

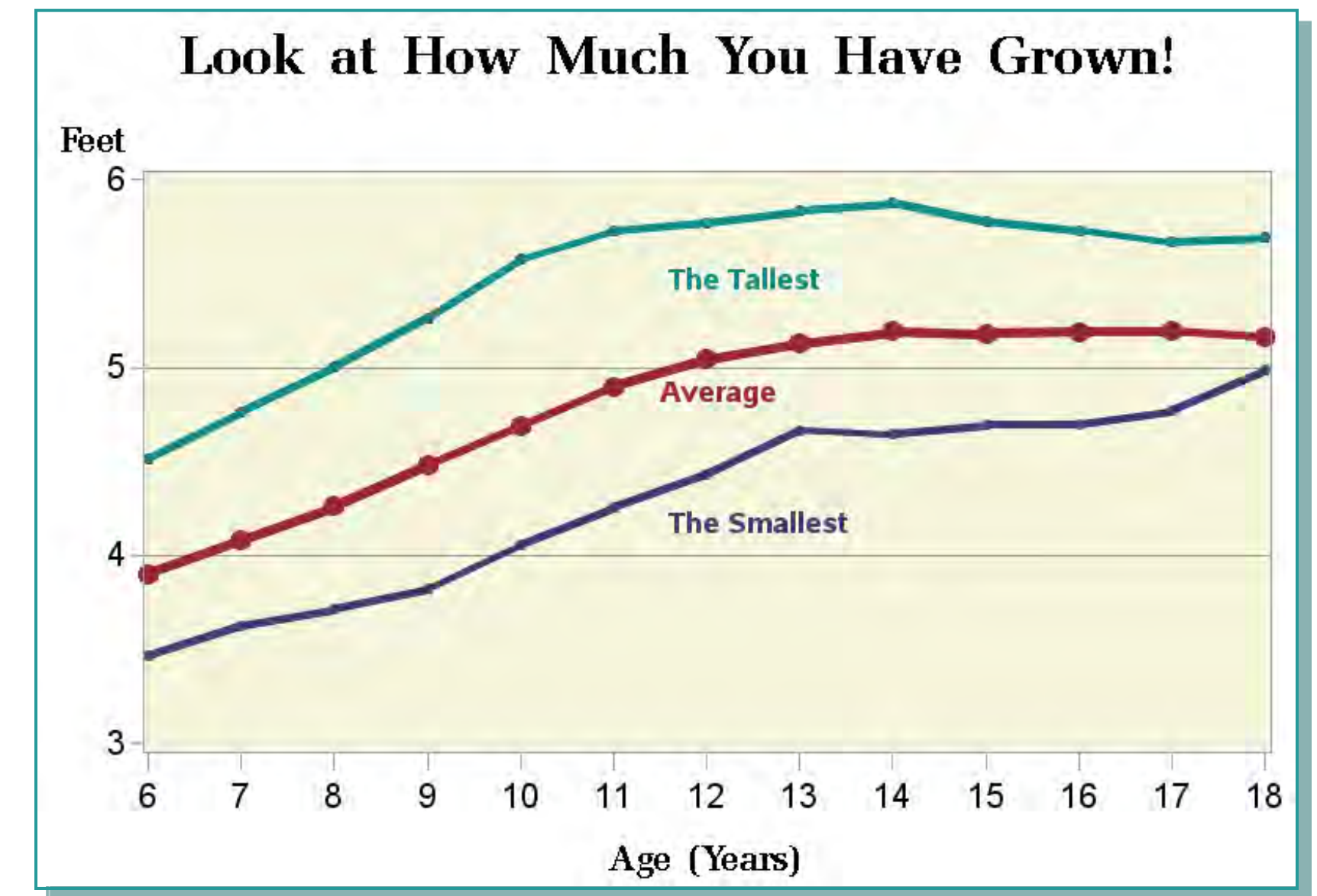
A Celebration of the Growing Up Healthy Study The 10 Year Milestone

This newsletter is to thank the young women and their families who began the Growing Up Healthy Study between 2004 and 2007. You are one of more than 400 girls who enrolled at Mount Sinai in New York City when you were between the ages of 6 – 8. You were part of a national study that followed girls as they developed and matured. The scientific goal was to investigate how the environment might affect girls' body size and the age at which they began puberty. Two other study sites enrolled girls in California and Cincinnati, Ohio. The total number of girls in the national study was 1,239!

