

Understanding Cancer Genetic Risk Assessment Motivations in a Remote Tailored Risk Communication and Navigation Intervention Randomized Controlled Trial among Ethnically and Geographically Diverse Cancer Survivors

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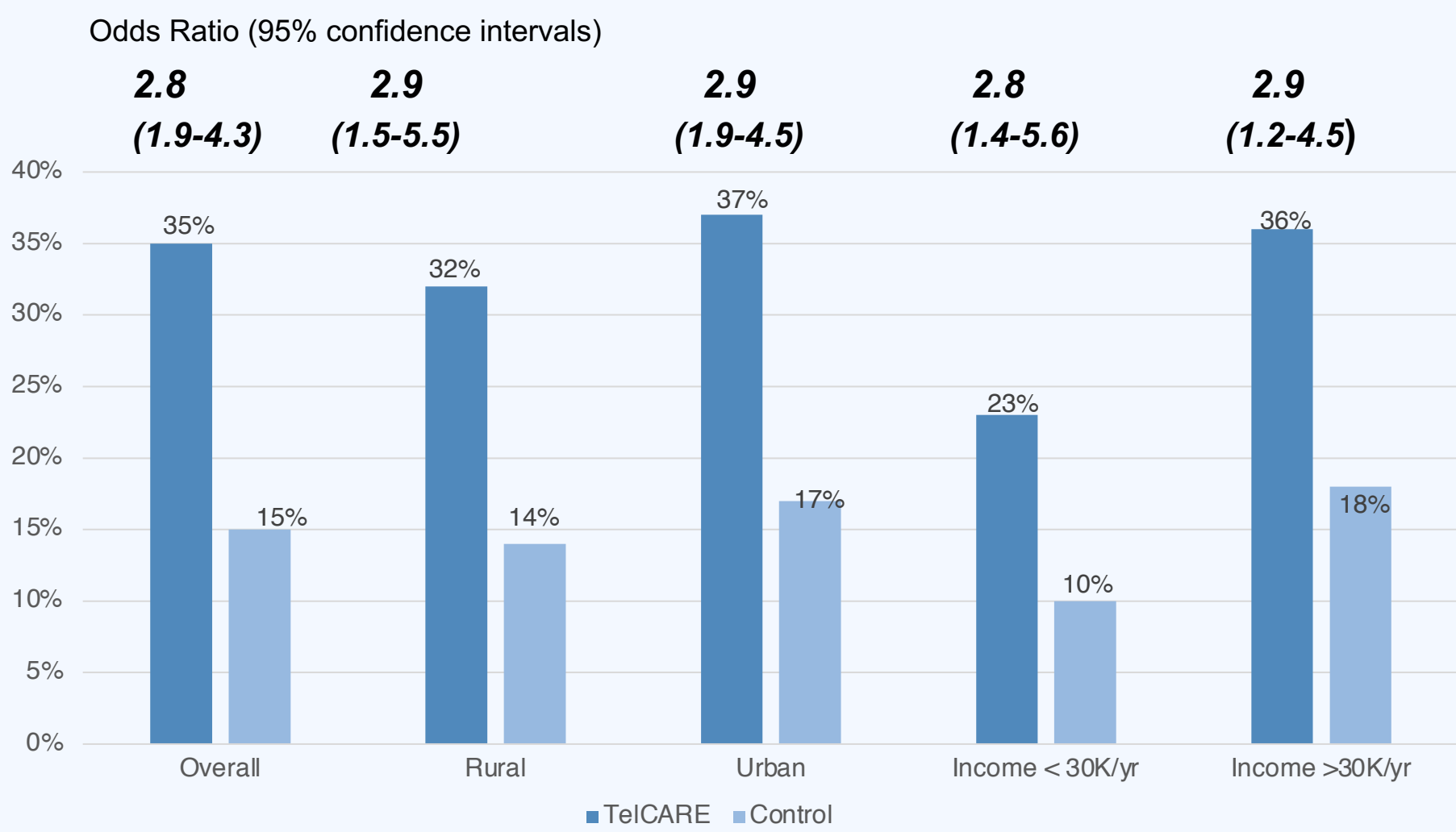
Background

- Pathogenic variants (PVs) in cancer predisposition genes account for up to 20% of all cancers.
- National Comprehensive Cancer Network (NCCN) guidelines recommended cancer genetic risk assessment (CGRA) for all women diagnosed with ovarian, fallopian, and/peritoneal cancer or otherwise considered at risk for hereditary breast or ovarian cancer (HBOC).
- Less than one-half of eligible women receive CGRA.
- Underserved women from rural areas and racial/ethnic ethnic minorities even less likely to access this CGRA.

