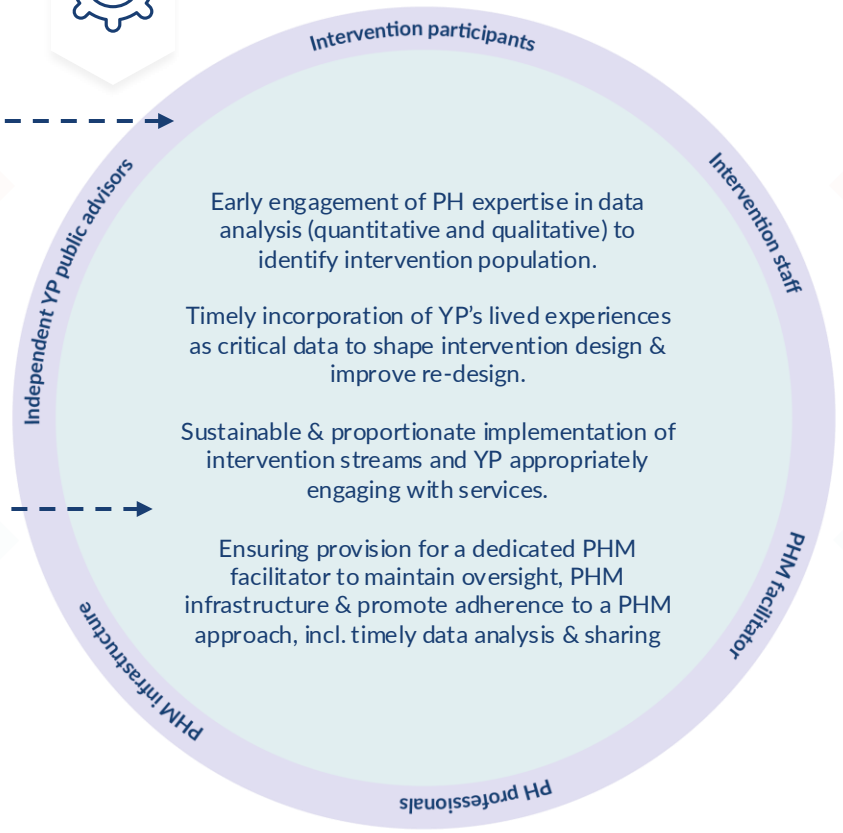
OUTER RING

"Mechanism facilitators": key components – mostly people - that support functioning of the 4 core intervention mechanisms

INNER CIRCLE

Mechanisms: core ways in which the intervention works. Together, mechanisms steer progress towards outcomes, against the current of external and internal barriers

MECHANISMS



The double headed arrow between mechanisms and short to medium-term outcomes demonstrates how emergence of short to medium-term outcomes can provide insight to strengthen the way in which the intervention functions through adaptation and refining mechanisms.

Empirically-based Logic Model: Outcomes explained

SHORT TO MEDIUM TERM OUTCOMES

Outcomes partially met during the first 1.5 years of the intervention.

LONG TERM OUTCOMES

Anticipated outcomes that result from short to medium-term outcomes being met.

The dotted arrow from short to medium-term outcomes to long-term outcomes illustrates the anticipated trajectory of outcomes should the intervention continue to be funded. Our evaluation was responsive, and hence duration too short to capture evidence around longer-term outcomes.

OUTCOMES

SHORT TO MEDIUM-TERM

PHM data: Improved data integration & insights to support service design, re-design & re-commissioning

Service: Increased mental health provision & delivery against KPIs Workforce: Increased workforce skills, confidence and understanding & Upskilling CVSC sectors

YP: Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

LONG TERM

PHM data: Routine use of linked datasets

Service/Workforce: A systems approach to improving YP's resilience

YP: Improved mental wellbeing; fewer & less severe diagnosed MH conditions

Empirically-based Logic Model: Context (facilitators & barriers) explained

External barriers: Declining trajectory of YP mental health outcomes; Increasing pressure on statutory services; Funding constraints: short duration & non-recurrent nature

Internal barriers: Urgency of delivery affecting systematic use of data during implementation; Siloed working, particularly where collaboration is a core component of the intervention (e.g., 'Community Collaborations')

INPUTS

Financial investment (with reflexive timelines & prospect of recurrence)

Staff & YP's time (incl. a PHM facilitator & staff working with YP public advisors)

Quantitative data, tools & skills (access to quality data across primary, secondary, community, and social care, and a range of settings (incl., schools & online); availability and access to demographic data/social markers; and tools which support data analysts to conduct population segmentation and risk stratification)

Qualitative evidence & literacy (access to wider literature, local insight and YP's lived experiences; and PH skillset to appropriate analyse and use evidence)

Commissioned providers

MECHANISMS

BARRIERS

National, local and intervention-specific moderators that impact outcomes.

Timely incorporation of YP's lived experiences as critical data to shape intervention design & improve re-design.

Sustainable & proportionate implementation of

FACILITATORS

National, local and intervention-specific mediators that enhance outcomes

OUTCOMES

SHORT TO MEDIUM-TERM

PHM data: Improved data integration & insights to support service design, re-design & re-commissioning

Service: Increased mental health provision & delivery against KPIs
Workforce: Increased workforce skills, confidence and understanding & Upskilling CVSC sectors

YP: Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

LONG TERM

PHM data: Routine use of linked datasets

Service/Workforce: A systems approach to improving YP's resilience

YP: Improved mental wellbeing; fewer & less severe diagnosed MH conditions

Internal facilitators: Targeted support for YP & ongoing 'biographical specificity'; YP's lived experiences adequately embraced to promote access, acceptability & engagement; Peer-to-peer support harnessed as a structure and valid intervention; Navigating barriers to YP's access and acceptability incl., fear of sharing, group dynamics and adopting a 'layering' approach to introduce YP to interventions in a step-wise manner.

External facilitators: Declining trajectory of YP mental health outcomes; Increasing need for community-based services; Discrete funding opportunities enabling piloting of PH approaches.

Main findings & Illustrative evidence

Young people outcomes

Young people

Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

WELLBEING NAVIGATORS

YP who completed the Wellbeing star (mean score 5.4/7, *n* = 29) and Dialog scale (mean score 3/5, *n* = 33) measures once only, scored high on each measure

(n = mean score for each category)

Mental Health	4
Physical Health	5
Job/Academic Situation	4
Living Situation	5
Leisure Activities	5
Relationships with partner/family	5
Friendships	5
Personal Safety	5

Ability to be independent	4
Ability to take care of myself	3
Ability to manage my symptoms	3
How confident I feel	2
Ability to achieve my goals	3
How positive I feel	3

There were statistically, and clinically significant, large improvements in YP's experiences after the intervention. The largest improvement was in their job/Academic situation; the lowest improvement was in their mental health.

