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Application of mathematical models to promote lifestyle interventions

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Abstract

What is a safe, achievable and clinically meaningful goal for weekly weight loss? Both health care professionals and individuals seeking guidance on losing excess weight ask this question. The answer to this question relies on carefully collected data and accurate mathematical model construction. Advances in weight loss monitoring technology, clinical measurements, and computers have led to an explosion of improved mathematical weight loss prediction models. In this presentation, I will review mathematical models of human body weight regulation, and recent results from a clinical trial on model application to facilitate weight change.

Biography

Diana Thomas received her Ph.D. from the Georgia Institute of Technology andis a Professor of Mathematics at Montclair State University in New Jersey. For the past ten years, she has developed various mathematical models applied to biology and her research has appeared in journals such as *Journal of Mathematical Biology*, *Mathematical Biosciences*, *Obesity Reviews*, and the *American Journal of Clinical Nutrition*. She is currently part of several NIH funded investigations that involve application of dynamic models to manage body weight. She is the director for the Center for Quantitative Obesity Research at Montclair State University.