

Implementing ALL in safety net clinics: Research results, lessons for future spread

March 2, 2017



Rachel Gold, PhD, MPH

Investigator: Kaiser Permanente Center for Health Research

Lead Research Scientist: OCHIN, Inc.

What is OCHIN?

www.ochin.org



- A non-profit, full service HIT provider for CHCs
- 1 centrally managed Epic EHR
- Assist with reporting, some decision support (mostly member driven); new services include practice coaching, workflow design
- PBRN-led research using OCHIN data since 2007
 - >90 peer-reviewed pubs
 - >20 completed studies
 - >25 active federally-funded studies

The 'ALL study' (PI: Gold) Funder: NHLBI



- ***We asked:*** Can KP's 'ALL Initiative' be adapted for implementation in CHCs, which are very different from KP?
- Adapted ALL for CHCs in a year-long stakeholder engagement process (*Gold et al, J Health Care Poor Underserved, 2012*)
- 11 CHCs randomized to 'early' or 'late' (one year later) implementation of ALL

ALL EHR Tools, adapted for OCHIN CHCs

- Best practice alerts, order sets, data rosters
- Staff trainings
- Practice facilitators!!!!

AceArb Indicated - ALL	On AceArb - ALL	Statin Indicated - ALL	On Statin - ALL
---------------------------------------	--------------------------------	---------------------------------------	--------------------------------

This patient has diabetes, and is indicated but does not have an active prescription for: ACEI/ARB, Statin. The patient may also be indicated for aspirin or another anticoagulant. These medications can significantly reduce the risk of MIs and stroke. Please consider discussing contraceptive options when prescribing to childbearing age women.

To override or postpone this alert, please select from the buttons below. You can explain why using the comment box.

To easily prescribe the medications, or order related procedures, you can access a SmartSet (below), or as per usual. Relevant AVS text is available: .ALLFAQ, .ALLMEDS, .ALLSTATIN, .ALLACE, .ALLASPIRIN.

Last LDL: Not on file
Last LDLDL: Not on file
Last LDLCALC: Not on file

Acknowledge Reason:

Open SmartSet: ALL - Needs Statin and ACE [preview](#)
[Jump to Order Entry](#)
[Jump to Allergies](#)

Statins

simvastatin (ZOCOR) 20 mg tablet
 Take 1 Tab by mouth nightly at bedtime for 90 days.
 e-Prescribing, 20 mg, Oral, NIGHTLY, Disp:30 Tab, R-2

Product: **SIMVASTATIN 20 MG TAB** Available strengths

Dose: 20 mg As Instructed 10 mg 20 mg

Prescribed Dose: 20 mg
 Prescribed Amount: 1 Tab

Route: Oral

Frequency: NIGHTLY NIGHTLY (Bedtime)

For: 90 Doses Days
 Starting: 7/24/2011 Ending: 10/22/2011

Dispense: 30 Tab Refill: 2 Dispense As Written

Class: e-Prescribin

Patient Sig: **Take 1 Tab by mouth nightly at bedtime for 90 days.**
[Click to edit](#) - Add additional information to the patient sig

Comments (F6) (300 char max) [Click to add text](#)

simvastatin (ZOCOR) 40 mg tablet
 40 mg, Oral, NIGHTLY
 atorvastatin (LIPITOR) 10 mg tablet
 10 mg, Oral, DAILY
 atorvastatin (LIPITOR) 20 mg tablet
 20 mg, Oral, DAILY
 atorvastatin (LIPITOR) 40 mg tablet
 40 mg, Oral, DAILY
 atorvastatin (LIPITOR) 80 mg tablet
 80 mg, Oral, DAILY

ACEs

lisinopril (PRINIVIL, ZESTRIL) 5 mg tablet
 5 mg, Oral, DAILY
 lisinopril (PRINIVIL, ZESTRIL) 10 mg tablet
 10 mg, Oral, DAILY
 lisinopril (PRINIVIL, ZESTRIL) 20 mg tablet

© 2016 Epic
 Systems Corporation.
 Used with permission.

