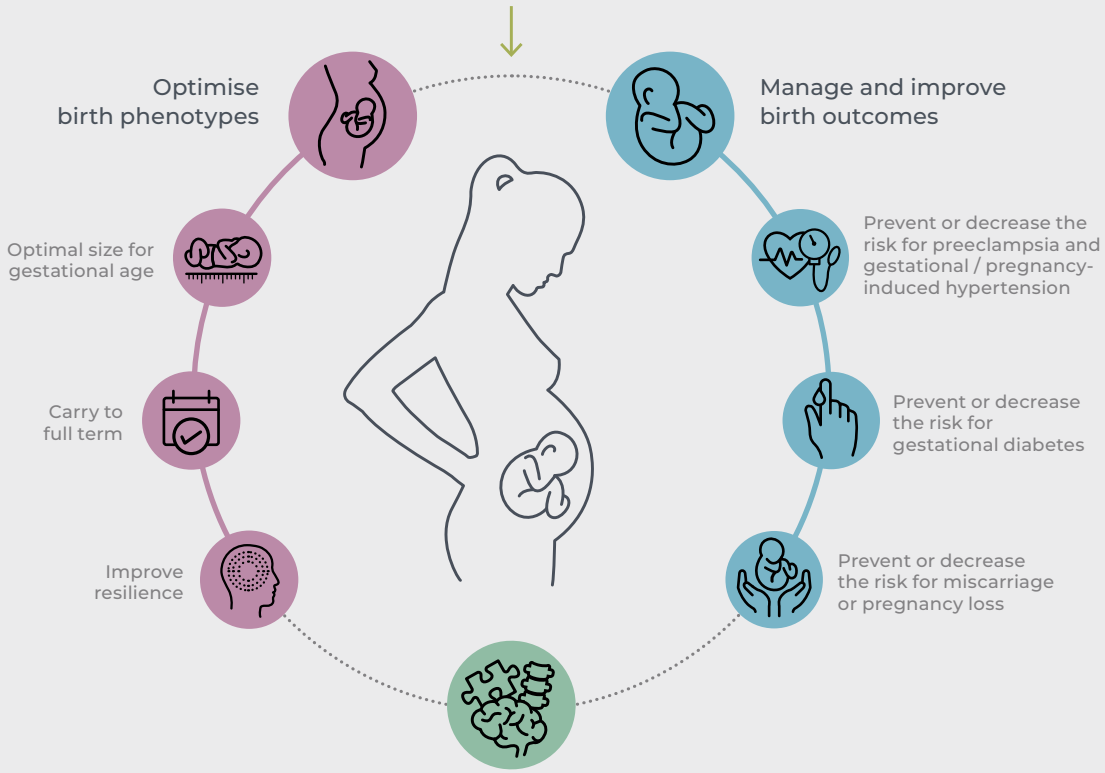
Healthy mum | Healthy baby | Healthy world

growbaby

The GrowBaby genetic test from dnalife provides insights into key biological areas that impact maternal and fetal health and offers personalised recommendations on how mums-to-be can optimise their health, and their baby's health, from pre-conception to birth and beyond.

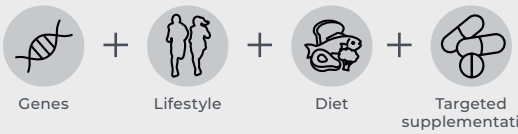
IMPROVE YOUR CHANCES OF HAVING A HEALTHY PREGNANCY WITH OPTIMAL BIRTH OUTCOMES:



Reduce risk for birth conditions

Balance biological pathways to prevent or decrease risk for developmental conditions

Put personalised diet and environmental interventions in place to manage and improve your pregnancy and birth outcomes