We are pleased to tell you that you have now completed this phase of the study, which was supported by two grants from 2003-2015. But we are now working with all of the data you provided, to better understand chemicals, obesity, early maturation, asthma, and neighborhood factors related to development. We are also developing the next phase of the study. We will not be conducting interviews in 2015, but we will continue to be in touch with you through the mail. Your continuing participation is invaluable, and we hope that you will remain part of the Growing Up Healthy Research family.

In the following pages of this newsletter, we try to give you an update on what we have learned from all the yearly visits that you and your parents participated in. We asked you lots of questions and you had physical exams. And don't forget that we took your measurements and sometimes collected samples of your urine and blood. Your participation helped us learn more about how the environment and the everyday things that you do may be affecting girls as they enter puberty.

Here are Some of the Things We Learned

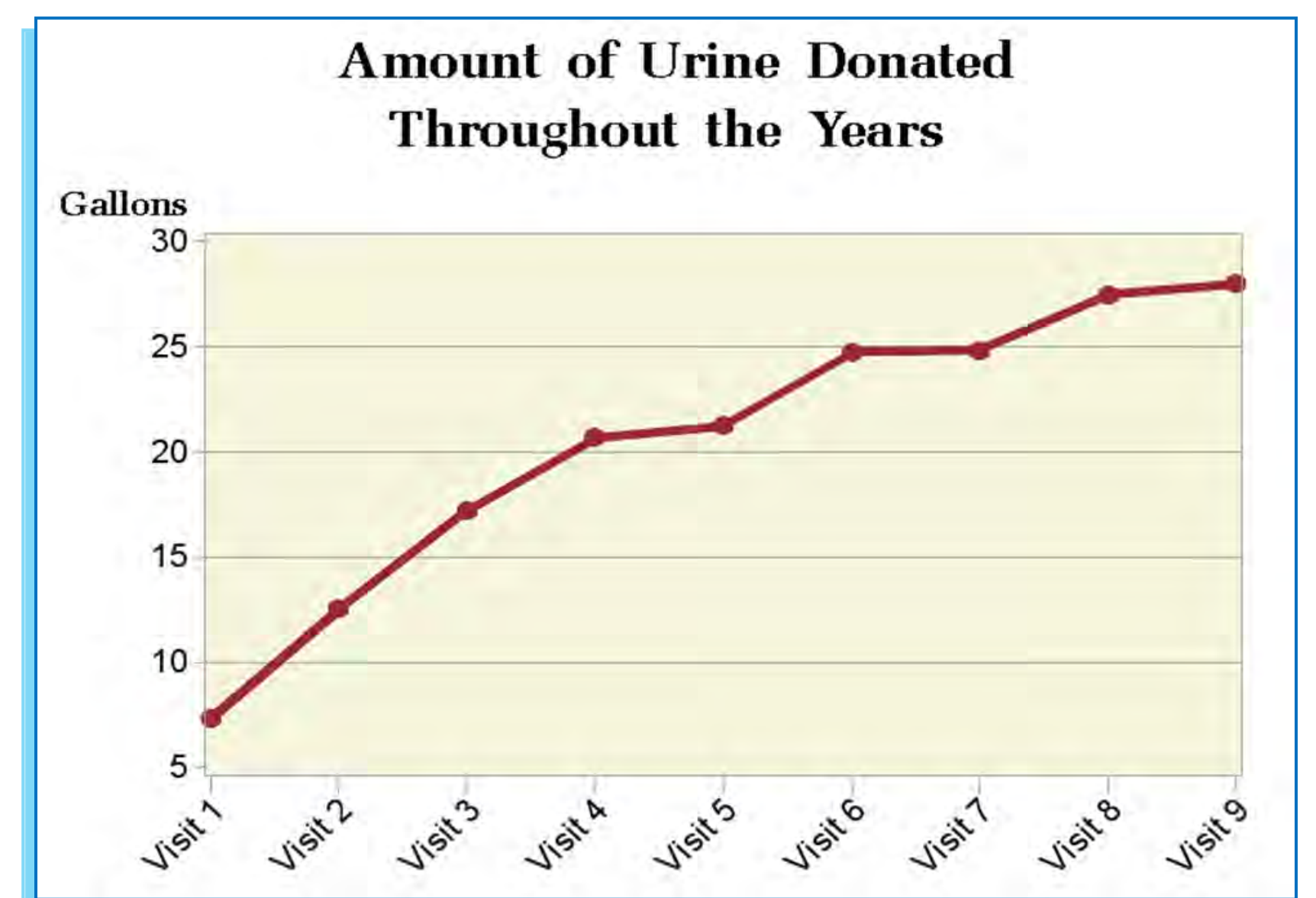


This graph shows how the Growing Up Healthy Study participants' height increased from the time they entered the Study (Between 2004 – 2007) through 2014.

