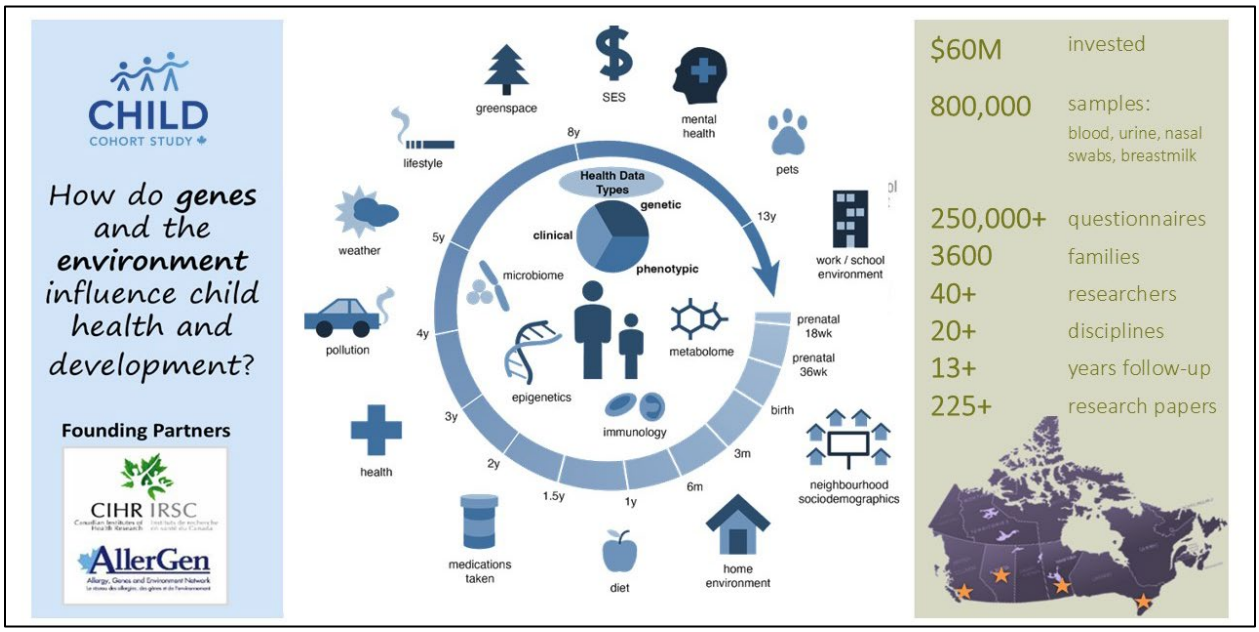
CHILD Cohort Study
First National Town Hall
25 April 2026

[Watch the full recording of this event]

CHILD
COHORT STUDY

1. CHILD OVERVIEW



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- CHILD originally stood for "**C**anadian **H**ealthy **I**nfant **L**ongitudinal **D**evelopment" study
- the study was originally funded by **CIHR**, the Canadian Institutes of Health Research, and **AllerGen**, an allergy research network
- CHILD was launched to investigate why children have so many more allergies and asthma compared to generations before
- over time it's evolved to study many other aspects of child development and growth
- well over 40 researchers involved; hundreds now, from many domains of science
- CHILD has become a platform for research not only in Canada but around the world
- **over 200 research papers** published from CHILD (see also: **Key Discoveries**)
- some major past and recent findings:
  - **four gut bacteria protect against asthma**
  - **antibiotics during labour**
  - **fruit consumption during pregnancy**
  - **artificial sweeteners**
  - **ultraprocessed foods**
  - **behavior outcomes**
  - **cow's milk intake**
  - **mom's mental health**
- CHILD aims to inform real-world activities: guidelines, new therapeutic products and practices
- CHILD is supporting global research efforts, e.g. the **International Milk Composition Consortium**
- visit the **website** to learn more about how your contributions to CHILD are making a difference

OVERVIEW Q&A

Q: Is there a specific place we can read the published papers?

A: On the child study website, there is a **database** with links to all the published papers.