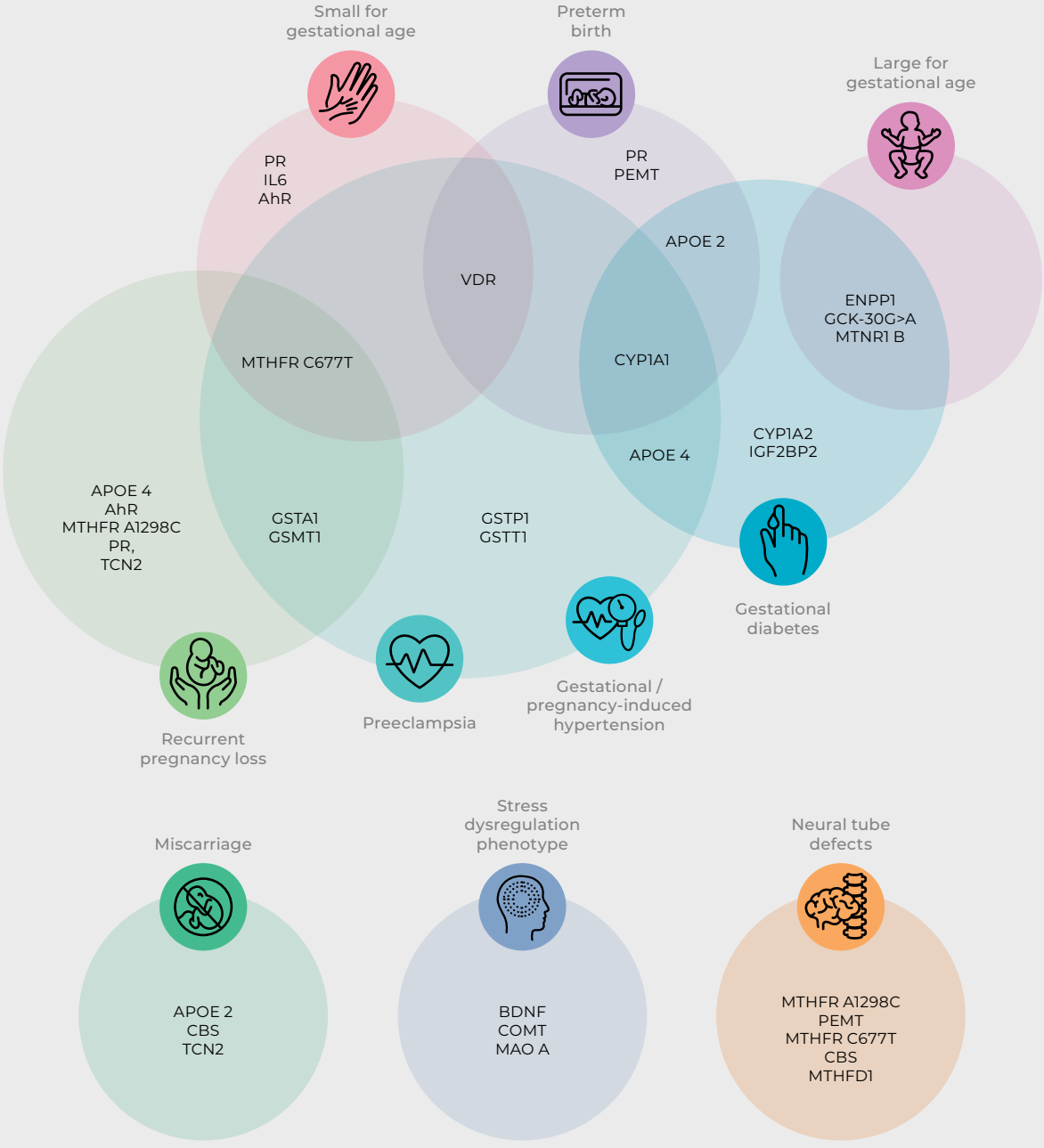


dnalife®

Introduction

Preconception and the perinatal time period provide a unique opportunity to establish the foundations for optimum health and development across the lifespan. Targeted interventions, using insights from a genetic test, can optimise the health of the mother, supporting a healthier pregnancy, resulting in transgenerational health and resilience.