Adapting how ALL was implemented

Gold et al, *J health Care Poor & Underserved*, 2012.

Gold et al, *Implementation Science*, 2015.

Gold et al, *Mayo Clinic Proceedings*, 2016.



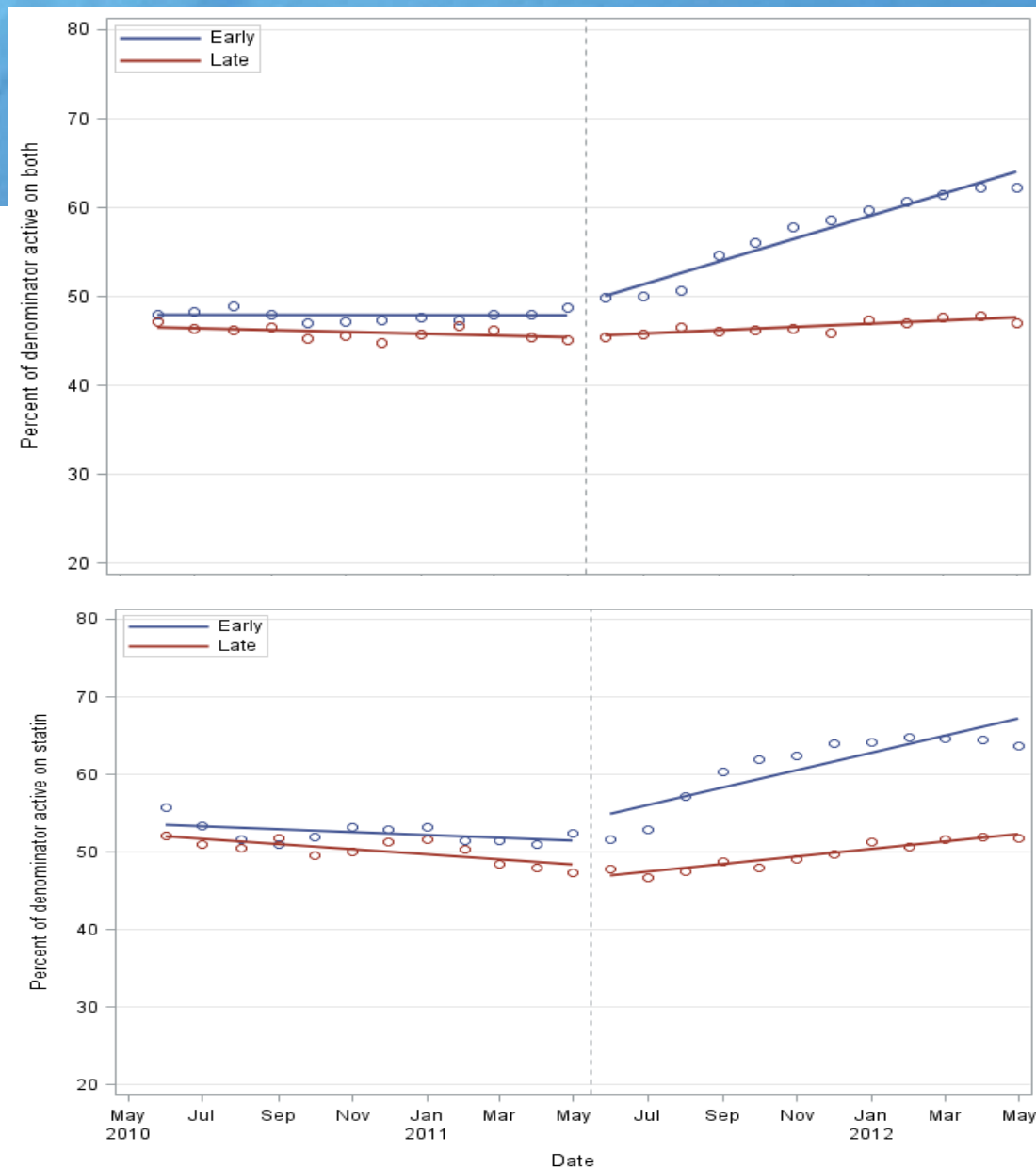
	At KP	As adapted for study CHCs
Orient staff to evidence	Champions present at department meetings	Practice facilitators / clinician champions present at clinic / team meetings
Ongoing implementation support led by ...	Regional clinician champions responsible for multiple QI initiatives, including ALL.	ALL practice facilitators (clinic employees), clinician champions, research staff.
Performance tracking	Monthly performance reports posted publicly, tied to incentives.	Monthly reports provided; variable distribution by organization.
Support	<p>Top-down practice change : this is our new standard of care.</p> <p>Staff performance incentives.</p> <p>Clinician champions get protected time.</p>	<p>Intensive support: on-site facilitation, training, oversight, TA, patient lists / performance reports.</p> <p>Intensive engagement: Sought feedback on intervention tools, workflows; monthly meetings of study team and clinic staff.</p>
Temporality	1-time rollout; ongoing monitoring / incentivizing.	3-4 years post-implementation facilitation, support.