Purpose

- Initiated the **The Genetic Risk Assessment for Cancer Education and Empowerment (GRACE) Project**
- GRACE was grounded in the **Family CARE Cluster Randomized Trial**. Family CARE tested a theoretically-based, remote personalized cancer risk communication intervention (TeleCARE) against a generic print brochure on colonoscopy uptake.
- TeleCARE had nearly three times the colonoscopy uptake vs. the brochure.

TeleCARE - 9-Month Follow-Up: Colonoscopy (CS) Uptake



↑ screening with TeleCARE
All geographic and income groups
Kinney AY et al, J Clin Oncol. 2014 Mar 1;32:654-62

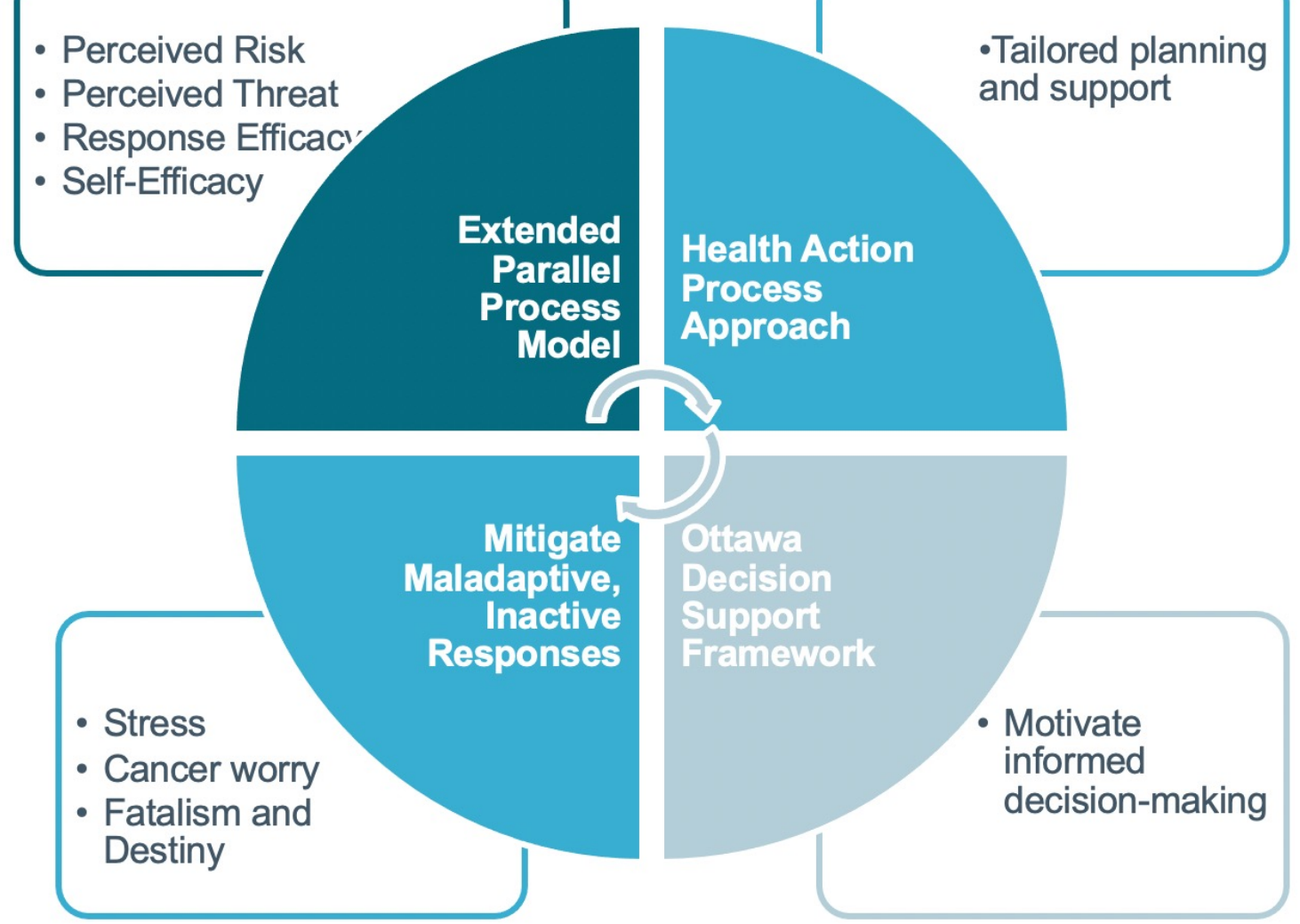
Targeted Print Brochure	Tailored Counseling & Navigation	Usual Care
TP = Mailed educational brochure about hereditary cancer, CGRA, and contact information for CGRA services.	TCN = Multi-component, tailored (individualized) counseling and navigation intervention. Included the brochure + tailored motivational psychoeducation delivered by a health coach leveraging MI	UC = Current treatment as usual Did not receive either intervention.

