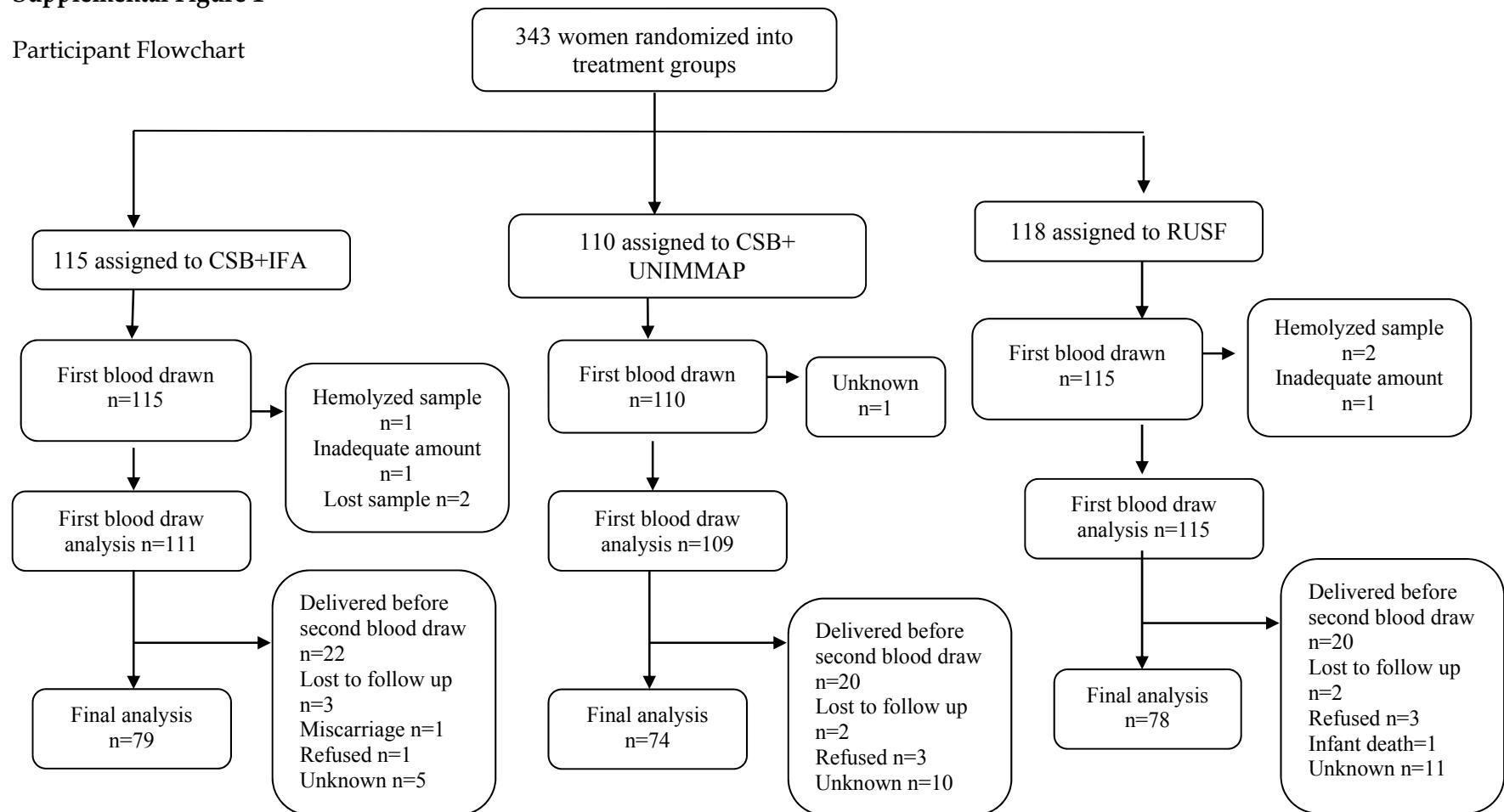


**Supplemental Figure 1**

Participant Flowchart



**Supplemental Table 1**

Assays used for analysis of nutrients and proteins

Nutrient/protein	Assay method- CCP <sup>1</sup>	Assay method-PAL <sup>2</sup>
Vitamin B <sub>12</sub>	ECLIA <sup>3</sup>	Chemiluminescence (Beckman Coulter DXI) <sup>4</sup>
25-hydroxyvitamin D	N/A	Chemiluminescence <sup>5</sup> (Liason XL Diasorin)
Folate	ECLIA	N/A
Retinol	Nephelometry <sup>6</sup>	Chemiluminescence
Ferritin	Electrochemiluminescence Immunoassay (ECLIA) <sup>7</sup>	Chemiluminescence (Beckman Coulter DXI)
Zinc	Quantitative Inductively Coupled Plasma-Mass Spectrometry <sup>8</sup>	Plasma-Mass Spectrometry
Albumin	Bromcresol Green (BCG) <sup>9</sup>	BCG (Beckman Coulter DXI)
C-reactive protein	Immunoturbidimetry <sup>10</sup>	Immunoturbidimetry (Beckman Coulter 5800)

<sup>1</sup>Central Coast Pathology<sup>2</sup>Physician's Automated Laboratory<sup>3</sup>Pirkle JL. "Laboratory Procedure Manual. Vitamin B12 Roche E-170 Vitamin B12 ECLIA." CDC (2012).<sup>4</sup>Kumar SS, Chouhan RS, Thakur NS. "Enhancement of Chemiluminescence for Vitamin B12 Analysis." *Anal Biochem* 388.2 (2009): 312-6.<sup>5</sup>Wootton AM. "Improving the Measurement of 25-Hydroxyvitamin D." *Clin Biochem Rev* 26.1 (2005): 33-36.<sup>6</sup>dePee S and Dary O. "Biochemical Indicators of Vitamin A Deficiency : Serum Retinol and Serum Retinol Binding Protein." *J Nutr* 132 (2002): 2895S-2901S.<sup>7</sup>Dupuy, AM, L Debarge, et al. "Determination of Serum Ferritin Using Immunoturbidimetry or Chemiluminescent Detection in Comparison with Radioimmunoassay a Compendium of a Methodological Juxtaposition." *Clin Lab* 55.5-6 (2009): 207-15.<sup>8</sup>Vanhoe, H et al. "Determination of Iron, Cobalt, Copper, Zinc, Rubidium, Molybdenum, and Cesium in Human Serum by Inductively Coupled Plasma Mass Spectrometry." *Anal Chem* 61.17 (1989): 1851-57.<sup>9</sup>McGinlay, JM, and RB Payne. "Serum Albumin by Dye-Binding: Bromos cresol Green or Bromocresol

Purple? The Case for Conservatism." *Ann Clin Biochem* 25.4 (1988): 417-21.

- <sup>10</sup> Dupuy, AM, S Badiou, et al. "Immunoturbidimetric Determination of C-Reactive Protein (CRP) and High-Sensitivity CRP on Heparin Plasma. Comparison with Serum Determination." *Clin Chem Lab Med* 41.7 (2003): 948-9.