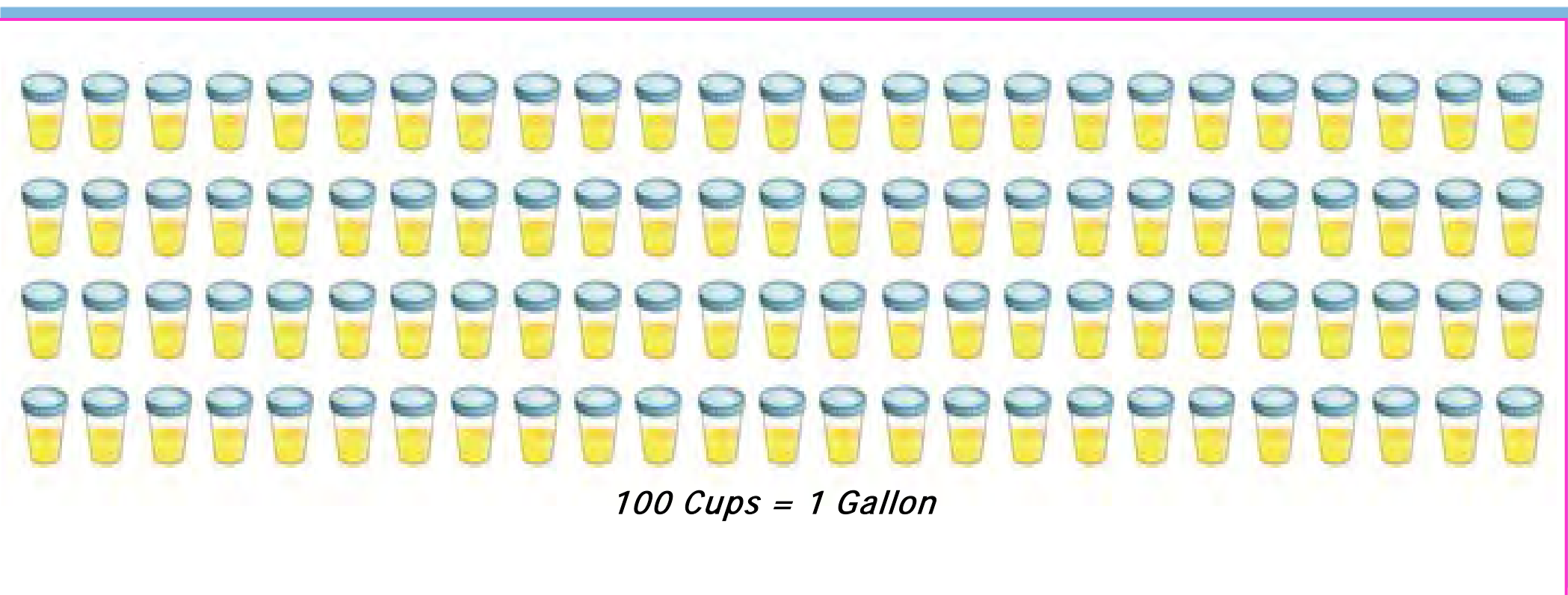
The red line represents the average of all the girls who participated in the Growing Up Healthy Study.

Then we split the girls into two groups based on their height when they started in the study: those that were the tallest (green line) and those that were the smallest (blue line).

You provided us with urine and blood samples and we analyzed them to find out more about your possible exposure to chemicals. Look at how much urine you donated.



This graph shows that over the last 10 years, girls in the Growing Up Healthy Study donated 27 gallons of urine. The urine samples helped us understand what chemicals in the environment our study participants were exposed to. Those little cups of urine you donated really add up!



