



The CORK  
**BASELINE**  
Birth Cohort

*With compliments from the  
Cork BASELINE Birth Cohort Team.*

*We are delighted to give you feedback on  
some of our initial findings.*



**UCC**

Coláiste na hOllscoile Corcaigh, Éire  
University College Cork, Ireland

On behalf of the **Cork Baseline Birth Cohort** team, we would like to take this opportunity to thank the Parents & Children who helped us to successfully complete the first phase of our research on children from birth to 2 years.

The Baseline babies are part of the first ever Irish birth cohort study, a vital national resource. With your help, we are developing a greater understanding of children's health and lifestyle behaviour.

2,137 children (born between August 2008 to October 2011) took part in the study.

We have now completed all our 2 year follow up appointments and have started to look at the results!

A **birth cohort study** is one where babies are followed from birth and studied to determine why some babies go on to develop disease, while others stay healthy.



## What do we want to find out?

- Diet & Environmental Factors during pregnancy and infancy on child development and health.
- The impact of these factors on growth, development & your child's risk of developing eczema, asthma and other allergies.

Our study had an almost **50:50 mix** of boys & girls:  
➤ 50.37% males  
➤ 49.63% females.

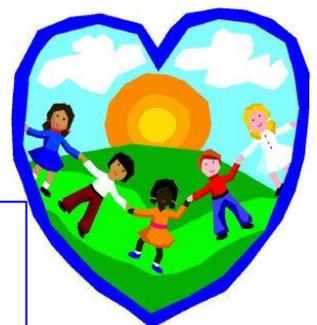
## Top Boys & Girls Names:

- |           |       |
|-----------|-------|
| 1. Daniel | Emily |
| 2. Jack   | Aoife |
| 3. Sean   | Emma  |
| 4. Conor  | Chloe |



**July, March & April** were the most popular birth months.

All of the children were born in the Cork University Maternity Hospital. For 56% the first home was an urban setting and for 44% it was rural.





## Childcare

- By 6 months, 23% of mothers had returned to work, with just over 60% still on maternity leave.
- The most popular form of childcare at this age was being minded by a family member.



## Children & TV

- At 2 years we found that the majority (38%) of children watched <1 hour of tv on a typical week day.
- Some 11% watch >3 hours on a typical week day.

## Medication:

- 29% of babies had taken an antibiotic by 6 months, with 8% having taken 2 or more antibiotics in this time.
- 92% of babies had been given paracetamol by 6 months.



## Feeding & Other Habits:

- At 6 months, 66% of babies were using a soother.
- At 6 months, 23% were still receiving breast milk, with 1% being breastfed exclusively.
- At 12 months, 70% were taking infant formula & 23% of infants were taking cow's milk.
- The average age of first food introduction was 20 weeks.
- 98.7% of infants were spoon-feeding themselves at 24 months.



### First **weaning foods** were:

- Baby rice (68%)
- Infant breakfast cereals (14%)
- Carrots (4%)
- Apple (2%)
- Other fruit & vegetables (10%).

## Food Allergies:

- Parental suspicion of food allergy is common in infants, with 11.7% of parents reporting a suspected adverse food reaction at 12 months.
- We found that 3.2% of Irish infants have a food allergy at 1 year.
- 4% of Irish infants have a food allergy at 2 years.
- The top 3 food allergens at 2 years are egg, peanuts & milk.



## Pregnancy & Birth:

- Average age of BASELINE mothers was 30.9 years (national average 31.5 years).
- 27% of births were by Caesarean section (national average 28%).
- Average birth weight was 3.5kg (normal birth weight is 2.5 – 4.5kg)
- At hospital discharge, 70% were receiving any breast milk, 34% of infants were being exclusively breastfed.



### SMILE! :)

The majority of babies started to smile between age 5 & 6 weeks.

And 99.45% were laughing out loud by 6 months.

**Vitamin D:** The National Vitamin D Supplementation Policy was launched in May 2010.

Figures contrasting supplementation in year one are as follows:

|             | Prior | Following |
|-------------|-------|-----------|
| ➤ 2 Months  | 4%    | 76%       |
| ➤ 6 Months  | 11%   | 64%       |
| ➤ 12 Months | 11%   | 44%       |



## Getting Moving!

- 90% of infants were crawling at 12 months.
- The average age for infants to begin walking was just over 13 months.



- **Vitamin D** is important for your immune system, growth, muscle strength & bone development.
- Your baby's vitamin D levels are directly linked to those of the mother at birth.



## Colic:

At 2 months, 20% of mothers reported their child was suffering from colic, with the most common age of onset being 2 to 4 weeks.

**Colic** is the name given to pain that infants experience in their digestive systems, and usually manifests as intermittent abdominal cramps.

## Latest Baseline Research:

### → The Cork BASELINE Birth Cohort Study: Babies after SCOPE:

Evaluating the Longitudinal Impact on Neurological and Nutritional Endpoints

**Authors:** Sinead M O'Donovan; Deirdre M Murray; Jonathan O'B Hourihane; Louise C Kenny; Alan D Irvine; Mairead Kiely. International Journal of Epidemiology 2014.