However, scientific papers are not always available for free; some are paywalled. If you find a paper in our database that you

can't access, you are welcome to write to us and we can send you a copy.

The site also has **lay summaries** of many papers, written for participants to highlight the impact that you've all had in research.

At first, we summarized every paper, but now we're more selective. If you see a paper that we haven't profiled but you'd like us to, let us know and we can prioritize that paper for a lay summary.

Q: Did CHILD collect cord blood samples?

A: We did. "Cord" refers to the umbilical cord. The blood from the cord was collected at birth from families who consented and it has been used for different types of research.

It's a unique sample because it's from the baby and the mom at the same time, given that the umbilical cord is what connects the baby to the mom in utero. Cord blood can be used to measure things like chemical exposures and immune cells.

It's also been used for epigenetics. "Epigenetics" refers to how our genes are expressed. Your genes are what's encoded by your DNA and they don't change. You're born with a certain genetic blueprint; it stays the same for all your life. But how those genes are turned on and off does change, through the process called epigenetics.

We have looked at that in the cord blood to see how your genes are turned on and off, how that relates to exposures and events during pregnancy, and how it might predict how your health evolves in the future.

Q: How does CHILD store our biological samples to safeguard their integrity?

A: The samples are stored in a facility called the **CRLB** in Hamilton, ON. It is a gigantic bio-repository that houses many clinical cohort samples from around the world. It is designed solely to ensure that samples are kept in ideal conditions.

And that is of course a high priority of ours because we consider every sample incredibly precious. They are finite resources so we are very careful about how we handle them and how we store them long term. We're also very selective about the type of research they can be used for.

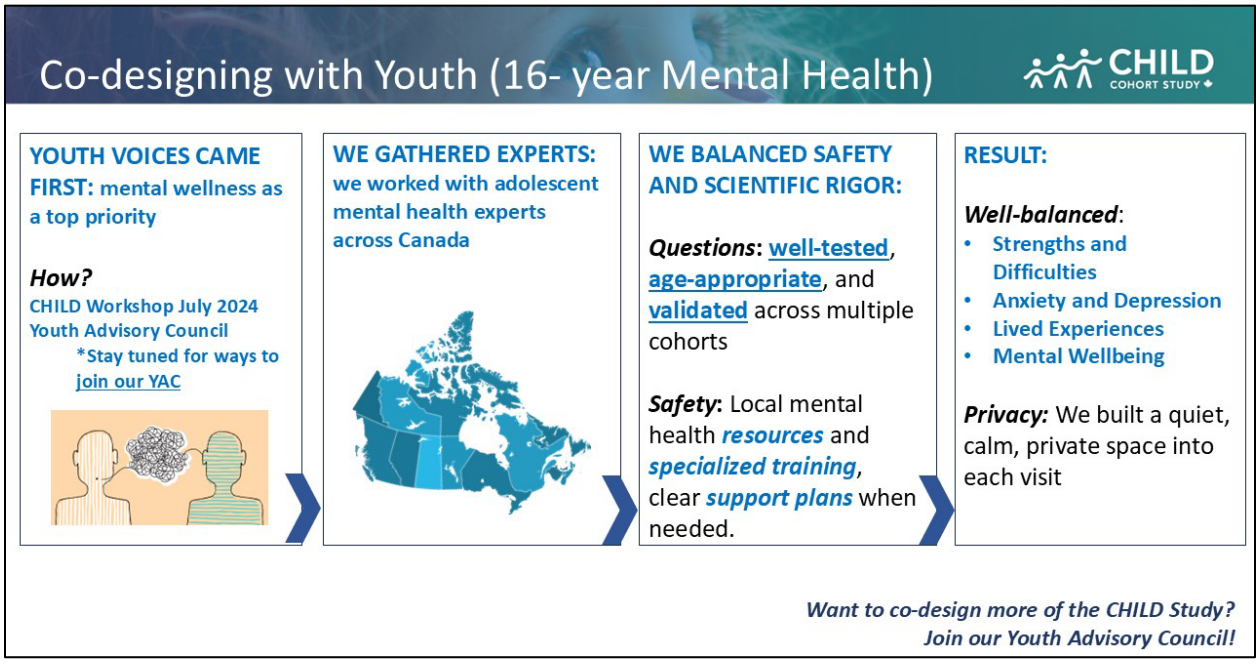
As our most precious commodity, we ensure that they have high integrity for the length of their storage time—and we are well within research timeframes as far as storing these samples go. They'll be good for many more years.

