Children and Young People Mental Health in Liverpool and Wirral

Networked Data Lab Liverpool CCG, Wirral CCG and Wirral Council

Liverpool: Roberta Piroddi, Tim Caine, Helen Duckworth, Karen Jones, Lauren Barnett, Annmarie Daley

Wirral: Matthew Gilmore, Lee Kirkham, Beverley Murray, Simon Chambers

1. **Background:**

A [recent report published by Children’s Commissioner (1)](https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2020-wave-1-follow-up) reports that rates of probable mental disorders have increased by six percentage points since 2018, to one in six (16%) in July 2020, partly a reflection of the impact of the pandemic. There is growing concern that child health, already at crisis point pre COVID-19, will suffer further.

Local analysis (2) identified several key child health issues emerging as a result of the pandemic:

* the diversion of health and social care resulting from lockdown
* interruption of and planned return to schooling
* increased health risks of lockdown, particularly domestic abuse, mental health and impacts on young carers
* long-term impacts on child poverty and social inequalities.

Inequalities in services and identification of increased risks are themes common to both Local Transformational Plans and The Liverpool Mental Health and Emotional Wellbeing (MHEWB) 5-year plan (3) and Forward Thinking Wirral (4)

Adversity in childhood can create harmful levels of stress which impact healthy brain development. As a result, this has long-term implications on learning, behaviours and health. Adverse Childhood Experience (ACEs) have been found to be associated with a range of poorer health and social outcomes in adulthood. One in three diagnosed of mental health conditions in adulthood are known to directly relate to adverse childhood experience. The Wirral Partnership for children, young people and families focus on building the confidence and resilience of children, young people and their families with a greater emphasis on a whole family approach. To do this we need to understand what the issues are for children and younger people. Recent workshops and consultations, young people have told us that they feel demotivated and anxious and COVID 19 has exacerbated these feelings. Attachment issues, issues with parents appear to be having an impact on the younger children

Requested by: Liverpool CCG Children and Families Commissioning, Liverpool City Council, Cheshire and Wirral Partnership, Wirral Future in Mind collaborative, Wirral Partnership for Children, Young People and Families.

1. **Aims**

Proposed aims of the research are as follows:

* Which population groups are at increased risk of negative mental health outcomes due to the COVID-19 crisis?
* What are the factors driving increased risk?
* How did they change over time?
* What is the associated change in demand for services?

1. **Defining the population, outcomes, and explanatory factors**

**Population Cohort**

In line with current commissioning of CAMHS services the research will focus on children and young people between the ages of 0-25 years (inclusive). Based on GP registered populations for this age cohort this equates to 94,520 for Wirral CCG and 180,285 for Liverpool CCG.

**Outcomes**

Outcomes we will consider are:

* Admissions for self-harm, alcohol and substance abuse, eating disorders and other mental health problems (incl. psychosis) as appropriate.
* Attendance to A&E for self-harm, alcohol and substance abuse, eating disorders, and any external injury.
* Referrals to CAMHS and adult mental services for the cohort 18-25, including IAPT, and eating disorders
* CAMHS contacts
* Waiting Times from referral and assessment and referral to treatment

**Explanatory factors**

Covariates we will include are:

* Age
* Sex
* Deprivation
* Ethnicity
* Young carer indicator
* SEND indicators (incl. physical, learning disability)
* Health checks, immunisations history
* Historical data on frequency of contacts (e.g. A&E for injuries, all causes, GP contacts)
* Diagnoses for mental health problems (incl. Anxiety, depression, psychoses, eating disorders)

1. **Data Sources**

Both teams will be exploring opportunities to engage with local councils to obtain access and knowledge and understanding of data currently held by the authorities including education and social care. We recognise that it is only through utilisation and optimisation of sharing data between organisations that we can truly understand and develop services fit for population health improvement.

In Liverpool, we are pursuing linkage with a Liverpool City Council held dataset called ‘Sentinel’, which contains children social care data augmented with other sources such as education, welfare, homelessness, and other vulnerabilities.

Likewise in Wirral, the CCG is exploring a number of avenues in relation to children’s care data currently held by Wirral local authority. Wirral C&YP services have a risk assessment for Domestic, Physical and Sexual Abuse and discussions are taking place with regards to obtaining access with considerations to Information Governance. There is a Strengths & Difficulties questionnaire for Children Looked After (CLA) that then provides a score that if a certain threshold is met, triggers interventions so this could be good insight in terms of potential links to CLA experiences and presentations to community services/mental health services. Drug & Alcohol data will provide data on service users who are living with children – another indicator for ACEs

We do not have access to these sources yet. If we get access and linkage, we will augment this analysis plan accordingly.

