

4-30-2014

# The Accuracy of Recalled versus Measured Pre-Pregnancy Weight for the Calculation of Pre-Pregnancy Body Mass Index

Jessica V. Masiero

*University of Massachusetts Medical School, Jessica.Masiero@umassmed.edu*

Julie M. Tabroff

*University of Massachusetts Medical School, Julie.Tabroff@umassmed.edu*

Elizabeth Scannell

*Mount Sinai Beth Israel*

*See next page for additional authors*

Follow this and additional works at: <http://escholarship.umassmed.edu/ssp>

 Part of the [Clinical Epidemiology Commons](#), [Epidemiology Commons](#), [Maternal and Child Health Commons](#), [Obstetrics and Gynecology Commons](#), and the [Women's Health Commons](#)

---

## Repository Citation

Masiero, Jessica V.; Tabroff, Julie M.; Scannell, Elizabeth; Leung, Katherine G.; Waring, Molly E.; and Moore Simas, Tiffany A., "The Accuracy of Recalled versus Measured Pre-Pregnancy Weight for the Calculation of Pre-Pregnancy Body Mass Index" (2014). University of Massachusetts Medical School. *Senior Scholars Program*. Paper 160.  
<http://escholarship.umassmed.edu/ssp/160>

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in Senior Scholars Program by an authorized administrator of eScholarship@UMMS. For more information, please contact [Lisa.Palmer@umassmed.edu](mailto:Lisa.Palmer@umassmed.edu).

---

# The Accuracy of Recalled versus Measured Pre-Pregnancy Weight for the Calculation of Pre-Pregnancy Body Mass Index

## **Authors**

Jessica V. Masiero, Julie M. Tabroff, Elizabeth Scannell, Katherine G. Leung, Molly E. Waring, and Tiffany A. Moore Simas

## **Keywords**

Gestational weight gain, Prepregnancy weight, Body Mass Index (BMI)

## **Comments**

Poster presented on Senior Scholars Program Poster Presentation Day at the University of Massachusetts Medical School, Worcester, MA, on April 30, 2014. Medical students Jessica V. Masiero and Julie M. Tabroff participated in this study as part of the Senior Scholars research program at the University of Massachusetts Medical School.

This poster earned a 2014 Senior Scholars Poster Award.



# The Accuracy of Recalled versus Measured Pre-Pregnancy Weight for the Calculation of Pre-Pregnancy Body Mass Index

Jessica V. Masiero MSIV<sup>1</sup>, Julie M. Tabroff MSIV<sup>1</sup>, Elizabeth Scannell, MD<sup>3a</sup>, Katherine Leung MS<sup>1a</sup>, Molly E. Waring PhD<sup>1b</sup>, Tiffany A. Moore Simas, MD MPH MEd<sup>1ac, 2a</sup>

<sup>1</sup>University of Massachusetts Medical School, <sup>2</sup>UMass Memorial Health Care, Worcester, MA, <sup>3</sup>Mount Sinai Beth Israel, NY, NY, <sup>a</sup>Obstetrics & Gynecology, <sup>b</sup>Quantitative Health Sciences, <sup>c</sup>Pediatrics

## Objective

To examine differences in recalled versus measured pre-pregnancy weight and to examine factors associated with accuracy of recalled weights.

## Background

2009: IOM published gestational weight gain guidelines (GWG) with goal of optimizing maternal & fetal outcomes.

GWG recommendations specific to pre-pregnancy body mass index (BMI): 28-40 lbs for underweight (UW; BMI<18.5 kg/m<sup>2</sup>), 25-35 lbs for normal weight (NW; 18.5≤BMI<25 kg/m<sup>2</sup>), 15-25 lbs for overweight (OW; 25 ≤BMI<30 kg/m<sup>2</sup>), and 11-20 lbs for obese (OB; BMI≥30 kg/m<sup>2</sup>) women.

Measured pre-pregnancy weight is often unavailable in clinical and research settings as >50% of pregnancies in the U.S. are unplanned.

## Methods

Medical record review of 1,998 randomly selected pregnancies.