MEASURE	BEFORE RATING	AFTER RATING	CHANGE	EFFECT SIZES IN MAGNITUDE OF CHANGE USING HEDGE'S CORRECTION
Mental health	2.82	4.88	2.06	1.13
Physical health	4.14	4.58	0.44	1.24
Job/Academic situation	3.88	5.02	1.14	1.65
Living situation	4.76	5.35	0.58	1.43
Satisfaction with Leisure activities	4.58	5.32	0.74	1.52
Family satisfaction with relationships	4.73	5.44	0.71	1.37
Satisfaction with Friendships	4.76	5.38	0.62	1.53
Satisfaction with Personal safety	5.14	6.38	1.24	1.38

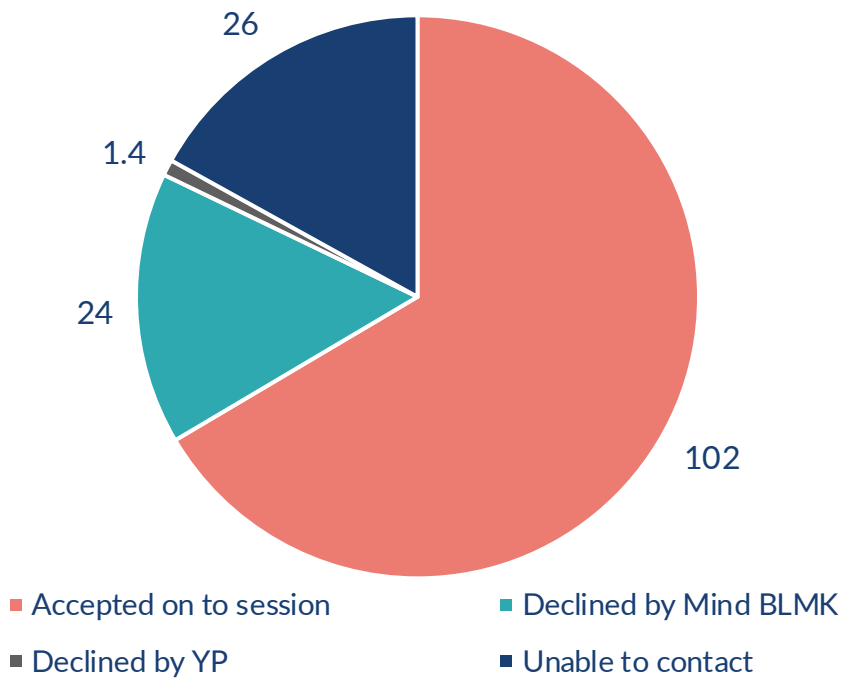
Young people

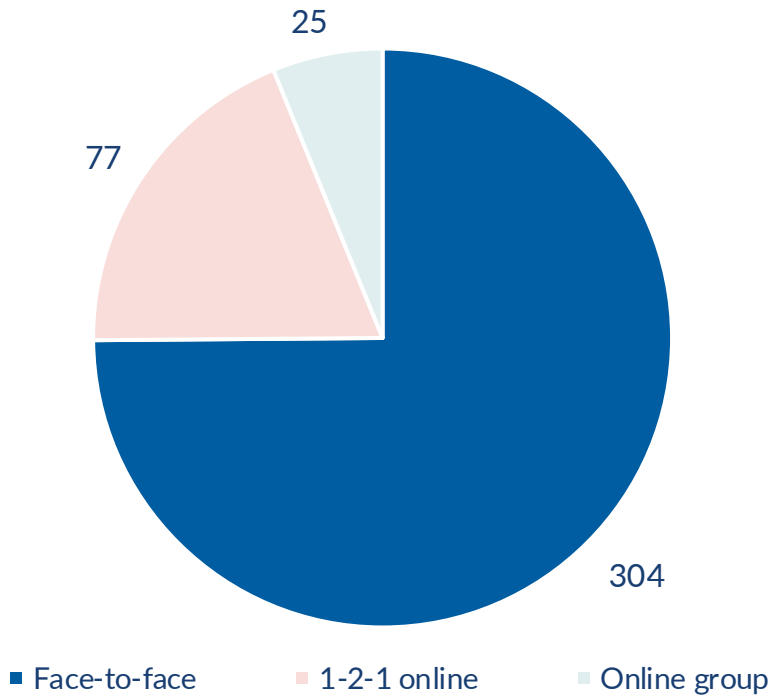
Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

WELLBEING NAVIGATORS

The majority of YP targeted were accepted on to the service; and most had face-to-face sessions

(n = participating young people)



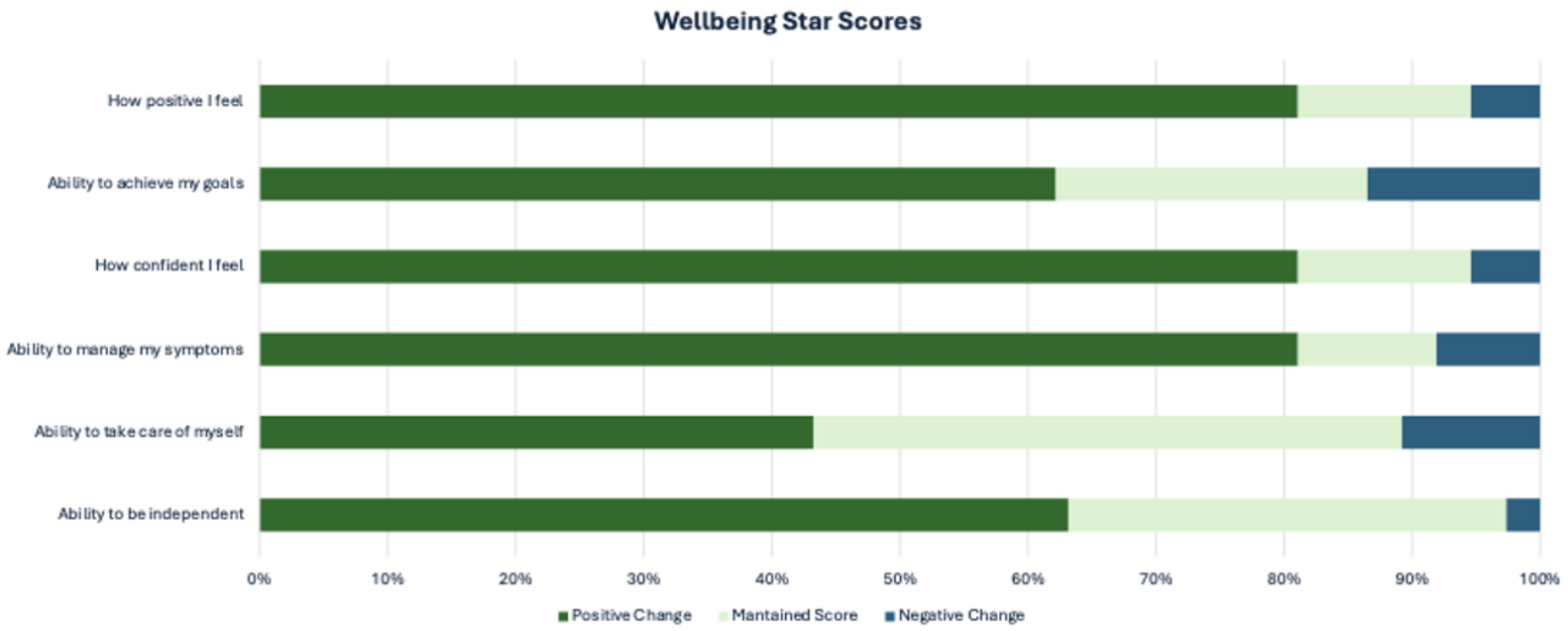


Young people

Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

WELLBEING NAVIGATORS

Young people (n=37) reported significant improvements on their wellbeing following the intervention

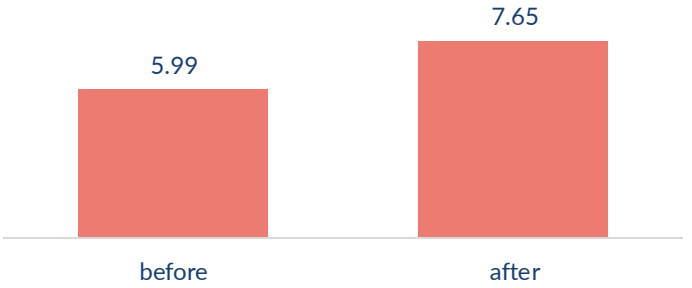


BUILDING RESILIENCE

Training showed a statistically significant, medium improvement on Young People's mental health knowledge

(n = 53 knowledge score)

Statistically significant difference
$p < 000.1$
Effect size: 0.64



Young people

Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

In-depth interviews with service users and deliverers revealed a mixed picture when considered together with service-level data. This included the appropriateness of engagement, satisfaction and acceptability of services and can be summarised as follows:

1. **Specificity** –need for past and ongoing biographical specificity to increase targeted support.
2. **Lived Experience** – storytelling and listening to stories as opportunities for access and a means of acceptability and engagement; positive experiences of peer-led collaboration and stories.
3. **Engaging Spaces** – spaces where young people already are, spaces that they choose, spaces where they can express themselves as young people. Traditional services' spaces not always working and felt to be awkward and contrived, not compatible with expression of emotions and sharing.
4. **The importance of relationships**: presenting issues, engagement, belonging and mental health benefits.
5. **Barriers to access and acceptability**: fear of sharing, group dynamics and layering (introducing YP to interventions in a step-wise manner).
6. **Peer to peer support** as recognised structure and valid intervention.