What We Found In Your Urine

We measured 19 chemicals in the urine samples you provided. Some of the chemicals were higher in New York City girls compared to girls from Ohio and California and when compared to national averages. Here are some highlights of what we found:

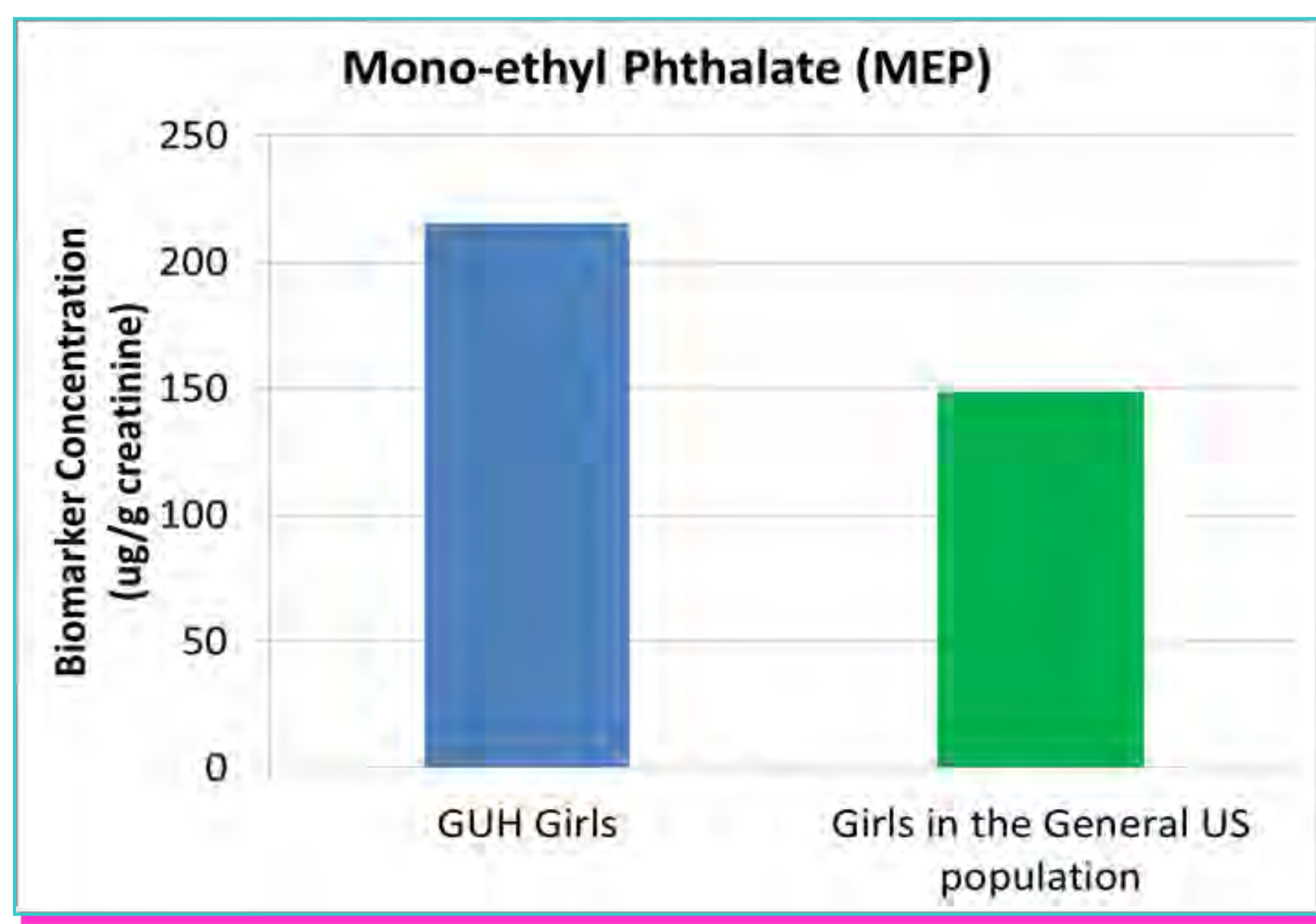
- Girls with a larger body size and waist measurements were more likely to have high levels of phthalates in their urine. Phthalates are used to make plastics flexible and to keep the color and scent in personal care products. Phthalates can be found as ingredients in perfumes, nail polish, vinyl floors, detergents, food containers, soap, shampoo, toys, car seat covers, carpets and plastic bags.

