Adoption and impact of clinical decision support tools targeting social risk-informed care provision: Trial results

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COHERE – Trial Methods (continued)

- This study has been approved and reviewed by the Kaiser Permanente Interregional Institutional Review Board.
- This study used electronic health record (EHR) data from the Accelerating Data Value Across a National Community Health Center Network (ADVANCE) Clinical Research Network (CRN), a member of PCORnet®. ADVANCE is a multicenter collaborative led by OCHIN in partnership with Fenway Health, Health Choice Network, Oregon Health & Science University, and University of Washington.

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COHERE Overview

COntextualized care in cHcs' Electronic health REcords

- 5-year study funded by National Institute on Minority Health and Health Disparities (R01MD014886)
- Led by Laura Gottlieb, MD MPH (UCSF) and Rachel Gold, PhD MPH (Kaiser Permanente Center for Health Research & OCHIN)

Study Goal

Develop and test clinical decision support (CDS) tools that recommend care plan adaptations, aka adjustments, that account for patients' social risks.

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COHERE – authors, this presentation

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COHERE – Background

As healthcare providers increasingly document social determinants of health (social risk) screening results in EHRs …

- How do we use this information to improve health outcomes?
- Do EHR-based clinical decision support tools improve:
  - Social risk-related care plan adjustments?
  - Chronic disease management?

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COHERE – Objectives

Test adoption and impact of EHR-embedded tools designed to help primary care teams:

- Document social risks
- Apply social risk information in care planning adjustment for patients with uncontrolled hypertension and/or diabetes
- Document adjustments

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COHERE – Trial Methods

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- Clinic-randomized **pragmatic trial**
  - 6 community clinics received the tools; 44 randomized control clinics
  - All members of OCHIN national network of community clinics sharing one EHR
  - 3 sites - modest implementation support
- **Clinic-level outcomes** in the year post-tool activation:
  - Primary: Rates of BP and HbA1c control
  - Secondary: Rates of social risk screening & documentation in problem list / visit diagnosis; medication adherence documentation (the tools' action targets)
- Generalized linear mixed models (**GLMMs**)
- Qualitative-forward **realist evaluation** of how, why and for whom the tools did/did not support the use of social risk information in care planning

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COHERE - Tools Overview

Co-designed with CHC staff to help CHC care teams:

- **Adjust hypertension and diabetes care management** to support patients experiencing social barriers to follow their care plans
- **Document** these adjustments

Clinical information

- Uncontrolled hypertension
- Uncontrolled diabetes
- High no-show rate

Social risk information

- Financial insecurity
- Housing insecurity
- Food insecurity
- Transportation insecurity
- Utilities

Tools activated!

COHERE - Tools Overview (continued)

- **SDH Screening Alert:** Screening is due; links to EHR's screening interface
- **Z-code Alert:** Add social risk Z-codes to patient record?; enables doing so
- **Medication Adherence Alert:** Prompt - document medication adherence; enables documenting why meds not taken as recommended, i.e. cost
- **In-line Medication Alert:** Highlights potential medication cost barriers; facilitates ordering lower-cost medications
- **SmartList:** Supports rapid documentation of patient-care team discussions re: care plan adaptations - a tailored checklist of potential topics

COHERE – Implementation Support

- To assess tool adoption and impact in a 'real-world' situation, all 6 intervention CHCs received:
  - One hour of **training** on the tools from an OCHIN EHR trainer in a virtual format
  - Monthly **reports** on how often the tools were used

- 3 of the 6 intervention clinics were randomly selected to meet with the study team midway through the study period to review tool use rates and discuss how to increase them

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COHERE – Results: Tool Use - *Unadjusted*

	Intervention Clinics		Control Clinics	
	Eligible visit N	Action taken %	Eligible visit N	Action taken %
Social risk screening alert	17732	8.5%	74602	10.6%
Document social risk alert (Z-code)	6717	21.3%	48835	8.5%
Medication adherence alert	20682	71.1%	136630	79.0%

COHERE – Results: Tool Use - *Unadjusted*

	Intervention Clinics
	Times used
In-line medication alerts	
Alert - med not available as generic	598
Reminder - discuss titrating insulin based on food availability	153
Prompt - ask re barriers to taking meds	507
Prompt - consider pt preference for 30 or 90-day rx	2462
Note to pharmacy	1509
Use of Smartlist	215

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COHERE – Results: *Adjusted* Effects, Clinical Outcomes

	Intervention Marginal Effect†	
	Odds Ratio (95% CI)	P-value
Blood Pressure Control		
Intervention Group	1.60 (0.98, 2.63)	0.06
Hemoglobin A1c Control		
Intervention Group	1.07 (0.70, 1.64)	0.76

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COHERE – Results: *Adjusted* Effects, Care Process Outcomes

	Adjusted Probabilities†		Intervention Marginal Effect†	
	Intervention	Control	Odds Ratio (95% CI)	P-value
Completed social risk screening	3.8%	0.5%	7.3 (1.5, 36.0)	**0.01**
Social risks Z-code documentation	16.9%	1.6%	11.3 (3.1, 40.7)	**0.0002**
Medication adherence documentation	66.5%	80.9%	0.47 (0.12, 1.90)	0.28

COHERE – Discussion and Implications (continued)

- **Unable to assess** how often staff:
  - *acted on* care plan adaptations in the SmartList
  - *responded to* in-line medication alerts

- SmartList **almost never used** to *document* such adjustments

- **What to do?** Low rates of decision support tool use are common; interventions targeting tool use are resource-intensive

- Known barriers specific to tools targeting social risk care concur with findings – **hard to turn social risk screening into clinical action**

COHERE – Discussion and Implications (continued)

- Community clinic staff already manage many tasks; adjustment documentation may be a burden even with tools designed by future users!
- Qualitative results → staff say they already adjust care plans, no need to document such standard care
- Further optimizing the tools' usability and their integration into workflows **might** increase their success in improving health outcomes … or might not

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COHERE – Discussion and Implications (continued)

- Findings useful - first study of such tools in community clinics
- Such tools have potential, but unclear until more widely adopted.
- Should we further study how to make such tools useful / support their adoption?
- More innovative strategies?
- Overall: Tools have both real potential and real limitations

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