The GrowBaby DNA test reports on 44 SNPs in 27 genes involved in 11 key biological processes associated with important fetal phenotypes and maternal health risk factors.



Improving pregnancy and birth outcomes

Using evidence-based insights of gene-diet interactions, GrowBaby helps you to manage and improve your patients' maternal and fetal health outcomes.

Consider the GrowBaby DNA test in your health assessment protocol for women who:

- Are planning to conceive
- Have encountered problems with regards to conception and adverse pregnancy outcomes
- Want to optimise their health and the future health of their child

This first-of-its-kind test was developed in collaboration with Drs Michael and Leslie Stone, and Emily Rydbom, who built and applied a proven[1] Pregnancy Care Model, which integrates unique genomic and nutrient biomarker assessments into a personalised obstetric and nutritional program.

Scan the QR code to learn more about the GrowBaby program, the test, and get an overview of the report.

Select nutrient and gene variant analysis in a targeted diet & lifestyle intervention and preterm birth (SNGLI-PTB): Mid-study report

Leslie Stone MD, Emily Stone Rydbom BCHN, CNP, P Michael Stone MD, MS
GrowBaby Health LLC 1,2,3 | GrowBaby Life Project 501c3 1,2,3 | Ashland, OR, USA

Furthering the mission to improve maternal and fetal health outcomes, the GrowBaby genetic test and program is being utilised in a pioneering study conducted by Drs Leslie and Michael Stone, and Emily Rydbom. **Details and preliminary findings from this intervention study are outlined overleaf.**

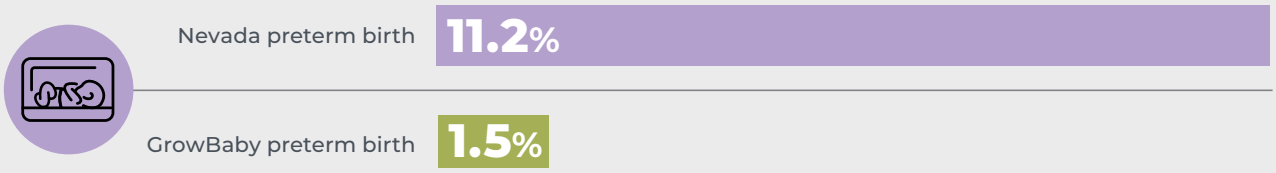
Background and purpose

Preterm birth (PTB) rates in the US are among the highest in wealthy nations across the globe. PTB increases lifelong morbidity and mortality at significant economic cost. In addition to neonates born too early, small for gestational age infants predict the greatest risk for chronic disease in the F1 generation. Maternal morbidities such as preeclampsia, gestational diabetes and excessive gestational weight gain contribute to adverse neonatal outcomes, and the greatest risk is among women of color and those that are socio-economically disadvantaged.

In this observational analysis a virtual adaptation of a trimester by trimester modified low glycemic Mediterranean diet and lifestyle intervention is applied to a multi-racial pregnant 100% Medicaid population and tailored to their individual needs utilizing select micronutrient and gene variant analysis. In a unique collaboration between a virtual nutritionist and an on-site OB/GYN provider, the third-party payor Molina Nevada prospectively funds preventive services during pregnancy to reduce claims made after delivery, with the intention of simultaneously improving maternal and neonatal outcomes and reducing cost.

Numbers needed to treat (NNT) primary outcome

(Using Peristats, Nevada 2022 & GrowBaby 2011-2017)