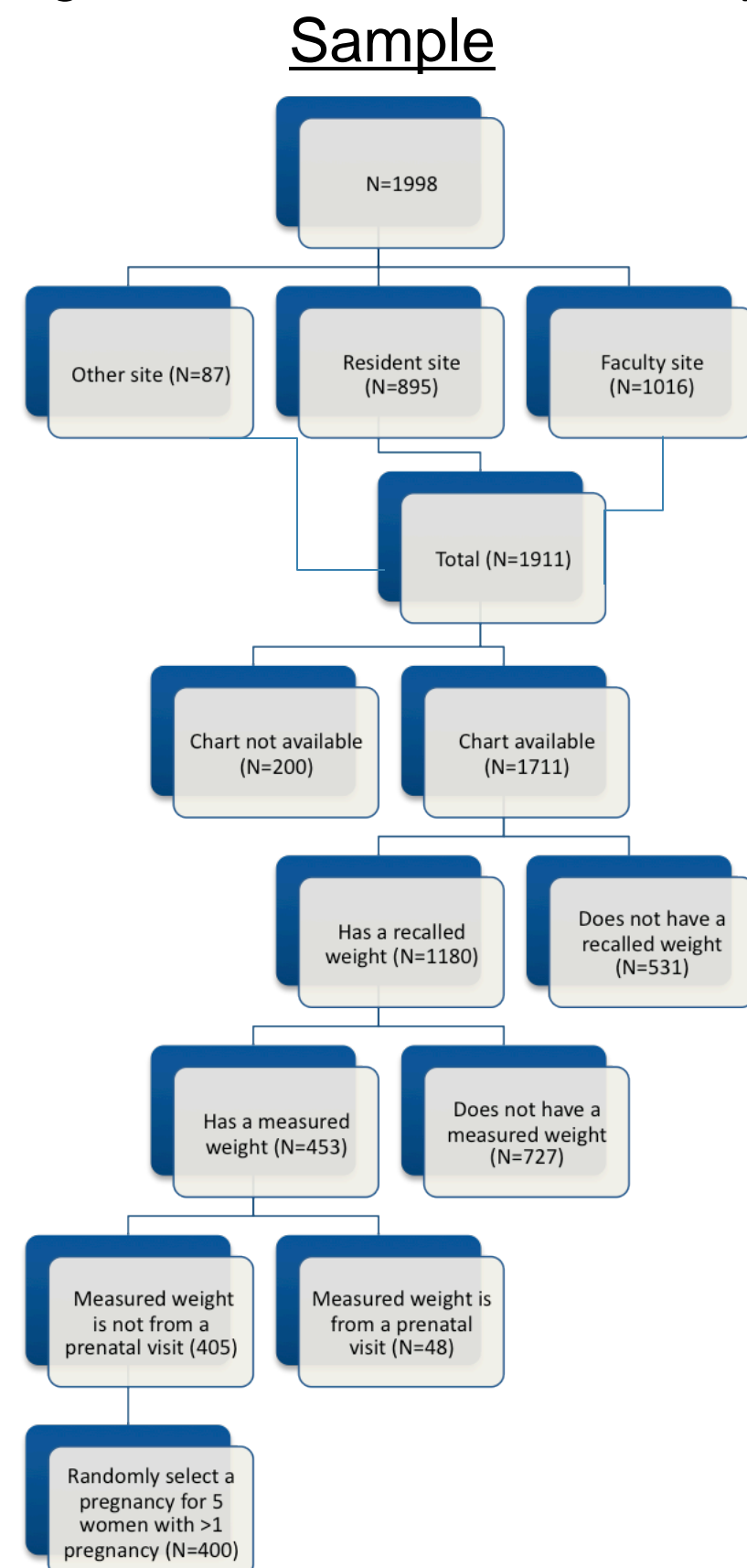
Eligible Women: (1) Prenatal care received in UMMHC faculty and resident clinics, (2) delivered between 01/07-12/12, and (3) had available both: (a) a measured weight within one year of conception & (b) a pre-pregnancy weight self-reported at first prenatal visit.

Data from UMMHC paper or electronic prenatal record and the Allscripts EMR.

