



Communicating
*H*health
Information &
Improving Coordination with
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CCSS Ancillary Intervention Studies to Improve CV health

R01 CA204378 (3/2017 – 2/2023), R01 CA263144 (9/2022 – 8/2027)

CCSS
Childhood Cancer
Survivor Study



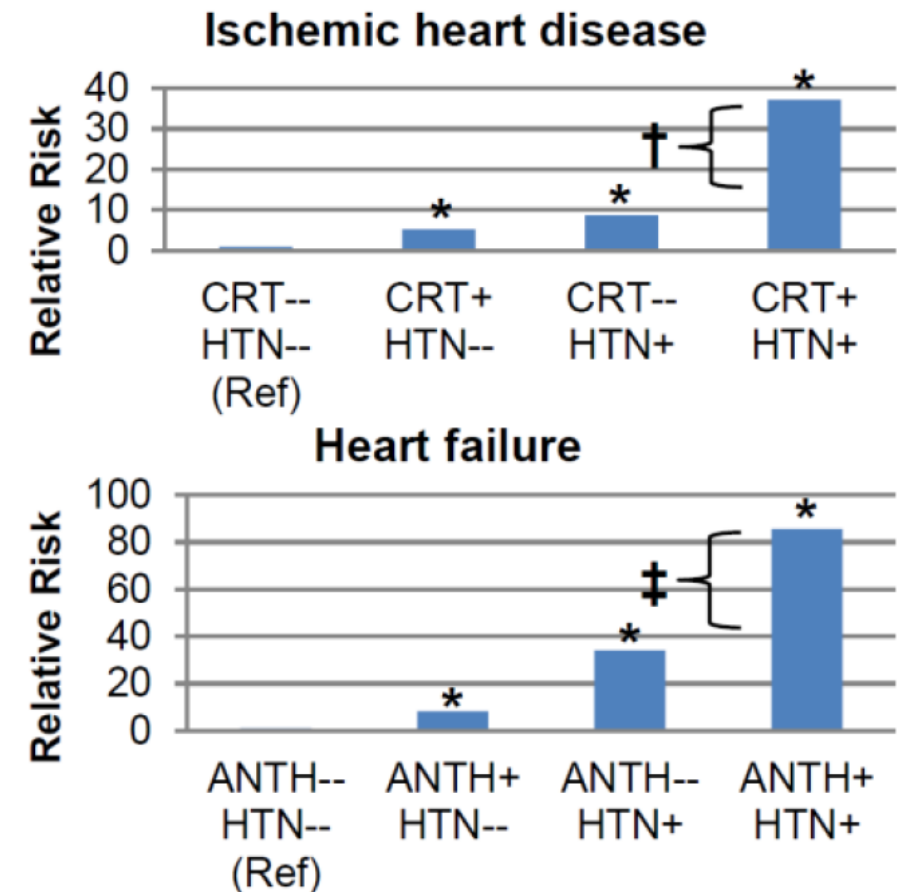
FRED HUTCH
CURES START HERE®

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Background

CCSS

- Premature cardiovascular disease is a major cause of early morbidity & mortality after cancer
- Modifiable risk factors (hypertension, dyslipidemia, and diabetes) increase risk
- These risk factors are likely under-recognized and under-treated in young and middle aged CCS



