

# WHO growth curves offer no distinct advantage over CDC measures

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Several medical organizations have recently recommended that doctors switch from using the Centers for Disease Control and Prevention (CDC) growth curves to the World Health Organization (WHO) growth curves to better determine overweight and obesity in children in Canada aged 5 years. However, a study published in *CMAJ (Canadian Medical Association Journal)* shows no advantage in using one over the other.

The CDC and WHO growth curves are used widely around the world, but they have different definitions of [overweight](#) and obesity in children and adolescents and result in different prevalence rates.

"Although the CDC and WHO definitions of overweight and obesity both use approximations of overweight and obese values of [body mass index](#) (BMI) when children reach 19 years of age, the CDC growth curves use data from more recent samples of [young people](#)," writes Dr. Lisa Kakinami, McGill University, with coauthors. "Given the recent rise in the prevalence of obesity among young people, using a heavier reference population may lead to fewer children being identified as overweight and obese, and an identical BMI value may not trigger a clinical investigation."

The Canadian Paediatric Society, in collaboration with the College of Family Physicians of Canada, Dietitians of Canada and the Community Health Nurses of Canada, has recommended adopting the WHO growth curves rather than the CDC curves to monitor growth in the 8 million children in Canada aged 5 years, which marks a major change.

To better understand the possible effect of these different measures, researchers compared the link between overweight and obesity as defined by the two curves and the presence of cardiometabolic risk factors such as unfavourable lipids, glucose, insulin and [blood pressure levels](#). They defined overweight and obesity based on the two growth curves' definitions and looked at whether one curve's definition of overweight or obese could better identify cardiometabolic risk factors. The study involved 2466 boys and girls aged 9, 13 and 16 years in Quebec, Canada.

"Understanding how using the different growth curves affects the identification of adverse cardiometabolic risk profiles is essential for the appropriate management of [overweight and obesity](#) among young people," write the authors.

"The WHO growth curves are recommended for monitoring growth in 5- to 19-year-old children because they use older data that precede the [obesity](#) epidemic, and they allow a smooth transition from the WHO growth curves recommended for monitoring growth in children aged 0 years," write the authors. However, the authors found that the curves performed similarly in identifying cardiometabolic abnormalities in children aged 9 years.

The authors conclude that the WHO growth curves are no more effective than the CDC growth curves in detecting early cardiometabolic issues in children aged 9 years.

**More information:** [doi: 10.1503/cmaj.110797](https://doi.org/10.1503/cmaj.110797)

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