Theme: **Specificity**

Sub-theme 1:
A proportionate universalism approach

> …although they are doing it within the colleges and universities – they have their wellbeing; they have their mental health people there – again, **they aren't focussing on young adult carers**: it's not for young adults … it's for all. Whereas these young adult carers are coming in with a different perspective, a different life story to tell them.
>
> *Staff member, Community Collaboration*

Sub-theme 2:
Biographical specificity

> …putting out that publicity and that comms around young adult carers, that became something that was starting to be embedded […] that, actually, **'That's another question we should be asking young people when they come in for support' , be it Mind or whoever […] 'Do you have a caring role?'** […] that's got to have a massive effect on their wellbeing and also on the support that can be offered to them and the amount of support they can actually take. Because, they can't always take up everything or they can't get to a session or a meeting because they have a caring role […] they haven't been able to go to the after-school activities or the activities at college offered to them because they have to get on that bus and get home and look after that sibling or make sure Mum's medication is there, ready for her […] They haven't been picked up in school [...] or the school really aren't young carer aware.
>
> *Staff member, Community Collaboration*

Theme: **Lived experience**

Sub-theme 3:
Relatability and relationships

> …she told them what she did at home and they were aghast: they were physically shocked at her. And she said, 'I never went back. How could I? **This person knew nothing about being a young carer: no idea. I ended up supporting them** because they were so taken aback by my role.'
>
> *Staff member, Community Collaboration*

Sub-theme 4:
Holistic support

> It's not just that one hour session that they've got and that's it, kind of thing. It's the whole aspect around education, employment … All the parts of life that I think most of us brush over a little bit sometimes. […] I was just going to say about the ingredient […] I was going to suggest, maybe, a holistic kind of support for the young person, whether they're a young adult carer or not. **I think it's recognising that it's not just what they come into the room with: it's the outside of it as well** […] for us, as a service, it's the fact that it's unique to young carers – young adult carers […] they're not having to come in and tell their story twice […] to have someone to actually say, 'I'm here for you: it's about you today'.
>
> *Staff member, Community Collaboration*

Sub-theme 5:
Storytelling

> It's about making a space where they can talk about it and those lived experiences are shared and instantly then you feel seen, you feel heard, you feel validated [...] I'm quite excited by anyone, almost your non-typical arts young people in particular, and that will be anyone from marginalised communities or anyone who doesn't feel it's for them I guess, my motivation is then you are more exciting, **you're the stuff that's not yet on the TV, on the stage, on film, and these are the stories we've got to tell**.
>
> *Staff member, Community Collaboration*

Sub-theme 6:
Alumni stories

> I think that is another ingredient where young people are invited to challenge us [...] and if those people have had a positive experience from [the intervention], often they want to bring back their experiences. And they're great, they will come back, and they will say 'Yes, you can do it', and they're closer in age to the young people in the room and I think that's important because sometimes it's having that awareness of who I am. You could look at my circumstances, white, straight, 40-year-old able-bodied male, but actually then me saying to a young black person 'You can do it', and they might not say it, but they might think, 'What do you know? You haven't got the obstacles and barriers in your life that I have just by design', whereas someone like [redacted] and [redacted] who come into a space and says that to them, **it shows them it's possible**.
>
> *Staff member, Community Collaboration*

Theme: **Engaging Spaces**

Sub-theme 7:
Spaces – where young people are / chosen spaces / space for play

> We shouldn't be expecting them to look for it: we're the ones that should visit to them, where they are, at the time they need it. […] **it's going to where they are** […] they might actually say, 'Do you know what? I'm here now. I'm going to go and I'm going to get that support.' […] places like McDonald's and the takeaway places often employ young people. And a lot of our young carers would take those roles because they are part-time. If we were to go and approach employers and say, 'You may have a cohort of young adult carers within your workforce. We can offer this support to them.' Those types of things: maybe just looking at it a little bit out-of-the-box.
>
> *Staff member, Community Collaboration*

> We talk about first, second and third spaces, the first potentially being a home and then second is your school or education, and then your third being your chosen space, and actually **your third space is sometimes your most important one because it's the only one that's chosen**, and it's not compulsory, for a lot of these young people they're turning up each week by choice.
>
> *Staff member, Community Collaboration*

> it became very apparent that they all just wanted to talk about the pressures of education […] that actually they had a space where they could let that out and then forget about it and be silly and **play and remember that they're a child** and they're young and it's okay to play, and all those pressures, they're there, they're not going to go away, but you have to make sure then you have an outlet to exhaust your inner child.
>
> *Staff member, Community Collaboration*

Theme: **The importance of relationships: presenting issues, engagement, belonging and mental health benefits**

> One of the people that I was friends with… she saw the advert for NGYT on Instagram and she sent it to me and was like, hey are you interested in just popping along to meet some people at this company? I was a bit sceptical at first… I was like, do you know what, I'm just going to give it a go and see how it goes because my best friend was going to do it as well and the person that sent it to me was one of my close friends so I had a few people that I knew before I even went so having that as a safety net I think made me do it.
>
> *Young person*

> Forging trusting and valued relationships with staff and other service users at the intervention was described as a facet of the intervention that improved this young person's mental health:
>
> I improved my skills in making connections with other people and how to find connections with other people and I think NGYT allowed me to do that much easier so I found that I was able to make friends a lot faster and keep those connections and keep friends with people and I just think it boosted my mood in general
>
> *Young person*

> …you had this interaction and communication across different people in the group. I utterly realised that, having group conversation becomes very, very helpful because, at that point in time, I wasn't able to have that conversation with anyone but listened and learning from the group.
>
> *Young person*

Theme: **Barriers to access and acceptability: fear of sharing, group dynamics and layering***

> …some programmes, it was like okay, share your experiences, share what you have been going through so most times that was my first time of sharing my bad experiences with people and I was afraid that sharing this information would harm me more.
>
> *Young person*

> …you had this interaction and communication across different people in the group. I utterly realised that, having group conversation becomes very, very helpful because, at that point in time, I wasn't able to have that conversation with anyone but listened and learning from the group.
>
> *Young person*

Theme: **Peer to peer support as recognised structure and valid intervention**

> 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.
>
> *Young person*

*A 'layering' approach refers to introducing YP to interventions in a step-wise manner

Young people

Increased timely & appropriate engagement and satisfaction & acceptability; improved readiness for life transitions; improved reported wellbeing for those who engaged.