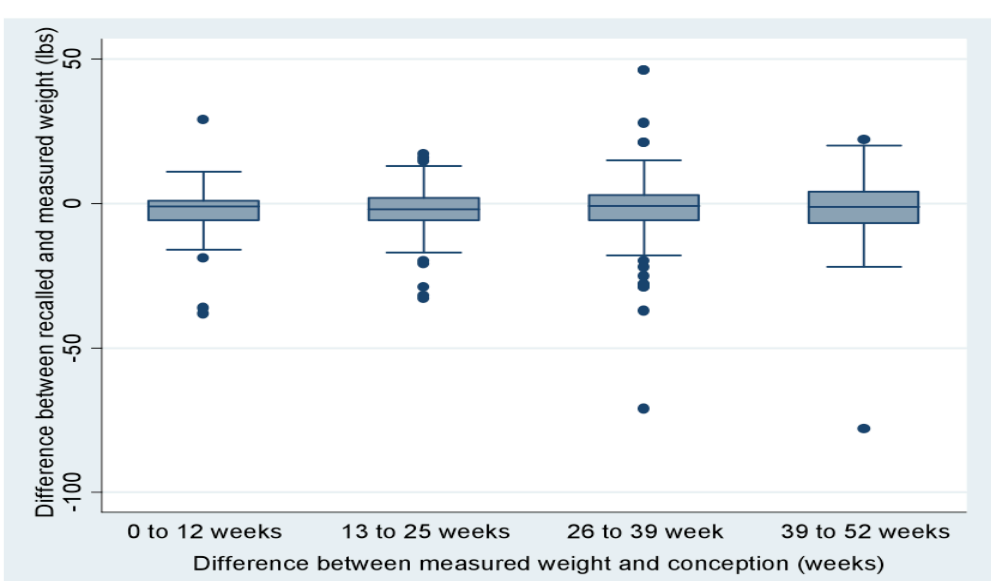
Difference in weights = recalled pre-pregnancy weight – most recent measured weight within one year of conception.

Subjects excluded if care received at non-faculty or resident practice, charts not available after 3 retrieval attempts, both weights of interest not available, or if measured weight was at prior pregnancy PNV.

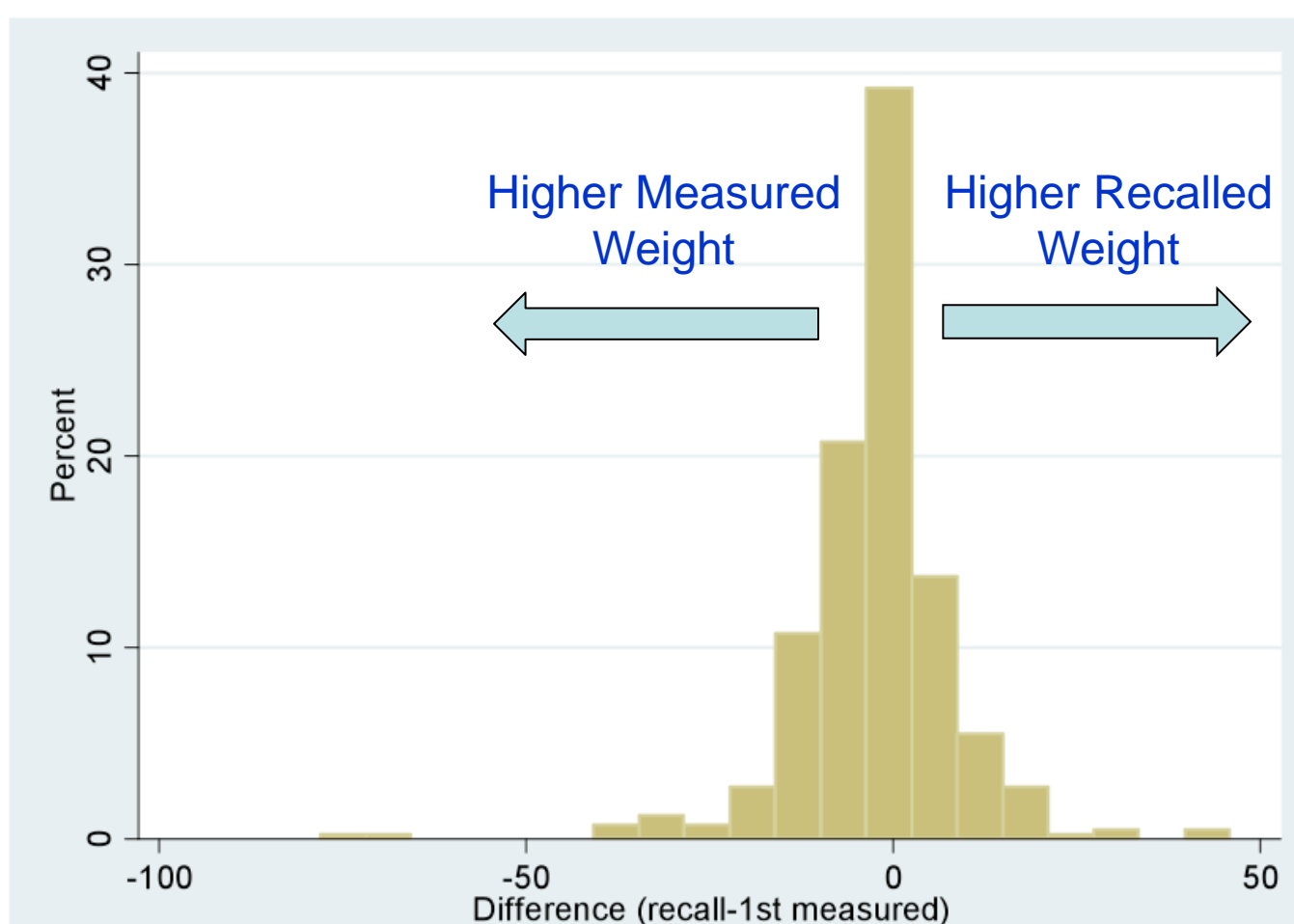
## Pregnancies Included in Analytic Sample