As things stand, we will use the following individual linked datasets:

* Mental Health Services Data Set (MHSDS – including CAMHS)
* Secondary Uses Services (SUS)
* Community Services Data Set (CSDS) and
* Primary Care records (in Liverpool these are from EMIS and in Wirral Care Record

1. **Study design**

For each outcome we will produce summary statistics before and after the start of the pandemic. We will also produce summary statistics of the distribution of covariates.

**Objective 1, 2 & 3**: We will use a longitudinal logistic regression, where the binary outcome is the occurrence/non occurrence (1/0) of an admission (for the causes listed above), a visit to A&E (for the causes listed above) or a referral to CAMHS in one given month. The predictors X are a set of covariate specified above and a time variable (month), the moderator Z is a binary variable indicating a time period after the start of the covid-19 pandemic, and we will consider in our model the interaction between the covariates X and the moderator Z.

From the coefficients of the regression linked to the variables X we will find which population groups and risk factors are associated with an increased risk of a negative outcome. From the coefficients linked to the interaction XZ we will find how these changed with the advent of covid-19.

**Objective 4**: We will use an interrupted time series study and perform a segmented regression analysis with outcomes of number of admissions per month, number of A&E attendances, number of CAMHS referrals and contacts. This regression will enable us to calculate the change in trend of these outcomes before and after the start of the pandemic. If time allows, we will conduct a time to event analysis, to evaluate how the waiting times between referral and first assessment changes before and after the start of the pandemic.

**Governance**

Data: This study will use the pseudonymised routinely collected health record that are collected for commissioning purposes and stored securely on Arden & GEM CSU and Wirral CCG servers. Both Liverpool and Wirral CCG data is pseudonymised by DSCRO, before being made available to authorised users. Our legal basis for the use of the data is covered by commissioning purposes, which means that everything Liverpool and Wirral CCG receive via NHS Digital (SUS, CSDS, MHSDS) is already covered in their DARS, and place-specific local data (e.g. some primary care elements) is covered by our own local agreements.

Project: For project management, we have an NDL analytical group with all analytical team members. This group meets fortnightly and it is chaired by a project manager who oversees the link of this theme with the other ones. When it is relevant, this group hosts subject matter experts from commissioning or provider organisations. It feeds into a smaller group of theme leads and informs public advisors when applicable

**Engagement**

As part of the NIHR Applied Research Collaboration North West Coast a presentation was made at the ARCFEST NWC event in April 2021. The audience comprised of members of the ARC, public advisors, and other stakeholders such as academics. The event involved in shaping this research project by asking them several targeted questions. 60% ppl agreed that Mental Health should be prioritised and 30% said young ppl mental health should be prioritised.

Locally a presentation was made at LCCG Patient Engagement and experience Group where we found out the public’s point of view to help shape the research project. We raised awareness that the public should be involved in this research project right from the start. We suggested they might help us in defining priorities, research question, design and dissemination. They could suggest how and where to communicate.

From a Wirral perspective we are working with the CCG communication and engagement team to both inform local groups of the work being undertaken as well as getting feedback and engagement from interested stakeholders e.g. Future in Mind Group, Healthwatch and other patient forums. Wirral are also implementing a public health research team in response to COVID whilst also exploring linking in with schools and colleges.

As a result of our previous engagements, our plans are as follows:

* We will recruit a panel of public advisors from the NIHR ARC North West Coast collaboration: we are in the progress of advertising for interest in being members of this panel and we have already recruited two public advisors through this route.
* We are planning to create a panel of public advisors who could be involved in this project using members of the local CAMHS partnership and Liverpool CCG Patient Engagement and Experience Group.
* We will look at engaging with the local Healthwatch from both areas
* Engagement with patient and professional groups such as Future In Mind (FiM) and The Wirral Partnership for Children, young people and families group.
* Exploring the potential of social media to promote analytics in HF Project

With these groups we will organise a first orientation event to present our research plan and collect feedback, and then we will organise presentations of milestone results as the analysis proceeds.

We will invite the public advisor lead, Saiqa Ahmed, to appropriate meeting of the analytical group, and we are planning to appoint an engagement co-lead, who has already expressed an interest, to support her

**Timeline**

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| Expected date for data access in place | July - August 2021 |
| Data linkage cleaning | September – October 2021 |
| Interim results | November 2021 |
| Final results | December 2021 |

1. https://www.childrenscommissioner.gov.uk/report/mental-health-services-2020-21
2. COVID-19 Impact: Survey Results 2021 – Young Person's Advisory Service (ypas.org.uk)
3. cyp-mhewb-ltp-4-years-on-final.pdf (liverpoolccg.nhs.uk)
4. https://www.wirralintelligenceservice.org/media/2762/190307-wirral-children-and-young-people-transformation-plan-2018-19-final-version.pdf