There was insufficient data to assess the following YP outcomes:

- Higher resilience (as defined in (SHEU) in YP who attend target schools (short)
- Reduction in self-harm in young people in Central Bedfordshire (interim)
- Reduction in stigma around LGBTQ+ issues and mental health for young men and young people from an ethnic minority background (interim)

Workforce outcomes

Workforce:

Increased workforce skills, confidence and understanding & Upskilling CVSC sectors

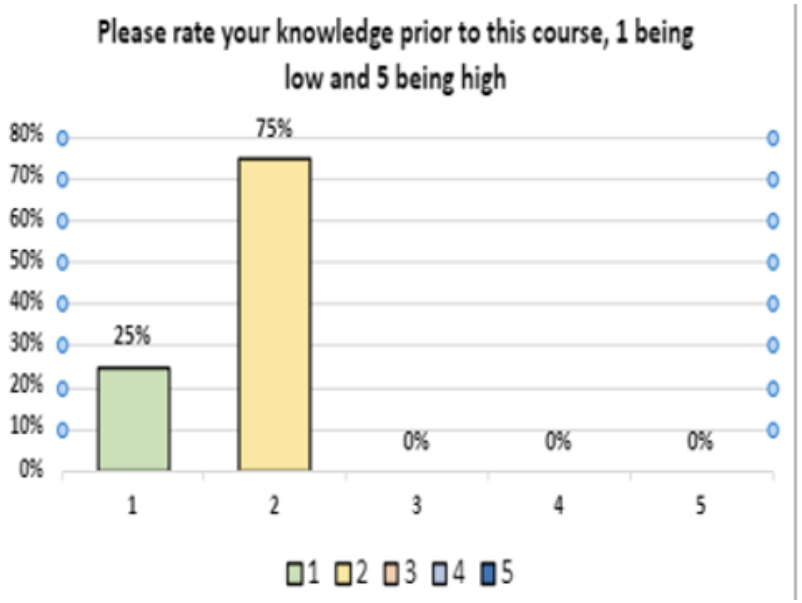
We assessed evidence across the evaluation to establish that short and interim-term intended **workforce outcomes** were partially or fully met, namely:

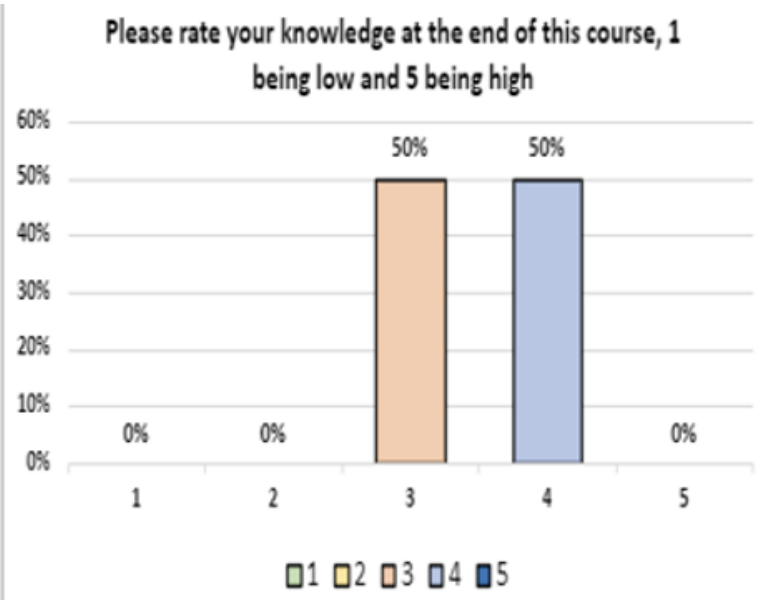
- **Increase in the skills and confidence in those working around YP to support and signpost them to services** (short)
- **Schools (and other settings) understood the perspectives of the whole school approach** (short)
- **Upskilling of CVSC sectors to enable the appropriate provision of support** (interim).

UPSKILLING THE WORKFORCE

Upskilling the workforce: Professionals' knowledge of anxiety and mental health improved following the course

(n = average % responses)





> 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

Workforce:

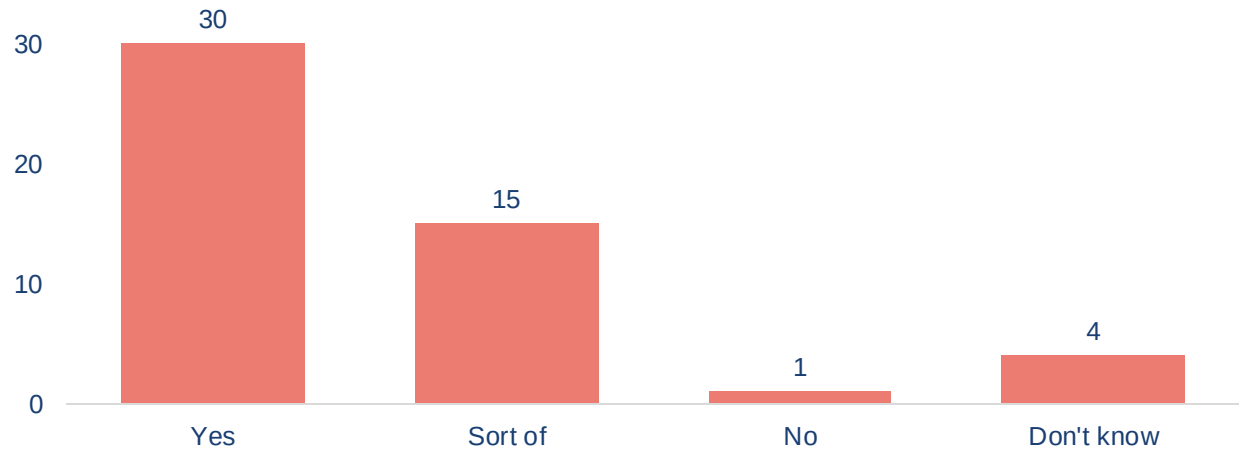
Increased workforce skills, confidence and understanding & Upskilling CVSC sectors

Although Schools (and other settings) were assessed as able to understand the perspectives of the whole school approach, the ability to translate this knowledge to successful implementation of the Building Resilience Programme was a challenge due to capacity and system constraints.

BUILDING RESILIENCE

School staff reported the training they received could make a difference to their work with young people at risk of mental health issues

(n = staff responses)



> …my learning, regardless of what, I suppose, the evidence base is telling us, that the guidance and … NICE and all of the best practice and evidence reviews … So all of the data, I would use to inform the service spec. I think, really, my learning would be, [we] **should have said to schools, 'Will you be able to do any of this? And, if not, what elements could you engage in?'** Maybe, in hindsight, they'd have still been enthusiastic and said, 'Absolutely' and then, in delivery, it might not have happened. And we did, obviously, know that schools were crying out for some support around emotional health and wellbeing. But, **maybe, it was [about] being slightly more realistic about their capacity and the place that our educational settings are in at the moment.**
>
> *Intervention stream lead*

Workforce:

Increased workforce skills, confidence and understanding & Upskilling CVSC sectors

Although KPI data demonstrated engagement of CVSC sectors with the training delivered by Upskilling the Workforce, the PHM approach could have better informed which CVSC groups should have been prioritised for training.

