



Theirworld

Edinburgh Birth Cohort

Summer 2018

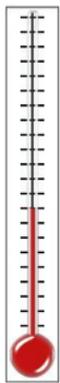
Welcome

A warm welcome to the summer TEBC newsletter. A lot has been happening over the last few months. In April, we held our annual party to say 'thank you' to all our study families. It was a lovely afternoon of play, craft activities and cakes!

We also introduce one of our PhD students, Sinéad O'Carroll whose research is focusing on communication between mothers' and their babies'. Research findings in this edition by Dr Vix Monnelly focuses on methadone taken during pregnancy and its effect on brain development of babies.

We hope you enjoy catching up on all our news and we look forward to sharing more with you in our winter newsletter.

News



- Over 160 families have signed up to take part in TEBC and means that so far we are on target with our plans. Gillian (TEBC research midwife), Gemma and David (TEBC clinical research fellows) work closely with NHS staff to make sure families have all the information they need to decide whether the study is for them or not. They are in the hospital most days and are happy to answer any questions that parents or staff may have.

- A new research study linked to TEBC is underway, with recruitment starting in March 2018.

Dr David Stoye will be collecting information about hormone levels from mothers and their babies, from the time their baby is born until they are one year old. David hopes to find out if being born early affects stress hormones in babies and how this is linked to their health and learning as they grow up. We will share more news about this important work in the next edition of the newsletter.



- In April, we held our annual party for TEBC families. The party is our opportunity to say a huge 'thank you' to the families who make our research possible through their commitment and sharing their precious time with us. It was lovely to see lots of families were able to join us this year. Babies and parents enjoyed a fun, sensory play session together and older children got stuck into lots of crafty activities like making lava lamps, decorating biscuits and designing a birthday card. The children came up with some fantastic designs and we have now turned all of their designs into birthday cards that we will use to send to our study children. See the end of this newsletter for a photo of the card designs or click here >



Artists at work on their paper plate crowns.



Not your usual parking problem!



Babies and parents enjoying the sensory play together.



Paola and David hard at work keeping the refreshments coming.



Enjoying a cake...or two!



The amazing families who make our research possible.

News (continued)

- In May, **Professor James Boardman** and **Dr Gemma Sullivan** attended the Paediatric Academic Societies meeting in Toronto, Canada. Despite Toronto being hit by a freak wind storm with gusts in excess of 110 mph Gemma and James got there eventually, although not without a rather turbulent landing and minus their luggage! Gemma's presentation entitled 'Early breastmilk exposure modifies brain connectivity in preterm infants' was very well received as was James's poster presentation 'The human cerebrospinal fluid inflammatory response to preterm birth'.
- A warm welcome to neuroimaging research fellow, **Dr Paola Galdi** who joined us earlier this year.



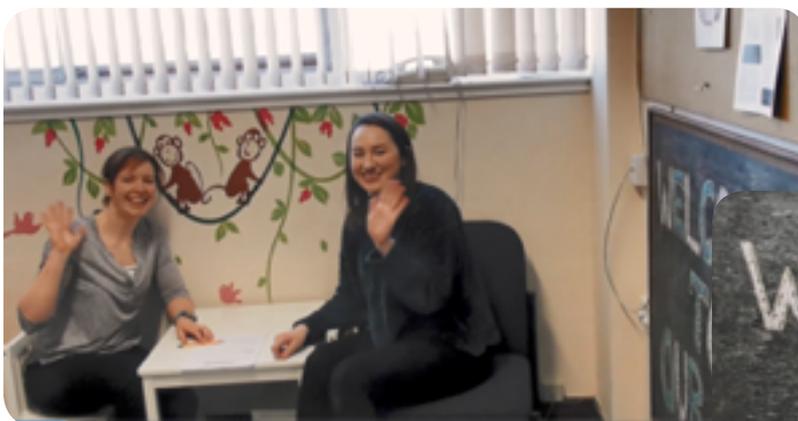
Paola's work will focus on developing new ways of studying the TEBC research data.

She plans to see if brain scan images in new born babies and eye movements in young children are related to how the children learn as they grow up.

Celebrating 70 NHS Heroes for 70 Years: Dedicated staff are pioneering changes



- Scottish newspaper, The Herald, recently paid tribute to some of the remarkable individuals who have made a contribution to Scotland's health service and research during the past 70 years. Included in the '70 NHS Heroes' was TEBC Chief Investigator, Professor James Boardman. You can read the full article by [clicking here](#)>
- A short video for families is now available on our study website, introducing the researchers they will meet at their follow up appointments (Lorna, Sinéad and Bethan) and the kind of activities they do with the children. Thank you to all the families for agreeing to appear in, and share the video. Huge thanks also to Sinéad and her husband who very kindly put this together for us! You can see the video by [clicking here](#)>



Research

Methadone taken during pregnancy affects the brain development of babies

Methadone is a medication which is prescribed to pregnant women addicted to opioid drugs like heroin. However, there are concerns that methadone might affect the brain structure of unborn babies because it crosses into their bloodstream whilst the brain is still developing.

We wanted to know whether the brains of otherwise healthy babies exposed to methadone in the womb are different compared with healthy babies not exposed to any drugs. Special MRI scans, known as diffusion MRI, assess the movement of water in the brain and can give us an indication of how well formed the brain white matter tracts (connections) are. This is important because brain connections that are well developed (mature) and healthy are linked to normal childhood development and brain connections that are less well developed (immature) are linked to more developmental problems.

Twenty methadone-exposed babies born around their due date (term) were recruited and had an MRI scan shortly after birth. These were compared with 20 term healthy babies not exposed to any drugs. These scans showed us that main white matter tracts are immature in the babies exposed to methadone in the womb. The long-term implications of these differences in brain connections need further study, in particular, whether other strategies or medications to treat drug addiction during pregnancy are better or safer for mothers and babies.



Who's who

Sinéad O'Carroll

Sinéad is a PhD student originally from Edmonton, Alberta Canada. After finishing her undergraduate degree in Psychology from the University of Alberta she worked as a research assistant in a University based language and gesture lab. Sinéad came to Edinburgh in 2014 to undertake a Masters degree in Research Psychology from the University of Edinburgh.



Her Msc research looked at the hand banging and babbling of 9 to 12 month old infants, and how these two behaviours are connected. Sinéad is now in the first year of her PhD under the supervision of Dr. Sue Fletcher-Watson and Prof. James Boardman. Her PhD is focused on how mothers communicate with their infants and what sorts of factors can influence these communication patterns.

Sinéad is using the 9 month data time point in the TEBC, and spends her time meeting the infants and families, and watching the parent child play sessions to code for verbal and non-verbal communication.

The goal of this project is to contribute to our understanding of how babies learn to communicate and how this development can be influenced by different factors such as background, prematurity, and maternal communication.

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The 100th and 101st TEBC babies were scanned in May.



David Stoye in the Jennifer Brown Research Laboratory.



Birthday card designs by TEBC participants.