➤ This paper details everything about the study from beginning, middle and to present. Throughout the paper a number of key questions are answered to get all the necessary information which included: Why was the cohort set up? Who is in the cohort? How often have the participants been followed up? What has been measured? What has it found? What are the main strengths and weaknesses of the study? Where can I find out more?

➤ In summary, the Cork BASELINE birth cohort enrolled 2137 infants to help study the cause of many childhood diseases. Visits took place at 2, 6, 12 and 24 months and the 5 year assessments are on-going. An overview of the questions asked about your babies nutrition, allergies and neurodevelopment is provided as well as a list of measurements taken. Research findings from the birth cohort have been presented at national and international meetings, the results of which are briefly discussed in the paper.

### → Child eating behaviours are associated with weight status at two years of age:

- Scientists wondered whether differences in early eating styles and might add to weight problems in children. We looked at this in the BASELINE study.
- Children's eating behaviours were assessed at the BASELINE study 24 month appointment using the **Children's Eating Behaviour Questionnaire** and parents were also asked if they considered their child to be a picky eater.
- Children were grouped into weight categories based on weight and height measurements at 24 months.
- 21% of children were classified as picky eaters by their parents.
- Importantly children classed as overweight or obese had the highest scores in the food approach behaviours of food enjoyment (i.e. they enjoyed food more than those in the underweight category) and in their responsiveness to food.
- In contrast, children classed as underweight scored highest in food avoidant behaviours such as food fussiness and slow eating.
- Picky eaters were significantly lighter and shorter than non-picky eaters and also had different eating patterns, eating more biscuits/cakes and less vegetables compared to non-picky eaters.
- Child eating behaviours were associated with weight status at two years of age, with food approach behaviours associated with being overweight or obese.
- This information may help us to target children at higher risk of being overweight or obese later on.



## Your Baby's Growth:

Our study of two year olds found that:

- A total of 15.1% were overweight
- A further 6.5% were obese.

**Overweight and obesity** levels at 2 years were defined using the UK-WHO 0-4 year age-and-sex specific body mass index (BMI) charts.

Overweight was defined as a BMI  $>91^{\text{st}}$  and  $\leq 98^{\text{th}}$  percentile and obesity as a BMI  $>98^{\text{th}}$  percentile.



### PEA POD:

Our infant body composition tracking system.

Do you remember lying into this?



## Rapid growth and body composition in the first two months of life and overweight / obesity at 2 years:

- There is a growing prevalence of overweight and obesity among preschool children. Obese children are more likely to be obese as adults. Growth during the early months of life may be important in the development of obesity.
- We found that there was a higher prevalence of overweight and obesity at 2 years of age among infants who grew rapidly between any age-interval in the first 12 months when compared to those who did not grow rapidly. (29.7 vs. 12.9%). Even those who displayed rapid growth in the first two months of life were approximately four times more likely to be overweight or obese at 2 years when compared to non-rapid growers. We also found that rapid growers had greater increases in both fat and lean mass from birth to 2 months, as measured by the **PEA POD** Infant Body Composition Tracking System, when compared to non-rapid growers.
- Our results indicate that the early postnatal period may be critical for the development of obesity and a potential target for prevention. Tracking of a child's growth using standardised growth charts during routine healthcare visits, such as scheduled vaccination visits may help to identify those at increased risk of obesity.

## Skin Conditions:

Maeve Kelleher MD, Michelle O'Carroll MD, Aine Gallagher RGN, Deirdre Murray PhD, Audrey Dunn Galvin PhD, Alan D Irvine MD, Jonathan O'B Hourihane MD (2013): Newborn Transepidermal Water Loss Values: A Reference Dataset – Paediatric Dermatology, Vol 30, No 6, 712 – 716.

➤ **TEWL** stands for transepidermal water loss . We measure TEWL to see how much water travels across the skin from “inside” the body to the “outside”.

➤ Our research has enabled us to ascertain what normal TEWL values are.

➤ With this data, we have been able to look at babies whose skin barrier is not as good, to see if they are at risk of developing eczema or food allergies.

➤ Our next paper, to be published shortly, will show how this TEWL value develops during the baby's first 6 months.



### Eczema:

Our study found rates of:

- 17.8% at 6 months.
- 14.9% at 12 months.

**Eczema** is a common, recurring, non infectious, inflammatory skin disease in which the skin becomes red, dry, itchy or scaly and may even weep, bleed or crust over. It can be infected by bacteria or viruses.

## What's Next?

- We are now 9 months into our 5 year assessments. We look forward to seeing everyone between now and the end of 2016 to see how much you have grown.
- We are now beginning to look at the early factors which have shaped your child's development.
- The longer we can follow your child, the more crucial all of this early information will become so that we can work together to answer important questions about children's health.



If you have changed contact details, please let us know. Thanks Again!

**Please visit:**

**W:** [www.baselinestudy.net](http://www.baselinestudy.net)

**E:** [baseline@ucc.ie](mailto:baseline@ucc.ie)

**P:** 021 420 5014

**M:** 087 960 7875



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