> …around legacy, I guess. For me, actually, if we're doing this approach, how can we ensure that we continue work in this way? Something around making sure that's built in there.
>
> …it's almost like a one-off project that we've used this approach and then, 'How are we going to continue that?'
>
> Because I think we had great success with the up-skilling of the workforce and using that PHM approach in designing the programme. But, 'Actually, what's the long-term legacy of that…
>
> *Intervention stream leads*

> …[we] had to reach out and ask about the training [*when intervention delivery had begun*] – 'We're doing this training, why are you not training the voluntary sector [*organisations that are involved in Community Collaborations*]? **Why are you not working with these groups and upskilling them? [We] had to ask for that, it wasn't offered…That's my point about the holistic approach** and these missing pieces of the puzzle, there needed to be a better, clearer plan and more focus in place about how does this all complement each other and how can they work together. So, again, a **missed opportunity there I think for upskilling the sector** …
>
> *Intervention stream leads*

Service outcomes

Service

Increased mental health provision & delivery against KPIs

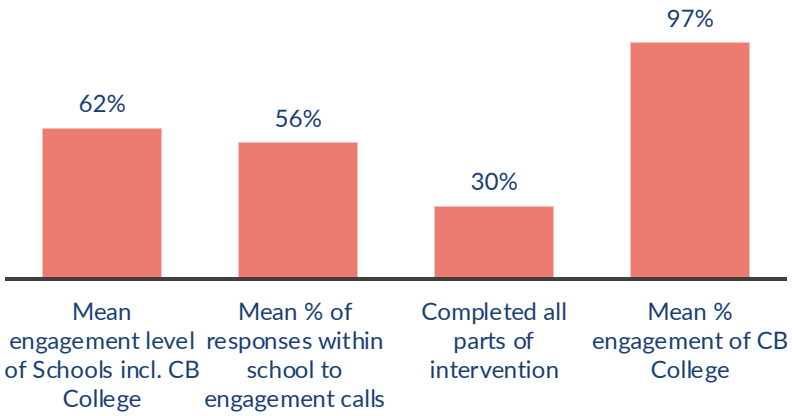
We assessed evidence across the evaluation to establish that short and interim-term intended **service outcomes** were partially met, namely:

- **Increasing the range of provisions for young people to support Mental wellbeing** (short)
- **Services delivering against agreed KPIs** (interim)

BUILDING RESILIENCE

Seven (54%) out of a target of 13 schools engaged with various parts of intervention; the addition of Central Bedfordshire College improved engagement scores by 8%. 4 (30%) of targeted schools completed all parts of intervention.

(n = mean % engagement)

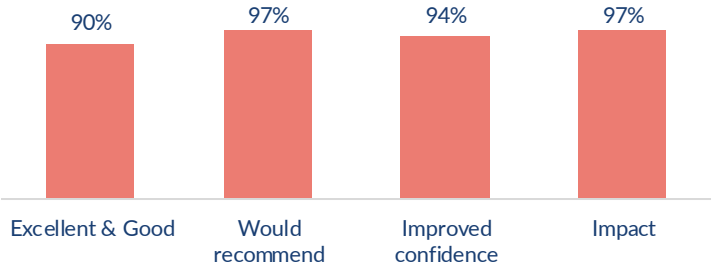


> It has opened me up to many different types of help and places similar to YPWNS.
>
> *Wellbeing Navigators service user*

UPSKILLING THE WORKFORCE

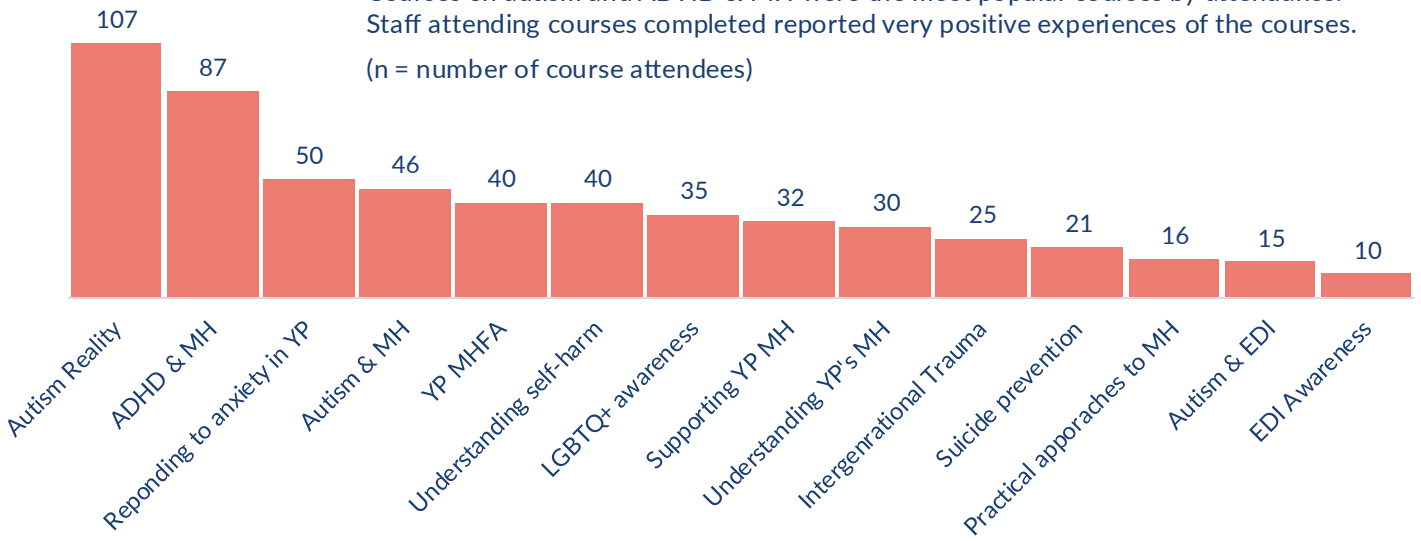
Staff attending courses completed reported very positive experiences of the courses

(n = mean % rating).



Courses on autism and ADHD & MH were the most popular courses by attendance. Staff attending courses completed reported very positive experiences of the courses.

(n = number of course attendees)



Service (2)

Increased mental health provision & delivery against KPIs

Although the number of services for young people increased, the short timeframe of delivery impacted on intervention design, including integration of workstreams in line with a PHM approach.

> We **didn't do a cost benefit analysis** or anything like that, I guess partly due to time in terms of actually **we had this money and had to get on with it quite quickly**…
>
> **We would maybe spend slightly longer in the evidence gathering phase** and that kind of data gathering phase to be able **to really ensure that we'd captured that comprehensively**. I think t**hings like literature searches** and things like that **may have been a useful process that we didn't necessarily go through due to time**. So time – a bit of extra time – would be great, to be able to really feel that you'd comprehensively captured everything you need to.
>
> *Public Health professional*

> …having a bit of a **longer lead-in time to run a programme** so they [VCFSE groups] have got **more planning time and scoping stage** at the start before the actual deliver of the project or the initiative
>
> I think **people were keen – as they always are – to get on with it**. I think there's always that **fine balance**, isn't there, **between** to keep **going over the data and the evidence and** 'Actually, **let's design something** that's going to be useful **and press on**.'
>
> I think, **if you've got a bit of longevity in the service**, then I think there is a **tendency to get a bit of a stronger buy-in from other agencies,** etc, where you're trying to **develop that referral pathway**.
>
> The other bits that were happening in these strands didn't really tie in very well, I didn't feel there was a strong tie between any of them … The other stuff they were doing in schools, what MIND … both were working with MIND because they were working with other groups, so it was by serendipity rather than actually a conscious planned thought-out process that how are all these going to work together? I just think we could have made more efficient and effective use of the funds available if there had have been a bit more of a better thought-out plan.
>
> *Intervention stream leads*

Service

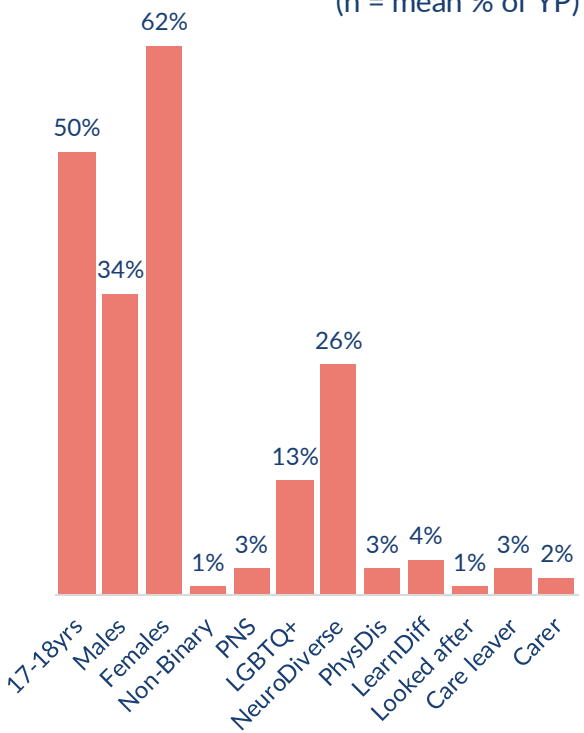
Increased mental health provision & delivery against KPIs

