Combining data to support babies, children and young people to thrive in Harrow. V240822

APPENDIX 5b INTERIM REPORT

Combining data to support babies, children and young people to thrive in Harrow.

A Proposal to develop interagency information support for the health, education and social care in our locality

Background

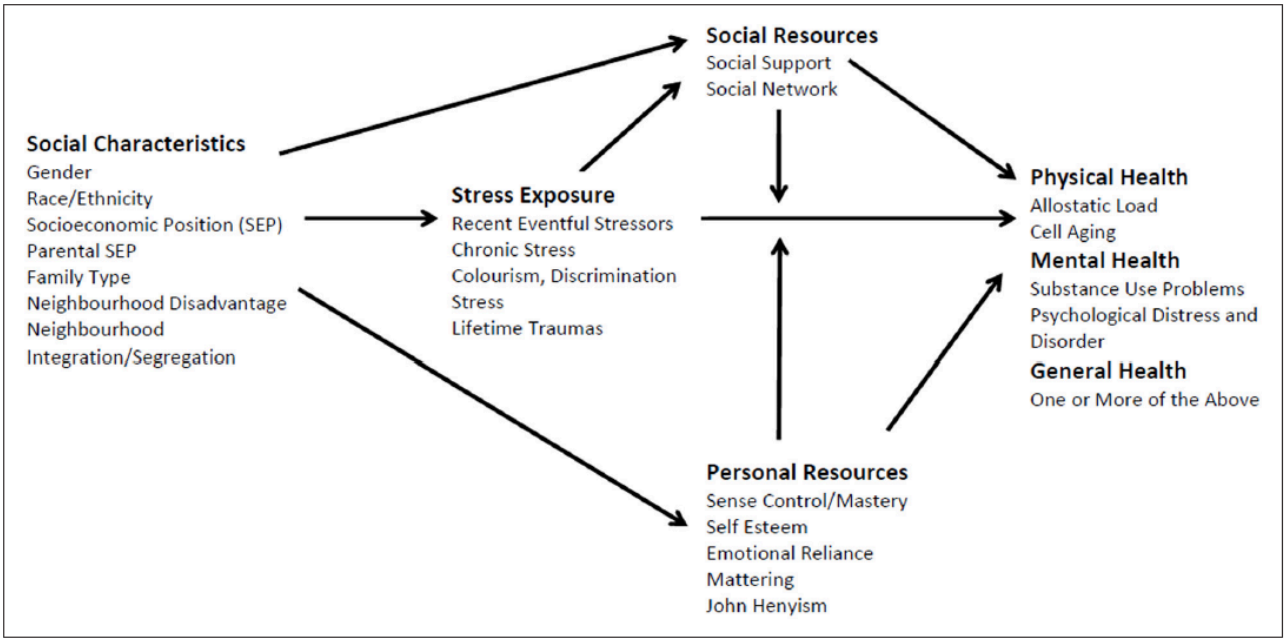
In the emerging integrated care organisation (ICO) for NW London, a number of priority areas have been highlighted for children and young people. These priorities include asthma, promoting emotional health of children and young people, improved coordinated care of children with complex care needs, prevention and rapid treatment of obesity and mental health.

Similarly, as local authority health needs assessments and joint partnership work begin to emerge from the pandemic a number of priority areas have been highlighted also; family hubs and early years services , health and social care integration , the emotional health and well-being of children with special educational needs.

With the shifting mobilities of children of the last 20 or 30 years we all recognise the need to have a truly multi agency approach and support cooperation between providers including the third sector, in order to maximise existing resources, to increase service efficiency and cost effectiveness and transparency of decision making for local people. The COVID pandemic has highlighted the way in which innovative practises can be initiated when required, in an emergency, and that there is a requirement for systems to be agile and responsive to those emerging needs. Harrow has a background in innovation both in terms of reducing infant mortality (the no death is best campaign) improving perinatal health especially in black and minority ethnic groups and promotion of breastfeeding in the community, adaptation of international programmes to help support healthy home visiting vulnerable families, the development of School survey tools.