Meacham, CEBP 2010; Armstrong, JCO 2013; Chen JNCI 2020

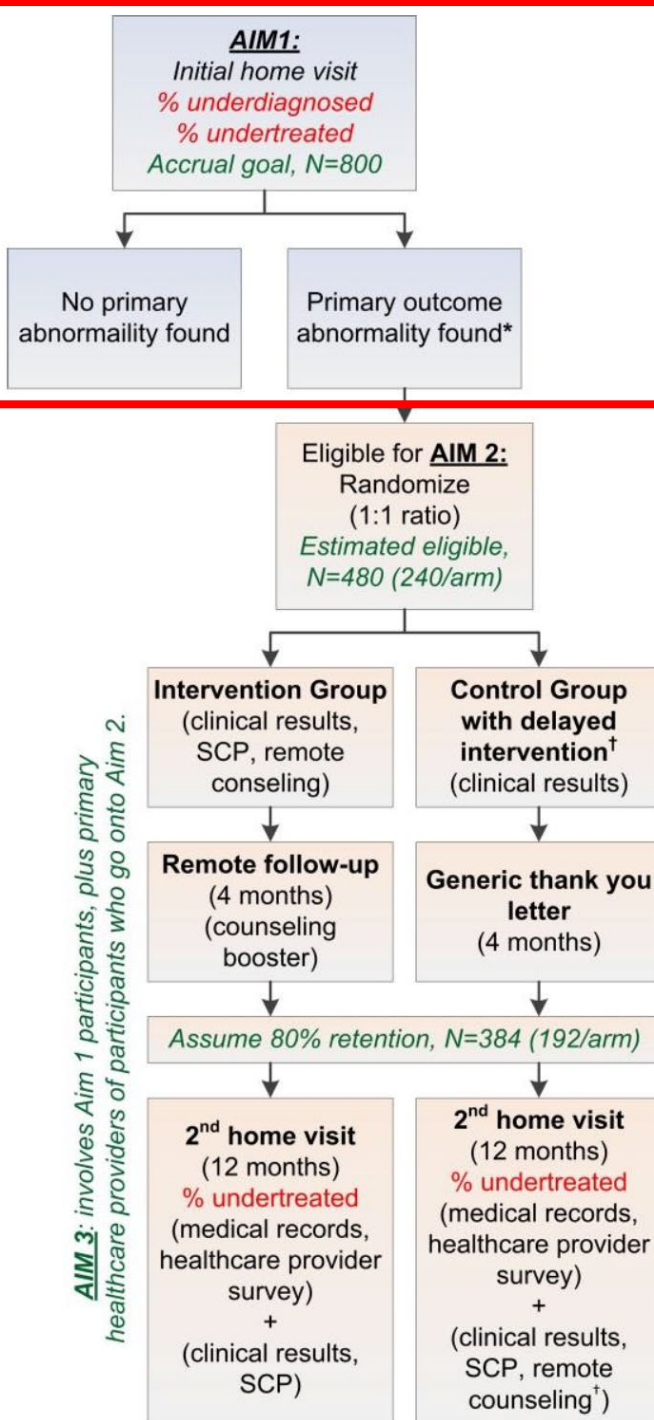
1. Determine prevalence of underdiagnosis and undertreatment of hypertension, dyslipidemia, and diabetes are in CCSS participants at high risk of future heart disease.
2. Among those underdiagnosed / undertreated, conduct a randomized trial to test the effect of a remotely delivered survivorship care plan & self-management intervention on rates of undertreatment after 1-year.
3. Determine barriers among survivors & primary care providers towards survivorship care that contribute to undertreatment of common modifiable CV risk factors.