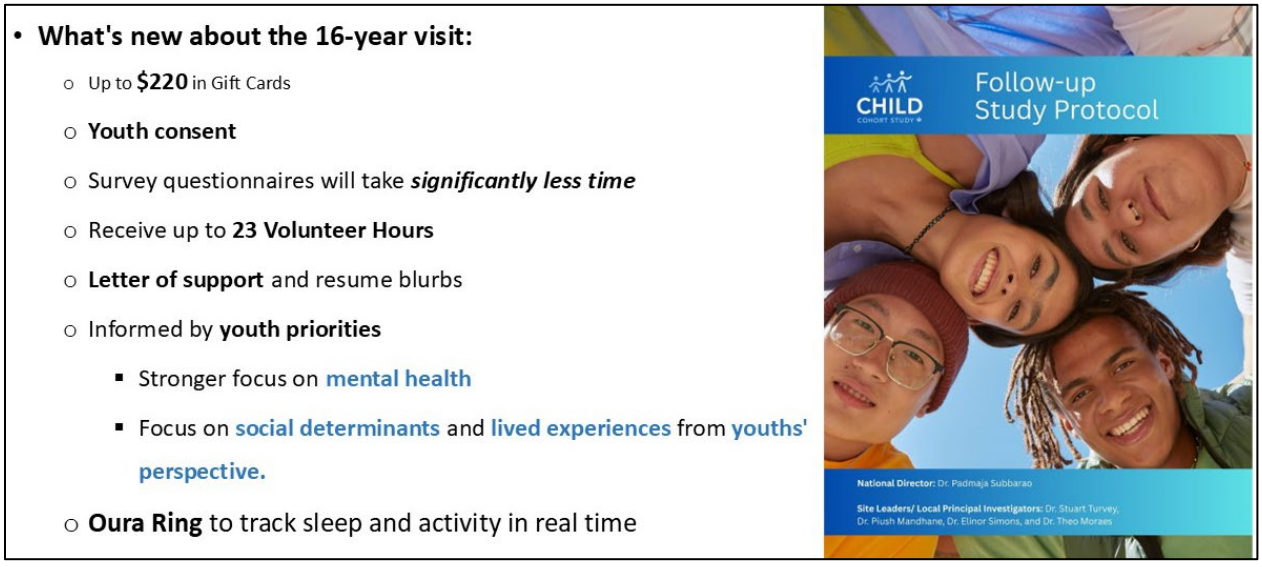
Watch a video on what we do with your samples (including storage)

.16-Year CHILD Visits

Watch the video here

- elements of the 16-year visit were co-designed by CHILD youth
- youth input was received through a CHILD workshop in 2024 with NPEC families and through the Youth Advisory Council
- youth wanted to prioritize mental wellness, so we gathered a team of experts from across Canada to ensure a well-balanced mental health component





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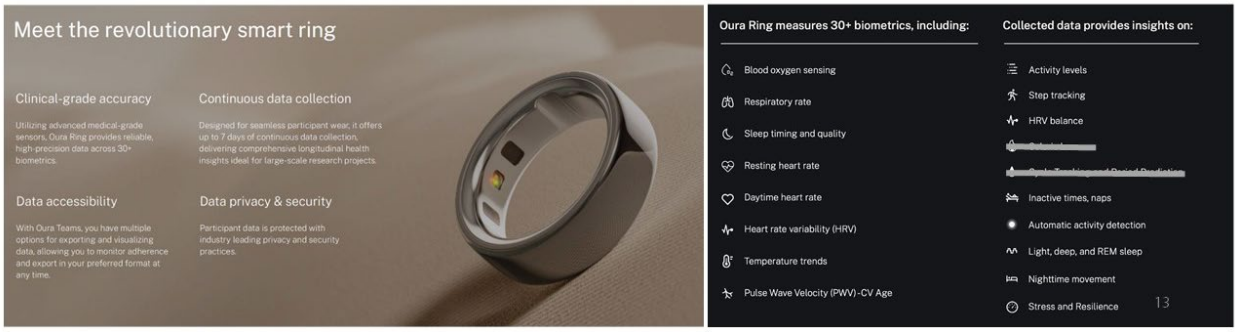
- **Oura Ring V4** provides continuous, real-time measures of sleep, activity, and health.
- State-of-the-art sensors with streamlined, secure data exports.
- High data privacy and security standards.
- Participants wear the ring for **four weeks** post-visit, viewing all metrics (except caloric expenditure).
- After return, participants can **download a personal data report**



