Results from a Randomized Trial Comparing Strategies for Helping CHCs Implement Guideline-Concordant Cardioprotective Care

Rachel Gold, PhD, MPH
Senior Investigator: Kaiser Permanente NW Center for Health Research
Lead Research Scientist: OCHIN, Inc.

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SPREAD-NET Study: Team and funding

- **OCHIN**: Stuart Cowburn, Arwen Bunce, Joan Nelson, Chris Nelson, Jee Oakley
- **Kaiser Permanente Center for Health Research**: Rachel Gold, Jim Davis, Joanna Bulkley, Inga Gruss, Nancy Perrin
- **OHSU**: Beth Hicks, Kris Gowen, Deb Cohen
- **Advisors**: Michael Horberg, Jim Dearing
- Study of Practices Enabling Implementation and Adaptation in the Safety Net (**SPREAD-NET**): NHLBI (R01HL120894)

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Setting – OCHIN (www.ochin.org)

- Non-profit, full service HIT provider for CHCs
- 1 centrally managed Epic© EHR
- Reporting, decision support, practice coaching, workflow design, +
- >600 Epic© member clinics, 20 states (and growing!); based in PDX
- >2,500,000 patients seen in last 3 years
  - 51% Medicaid; 10% Medicare; 21% uninsured
  - 30% Hispanic; 22% Spanish primary language
  - 1% Am-Ind / AK; 5% Asian / PI; 17% Black; 66% white; 9% unknown
  - 70% <200 FPL
- Research using OCHIN data since 2007

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Background

- Dissemination of care guidelines remains suboptimal
- Which 'implementation strategies' work best when incorporating new guidelines, particularly in CHCs?
- In most past research in CHCs, implementation strategies:
  - Used to help adopt a *specific intervention*
  - Did not explicitly *test* the strategies' effectiveness
- Rarely studied:
  - *Which strategies* best support guideline adoption in CHCs, overall
  - Or *compared to* other implementation strategies

Background

- **We first showed**: CHCs *can* adopt EHR decision support tools – with intensive implementation support (Gold et al, IS, 2015)
  - Peer assistance from clinic staff (2.5 FTE: 11 clinics)
  - Monthly meetings between study team and clinic leaders; audit & feedback
- **Q: Can less-intensive, more scalable implementation strategies improve CHCs' guideline adoption?**
- … we compared how **increasingly intensive implementation support** helped CHCs adopt EHR tools / apply care guidelines
- **H1**: More support → more adoption of tools, guideline-based care

Research Question

- **Quantitative:** Does increased clinic support result in an additive increase in the rate of patients receiving appropriate prescription(s) for cardioprotective medication(s)?
  - **Hypothesis:** As clinic support increases, so will the rate of eligible patients receiving a statin and / or an ACE/ARB prescription.

- **Qualitative:** What factors affected the changes (or lack of changes) seen in the quantitative measures?

The Innovation

- ***Clinical Decision Support – 'CVD Bundle'*** – EHR tools with guideline-based CVD care recommendations:
  - **Alert**: If patient indicated for but not prescribed recommended ACE/ARB and statin, or recommended statin dosage
  - **Alert**: To promote accurate charting of hypertension and DM
  - **Roster**: To identify patients indicated for but not prescribed ACE/ARB or statin

Methods overview

- Pragmatic trial
- 29 CHC clinics - share OCHIN's Epic© EHR
- Cluster-randomized to:
  - Arm 1 low-intensity implementation support (9 clinics / 4 organizations)
  - Arm 2 medium-intensity implementation support (11 clinics / 4 organizations)
  - Arm 3 high-intensity implementation support (9 clinics / 4 organizations)
- Comparison group (≈300 clinics)
- CVD Bundle activated May 2015
- Implementation support began 7/2015; clinics followed for 3 years

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Methods:
Intervention → Implementation Strategies

Arm 1	CVD Bundle Implementation Toolkit – how to: - Find and use the CVD Bundle components in the EHR - Use practice change techniques to support use of the Bundle + Annual overview webinars
Arm 2	Same as Arm 1, + clinic representatives attend 2-day in person training on CVD Bundle, the Toolkit, & change management + Quarterly 'adaptive' training webinars
Arm 3	Same as Arm 2, + offer of practice facilitation: 3-5 on-site visits / year for 3 years
Comparison group	CVD Bundle available in EMR. No intervention.