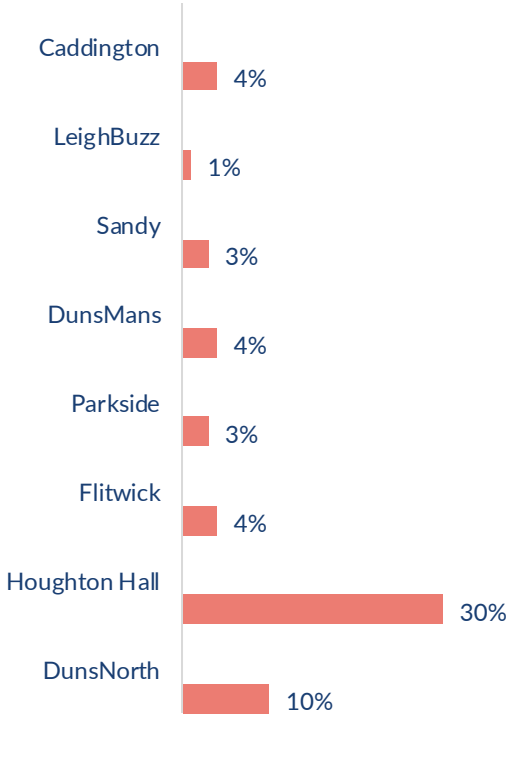
Although there was evidence to suggest a diverse range of YP engaged with the intervention, we identified a need to actively target under-served groups with biographically relevant material that speaks to them, rather than the use of diagnoses like depression or anxiety. A range of stakeholders articulated related frustrations around how best to access those most in need.

WELLBEING NAVIGATORS

Data was captured from a diverse range of YP, many of whom have legally protected characteristics and live in areas of multiple deprivation.

(n = mean % of YP)





> But, sometimes, I think, '**How do we genuinely get to those young people with the most inequalities**?' … I'm sure there's a cohort of young people that […] Their parents aren't saying, 'We need to get them a CAMHS referral or 'What's this intervention? I'm going to go online and have a look where we can get them some support. … I just think, sometimes, that is the thing that plays on my mind: '**Where are the young people that really could do with support that we don't know about?**
>
> …**we talk about 'hard to reach groups', don't we? But, then we flip that and say, 'Are our services hard to reach? What are we doing to improve that?'** But I look at some of the things that we've done on this intervention and it is like, other than going out into communities, knocking on doors, directly engaging young people, **I'm not quite sure what the answer is.** Just as you say … we understand that there are young people out there who would benefit greatly from a lot of the stuff that we're doing, but it's just 'How do we get that engagement?' Because, like you say, they're potentially not engaging with school; they're not engaging with further education or employment or those sorts of things.
>
> *Intervention stream leads*

PHM approach outcomes

PHM approach

Improved data integration & insights to support service design, re-design & re-commissioning

We assessed evidence across the evaluation to establish that short and interim-term intended **PHM approach outcomes** were partially met, namely:

- **More integrated and coherent linking of data to provide a picture of mental health** (short)
- **Planning for redesign of services and delivery to better meet the needs of young people as identified from improved data insights** (interim).

Integration of data was particularly strong **within and across data types during intervention design** (quantitative and qualitative), including:

- Use of linked quantitative datasets (integration within); and
- Incorporation of qualitative evidence data from wider literature, local insight and YP's lived experiences, with quantitative data (integration across).

> So **we [used] a segmentation tool**... We also [used] primary care, acute, 111, ambulance and mental health trust data. And this is **available as a linked dataset within our population analytics platform**, which has been made available to us.
>
> *Wellbeing Navigators Service user*

> ...we settled on trying to target **YP who are LGBTQ+ or questioning**, and that came out from some of the **focus groups** we'd done with young people.
>
> ...knowing that **young carers and care leavers** suffered with mental health difficulties was something that we found in **wider literature and** also from **case reviews from local authority** data...
>
> ...I think we had a really good mix, actually, of insights from partners, evidence that was out there, some data and then, actually, some lived experience and kind of coproduction as part of that as well.
>
> *Public Health professionals*

PHM data:

Improved data integration & insights to support service design, re-design & re-commissioning

However, gaps in data integration were noted, particularly around linking social care data with health data, as well as associating health determinants data with available health outcomes data.

> No, so that [linking data across social and health care] would have been really quite useful, if we could have linked the **young carers** that we had from local authority with GP and then maybe hospital data that could have been really useful, but as far as I'm aware we couldn't do that and I know that [data scientist] requested … I know she was trying and finding it quite hard to get the data for looked after children [at one point]…
>
> *Public health professional*

> Primary, secondary, tertiary care. And I think the social care bit is missing still. But then, what I tried to do is bring it in separate[ly] and try to triangulate to tell the story. But it's not linked to get the social care. But, yes, within our patch, we have got primary, secondary and tertiary care and community health services data in one place…
> I had to analyse children's vulnerable data separately. It would have been nice if there was a code and I could link and see…
>
> *Data scientist*

> …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.
>
> …that was where **we realised this [GP data] isn't going to be quite so helpful**, there aren't any other **characteristics that seem to be linked**…
>
> …we certainly **couldn't reliably identify** young people who were from an **ethnic minority** background, who were **young carers**, who were **LGBTQ+**…
>
> *Public health professionals*

PHM data:

Improved data integration & insights to support service design, re-design & re-commissioning

We found YP's lived experiences during the intervention to be invaluable insight, forming an evidence base for how well interventions were being delivered, and therefore with potential to support service **re-design** and **re-commissioning**. Themes that emerged from YP's lived experiences were:

1. The importance of relationships in enabling YP to present issues, promoting engagement, fostering belonging and producing mental health benefits

2. Barriers to access and acceptability being fear of sharing, group dynamics and a need for layered introductions into a service (an initial 1-1 assessment of need to support navigation through expectations and fears associated with an intervention, ahead of placement in one).

3. Peer to peer support as a recognised structure and valid intervention.

Furthermore, we observed relatively robust monitoring of the YP Wellbeing Navigator service through outcome-aligned KPIs. This may have contributed to the supporting evidence which enabled a year 1 underspend in the YPWN service to be used in **re-commissioning** the intervention stream.

Resource impact analysis

WELLBEING NAVIGATORS, BUILDING RESILIENCE & UPSKILLING THE WORKFORCE

The cost of per engaged participant varied across intervention streams, with the lowest cost being for the Upskilling the Workforce stream.

	Budget per intervention stream (£)	Engaged participants* (survey respondents) (n)	Cost per engaged participant (£)
Wellbeing Navigators (year 1):	**£134,374**	**34**	**£3,952**
Building Resilience:	**£49,500**	**7** N.B. *engaged participants* = schools engaged (n)	**£7,071** N.B. £ = cost per school engaged
Upskilling the workforce:	**£60,000**	**238**	**£252**
Total budget**	**£401,961**		

**Our analysis acknowledges the limitations of available data, particularly around capturing engaged participants. In the absence of a controlled study, we used 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 (N.B., Building Resilience – survey respondents spanned the 7 schools engaged). We have described these participants as engaged and note that this differs from the total number of people that may have taken part in the intervention (at the point of evaluation: Wellbeing Navigators, total YP who completed the intervention = 51; Community Collaborations, total YP who directly engaged with regular support = 46).*

Given that the total number of participants is 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.