- GRACE expanded on TeleCARE's tailored, multi-component intervention design with motivational psychoeducation navigation components and a printed educational brochure

Theoretical Framework

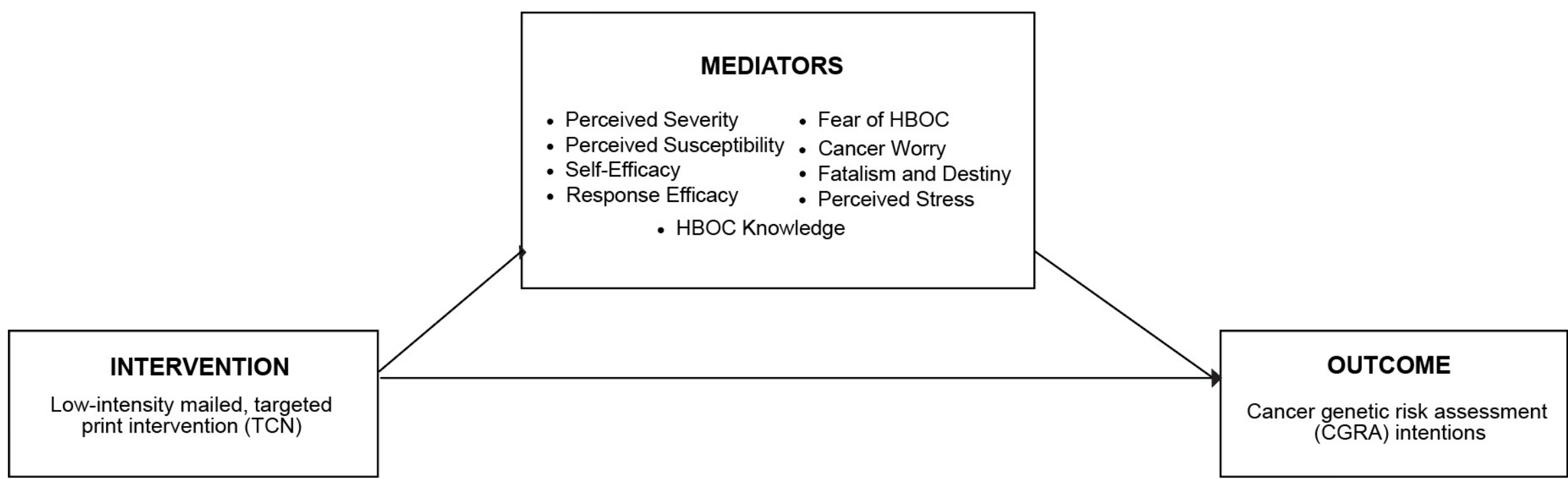
GRACE's tailored communication intervention encouraged CGRA uptake by employing personalized risk communication messages targeting behavioral constructs drawn from three models:

- Extended Parallel Process Model (EPPM)**: posits that risk messages arouse threat and efficacy appraisals.
 - Threat = **perceived risk** of HBOC, **perceived severity** of HBOC
 - Efficacy = **response efficacy** - CGRA's utility reducing risk, **self-efficacy**, confidence obtaining CGRA
- Health Action Process Approach (HAPA)**: Bridges gap between intentions and CGRA uptake; informed the action plan used in the intervention
- Ottawa Decision Support Framework (ODSF)**: cognitive factors to motivate informed decision-making.