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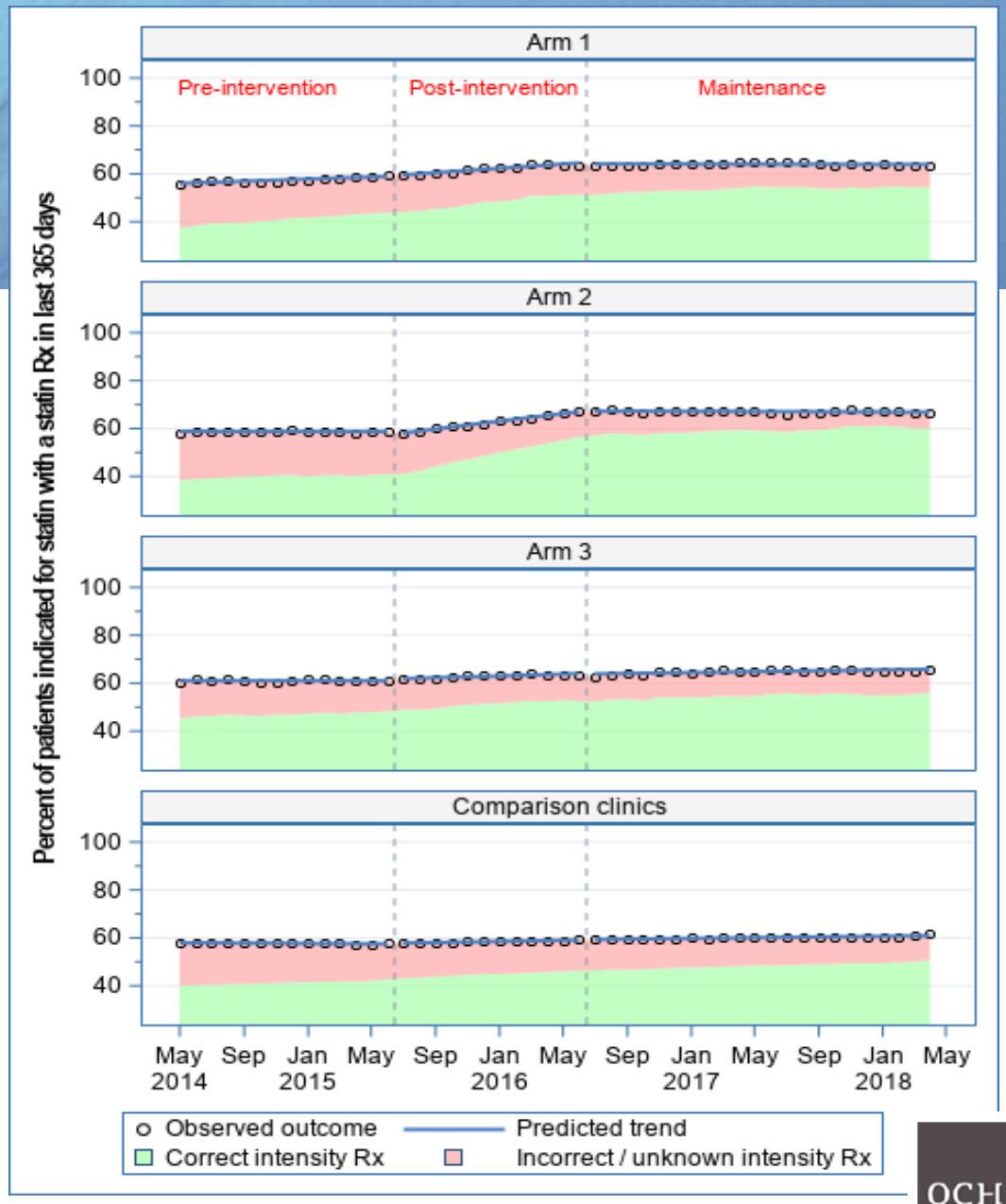
Quantitative Results