NNT: **10.3**

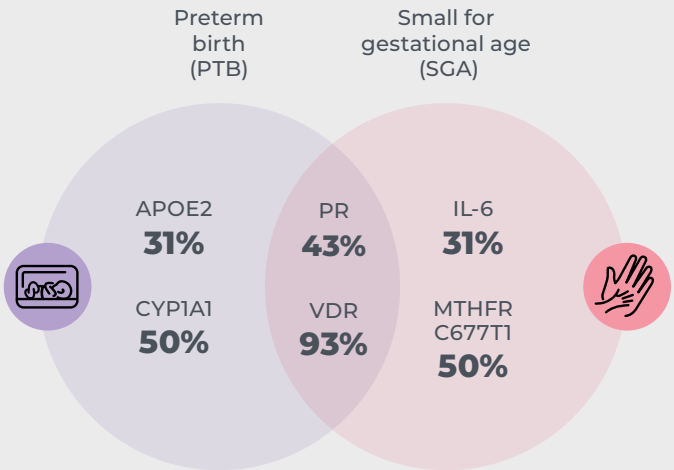
Gross savings (N=100) at $65,000/PTB = **$650,000**

Preliminary findings

Outcomes by deliveries to date*

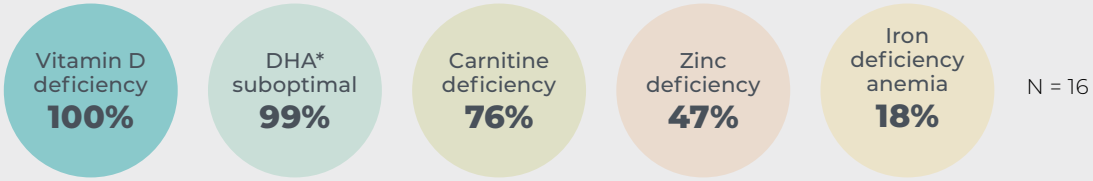
OUTCOMES	PROPORTION
Preterm birth	**0%**
Small for gestational age	**0%**
Preeclampsia	**0%**
Gestational diabetes mellitus	**6%**
Large for gestational age	**12%**
Cesarean	**12%**
Breastfeeding	**87%**

*Deliveries = 8; Sample size = 16
Recruited: 18, retained 16 (one exclusion, one left practice)
NNT reached by July 2023