Study Schema

CCSS

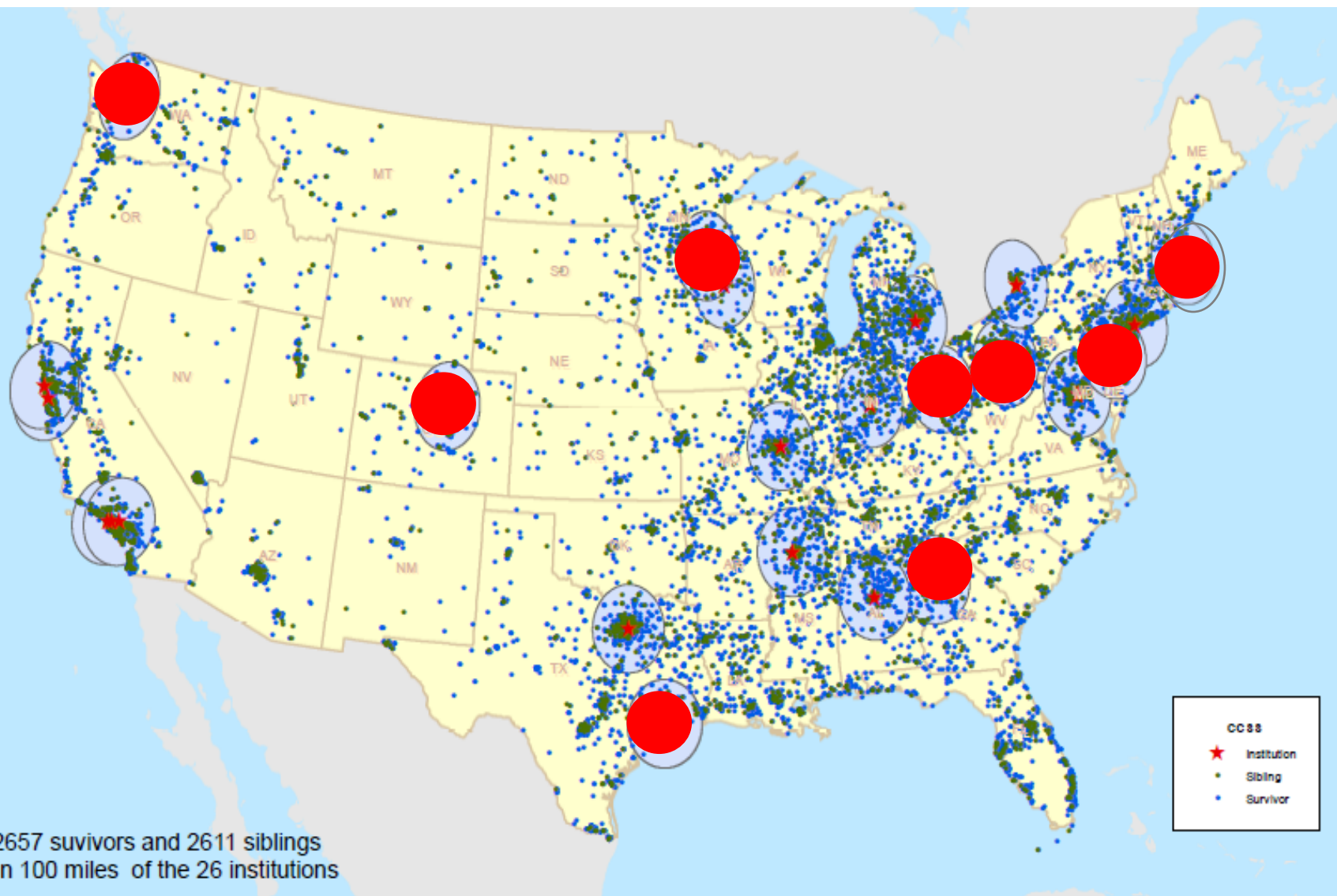
- **Population:** CCSS participants at increased CV risk
- **Definition of primary abnormalities:**
 - *Average blood pressure* $\geq 130/80$ mmHg
 - *LDL* ≥ 160 mg/dL
 - *Triglyceride* ≥ 150 mg/dL (≥ 200 if not fasting)
 - *Glucose* ≥ 100 mg/dL (≥ 140 if not fasting)
 - *HbA1c* $\geq 5.7\%$ ($\geq 7\%$ if known diabetic)

AIM 3: involves Aim 1 participants, plus primary healthcare providers of participants who go onto Aim 2.