Statin prescribing by month and study arm



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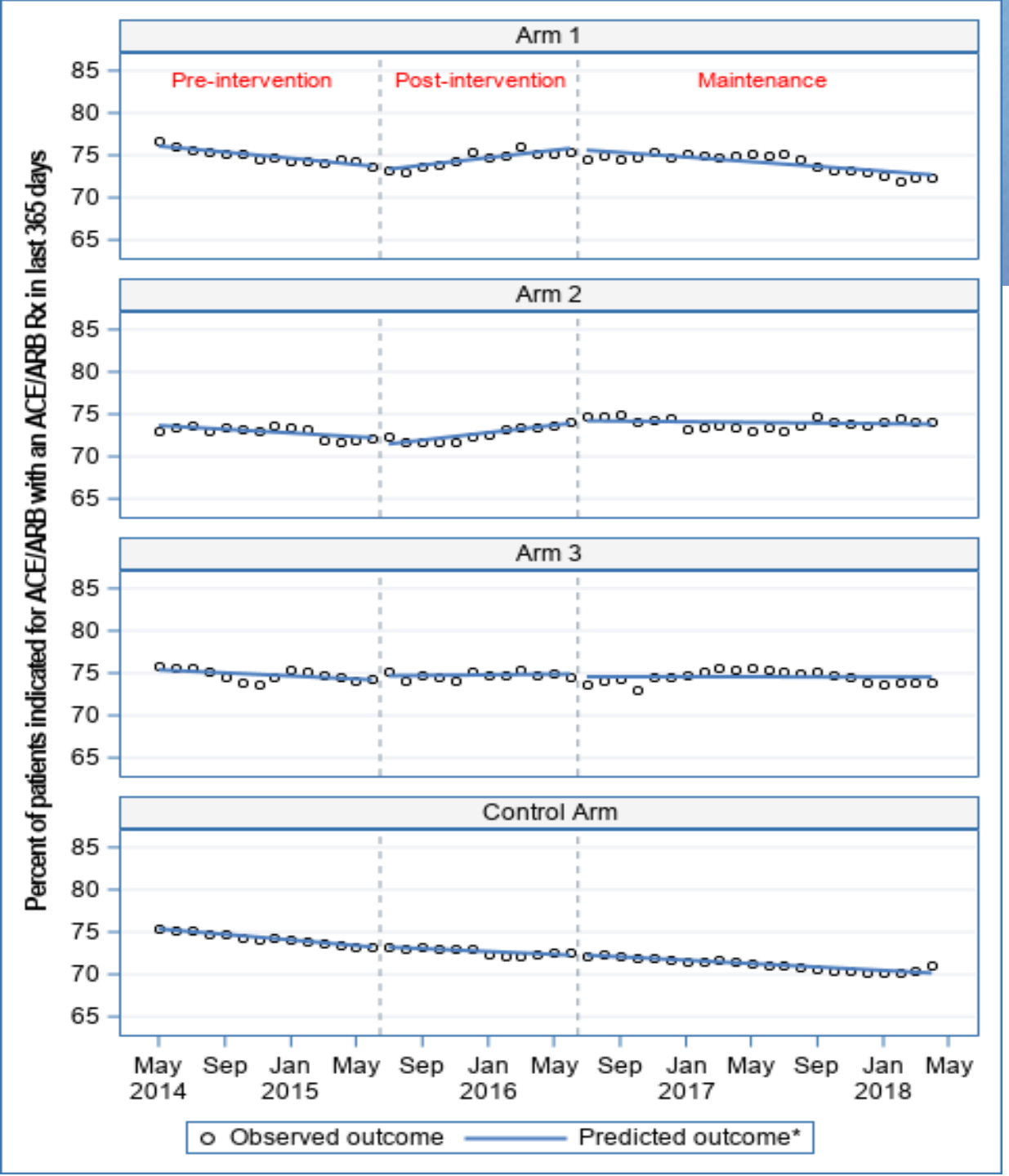