NEW WEARABLE: OURA RING

- ring data is secure; after use the data is deleted from Oura's servers; only you and CHILD own the data
- you wear it for four weeks because the ring uses algorithms to get to know your baseline during the first 10-14 days and then identifies variation
- you get to see the data in real time on your own app, and receive a personalized data report afterwards

OURA RING Q&A:

Q: Can we pick the color of the ring?
A: We wish! But all rings have been ordered in steel grey as this colour was most readily available

Q: Can we keep the rings?
A: The rings must be returned after collecting your data for 4 weeks. Your site coordinator will provide return instructions. We would love to give the ring to you, but we reuse them. They're cleaned and digitally wiped then used by another study participant

Q: Can participants get a discount code if they want to purchase a ring after the study?
A: We will ask the company about this!

Q: If a person has an allergy to the ring (pressure contact allergies), are there alternatives?
A: Unfortunately, the Oura ring is the only wearable available currently. We encourage you to wear the ring sizer during your study visit to get a good feel for the ring and the appropriate size before taking one home

Q: When, if at all, should we take the ring off?
A: You should wear it both while awake and asleep. It is designed to track your waking health as well as the quality and duration of your sleep. However, you need to take it off sometimes to charge it. Although the ring is water resistant, the company suggests that a great time to do this is when you are showering.

Q: Can we wear the ring while playing sports?
A: Yes, unless there is some prohibition in the sport against jewelry, or if it causes you discomfort: one participant told us it was uncomfortable for them to wear during tennis. In terms of swimming, you'd want to take care the ring didn't slip off but the rings are water resistant to 100 meters.

Click on the slide to view the related discussion in the event recording

THE IMPORTANCE OF STOOL (POOP)

- CHILD leads the field in early-life microbiome research, thanks to your stool
- CHILD has amassed a huge team of experts studying CHILD stool since infancy
- CHILD has produced over 55 peer-reviewed **studies** on the infant microbiota and early-life development
- CHILD is among the first studies to identify that Canadian kids are **missing key microbes**, and that in infant stool there are universal markers that can **predict** whether a child will develop almost any allergy
- CHILD has looked at the role of the microbiome not just in asthma and allergies, but in all sorts of chronic diseases
- **Books** have been written about CHILD poop
- CHILD poop research has received national and international media coverage and has informed Canadian policies
- It's not just poop you're providing to CHILD: you're enabling world-leading research and positively impacting your community

