

# LOCAL SHAPE CHANGES IN THE BRAIN IN YOUTH BORN WITH HIV

People living with HIV may have changes in how parts of the brain are shaped. We wanted to know whether youth born with HIV have changes in the shape of their brains and whether the changes were related to HIV. We also wanted to know if the brain shape changes affected their memory and problem-solving skills.

## WHO PARTICIPATED



- 53% of participants were female
- Average age was 16.7 years old

We studied 40 youth born with HIV from the PHACS AMP study.

## WHAT WE DID

**Viral load** is the amount of HIV in the body.

**CD4 cells** help the immune system.

A person is in better health when their **viral load** is low and their **CD4 cell** count is high.



Participants had brain scans and completed tests related to learning and understanding. We looked at the brain shape in different areas just below the surface of the brain.

We also looked at the relationship between shape changes in the brain and past viral load and CD4 cell counts. We looked at the shape of different areas just under the surface of the brain.

## WHAT WE FOUND



There were changes in certain parts of the brain in youth living with HIV. We think these changes are related to HIV. Youth with more severe changes were more likely to have worse memory and problem solving skills.

## WHAT WE LEARNED



Youth born with HIV had shape changes in their brain.

The shape changes were connected to certain outcome.



These included problems with memory and problem solving.

Youth born with HIV had local shape changes in their brain related to having a higher viral load and a lower CD4 cell count. These findings may have to do with youth being exposed to HIV. More research is needed to learn more about the brain in youth born with HIV.