***Total budget includes the Community Collaborations intervention stream (£158, 087). However, this intervention has not been included in this cost analysis as there was no survey response data at the point of evaluation.*

In-depth interviews with intervention stream leads collected as part of the evaluation revealed a mixed sentiment of whether value for money when considered together with service-level data.

> That's a very convoluted way of saying that no, possibly it's not value for money.'
>
> **I think if people look at it just from a perspective of numbers you probably would say no because of the numbers of beneficiaries being engaged with** [?] perhaps are not as high as we would have liked or as they haven't reached the targets that the groups initially anticipated**, however I think for the amount of resource, time … to even get to this stage is far and beyond what [they've got] in the grant**, and one of those three groups in particular have put a lot of resource into it, and it doesn't even cover their costs. So I am satisfied there's value for money in that respect, but it might not be perceived as such when perhaps other people have more of a lens on around numbers, and I know there's a balance between those things.'
>
> *Intervention stream lead*

WELLBEING NAVIGATORS

Costs were relatively low (as per NICE cost per QALY gain), with the lowest cost per unit of change being young peoples' improved satisfaction with mental health

Average cost per unit of change/improvement – Dialog scale

Measure (Satisfaction with…)	Before rating	After rating	Change	Average cost per unit of change/improvement
Mental health	2.82	4.88	2.06	£1,919
Physical health	4.14	4.58	0.44	£8,982
Job/Academic situation	3.88	5.02	1.14	£3,467
Living situation	4.76	5.35	0.58	£6,814
Leisure activities	4.58	5.32	0.74	£5,341
Family/Partner	4.73	5.44	0.71	£5,566
Friendships	4.76	5.38	0.62	£6,374
Personal safety	5.14	6.38	1.24	£3,187

N.B. In absence of a controlled study, data has been analysed using before and after measurements

WELLBEING NAVIGATORS

Costs were similar across Wellbeing Star measures, with the lowest costs per unit change for young peoples' positivity, confidence and ability to manage symptoms

Cost per % change in Wellbeing Star scores – pre and post intervention

Wellbeing Star score variable	Percentage improvement change (%)	Average cost per 1% improvement	Average cost per 10% improvement
How positive I feel	81	£49	£ 488
Ability to achieve my goals	62	£64	£637
How confident I feel	81	£49	£488
Ability to manage my symptoms	81	£49	£488
Ability to take care of myself	43	£92	£919
Ability to be independent	63	£63	£627

Recommendations

Overview of recommendations

Here we share recommendations on the future use of a Population Health Management approach to the mental health of young people Central Bedfordshire.

This evaluation identified recommendations for:

1. Increasing literacy around the PHM approach
2. Using a co-produced involvement model working with intervention leads in the design, implementation, evaluation, and agreed timelines.
3. Increasing literacy around the gathering and use of qualitative evidence
4. More Effectively meeting the needs of YP in need of mental health support
5. Promoting and measuring engagement with the intervention
6. Harnessing relationships for effective intervention delivery
7. Harnessing environments and spaces for effective intervention delivery
8. Strengthening the intervention's evaluation framework.

Recommendation 1

The PHM approach - Provide training to intervention leads on the PHM approach & consider its future use as 'Business As Usual' in complex PH interventions

- Provide training on PHM to raise literacy of this approach for intervention leads. The NHS Learning Hub provides such training to health & care staff, as well as analysts.
- CBC / Local government public health teams to run workshops / seminars on the PHM approach for community-based organisations to raise literacy on the approach.
- CBC / Local government public health teams to consider PHM as a BAU PH approach. There is already a large overlap across the approaches, and value add in PHM's routine use of population segmentation and risk stratification to join-up data and best identify the population in need.
- CBC / Local government public health teams to consider using a PHM approach for mental health interventions for YP – it may not be a neat approach, but has clear benefits for service provision, workforce development and YP's mental health outcomes.

Recommendation 2

Use a co-produced involvement model working with intervention leads in the design, implementation, evaluation, and to agreed timelines.

- Agree timelines of awards according to intervention design needs, particularly where community-based organisations are required to work across organisations and sectors.
- Use GANTT charts to agree milestones and deliverables with collaborators.
- Develop a Community of Practice approach with different organisations as members to foster and strengthen community collaborations.
- Develop a framework of good practice in effective community collaborations to meets the needs of YP.
- Ensure adequate capacity for a project coordinator to engage effectively with different collaborators.
- Adopt a Matrix Model of Involvement that outlines the nature of involvement among collaborators, and at which stage of the collaboration they have been involved..
- The Collaborative Care Model (CoCM) is an Evidence-based model showing positive outcomes in mental health and could be adapted for work with YP.

Recommendation 3

Increase literacy around the gathering and use of qualitative evidence in the design and re-design of PH interventions (e.g., YP's lived experiences).

- CBC / Local government public health teams to continue use of wider literature, local insight and YP's perspectives, including their contexts of living and biographies as invaluable qualitative data when identifying those most in need and knowing best to target them
- **Invaluable nature of qual insight**
- Develop a Community of Practice approach with different organisations as members to foster and strengthen community collaborations.
- Develop a framework of good practice in effective community collaborations to meets the needs of YP.
- Ensure adequate capacity for a project coordinator to engage effectively with different collaborators.
- Develop a CBC-specific Evaluation Model for future evaluations or adopt an existing model.
- Adopt a Matrix Model of Involvement that outlines the nature of involvement among collaborators, and at which stage of the collaboration.
- This evaluation, in-depth PHIRST interviews sometimes contradicts KPI data, so shows it's required for a balanced view of intervention progress and impact.

Recommendation 4

Life context is key. Employ principles of formulation (context, meaning & consequence) to effectively meet YP's needs.

- Induction and introduction to services should follow an assessment with the YP, which should not be within boundaries of a typical mental health assessment, but informed by principles of formulation, with the intention to understand individual contexts and circumstances, needs and desired outcomes. This should be completed collaboratively - with the young person, so they can offer insights into what the problems are and how best to collaboratively solve them. An in-depth assessment of context and relationships is essential.
- Diagnosis is only one part of the puzzle: ask about what has happened and is happening in the lives of young people to grasp context – in relation to meaning and consequence for mental health. Focus on barriers to access – including fear of stigma, discrimination and a lack of understanding of context.
- Develop a Community of Practice approach with different organisations as members to foster and strengthen community collaborations.
- Develop a framework of good practice in effective community collaborations to meets the needs of YP.
- Biographical specificity and relation to training on EDI (reflects low numbers on this kind of training vs. autism, ADHD etc.).
- Target more training directed towards addressing inter-sectional issues impacting YP's mental health and wellbeing. For example, people with autism and mental health issues may also be LGBTQI+ . A one-size all approach should be avoided at all times.

Recommendation 5

Promoting and measuring engagement – adopt a stepped approach to engaging YP; work with organisation 'champions' and opinion leaders to enable engagement; and expand nature of engagement to adequately monitor progress.

- Expand definition of engagement Identify and work through organisation champions to enable engagement, especially with schools.
- Stepped introduction to interventions. Initial appointments on individual basis to discuss expectations, anxieties and beliefs, reducing the likelihood of avoidance.
- Adopt a contact, dialogue, transformation and shared understanding of engagement.
- Develop a Community of Practice approach with different organisations as members to foster and strengthen community collaborations.
- Develop a framework of good practice in effective community collaborations to meets the needs of YP.
- Adopt targeted support interventions based on those of higher needs, supported by PMH approach. Engagement with specific communities (e.g. CVFSE) from start to increase likelihood of successful targeting.

Recommendation 6

Put relationships at the centre of interventions – both therapeutic relationships between service users and staff, and peer relationships between young people.