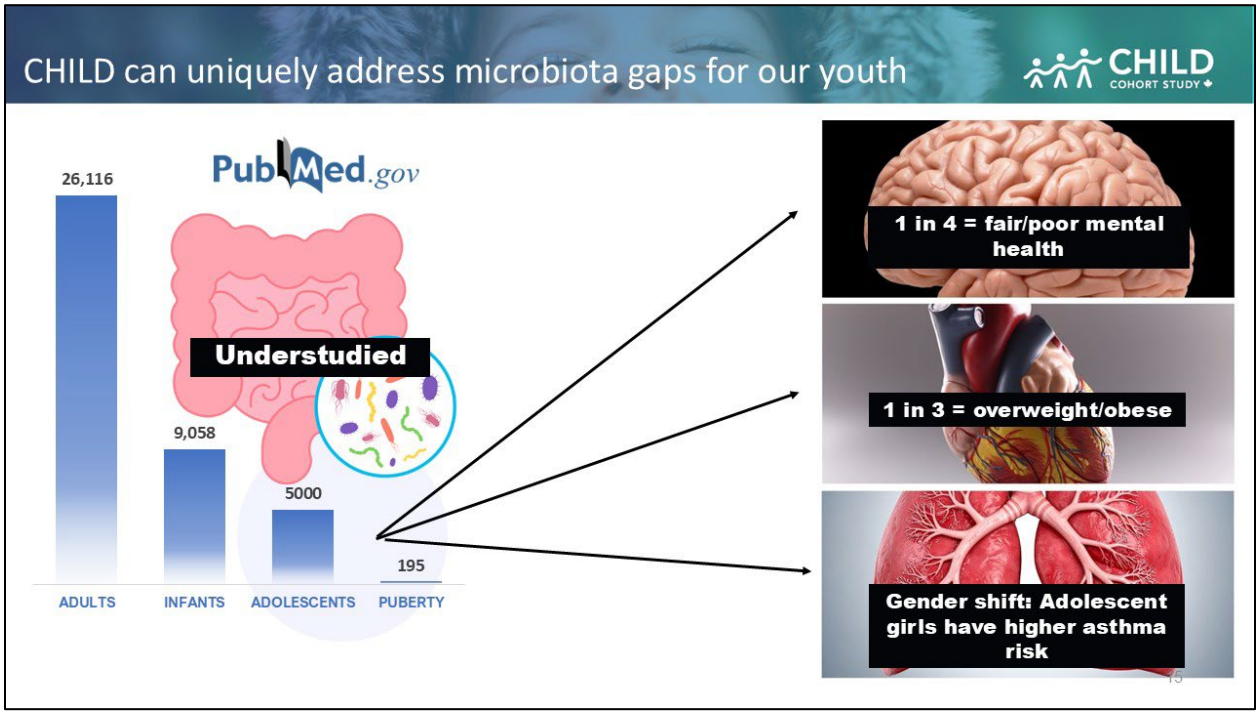
Watch a video on stool (and blood) samples

WHY WE NEED YOUR 16-YEAR POOP

- Your 16-year stool is very important because there's a giant gap in what we know about adolescent microbiota
- This bar graph (in the image on the next page) shows that most research publications worldwide on the microbiome look at adults; some look at infants

(including ours), but there is very little research on the adolescent gut microbiome

- It's an important gap to fill: we know the infant microbiome is connected to many health outcomes including cognitive development, overweight/obesity and asthma, but we don't know how the adolescent microbiome relates to these outcomes
- A quarter of Canadian adolescents rate their mental health as fair or poor. A third of Canadian adolescents are classified as overweight or obese. And there is a little understood shift where adolescent girls start to have higher asthma risk than boys during adolescence
- CHILD has a unique opportunity to help us understand if and how the microbiota relates to these outcomes
- With your 16-year stool, we may attain beneficial insights for youth as we have already done for infants



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STOOL & MICROBIOME Q&A

Q: Are there findings about the microbiome that we can implement now, that we can share with our primary care providers, especially for kids experiencing challenges that are hard to diagnose?

A: Much has been learned about the microbiome in the last 10 years and CHILD has contributed significantly. We have many more answers than before. But it's still an area of active research.

We've learned a lot but in many cases we're not ready to say: "This person should have this medication." That is the next phase of the research, now that we understand the microbiome better, to ask: How can we modify it? How can we target it for health promotion or disease prevention?

In science, it takes along time to make these discoveries and then to translate them into practice. It takes a long time and a lot of money just to do the sequencing and the experimental analyses on stool to obtain the data. We're now analyzing the 8-year

samples, and we just obtained funding to analyze the 13-year samples, so we're systematically working our way along. But it takes a lot of time and funding, especially to do it rigorously.

Even so, there are some microbiome findings we can act on now. An example from CHILD is around **antibiotics**. We learned that antibiotics can harm the microbiome and so should only be used when strictly necessary. I think doctors are learning about this now in their training and starting to change. But it is something that you as a parent, knowing the microbiome science, could bring to your doctor if they haven't heard the news yet.