There are two possibilities related to these findings:

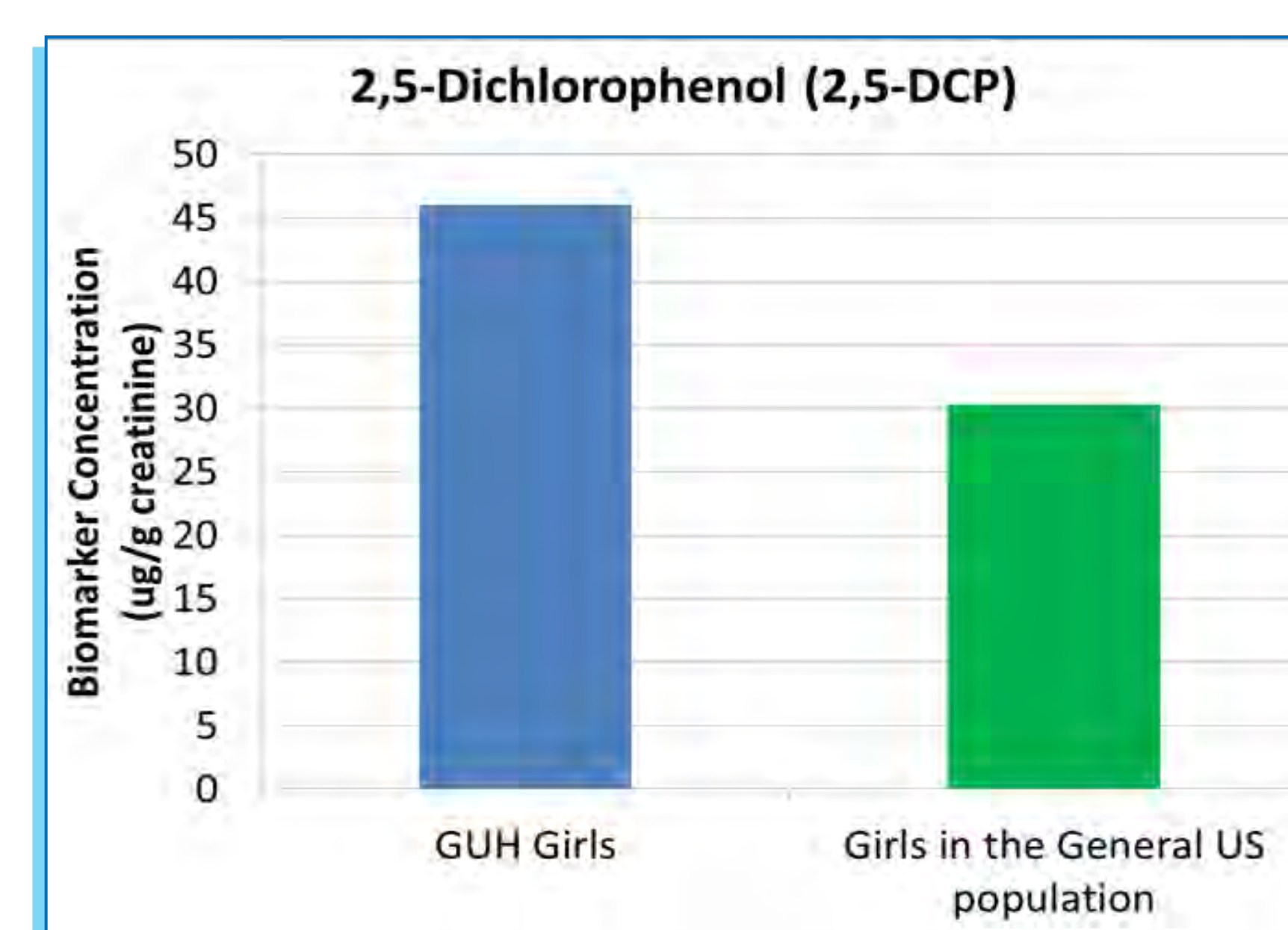
- These chemicals may be contributing to overweight and obesity,
- Girls who are overweight are more exposed to these chemicals through their food, water and from contact with many of the products listed above.

or

- Girls in the Growing Up Healthy Study had higher levels of exposure to phthalates than national averages for girls of the same ages. The graph below compares exposure to one of the ten phthalates that we measured. This phthalate is often included as an ingredient in products that have fragrance like perfume, shampoo and moisturizers.