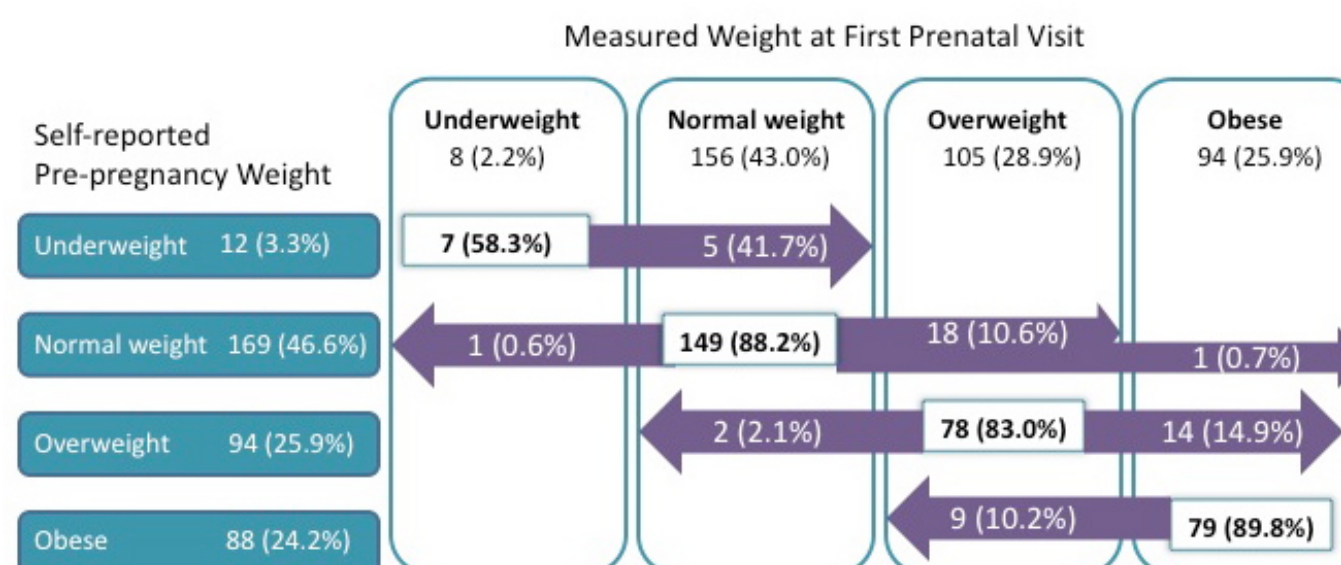
## Recalled vs Measured Weight by Weeks to Conception



## Distribution of the Difference in Recalled vs Measured Pre-Pregnancy Weight



## Differences in BMI Categories Based on Recalled versus Measured Pre-Pregnancy Weight



## Results

Of 1,998 charts reviewed, 400 were eligible and included in this analysis.

Women mean age 29.7 (SD: 6.2) years, 69.3% multigravida, 64.4% non-Hispanic white, and 65.2% married. 63% received care in the faculty obstetric clinic.

By recalled weight, 3.3% were UW, 46.6% were NW, 25.9% were OW, & 24.2% were OB.

Recalled weights were mean 2.4 (SD: 11.1) pounds lower than measured pre-pregnancy weight.

Difference did not vary by age, location of care, pre-pregnancy BMI, marital status, race/ethnicity, language, gravity, education, or time between measured weight & conception.

Calculating pre-pregnancy BMI based on weight measured up to a year prior to conception or based on recalled weight reported at 1<sup>st</sup> PNV resulted in the same classification of pre-pregnancy BMI for 88.7% of women.

## Conclusions

Prenatal care providers may calculate pre-pregnancy BMIs using recalled pre-pregnancy weights early in prenatal care.

These calculated BMIs can be used to accurately provide gestational weight gain recommendations regardless of demographic variables, gravity, or location of care.

Support for Dr. Waring provided by NIH grants KL2TR000160 and 1U01HL105268.