Similarly, it's very clear from our research that breast milk is very important to the infant microbiome and development. But we recognize that breastfeeding isn't possible for every family.

With our findings, we can act now by telling the government: "Look how important breastfeeding is. Please make policies that support families who want to breastfeed. Give them insurance coverage if they need a lactation consultant. And give them paid maternity leave, if we're talking about countries outside of Canada."

Q: Is there data published that can contribute to the discussion about antibiotics during labor for GBS group B strep prophylaxis?

A: Yes, that's one of the things that we have looked at in the study. We have hospital records about how moms delivered and whether they received prophylaxis for **GBS**. We found it does seem to have an impact on the baby's microbiome, and breastfeeding seems to buffer these impacts.

MORE ON THE 16-YEAR VISIT

- **Online overview on the CHILD site**
- **Announcement, with pics from site visits**

Watch the video here

CHILD VISITS & DATA Q&A

Q: Are the study ID numbers (described in the video above) that CHILD uses in place of our names random?

A: They're not entirely random, but they don't contain any tell-tale information like your birthday or address. It's a number that was assigned to you when you enrolled in the study and the numbers were given in order: family number one, family number two, family number three, all the way up to 3600. Your number is specific to you for the duration of the study. There's no way to trace it back to you unless you're with CHILD and know which family is linked up with which number.

Q: How do we book our next visit?

A: You can reach out to our site staff to ask about booking a visit. They will reach out to you once you hit a certain age, but reach out to them now if you have time and are available and they will aim to fit you in.

Q: When should we start using the Quinoa app?

A: Once you are contacted for your 16-year visit, which will happen sometime over the next two and a half years, depending on

when you were born and entered the study. You'll be asked to start using the app at a certain day and time and to track it for a certain number of days. So wait until you hear from your study coordinator about your visit.

Q: Are there any questionnaires we could do for fun?

A: I'm happy people think questionnaires can be fun. We're just grateful for take you taking the time to honestly answer the standard visit questionnaires. If you love completing questionnaires, I'd suggest you join the **Youth Advisory Council** because we ask Council members all sort of questions, like: What should we be studying next? What do you think of this new research?

Q: I'm curious as to how hormones affect allergies through puberty. Is there any chance this might be studied?

A: Yes, absolutely. We are very interested in hormonal changes through puberty. This is one of the things we measure in the blood samples that we collect. And there is some research out there about the fact that puberty is a time when this gender shift happens in asthma, and that is one thing we'll be studying in terms of asthma.

A great thing about CHILD is we're collecting so much information on so many topics, we can explore research questions that were not anticipated originally.

Q: Do you notify us if there are any abnormal findings in the blood test or stool sample?

A: We don't notify you for everything, but we do if the findings are "clinically actionable," meaning that it would be useful for you to know and something can be done about them. An example could be if we're doing blood counts and see that you're anemic: we would share that with you.

Q: I recently got blood tests back that tested positive for celiac and I was wondering if you would be able to see that in my previous blood tests with the study.

A: This isn't something that we're actively looking at. If it's a very specific test for celiac, it's not something we would have run. As a scientific question, you need enough people with that condition and early samples to start looking at it as a project. It could be something down the road, if we have enough people in CHILD who got celiac disease, we could then think about looking back for early signs.

Q: Will we be allowed to use our own data for science projects?

A: When it comes to data, the participants' data is as much theirs as it is ours. You can work with your site to see if the data you want is something that we can share.

Q: How long do you think the study will continue? Are there plans to do a 20-year visit?

A: I hope the study will continue literally forever, and that we will recruit your kids when you have them.

There's a study in the UK called ALSPAC, the **Avon Longitudinal Study of Parents and Children**. They started recruiting pregnant moms and following the babies in 1991. Those original babies are now well into their 30s and the study is now recruiting their babies. It's a multi-generational study, which is incredible for looking at intergenerational aspects of health.

So, we hope CHILD will keep going for as long as you all want to keep participating and for as long as we can keep getting funding, which is always the trickiest part.