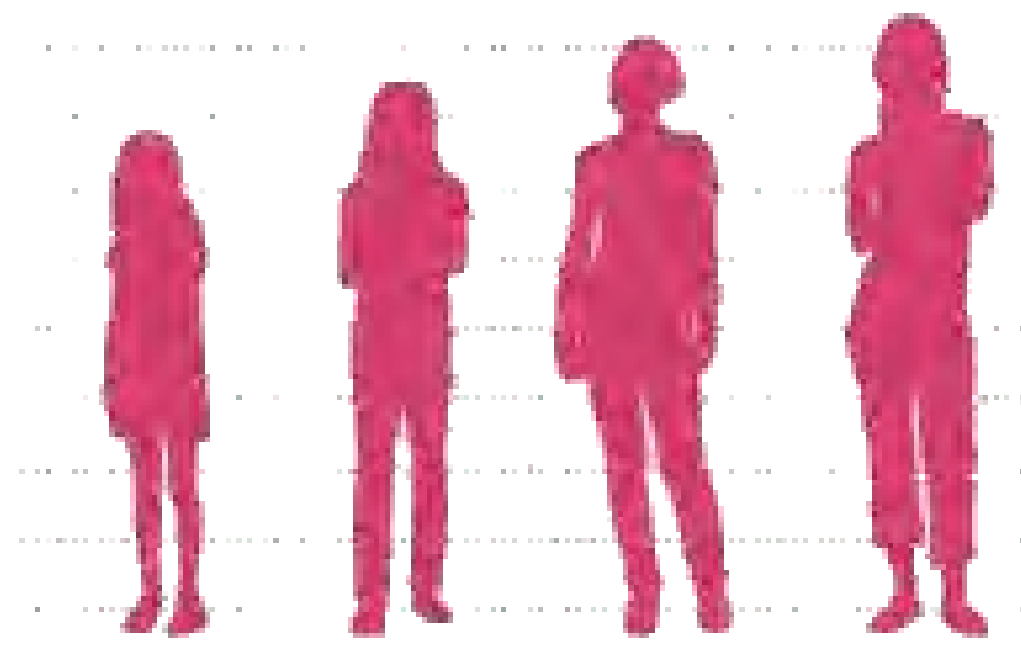
- Exposure levels of a chemical (2,5-dichlorophenol) that is known to be an ingredient in mothballs and toilet bowl sanitizers were higher among Growing Up Healthy girls than the national average. See the graph below.



What We Learned From You About Puberty and Health

Puberty begins when a girl's breasts and pubic hair start to develop.

- Girls are more likely to start developing breasts by age 7 or 8; this is younger than ages found in studies that were conducted 20 years earlier.
- Earlier development was more likely if girls were overweight and had a larger body size for their age.
- Black girls from all three study sites were more likely than Hispanic and White girls to develop breasts earlier. At 7 years old, 10.3% of White girls, 23.4% Black girls and 14.9% Hispanic girls in the Study had already entered puberty based on their stage of breast development. By age 8, the numbers had increased to 18.3% of White girls, 42.9% of Black girls and 30.9% of Hispanic girls entering puberty.
- By the end of 2014, 75% of the girls in the Growing Up Healthy Study in New York City had begun their first monthly period (menstruation.) The average age of menstruation was 12. This is earlier than your grandmothers and great grandmothers.
- Higher exposure in young girls to some common chemicals, such as phthalates and phenols that were measured in the Growing Up Healthy Study, may effect early breast development and disrupt hormones in the body. This may put girls at risk for a number of health issues later in life, such as cancer and diabetes.
- Girls in the Study who entered puberty earlier were at greater risk of developing allergies and these risks were highest among Black girls.
- Girls in the Study who were overweight or obese had an increased likelihood of an asthma diagnosis by a physician.



THANK YOU

The Growing Up Healthy research team wants to thank you for your participation in this Study. It has helped to increase knowledge about when girls are entering puberty, developing breasts and starting menstruation. It has helped us understand what in the environment might influence puberty and what some of the potential health issues might be from entering puberty at an earlier age.

We encourage your participation in future research that explores health and the environment. Should you have any questions about the Growing Up Healthy Study, please call (212) 824-7127

Do You Remember?

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