CAB Conference Call
November 29, 2018
12:00 EST
Meeting Minutes

Participants:

Alex	FSTRF
Anisa	Harvard University
Claire	Harvard University
Delia	University of Miami
Denise	Harvard University
Fallon	University of Colorado, Denver
Jennifer	Ann & Robert H. Lurie Children's Hospital of Chicago
Joel	University of Puerto Rico
Juanita	Tulane University
Kimbrae	Texas Children's Hospital
Kylie	Texas Children's Hospital
Lesley	Texas Children's Hospital
Megan	Westat
Raiko	University of Colorado, Denver
Stephanie	University of California, San Diego
Theresa	Texas Children's Hospital
Trinise	Tulane University

• APPROVAL OF MINUTES

The minutes from the November 29, 2018 call were approved with no changes.

• NUTRITION, GROWTH, AND METABOLISM WORKING GROUP (WG)

Drs. Jennifer Jao and **Denise Jacobson**, Co-Chairs of the Nutrition, Growth, and Metabolism (Metabolic) WG talked about their WG. The Adolescent Master Protocol (AMP) looks at adolescents born with HIV and HIV-exposed but uninfected youth. The goal of AMP is to learn more about the effects of living with HIV since birth. This study also looks at the long-term effects of taking ARV medications as adolescents living with HIV grow up. Surveillance Monitoring for ART Toxicities Study in HIV-uninfected Children Born to HIV-infected Women (SMARTT) looks at HEU youth born to mothers with HIV. The goal of SMARTT is to study the long-term safety of ART for babies who were exposed to them in the womb or shortly after birth. Researchers are interested in learning about whether these exposures affect health.

The Metabolic WG is interested in looking at bone health, birth weight, growth, obesity, heart disease and diabetes. These are metabolic outcomes. Metabolism is how the body breaks down energy. These outcomes may occur when metabolism isn't working well. The WG also looks at mitochondrial toxicity. This is a toxicity in the cell that deals with how the cells use energy.

The Metabolic WG looks at complications. Some of the questions the WG studies in youth born with HIV and HEU youth include:

- Are there problems with birth weight and growth?
- Are there problems with the bones?
- Are the bones frail?
- Are the bones easily breakable?
- Is there more risk for obesity, diabetes, high cholesterol, high blood pressure and heart disease later in life?

- Are there problems in breaking down sugar or fat using food as energy?

Denise talked about past studies in AMP. The Metabolic WG studied fractures (bone breaks) in AMP. They wanted to see if youth born with HIV had higher rates of fractures than the HEU youth. Overall, there was not a significant difference between the two groups. However, researchers found that youth born with HIV between 0-6 years old had slightly higher rates of fractures. Researchers want to continue to study these youth into their 20s. Bone mass reaches its highest around age 20. Additionally, they found that the youth taking Tenofovir had a slightly higher risk of fractures. The Metabolic WG will continue to look at fractures in order to help determine the best way to prevent them.

The Metabolic WG has also studied insulin resistance. Insulin resistance is when the body is not producing insulin in the right amount. Without enough insulin, the body cannot lower blood sugar. Insulin resistance is also called "pre-diabetes." The Metabolic WG found there was not a significant difference in pre-diabetes between youth born with HIV and HEU youth. This could be because of the rise of obesity in the US in all youth.

Vitamin D and bone health were also studied. The Metabolic WG found that both youth born with HIV and HEU youth had low levels of vitamin D. This is not uncommon in the US. This could be because youth are not getting enough vitamin D in their diet. It can also be because youth are not getting enough sunlight because they're not playing outside. African-Americans are at a slightly higher risk of low vitamin D. However, African-Americans have stronger bones. Researchers also found that lower vitamin D was associated with lower bone mass.

The Metabolic WG also studied body fat distribution. This includes when there is less fat in the limbs, but more fat in the belly. This could be due to HIV and/or ARVs. The researchers found that the youth born with HIV had less fat in their limbs. They also had less fat overall.

The Metabolic WG also studied risk of heart disease. **Dr. Kunjal Patel** wrote a paper to look at risk factors for heart disease. She found that youth born with HIV had a slightly higher risk of developing heart disease.

Finally in AMP, the team studied mitochondrial abnormalities. The mitochondria is the powerhouse of the cell. The mitochondria makes energy in cells. Researchers are looking into whether medications or HIV could affect how well the mitochondria works.

The Metabolic WG also studied participants in SMARTT. **Denise** wrote a paper looking at childhood growth at 2 years of age in HEU youth. She look at exposure to ARVs in the womb. Researchers found that HEU youth who were exposed to Tenofovir were slightly overweight. Researchers want to study this more. The Metabolic WG is going to be looking at how HEU youth grow over time. The Metabolic WG will also be studying HEU youth and their growth from birth to 7 years of age. Specifically, they want to look at HEU youth born to mothers born with HIV.

The Metabolic WG has several other studies in progress. One study will be looking at blood pressure in HEU youth. Another study will look at physical activity. Researchers want to see whether physical activity is related to fat levels and cholesterol.

Kim talked about bone health. **Kim** wondered whether adult bone health could be affected by ARVs and/or HIV. **Denise** explained that some studies outside of PHACS studied bone health in people who acquired HIV in life. Some studies showed that adults' bone mineral density decreased slightly the first year after starting ARVs. Those studies also found that the bone mineral density did not necessarily continue to decrease after that. It's important to note family history. Genetics may play a role in bone health.

Denise and **Jennifer** asked the CAB about their biggest concerns for their or their children's metabolic health. Several CAB members expressed interest in bone health, fractures, and sprains. **Kim** suggested that the WG continue to study heart disease risk factors. It would be helpful to study whether certain ARV medications put HEU youth at more risk. **Jennifer** explained that it is important for PHACS to continue to follow youth into adulthood. This is because most studies about heart disease and heart

attacks in adults are from people who acquired HIV in life. PHACS wants to continue to study youth born with HIV and HEU youth as they get older.

Several CAB members talked about having body pain. **Lesley** talked about body pain in HEU youth. Some youth have talked about body and bone pain. Some HEU youth have also talked about not being able to gain weight and fatigue. **Stephanie** suggested that the team study fatigue in HEU youth. **Theresa** suggested that the team study problems in both weight gain and weight loss. **Jennifer** explained that the Metabolic WG is very interested in looking at weight gain in mothers during pregnancy and how it affects the baby's health outcomes.

Megan explained that several CAB members were interested in metabolism in HEU youth. CAB members were also interested in the role of genetics in metabolism. **Denise** stated that the Metabolic WG is currently studying genetics and bone health in AMP youth. **Jennifer** explained that the Metabolic WG is also interested in looking how bodies are metabolizing sugar and fat. The researchers also hope to look at blood samples from mothers during pregnancy.

NOTE: The next CAB call will be on Thursday, January 24, 2019 at 12:00 pm EST.