But if we can get funding and if the families keep coming back, then we will keep the study going because the longer it goes, the more valuable it is.

2. Participant Feedback

Summary of Parents' Feedback

What You Liked

- Scheduling of visits was flexible and accommodating
- Home sample collection instructions were easy to follow
- Staff interacting with your children in ways that were appropriate for their age and developmental stage
- Staff being knowledgeable and able to answer your questions
- Staff making your children's experience as positive as possible, even with invasive procedures
- The questionnaires being clear and easy to use
- Your children's privacy and confidentiality being respected
- The clinic setting being professional, clean, and welcoming
- Staff sensitive regarding personal questions

What You Enjoyed Less

- Blood draw experience for children

Your Reasons for Staying in CHILD

1. Improving child health globally
2. Positive experience for your child
3. Monetary reimbursement
4. Flexibility of scheduling

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Summary of Youth's Feedback

What You Liked

- Understanding what was happening in the visit
- Research staff respecting your privacy
- Research staff listening to you and your concerns
- Feeling comfortable asking questions to the research staff if you didn't understand something
- Feeling comfortable completing the questionnaires
- The clinic room looking welcoming
- Friendly and welcoming staff

What You Enjoyed Less

- Using the Keenoa food diary app

Overall, most youth had a positive experience during the 12-13-year visit.

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3. Participant Engagement

Join our Youth Advisory Council!

Our Goal: To empower youth participants by actively involving them in the research process, ensuring that their perspectives, needs, and experiences shape the study.

We Will Provide:
- A platform for youth to connect and build relationships
- Opportunities for youth to share their ideas, perspectives and feedback to shape the study.
- Educational and mentorship opportunities through staff/partner-led presentations and workshops
- A collaborative space for youth to co-design with us.

Are you interested in joining? Email us at child@mcmaster.ca!

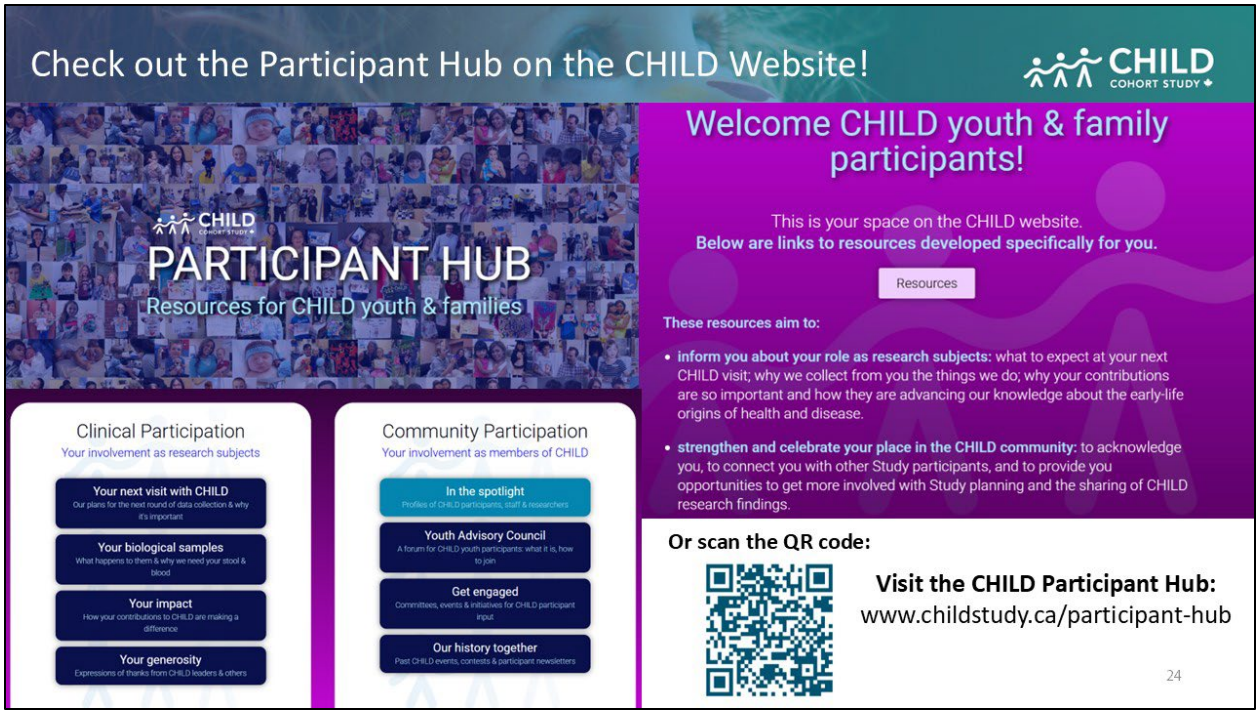
CHILD's First Youth Conference!