Participant Approach

CCSS

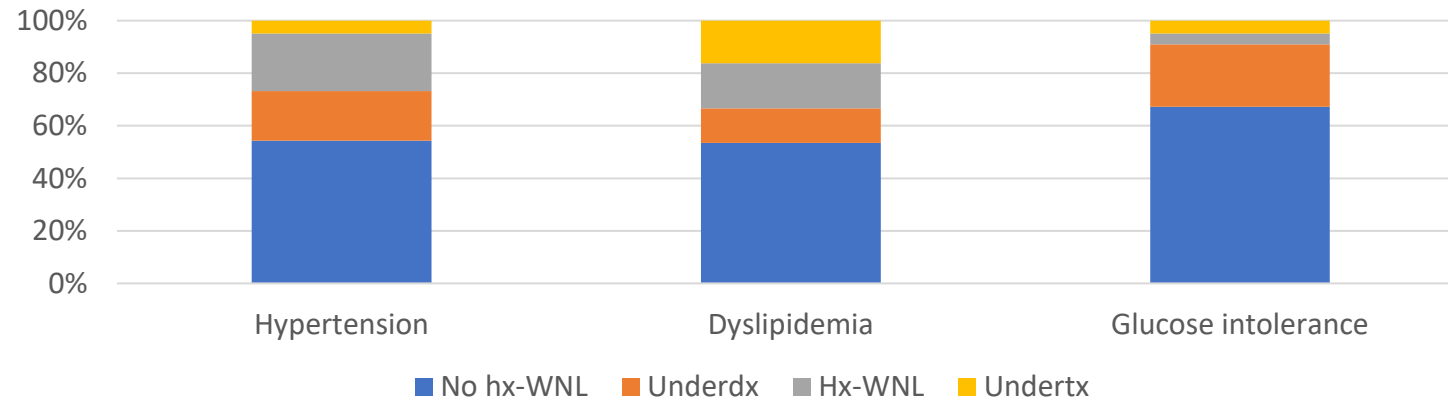


- Questionnaire
- Home visits at selected metro-areas
 - Height, weight, waist circumference, resting blood pressure
 - Blood draw (lipid, glucose, HbA1c, insulin)
 - Additional blood for banking (chemistries, proteomics, DNA, RNA)
- 793 enrolled; 643 baseline home visits completed (81%)

Baseline Results (n=571; median age 37y)

CCSS

- Compared with age/sex/race/ethnicity-matched NHANES sample
- CV risk factor underdiagnosis rates similar (CHIIP 27% vs NHANES 26%)
- Undertreatment much more common (CHIIP 21% vs NHANES 14%); OR=1.8



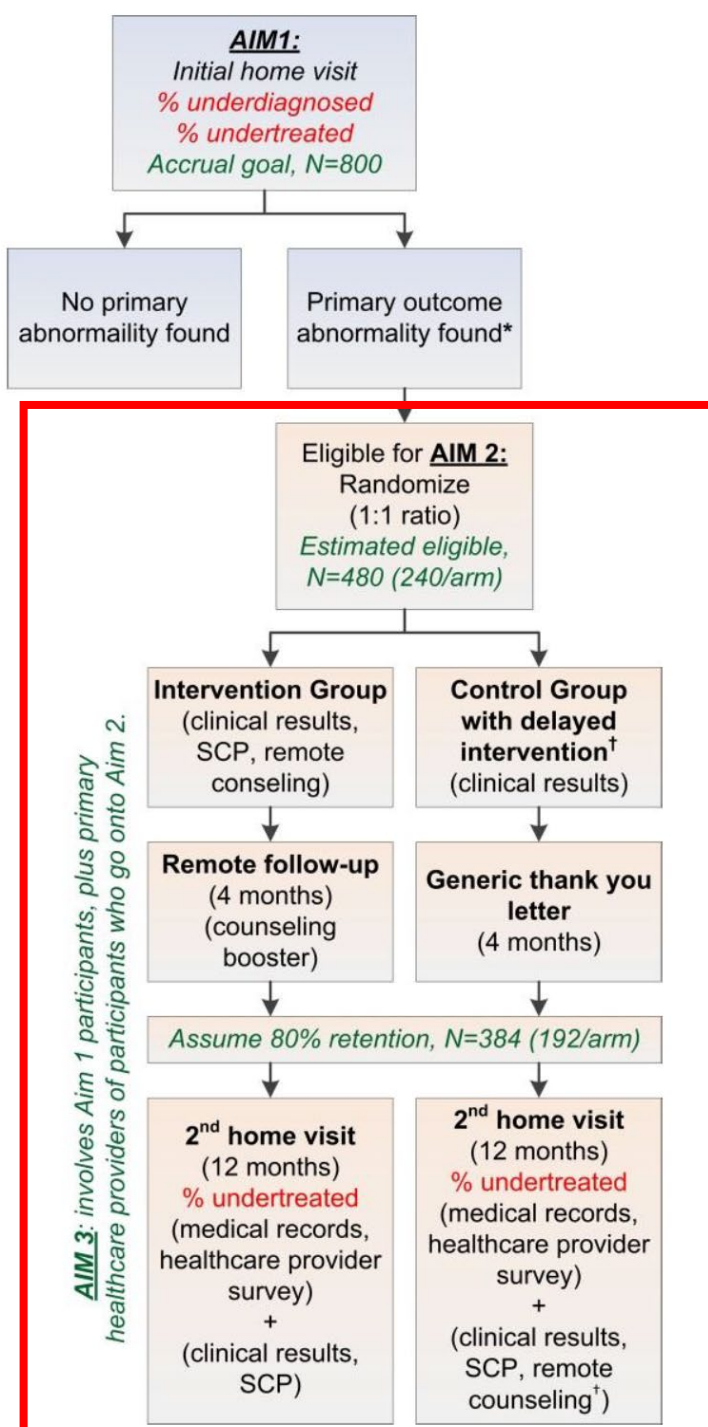
- Risk factors for undertreatment: *males, overweight/obese BMI, multiple adverse lifestyle factors*
- Less likely to be undertreated: *greater health-related self-efficacy*
- No association: *prior survivorship clinic visit*