N = 16

Nutrient deficiencies



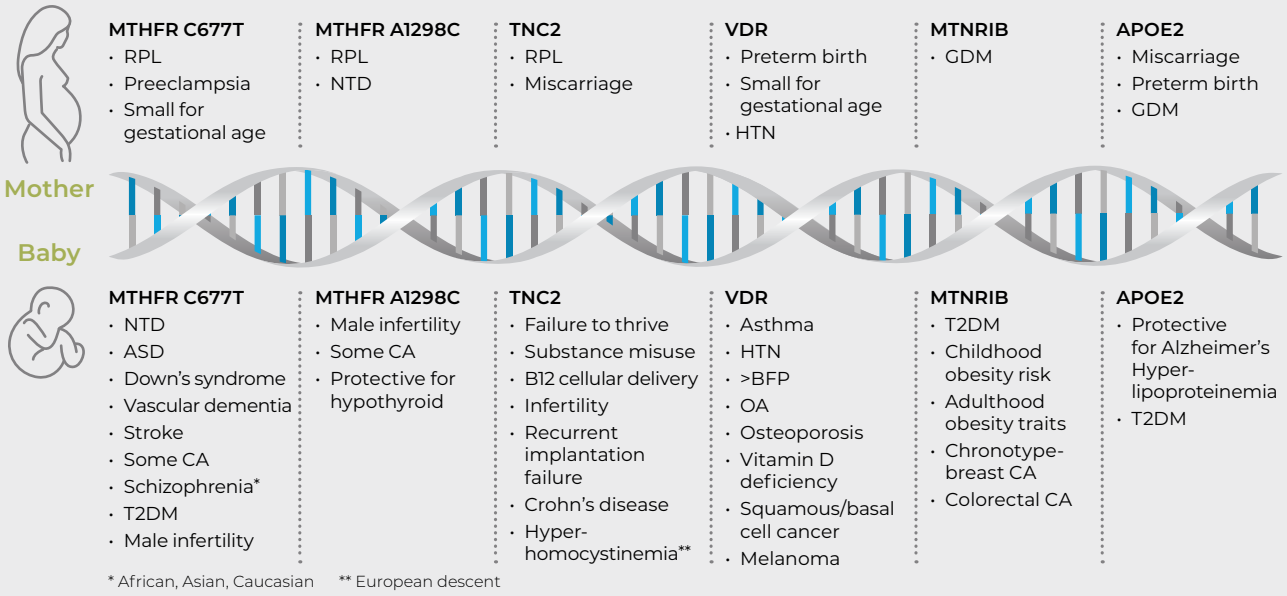
N = 16

dnalife GrowBaby genotype trends | 5 May 2023

BIOLOGICAL AREA	SNP	GENOTYPE CALL	FREQUENCY
Methylation	MTHFR C677T	Risk allele(s) present	7/16 (44%)
	MTHFR A1298C	Risk allele(s) present	7/16 (44%)
	MTHFR A1298C & C677T	Risk allele present	2/16 (13%)
Vitamin B12 transport	TCN2	Risk allele present	10/16 (63%)
Melatonin receptor	MTNR1B C>G	Risk allele present	8/16 (50%)
	MTNR1B C>T	Risk allele present	9/16 (56%)
	MTNR1B C>G & MTNR1B C>T	Risk allele present	7/16 (44%)
Insulin secretion	SLC30A8 G>A	Risk allele present	15/16 (94%)
Vitamin D metabolism	VDR FokI T>C	Risk allele present	8/16 (50%)
	VDR C>T	Risk allele present	9/16 (56%)
	VDR A>G	Risk allele present	5/16 (31%)
	VDR FokI T>C, C>T & A>G	2x risk alleles present	10/16 (63%)
	VDR FokI T>C, C>T & A>G	3x risk alleles present	3/16 (19%)

Knowledge of your patient's genotype enables more effective action to improve health for mum and baby, both now and far beyond the perinatal time period.

Genetic ecosystem across the lifespan:



* African, Asian, Caucasian ** European descent

Summary and conclusion

Enrollment remains open, but preliminary findings to date reveal:

- Text-based interface with the nutritionist provides better compliance over phone or email communication.
- High patient satisfaction with improving food frequency profiles.
- Higher rates of serum zinc, carnitine and Vitamin D deficiencies than epidemiologically predicted.
- No occurrence of preterm birth, small or large for gestational age neonates or preeclampsia.

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Start implementing GrowBaby in your practice **today!**

GrowBaby test and training

GrowBaby is a genetic test for mum-to-be, designed to help better understand the functioning of key biological pathways that influence maternal and fetal health, and how these relate to the major birth phenotypes. The report provides valuable insights into how you can optimize health outcomes for mum and baby using gene-based personalised diet, supplement, and lifestyle interventions. Preconception and the perinatal time period provide a unique opportunity to establish the foundations for optimum health and development across the lifespan.

> **Targeted interventions, using insights from a genetic test**, can optimize the health of the mother, supporting a healthier pregnancy, and resulting in transgenerational health and resilience.

Online training modules

- **A brief overview of nutritional genomics and the science**
- **Relevant GrowBaby biological areas:**
  - The relationship between the biological area to pregnancy
  - Evidence on the genes & SNPs associated with maternal & fetal health outcomes
  - Intervention guidelines related to the biological area with regard to nutrition, nutrient, and lifestyle support
- **Overview of the GrowBaby report**
- **A GrowBaby case study**
- **Test your knowledge quiz per area**

You will also gain access to supporting scientific literature that is provided as recommended reading per module, and downloadable slides in pdf format.

Your educators

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Together we change healthcare

dnalife® was established by two independent companies, Nordic Laboratories and DNAlysis Biotechnology, who together have more than 40 years experience in providing cutting edge laboratory tests to clinicians across the globe. At dnalife® we offer a comprehensive range of functional and genetic laboratory tests as well as supplements from leading brands all under one roof - making ordering, shipping, and support as easy and as seamless as possible - through our virtual management system www.dnalifevms.com

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