ACE/ARB prescribing by month and study arm

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Quantitative results overview

- Statin prescribing trends increased for all arms
  - But only Arm 2 demonstrated a statistically significant change in trend compared to the control CHCs
- Differences did not follow the hypothesized additive pattern
- No change in ACE/ARB prescribing rates

Qualitative results: Factors that impacted implementation support effectiveness

- Issues with CVD Bundle
  - Designed, implemented by partnering with EHR host - real world!
  - Challenge: decision support for statin dosages - guideline complexity
  - Limited resources for testing EHR tools
    - Initial faults corrected soon, but staff got used to ignoring
    - Staff perceived tools were wrong, perhaps b/c did not know new guidelines
  - Limitations inherent to EHR made the tools:
    - Not optimal for team-based care
    - Hard for clinics to extract data needed to track progress
  - Guidelines not aligned with care quality measures

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Qualitative results: Factors that impacted implementation support effectiveness

Challenges: Providing implementation support

- Toolkit:
  - Designed to be modular, but clinic staff said it was too long
- Webinars:
  - Designed to address clinic needs, but attendance inconsistent
  - Not tailored to specific clinics; attendees often at different implementation stages
- In-person training:
  - Did we train the right people?
  - No repeat training
  - Staff turnover

Qualitative results: Factors that impacted implementation support effectiveness

Challenges: Providing implementation support

- Practice facilitation:
  - Clinics don't know how to 'use' offered PF
  - Purpose not clearly enough defined in advance.
  - Morphed into overall DM management – was better received
  - No real time audit and feedback given to clinics
  - New CDS different enough from previous study CDS that no proven workflows to share

Qualitative results: Factors that impacted implementation support effectiveness

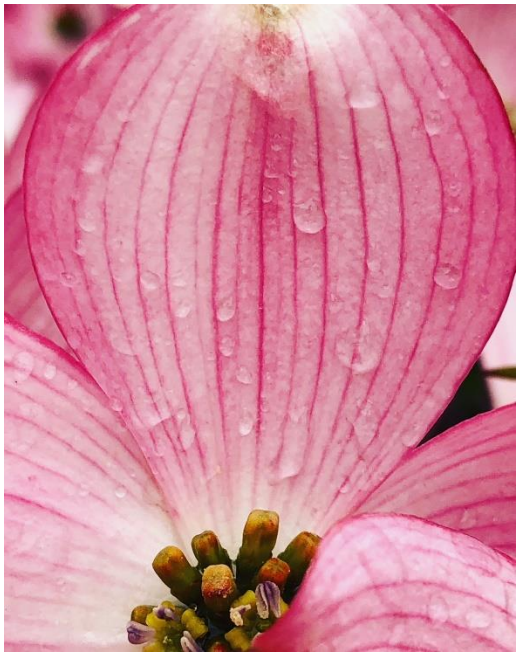
- Aspects of **study design**:
  - Inadequate emphasis on **knowledge** of new guidelines
  - Some clinic 'point people' are not **influencers**
  - **Lag** between recruitment, study activities → clinics lose interest
  - **Delays** in **feedback data**, + clinics did not run own reports as planned → poor feedback / tracking
  - Design comparing specific strategies → **unable to adapt** to clinic needs (never again!)

Discussion and Implications

- Commonly-used implementation strategies associated with minor improvements in CHCs' guideline-concordant care
- Level of implementation support possibly less impactful than clinics' readiness to make targeted changes, other clinic factors
- Adaptability is essential
- Guideline dissemination: Start by evaluating adopters' needs / preferences so implementation strategies may be met with receptivity

Thank you! Questions?

Rachel Gold, PhD, MPH
rachel.gold@kpchr.org



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