A number of population health management tools have been developed in North West London such as the children and young persons rising risk dashboard for the whole systems integrated care system (WSIC is a record of 2.5 million patients in northwest London linking primary and secondary care records) These dashboards are primarily accessed by health care staff to support population management where the focus is very much on prevention of chronic diseases exacerbations such as diabetes, asthma and epilepsy.

However , over the past two years , MB has been leading the development a" first thousand days dashboard" which Jonathan Hill-Brown from Harrow has been actively supporting. This would be an interagency tool with data both from health and local authority sources which focuses on optimising prenatal and post natal health and wellbeing in the first 1000 days of life (conception to age 2 years). The concept is to help us to intervene early in children's lives especially when a range of factors are acting which can negatively influence a child's life chances.



Turner R. Understanding Health Disparities: The Promise of the Stress Process Model. In: Avison W, Aneshensel CS, Schieman S, Wheaton B, (eds.). *Advances in the Conceptualization of the Stress Process: Essays in Honor of Leonard I Pearlin*. New York: Springer; 2010.

We have used this model above to propose a set of variables which could be collected and support a live dashboard to help plan individual and population health and social care.

Optimising Early Years (1st 1000 days) Dashboard v110119b

Antenatal
Postnatal
Demographic

Indicator	Rationale	Technical Definition	Data Source
Gestational age at booking	Late booking pregnancy is a high risk factor for later morbidity/mortality	Numerator - number of women who have their first antenatal appointment after 20 weeks gestation. Denominator – all women who have booked to have delivery in the provider unit for their permanent residence	Community midwifery. Trust system.

Smoking	Smoking a high risk factor for infant death, low birth weight and respiratory disease Sudden Infant Death	Number of pregnant women who report smoking at any time during the pregnancy at booking. Numerator – all women booked in antenatal clinic.	Community midwifery. Trust system.
Antenatal substance misuse	Substance misuse high risk for neurodevelopmental disorders and safeguarding issues	Number of women who report alcohol or drug intake at pregnancy. Denominator – all women booked in antenatal clinic.	Community midwifery. Hospital Midwifery
Antenatal healthy weight in pregnancy	Obesity in pregnancy risk for obesity in child , increase risk of perinatal adverse events	BMI <25 at booking	Midwifery
Antenatal flu and pertussis immunisation	Prevention of maternal, neonatal morbidity and mortality	Coverage of pregnant population	Midwifery, GP systems and Pharmacy systems (SONAR)
Birthweight	Low birth weight high risk for morbidity and mortality in childhood and adult life (diabetes , CVD) High birthweight risk factor for later CVD	Proportion of infants born alive with low birth weight (<2500g) Or high birthweight >4500g (check)	CHIS
Newborn blood clot screening coverage	Diseases which are disabling if not detected early enough and treated	Proportion of infants who have had completed tests	CHIS
Screening coverage for key ages, birth visit, six week check, nine months to a year, two years, school entry	Screening coverage varies considerably according to social disadvantage and has imp0lications for ED attendance and also	Reviews carried out at each age broken down by IMD quintile, gender	CHIS
Immunisation coverage	High immunisation rates essential for host	Coverage at key ages	CHIS

