JUNE 2024

BC WOMEN'S HEALTH FOUNDATION

ACCOUNTABILITY UPDATE

Laura McNeice, Mike Coutts and their baby Harri graciously sharing their impact story in this report

IMMUNOASSAY ANALYZER - NEWBORN SCREENING

Thanks to donors like you who have funded this powerful technology, newborns like Harri are thriving. This report shares how early detection by the Immunoassay Analyzer made a world of difference for Baby Harri, and is positively impacting the lives of newborns across BC.

Your generous contribution is illuminating pathways to brighter, healthier futures. Discover the tangible impact of your philanthropy on the following pages.

THANKS TO YOU...

THE FUTURE IS BRIGHT FOR BC NEWBORNS, THANKS TO AMAZING DONORS LIKE YOU

Responding to the urgent need of the provincial newborn screening program at BC Women's Hospital + Health Centre (BCWH) in 2019, our generous community of incredible donors like you stepped up to fund one of two desperately needed immunoassay analyzers.

As a result, the BCWH newborn screening lab is home to these two remarkable machines, screening every newborn in the province within their first week of life for a wide range of invisible conditions and disorders. Quietly touching the lives of every baby born in BC and the Yukon.

The power of early detection is that it allows care providers to immediately respond with life-saving interventions. These conditions all represent significant health concerns, with the most severe conditions, if untreated, leading to irreversible brain damage, developmental issues, or even death.

Amazingly, when identified during the newborn period and initiating therapy, the majority of devastating symptoms can be avoided. Offering hope and improving the quality of life for newborns across our province.

Graham Sinclair, PhD FCCMG
Director, Newborn Screening Laboratory

EVERY NEWBORN IN BC IS TOUCHED BY THE IMMUNOASSAY ANALYZER

- Every baby in BC and the Yukon is screened by the immunoassay analyzer – 43,000 each year!
- Blood samples are collected with a quick heel prick within 48 hours after birth
- Samples are sent to the BCWH newborn screening lab
- Between 750-1,250 samples are tested by the lab each week
- Results are delivered from the lab within the first week of life allowing for immediate treatment
- Approximately 70 infants each year are identified with a life-threatening metabolic condition

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THANKS TO YOU...

LEADING EDGE TECHNOLOGY MEANS LEADING EDGE RESULTS

We are deeply grateful for our philanthropic partners who recognize the importance for BCWH to have the best equipment. The new immunoassay analyzers have dramatically improved the quality of testing and enabled the expansion of the newborn screening program.

Modernized technology has enabled automated testing for a condition (galactosemia). Providing the data to better judge the severity, increase the accuracy of diagnoses and determine the urgency level.

It has also allowed the lab to screen for an additional condition, Biotinidase deficiency, avoiding the high false positive rates seen with the earlier testing method that was available.

With two immunoassay analyzers simultaneously replacing the previous lone, end-of-life machine, the lab has confidence that they will no longer experience downtime or risk delay reporting critical results.

EARLY DETECTION SAVES LIVES

Simply put, early detection through newborn screening is having a life-saving impact. It gives treatment a head start before a condition has time to harm the newborn's health. A few examples:

Congenital Adrenal Hyperplasia (CAH): Early identification allows supplementation of the missing hormones, preventing life-threatening crises. *See Baby Harri's story of CAH on the next page.*

Galactosemia: Switching infants to a soy-based formula eliminates the toxic effects of galactose. By avoiding galactose these children avoid major symptoms associated with the condition.

Biotinidase: Supplementing the infant's diet with biotin completely corrects the defect, avoiding all symptoms if identified through early screening.

Innovative technology like the immunoassay analyzer is only made possible thanks to the incredible generosity of donors like you. Your contributions to BC Women's Health Foundation makes a powerful impact on the health and wellbeing of women and newborns across BC and the Yukon.

We are immensely grateful for your philanthropic support.

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THANKS TO YOU...

BABY HARRI'S STORY

Baby Harri 5 days old on day of diagnosis

Baby Harri was one of the fortunate babies whose quality of life was positively impacted by this routine and potentially life-saving newborn screening and early detection.

In 2022, Harri's parents Laura and Mike were excited to become first-time parents. Sailing through a healthy pregnancy, they were reassured by routine testing throughout, including a non-invasive prenatal screening (NIPS) at 10 weeks. Everything checked out fine.

After Laura gave birth at BC Women's Hospital + Health Centre, Harri received routine testing even though everything appeared normal. One test required a blood sample for testing by the immunoassay analyzer, which screens for Congenital Adrenal Hypoplasia (CAH). Laura went home with what seemed to be a perfectly healthy baby. But only hours after being discharged, they received a call from endocrinologist Dr. Gonzalo Dominguez Menendez with the news that an abnormality with Harri's adrenals was identified. After an anxious night, they met with Dr. Dominguez Menendez to learn that Harri had CAH.

CAH is a hormonal issue where the adrenals don't produce certain critical enzymes. But with daily medication and regular monitoring throughout their development into adulthood, it can be well-managed. "One of the initial symptoms without early detection would have been severe dehydration because his adrenals don't produce the hormone that metabolizes salt," explained Laura. "But because CAH had been detected early, his doctor was able to add medication and a salt solution to his breast milk six times a day so that Harri never experienced any adverse reaction."

Early detection was key. For many newborns, early detection can mean being able to provide life-saving intervention before it is too late. Laura has read heartbreaking stories about babies with CAH before early screening was available. "These potentially life-threatening illnesses wouldn't be identified until their babies became sick, losing valuable time before beginning testing and diagnosis," said Laura. "We were so lucky, because Harri didn't need to get really sick to know that something was seriously wrong. We were able to begin the right medication before he presented any issues."

"I can't say enough about the care from everyone at BCWH. It was such a great experience; we received such amazing care. The entire medical team were so cognizant of being sure that we as the parents were being informed and empowered to know what was going on," said Laura.

"We are very fortunate," Laura emphasized. "Harri is 20 months and thriving. He is such a good kid; happy with life. I hope donors who funded the immunoassay analyzers really know how important these machines are and feel good about what they have supported. We are so thankful that Harri's story is a happy one because of them."

THANK YOU FOR BEING A CHAMPION OF WOMEN'S AND NEWBORN HEALTH

We would be delighted to have you in for a personal tour to see the equipment you helped fund. Please let us know if that interests you.

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We acknowledge that we carry out our work on the traditional, ancestral, and unceded territory of the Coast Salish peoples – xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), Stó:lō and Səl̓ílwətaʔ/Selilwitulh (Tsleil-Waututh) Nations.