- Put relationships at the centre: good relationships with intervention staff is vital and should be prioritised. This will enable a better dialogue to tackle life context of young person. Validate peer relationships and build sustainable infrastructure for this. Train people and support them. Many informal examples of people offering support, but in a way that is unsustainable (offering too many hours leading to fatigue)
- Focus on establishing relationships and community within service and between service users and staff. Clear training on how good relationships can be achieved with available resources and clear management and discussion of expectations.
- Peer support perceived as invaluable, requiring its own system of support, mentorship and formal recognition by CBC. This would include formal training and recording of outcomes for peer led support, to monitor its success, ot otherwise.
- Adopt a contact, dialogue, transformation and shared understanding of engagement.
- Adopt a Peer Support Worker (PSW) model for YP.
- Monitor and measure the peer support system, including clear expectations of PSWs and clear rewards – including career progression such as paid work
- Offer a means of supporting the PSWs to avoid fatigue – group support work and a designated PSW supervisor

Recommendation 7

Be mindful of the environment and spaces that facilitate and foster good relationships.

- Be mindful of the environment and spaces that facilitate and foster good relationships. Spaces are not passive, they can open up, or close down engagement and access.
- Poor spaces - spaces that are clinical or institutional or formal.
- Good spaces – spaces that are informal, inviting and conducive to fostering relaxed relationships – social spaces that resemble leisure spaces.
- Develop a Community of Practice approach with different organisations as members to foster and strengthen community collaborations.
- Develop a framework of good practice in effective community collaborations to meets the needs of YP.

Recommendation 8

Develop a robust evaluation framework to effectively measure the impact of interventions and inform re-design.

- Expand criteria to evaluate effects of education interventions beyond learners' perceptions. An example is an adapted version of the Fitzpatrick Framework, capturing: learners' responses; Modifying attitudes and perceptions; Acquisition of knowledge and skills; Changes in behaviour; Changes in organisational practice; Benefits to YP.
- Employ robust evaluation framework to test impact of interventions with agreed outcomes and evidence-based measures of such.
- Develop a Community of Practice approach with different organisations as members to foster and strengthen community collaborations.
- Develop a framework of good practice in effective community collaborations to meets the needs of YP.
- Specify desired outcomes of each interventions in addition to KPIs Co- produce with end users minimally significant indicators of intervention success in terms of outcomes. For example, if trying to improve MH & WB outcomes of YP, determine what would be the minimally acceptable outcome for improvement?
- Identify the primary end point for indicators for success, define what is meant by interim (immediately post-intervention?), short term (three to six months post-intervention?) and Long-term (One-year post-intervention?)
- Adopt an iterative reflection approach to ensure experiences on the ground are captured and assessed against ongoing measures.

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The Intervention & Background:
Additional detail

Existing literature: what did we already know?

Evidence of the need: nationally

- In recent years, there has been an **increase in the number of YP experiencing probable mental health challenges**. This increase is attributed to several factors, including social and economic changes that prolong the time YP depend on parents/caregivers, the impact of cyberbullying, and a pressurised culture in schools.[5]
- The Mental Health of Children and Young People in England 2022 report revealed that the **percentage of 7-16-year-olds with a probable mental health problem has risen** from 12.1% in 2017 to 16.7% in 2020. **Emotional and behavioural disorders**, and hyperactivity disorders were identified as the **most common difficulties experienced by YP**, with autism spectrum disorders and eating disorders being less common.[6]

Evidence of the need: locally

- In response to this trend, improving the mental health of 16-25-year-olds in CB has been recognised as **a priority action area** by CBC. Local data and intelligence reveal a **deterioration in some Mental Health and Wellbeing (MH&W) indicators** including increased rates of suicide and self-harm, as well as higher demand for MH&W services.
- Additionally, the Schools Health Education Unit (SHEU) reports pupils in CB are **less likely to report high resilience and happiness with life** in 2021 compared to 2019. This is compounded by **higher than national average rates of hospital admission for self-harm among 20-24-year-olds** in CB, as well as being an area is characterised by relative **deprivation**.

Existing literature: what did we already know? (2)

Evidence for effective interventions: schools

- **Psychosocial interventions** - often reported to be at the forefront of prevention initiatives - have been developed across various settings, particularly in educational contexts.[7]
- Psychosocial interventions are combined evidence-based psychological, educational, social, and community approaches.
- Recent evidence[6] found that **universal social and emotional learning interventions enhance YP's social and emotional skills and reduce depression and anxiety symptoms in the short term**. Additionally, there is **strong evidence to support universal and targeted cognitive behavioural therapy's effectiveness** in reducing internalised symptoms in the short and medium term.
- However, there is **limited evidence on school-based interventions that prevent suicide and self-harm**. Similarly, few interventions have reported evidence of improving mental health outcomes for **vulnerable YP and diverse groups**.
- Although teachers can effectively deliver universal interventions, there is **no evidence that teacher-delivered interventions are effective in addressing students' depression or anxiety symptoms**.

Existing literature: what did we already know? (3)

Evidence for effective interventions: community-based creative activities

- The **Building Resilience stream** includes several **Communities of Practice (CoP)** which are designed to address complex problems through bringing individuals and organisations together to share knowledge and learning.[8]
- CoPs are increasingly mobilised in health service and public health settings with a focus on improving service performance and professional practice.[9]
- **There is a lack of knowledge around how best to fully align CoP to supporting the design and development of health interventions that can be scaled up and translated into other settings.**
- **Community-based creative activities** report **positive effects on YP's behavioural changes, self-confidence, and self-esteem**[10]. Additionally, the arts demonstrate a role in **building resilience** among young people, leading to positive effects on **relationship building** and a **sense of** belonging.[11]
- Whilst there is increasing demand for mental health support for young people in primary care, the pathways are often fragmented and difficult to manage due to the pressure on services.[12]
- This highlights the need to consider alternative ways to support YP's mental health difficulties, particularly as existing interventions have reported only short-term/medium-term benefits. **Long-term effects require interventions to be sustained over an extended period of time.**

Existing literature: what did we already know? (4)

Evidence for effectiveness of a PHM approach

- Current population-based health surveys in schools often fail to include **YP who are not in school** and may face **significant health** inequities.[10] To address the increasing challenges of **fragmentation of data and resources** and ensure targeting to individuals most in need, the population health management (PHM) approach has been promoted.
- The **PHM approach** systematically utilises linked datasets and segments populations incl. by their conditions, the severity of illness and sociodemographic characteristics to help leverage resources to improve healthcare.[4]
- The PHM approach is regarded as a cornerstone to the quadruple aims of healthcare: **(1)** Improving the population's health; **(2)** Improving the experience of care; **(3)** Improving the health and well-being of the workforce; and **(4)** Reducing overall care costs.[2]
- PHM achieves this quadruple aim by identifying the population at risk, the drivers of cost, and the variability in services within a specific population.[3]
- Risk stratification and population segmentation are used to identify local individuals at risk.[13]
- In the UK, the PHM approach is integrated into the policy shift towards more integrated care and place-based systems, creating ICSs as the policy drivers.[2]

Existing literature: what did we already know? (5)

Evidence for effectiveness of a PHM-driven complex intervention

- There is evidence to show that **appropriate data and collaborative efforts** have been effective in improving health outcomes of frailty in older people (incl. wellbeing), with limited evidence for the cost effectiveness of this PHM-aligned approach.[14]
- Similarly, the use of PHM-based interventions has led to improvements in the accessibility and quality of care in YP mental health services.[15]
- However, whilst these interventions have been successful in reaching some at-risk populations, they have been found to be **less consistent amongst other at-risk populations** (e.g., kidney injury patients) who would directly benefit from the designed intervention.[16]
- To address this issue, the effectiveness of **risk stratification models** has been explored as a means to **identify individuals at risk of adverse health outcomes**[17] and to **develop additional strategies to improve the engagement** of intended recipients.
- Despite their potential, risk stratification models have not always led to improved health outcomes, as they **may not consider additional relevant information that could better direct resources** to those who need them.[18]