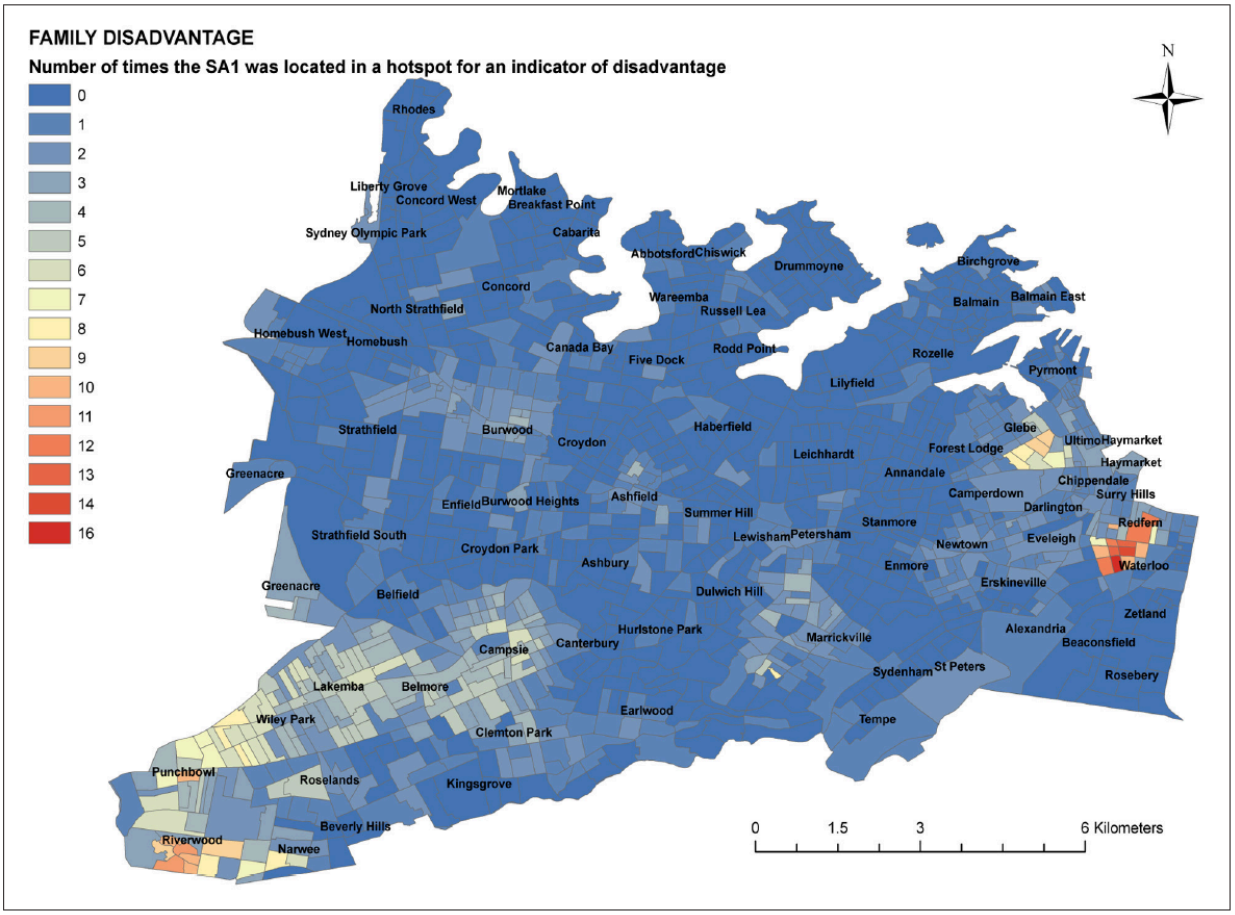
	immunity as well as reducing illness		
Ages and stages questionnaire	ASQ at 2 good predictor of school readiness Speech and language and other support can be targeted early	Coverage at 2 Results by locality	CHIS
Breastfeeding	Breast feeding increases infant immunity, bonding and intelligence and decrease maternal breast and ovarian cancers	Proportions antenatally who intend to breast feed Breast feeding at discharge, 10-14 days , 8 weeks and 6 months	SMIS Maternity systems SMIS maternity systems, CHIS
Dental health	Major priority for ICS- commonest surgical operation	Percentage of infants who have visited a dentist by 13 m	? CHIS HV data
ED attendance ≥4 times in a year	6% of children attending make up 20% of ED workload . Large numbers avoidable with additional nursing and specific programmes for those with complex care needs e.g. premature	Numbers, proportions (coverage) , localities	WSIC CYP
Vision screening	Amblyopia must be picked up early for remediation. Those with refractive errors uncorrected do poorly at school	Numbers, proportions (coverage) , localities	CHIS
Complex Care Needs	Complex Needs- as defined by 3 or more allied health professional involvement and at least one specialist in tertiary care – useful indicator of service need	Numbers, proportions, localities	WSIC CYP
GP registration	Recommendation of Kennedy Report for data collection Key to service provision and “medical home”	Numbers. Proportions unregistered, localities	GP systems