- **Coming Summer 2027!**
- **Co-designed with CHILD youth, for CHILD youth!**

Would you like to help us co-design the Youth Conference?

Join the Youth Advisory Council!

Click on a slide to view the related discussion in the event recording



CHILD Youth Council:

- launched in October 2025, with two meetings held so far
- goal: to empower youth participants by involving them more in our research process, ensuring that their perspectives, needs and experiences help shape CHILD
- recruitment is ongoing; to join, email us: childmcmaster.ca

CHILD Youth Conference

- first ever CHILD youth conference being planned for summer of 2027
- co-designed with and for child youth
- for youth, parents, and researchers to gather, talk about child research, build skills, and have fun
- help us plan: join the Youth Advisory Council

Newsletters

- now four newsletters per year
- new youth, parent, and staff profiles to help our community get to know each other better
- new chef's corner segment for sharing healthy recipes to build good eating habits (an idea from our NPEC youth)
- email us your ideas: childmcmaster.ca

Follow us on social media:

- Instagram, LinkedIn, Blue Sky, and YouTube
- Handle: childcohortstudy

Participant Hub

- new feature on the CHILD website designed for study participants (youth and parents)
- contains info & videos about the 16-year visit, your biological samples, the impact of your contributions, the Youth Advisory Council, how to get more engaged, etc.

PARTICIPANT ENGAGEMENT Q&A

Q: Is it possible to get involved in conducting CHILD research, like volunteering in person?

A: I'd say as a first step join the Youth Council if you haven't yet. That's a place where you can inform the child study by giving your opinions.

There's also opportunities for volunteering at CHILD headquarters in McMaster

University in Hamilton, ON. But if you're looking for volunteer options at your site, then your site coordinator would be the best person to contact.

As well as our general Youth Advisory Council, we're working on appointing CHILD youth ambassadors: more specialized roles, like being a creative ambassador if you like to make infographics or visuals or videos; or being an event ambassador if you want to help us plan future events; or a research ambassador if you want to help us analyze research findings. We'll share more information once this process is solidified.

Q: How can we get the volunteer hours for school credit?

A: For your 16-year visit, you can work with your site coordinator to get your volunteer hours. Bring in your school's volunteer hours sheet and ask your site coordinator to sign off on that. We also have a CHILD volunteer hour tracking sheet, so we can sign our own form for you as well. For your hours in the Youth Advisory Council, Anitha can sign off on that for you. Email us at **child@mcmaster.ca** letting us know that you have hour hours that you'd like to collect and we can help you.

Q: How can we find out about other studies we can participate in?

A: Sometimes we add side-studies onto CHILD and invite your participation, as we did during COVID. CHILD was able to pivot and create an **entirely new study** aimed at understanding the entire family's experience during this hopefully once-in-a-generation sort of social experiment that we were all going through. And it wasn't just CHILD participants and their parents, we also got all the siblings involved. When CHILD has an opportunity to do a side-study like that, we are so grateful for your participation.

But for opportunities outside of CHILD, ask your site coordinators because they're the most aware of the research opportunities at the institutions that host CHILD, whether in Vancouver, Winnipeg, Edmonton or Toronto.

Q: As participants start to think about career interests, could some of the careers in research through CHILD be profiled in newsletters?

A: I love that idea. I really enjoy speaking to students about career paths. And there are a lot of different ways you can do and be part of science: from conducting experiments, to crunching data, to mobilizing knowledge, and so on.