

Nutritional Biomarkers and Disease Association Studies in the Women's Health Initiative

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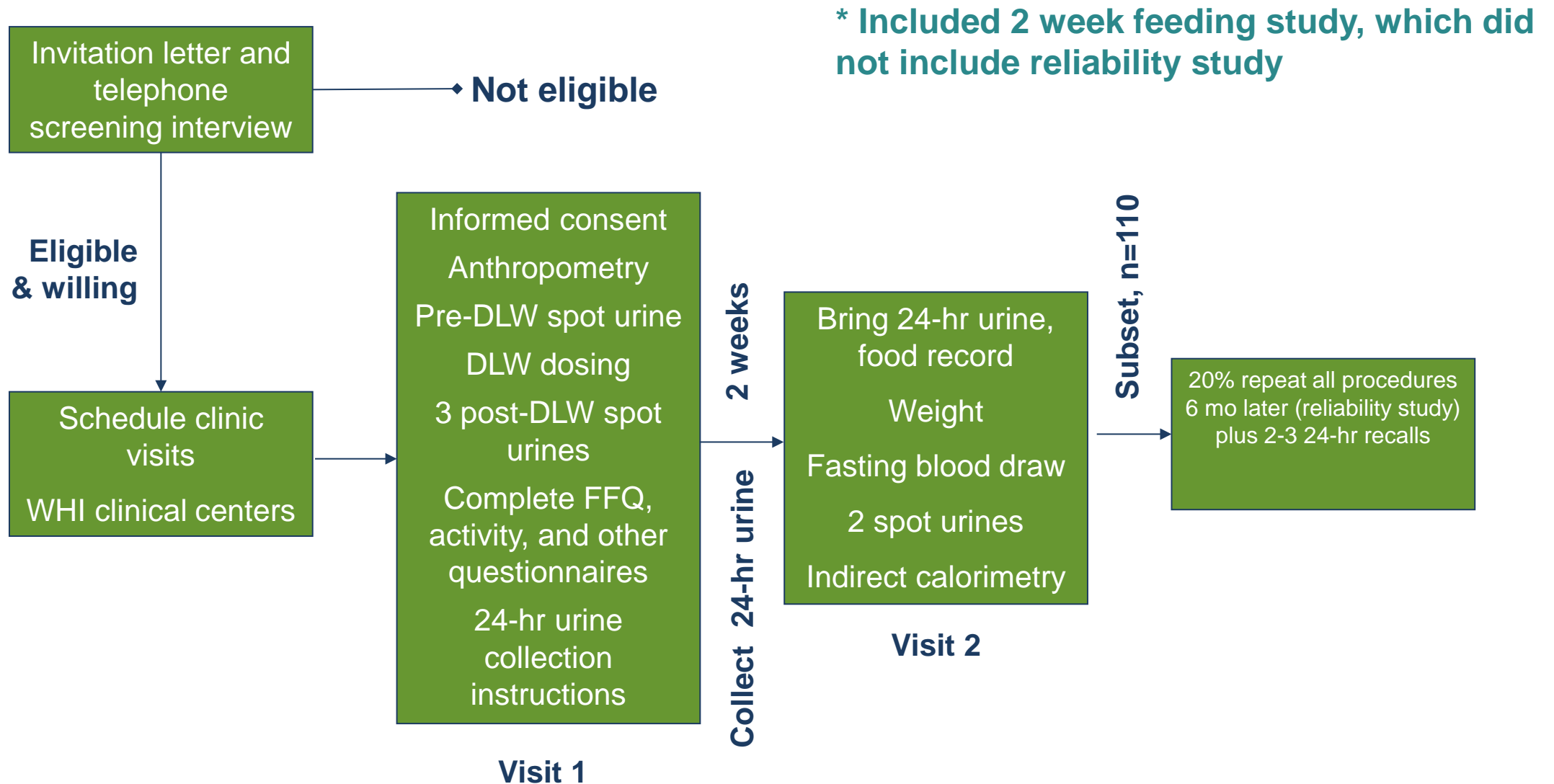
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WHI Biomarker Studies:

NBS (n=544) NPAAS (n=450) and NPAAS-FS* (n=153)



Continued Nutritional Biomarker Development

- A useful nutritional biomarker should have good correlation with the nutrient (or 'food substance'). We are using a benchmark correlation of 0.7 since this approximates the correlation for doubly labeled water (benchmark).
- From recent NPAAS feeding study:
 - Vitamin B₁₂ , alpha carotene >0.70
 - Folate, beta-carotene, lutein+zeaxanthin, alpha-tocopherol 0.6 - 0.7
 - Lampe et al *Am J Clin Nutr* 2016
- These are being used to develop calibration equations to calibrate diet quality indices (HEI, a-HEI, aMED, DASH) for use in disease analyses
- We are also developing new nutritional biomarkers: metabolomics

NPAAS the future: involving YOU!

- Can we expand our reach and propose R01s with specific disease endpoints based on novel biomarkers for nutrients and foods using stored specimens and the adjudicated outcomes in WHI?
- Yes, novel serum-based biomarkers from NPAAS-FS can be directly applied to stored serum in a case-control mode for various outcomes: cancer, CVD, Diabetes, Obesity, Aging (healthy aging or frailty), cognitive function and others.....
- These applications, with objective biomarker intake assessments, do not require use of dietary self-report data (e.g. submitted 2018 paper on carotenoids and tocopherols and various chronic diseases using 5.8% sub-cohort)