Ethnicity	Disproportionate morbidity and mortality	Numbers, Proportions, Localities	Birth notification
Maternal Education status	Measure of social disadvantage	Numbers, Proportions, Localities	CHIS ?
English as First Language	Key determinant for Access of services	Numbers, Proportions, Localities	GP systems/CHIS
Marital Status	Indicator of social support		Birth notifications
Child Protection Flag			LA CPP systems

The Hey Harrow school based census survey has been invaluable in highlighting the needs of school age children and has now been running for a small number of years with very successful feedback. The first thousand days dashboard will do the same for preschool children by combining data from a number of sources to improve population health management for women and children in their first two years of life- a critical time for brain development and lifecourse trajectories.

Harrow is an innovative borough where partnership working has a long track record and it is this proposal is to try and combine data sources from both the local authority and healthcare professionals healthcare providers in order to better target those families most at risk and to demonstrate effectiveness of local interventions over time.

Combining such data from the census, local surveys ,demographic and operational service data can produce informative layering of information which can be used to help inform service targeting and development . An example of this has been successfully developed in inner city Sydney, Australia when trying to improve coordinated services to high risk families (Healthy Homes and Neighbour hoods Todd K, Eastwood JG, Fotheringham P, Salinas-Perez JA, Salvador-Carulla L. Using Geospatial Analysis to Inform Development of a Place-Based Integrated Care Initiative: The Healthy Homes and Neighbourhoods Experience. Int J Integr Care. 2021;21(2):1–12.) . This used geospatial mapping to pull together multiple data sources to produce “hot spot “ mapping of high risk localities- See example below of layering multiple risk factors in a geospatial map. The orange areas have MULTIPLE indicators of disadvantage present and is where the housing department hosted a multi-disciplinary, interagency group of health and social care workers along with voluntary sector individuals to support families these areas.



ıre 5 Final Hotspot Analysis of Disadvantage.

DEMOGRAPHIC INDICATORS	PERINATAL INDICATORS
– High proportion of the population identifying as Aboriginal or Torres Strait Islander	– High rates of teen mothers
– Low rates of year 12 attainment	– High rates of sole mothers (pregnant women without partners)
– Low median weekly household income	– High rates of smoking during pregnancy
– High proportion of people reporting speaking English not well or not at all	– High rates of pregnant women with a high antenatal Edinburgh depression score (≥10)
– High proportion of people requiring assistance with activities of daily living (disability)	– High rates of pregnant women reporting domestic violence (have either been hit or hurt by their partner, or report being frightened of their partner)
– High proportion of one-parent families	– High rates of pregnant women reporting a history of child abuse
– Large proportion of households with no access to a car	– High rates of families known to Family and Community Services (FACS)
– Large proportion of housing consisting of state housing	– High rates of pregnant women who have other children in out-of-home care
– Large proportion of households with no internet access	– High rates of women who report consuming alcohol during pregnancy
– High rates of unemployment	– High rates of low-birth-weight (LBW) infants
– Low labour force participation rates	– High rates of pregnant women with delayed antenatal care (first visit at ≥20 weeks)

Table 2 Demographic and Perinatal Indicators selected for study.

The proposal

The joining up of analytic expertise in health and local authority providers to develop a live first 1000 days dashboard to be piloted in Harrow with a view to exploring this could be used to further enhance service provision and the lessons learned shared with other Boroughs in the sector.

Potential benefits would include improving immunisation rates, maximising breastfeeding retention, optimising the support of the most vulnerable families with interagency support bundles, building on the work of the current health visiting and early years teams in early identification and supporting vulnerable families. A major driver for this work would be the desire to close the gap in key outcomes between the richest and poorest children in our borough.

Data sharing agreements are required to maximise the flow of information between units and the safe warehousing and display of resulting information. This is being tested in KCW currently but progress has been unfortunately slower than expected and Harrow may be in a better position to move this work forwards quickly with its health and care partners.

Mitch Blair, Professor of Paediatrics and Child Public Health, Imperial College London and London North West Health care NHS Trust

Seb Baugh Consultant in Public Health Harrow Council, Chair Population Health Management Committee