Chow, JAMA 2022

Study Schema

- **Participants with CV abnormality(ies): RCT (n=368)**
 - Mailed copy of SCP / treatment summary
 - APP-led counseling via phone/web-video *[increase self-efficacy]*
 - 30 min - baseline
 - 15 min - 4 month follow-up
 - Individualized action plan
 - PCP receives mailed copy of all materials
 - Repeat home visit at 12 months – assess CV risk factor control
 - Medical records to evaluate PCP actions, treatment intensification?
- Last few participants in active follow-up, will finish in next few months

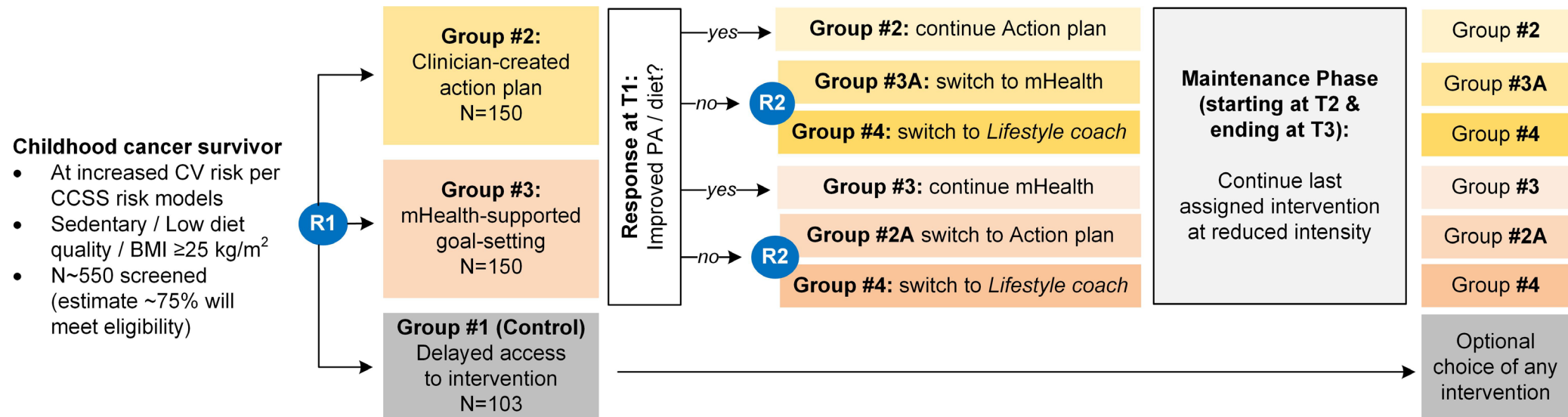
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CHIIP -> SALSA

