Non-technical summary of: Cheung, R.W., Willan, K., Dickerson, J., & Bowyer-Crane, C. (2023) 'Risk factors for early language delay in children within a minority ethnic, bilingual, deprived environment (Born in Bradford's Better Start): A UK community birth cohort study' in *BMJ Paediatrics* doi: 10.1136/bmjpo-2022-001764

Summary of content:
This paper describes the prevalence of early language delay in a community cohort in three of the most socioeconomically deprived areas in a city called Bradford, Yorkshire, UK, as classified by the UK Government (Indices of Multiple Deprivation 2019: amount of disadvantage across employment, income, education/skills/training, health/disability, crime, housing/services, living environment). The cohort is called 'Born in Bradford's Better Start' (BiBBS for short) and is linked to a bigger project known as 'Born in Bradford', which one of the largest health research projects in the world (run since 2007).

A big problem with language research is that although we know that children from highly deprived backgrounds have worse language skills than those from better resourced backgrounds at school, we don't really know how many children are likely to have problems before they reach school-age. There is a lack of language research in UK-based minority ethnic populations that also experience high amounts of socioeconomic deprivation. This makes it hard to know who will continue to struggle, and also makes it hard to plan interventions to help boost language skills at an early age.

The BiBBS community are highly diverse and predominantly from minority ethnic backgrounds, with some 47 odd different languages spoken in the region. A not-for-profit organisation called Better Start Bradford was appointed by the National Lottery Community Fund (a non-departmental public body) to commission early interventions focussed on improving health and educational outcomes in Bradford, focussing particularly on maternal health and children aged 0 – 3. The BiBBS cohort was set up to evaluate whether these interventions are doing what they intended to do, and uses what we call 'routinely collected data' – this means information about the families is collected as part of normal access to services, such as data that is collected when people access the National Health Service.

One of the funded interventions was about early language skills in the community (called 'Talking Together', designed and run by BHT Early Education & Training) and included a screening visit for two-year-old children, where information about children's language ability was collected by highly trained workers and the children were assessed clinically for signs of delay. This visit took place in the home of the child, which makes access to the service much easier for families. The visit is offered to all families from the three areas funded by Better Start Bradford.

We used the data from the screening visit and combined it with the data that belonged to the birth cohort, then used it to look at: 1) how many children had signs of early language delay at 2-years-old, and 2) what factors might predict that delay. We use a measure of early language delay that tells us how many children are 'late talkers' – so children who say less than 90% of their peers at the age of 2 years. This measure was previously tested by other researchers on children who are learning more than one language, so we can account for some of the differences between children learning one language, and those who learn more than one.

In BiBBS, we found that 1 in 4 children is a late talker whilst using a measure that accounted for children who are learning more than one language. This is much higher than in other cohorts that are better resourced and less diverse, where approximately 1 in 10 children is a

late talker. We also found that factors like demographics, maternal native language and birthweight didn't tell us much about who was likely to be a late talker, but factors closer to the child like age, sex at birth, and other language problems did.

Overall, these results suggest firstly that rates of late talking are higher at preschool age in highly deprived, minority ethnic populations that are also subject to other inequalities in health, and secondly, that factors closer to the child are more likely to predict who is delayed than population-level metrics like demographics. This is consistent with other research in this area, and adds to what we know by providing an estimate of early language delay in a community that is typically under-researched and under-served.

Written by: Cheung, R.W.