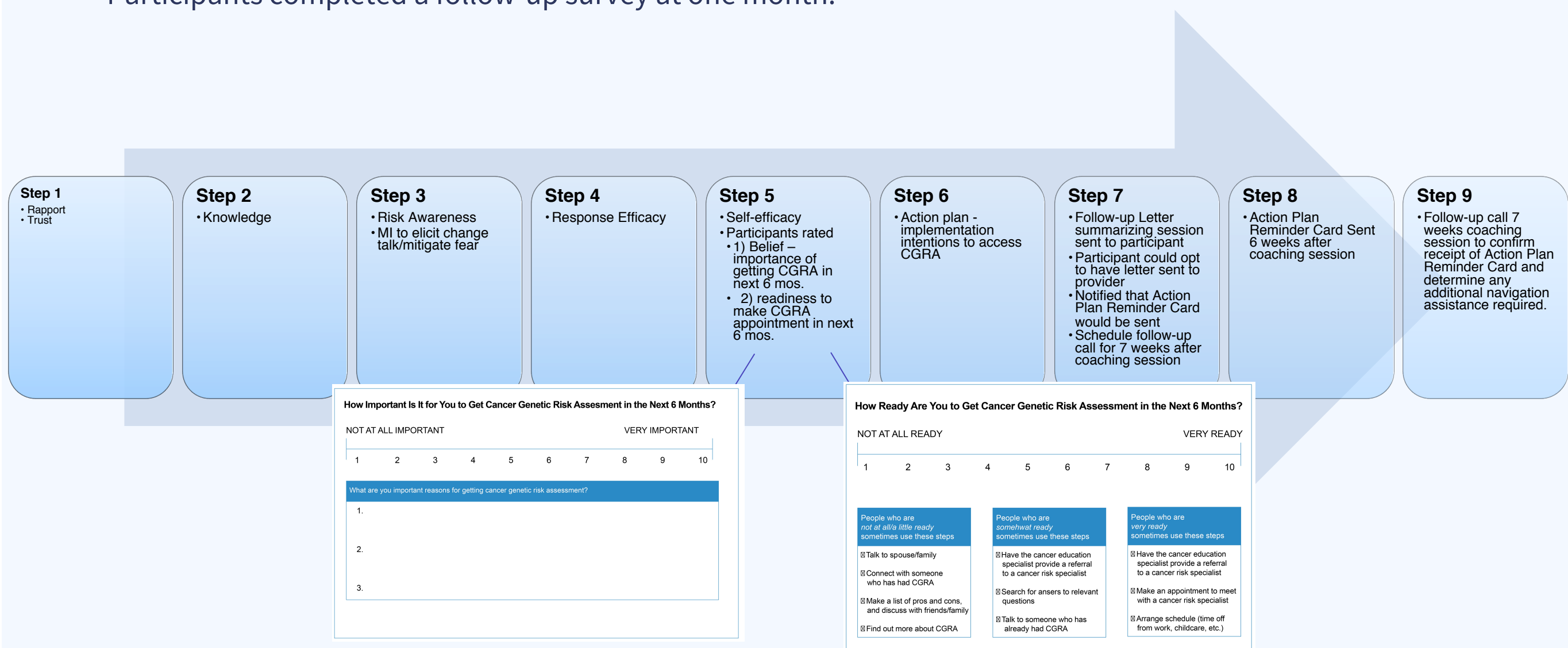
Hypotheses

- Primary hypothesis: our theoretical variables mediated CGRA intentions from baseline to the one-month follow-up.
- We expected to see more significant improvements in the theorized mediators for participants randomized to the tailored navigation intervention compared to those who received only the brochure or usual care.
- Theoretical targets would vary by sociodemographic and clinical factors: race, place of residence, health literacy, and family history of breast and ovarian cancer (FBOC).