CCSS

- Builds upon CHIIP, but also other CCSS studies (EQUAL, ECHOS, EMPOWER)
- Lifestyle modification (diet, activity) a major (albeit unplanned) portion of CHIIP action plans
- Effective lifestyle modification likely requires more intense intervention
- Using a “SMART” design, can we decrease sedentary time & improve diet in high CV risk survivors?



Eligibility screening

- Godin PA screener
- FFQ
- Self reported BMI

Baseline (T0)

- Actigraph
- (FFQ from eligibility)
- PROs
- Physiologic measures

3 months (T1)

- Actigraph
- FFQ

6 months (T2)

- Godin
- FFQ
- Physiologic (limited)

12 months (T3)

- Godin & Actigraph
- FFQ
- PROs
- Physiologic measures

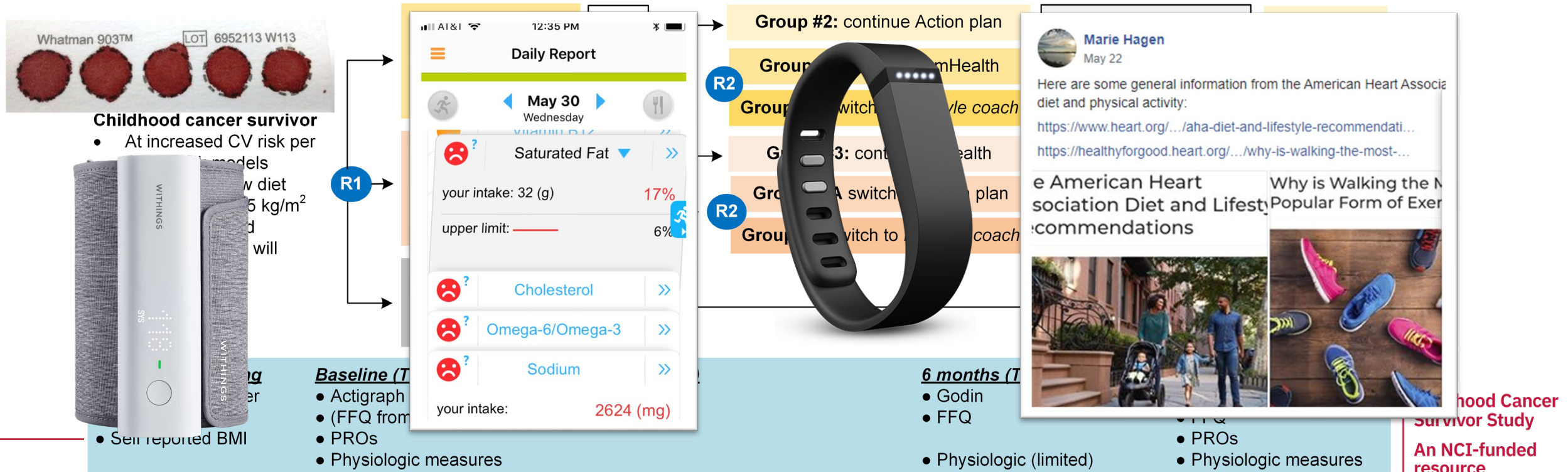
Childhood Cancer Survivor Study
An NCI-funded resource

CHIIP -> SALSA

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Take Home Points

CCSS

- CCSS is an efficient platform for intervention research
- Participants are likely more engaged and interested than general survivorship population
- In-person (home) and remote procedures are feasible, but depth of assessment likely more limited than in-clinic assessment
- Telehealth-based behavioral interventions can bridge CCSS' broad geographic distribution

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CCSS

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