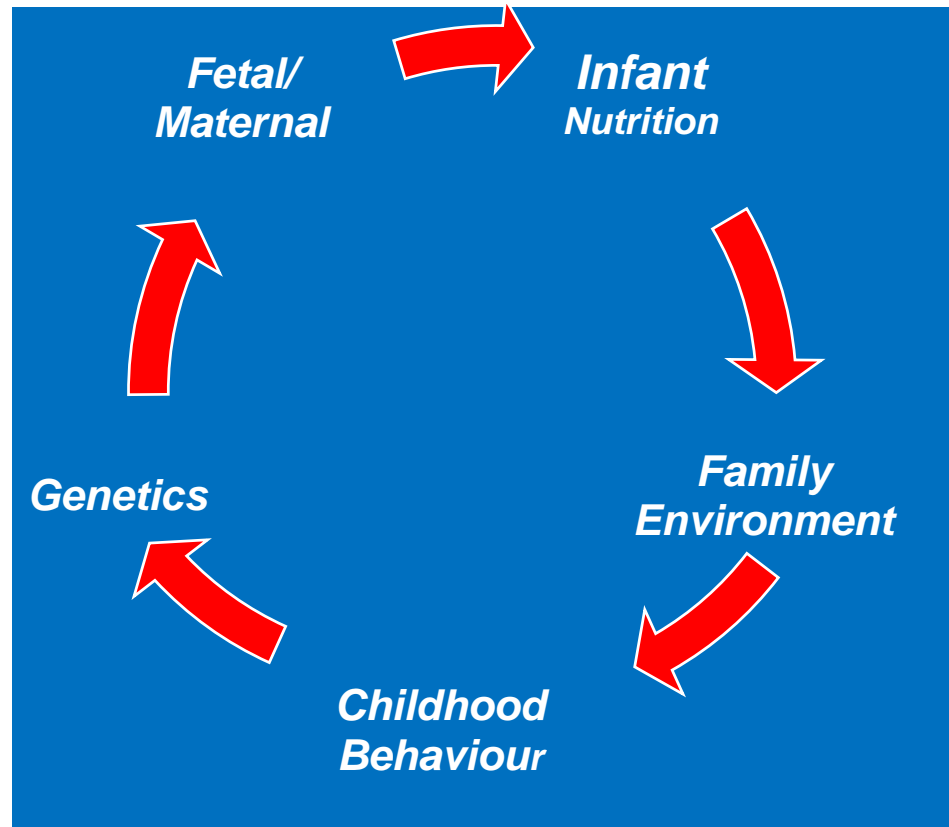




The FAMILY Study

- To examine the environmental, biochemical and genetic factors operating in early life that contribute to the development of obesity, cardiovascular risk factors and atherosclerosis





Monogenic factors, rare, children with extreme obesity

Polygenic factors, e.g.
Obesity: FTO gene
Lipids: APOE/PCSK9, CEPT/LIPC/LPL, APOA5/LPL
Dysglycemia: HHEX, CDKN2A/B

Susceptibility to: gene environment interactions

Telomere length shortening: associated with obesity, insulin resistance, psychological stress, cigarette smoking

***Intrauterine Life**

***Infancy:**
Increases in risk factor levels within "normal" range

***Early school age:**
Increases in risk factors levels beyond "normal" range

***Early teens:**
Early atherosclerosis

** Focus of FAMILY study*

****Mid teens:**
Clear evidence of atherosclerosis

****Adulthood**
More advanced atherosclerosis and clinical CV disease

*** These have been more widely studied*

← Maternal diabetes, hypertension, weight gain, smoking, poor nutrition, placental malfunction,

← Breast feeding, childhood nutrition

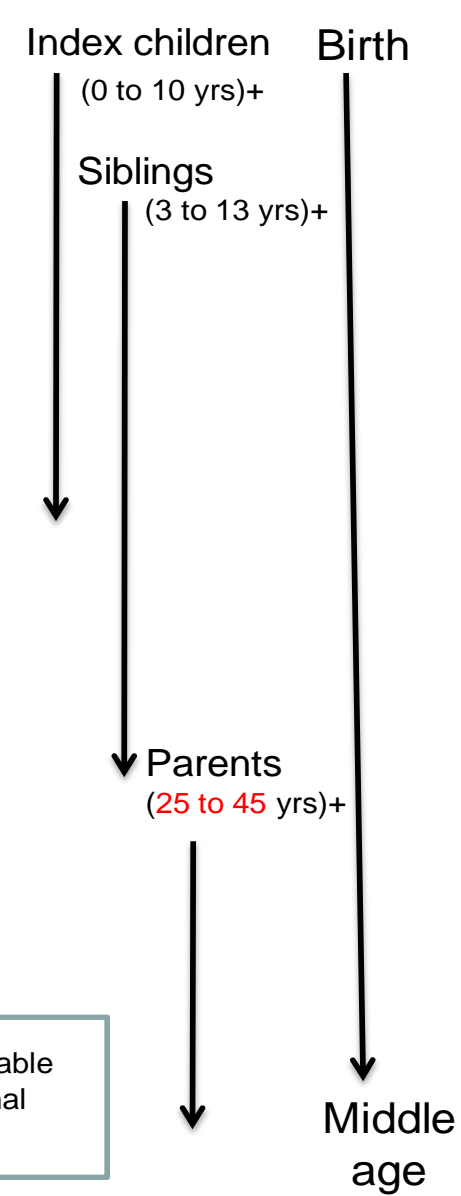
← Nutrition, activity food choices preferences & availability

← Familial, peer influenced eating habits, smoking

← Psychosocial well-being

← Societal determinants: Community & SES - availability of facilities, outdoor activities, wholesome food

+ Plus another 5 yrs if we are able (as planned) to get an additional cycle after the current one)





FAMILY – Domains

Data collections at various life stages

- Questionnaires (Life/medical history, life styles, socioeconomics, ethnicity ...)
- Anthropometrics (BP, ht, wt, waist, hip, skin folds, DXA, BIA,)
- Feeding and nutrition (breast feeding, eating habits, FFQ,)
- Life style questions in children: mood questions, quality of life, sleep quality
- Biospecimens – Lipids, glucose levels, DNA, serum for long term storage
- Special tests (mostly at 10 years):
 - Carotid intimal media thickness (at 10 years)
 - Allergy skin testing (1 and 10 yrs)
 - Spirometry (10 yrs)
 - Grip strength (10 yrs)
 - Mental health (10 yrs)



The FAMILY Study - Progress

857 Families

At enrolment Prenatal/Birth	Index Children (n=901)*	Mothers (n=857)	Fathers (n=530)**	Siblings (n=263)*
1 year	820	783		*
2 years	788	721		
3 years	752	691		
5 years	671	630	370	
7-8 years	622	541	344	216
10 years++	538	505	267	160

* Includes about 10% from multiple births (twins or triplets); ** Only those who consented to be followed up; ++ still ongoing

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