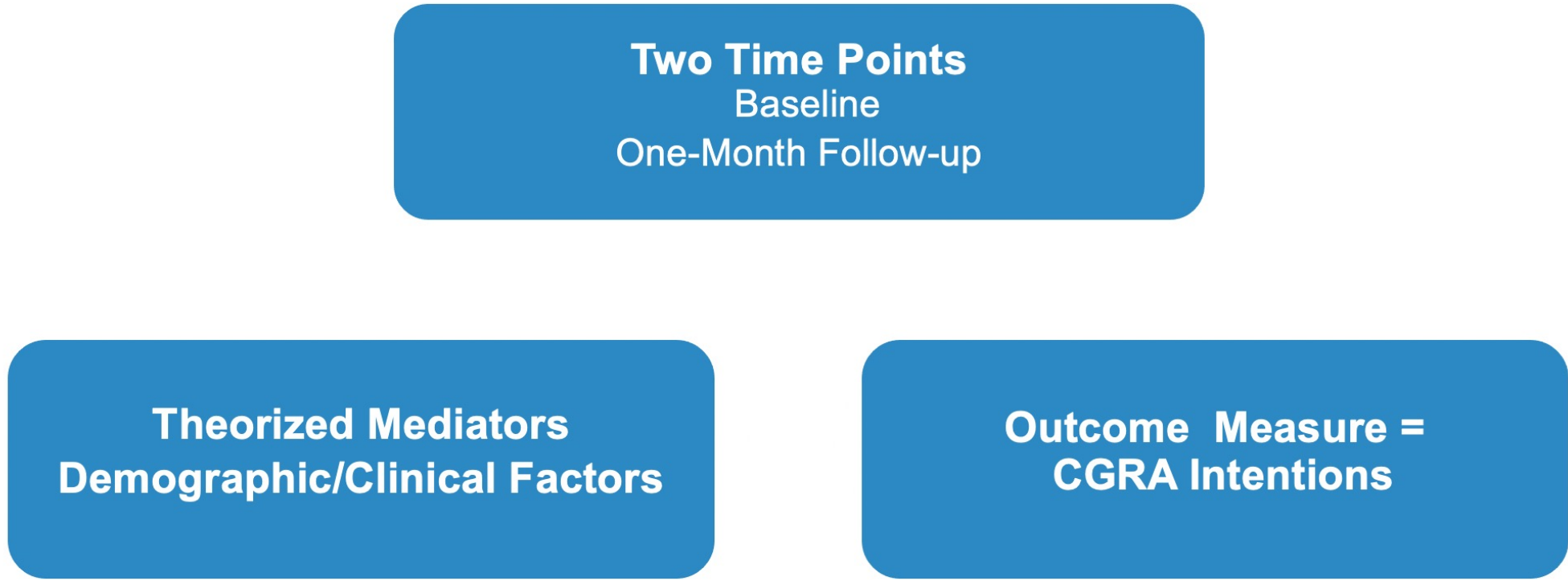


Methods

- Women meeting guideline-based criteria for CGRA were recruited from 3 state cancer registries (N=641)
- Eligibility: Had to live in New Mexico, Colorado, or New Jersey; not have had CGRA, ≥21 years of age biologically female; fluent in English or Spanish; and not in hospice; diagnosed with at least one guideline-based CGRA condition: breast cancer (≤ age 50); triple-negative breast cancer (≤ age 60); ovarian, fallopian, or peritoneal cancer (diagnosed at any age); or ≥ two primary breast cancers.
- Participants completed a baseline survey, and were randomized to tailored navigation, brochure-only, or usual care. Tailored navigation participants participated in a psychoeducational, telephone-based decision coaching and navigation session featuring theoretically-grounded motivational interviewing and tailored health materials drawn. Participants completed a follow-up survey at one month.

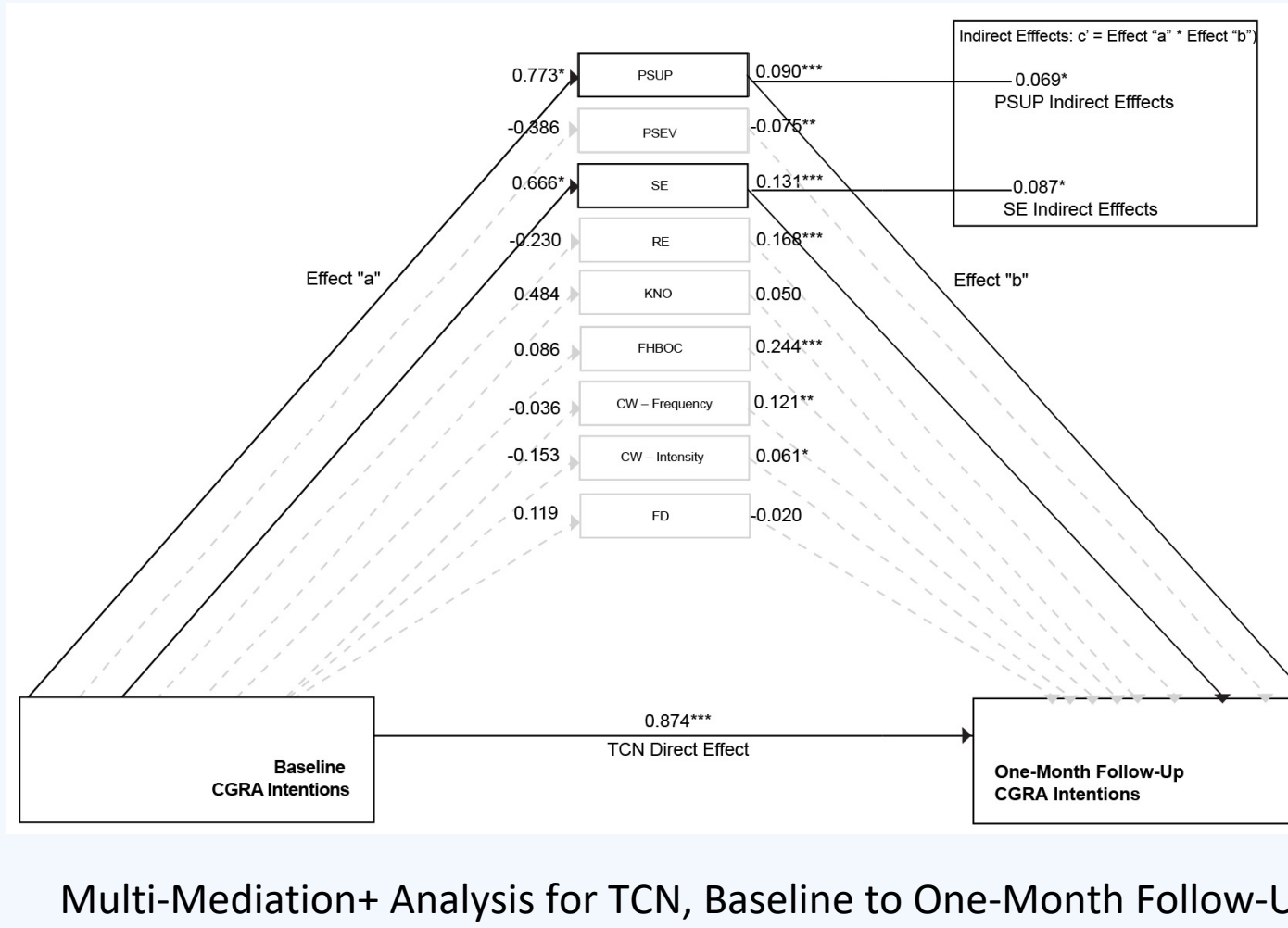


Screening, Baseline, Randomization



Results

- Balanced randomization across groups.
- Tailored navigation improved CGRA intentions compared to brochure-only (0.64, p<0.001, CI 0.32, 0.97) and UC (0.69, p<0.001, CI 0.37, 1.02).
- Theoretical targets, perceived risk (0.77, p<0.05, CI 0.11, 1.44) and self-efficacy (0.67, p<0.05, CI 0.05, 1.28) mediated CGRA intentions in tailored navigation.
- Multimediation analysis indicated that these two variables contributed just over 15% to the direct effects of the intervention on CGRA intentions.
- Stratification of study arms showed significant pre-to-post improvements in tailored navigation vs. brochure-only for CGRA intentions among: on-Hispanic Whites, Hispanics, urban-dwellers, and those with low health literacy and no family history of breast and/or ovarian cancer.
- Stratification showed perceived self-efficacy improved for tailored navigation participants with no family history of breast and/or ovarian cancer.



Discussion: Implications/Future Directions

- GRACE marked the first study testing a population level risk communication intervention to improve CGRA intentions.
- Findings support use of tailored, theoretically grounded, remote communications interventions to increase intention to engage in CGRA.
- The tailored navigation group experienced significant increases in CGRA intentions vs brochure only and usual care.
- The tailored navigation intervention improved the theorized mediator variables, perceived susceptibility and self-efficacy, which contributed to direct effects of the intervention.
- Study was bolstered by a diverse sample; small subgroup sample sizes (e.g. for Blacks) limited ability to discern between-group changes in our theorized mediator variables and subgroup analyses.
- Impact of tailored navigation coaching session varied by race, place of residence, health literacy level, and family history of breast and ovarian cancer
- Health coaches in tailored navigation served as trusted informational resources, well-positioned to encourage genetic counseling and testing and cue increases in CGRA intentions.
- Future directions include assessing how CGRA intentions vary by levels of provider communication and social support.