ALL Study Results – Highlights

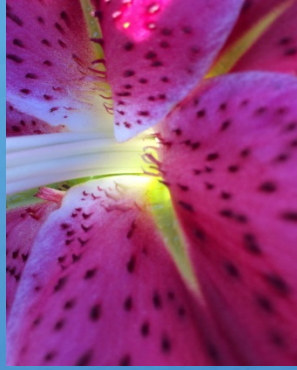
Pre-post implementation clinic-level rates of 'early' (intervention) vs. 'late' (control) clinics

- **Top:** Monthly *statin and ACE* prescription rates among patients indicated for both.
- **Bottom:** Monthly *statin* prescription rates among patients indicated for statins.
- Trend lines fitted on predicted values from segmented regression analysis.

Gold et al, *Implementation Science*, 2015



SPREAD-NET study (PI: Gold) Funder: NHLBI



- **Qualitative data showed:** ALL implementation was feasible because of the intensive support provided by trained staff hired from the sites.

"It's a good thing you are the one doing this ALL study, because we love you. Anyone else, I would have to hate them."

- ***We asked:*** Can ALL be implemented using less intensive / other implementation support strategies?

SPREAD-NET study

Protocol paper: Gold et al, *Implementation Science*, 2015



- ALL components folded into a 'CVD Risk Management Bundle'
- We compared the effectiveness of 3 strategies for supporting implementation of this 'CVD Bundle'
- 30 CHCs randomized to 1 of 3 implementation support strategies:
 - Arm 1 - Low support (toolkit)
 - Arm 2 - Medium (toolkit, staff training, adaptive webinars)
 - Arm 3 - High (toolkit, training, adaptive webinars, on-site practice coaching)

SPREAD-NET Study

- The CVD Bundle is:
 - BPAs that fire
 - To suggest adding certain documentation
 - When a patient is clinically indicated for cardioprotective medication(s)
 - HMAs that indicate patient is due for ...
 - HbA1c testing, lipid screening, foot / eye exams
 - Reporting Workbench Reports including:
 - Roster reports for DM panel management
 - Upcoming appointment report for chart scrubbing
 - Metric reports for tracking progress
 - Materials with information about all of these

Cardiovascular Disease and Risk Management

Workflows and tools to support Cardiovascular Disease and Risk Management in Patients with Diabetes Mellitus, Hypertension and Clinical Atherosclerotic Cardiovascular Disease (ASCVD) in the Medical Home

v.2015-04-27

SPREAD-NET Study EHR tools

- Alerts

© 2016 Epic Systems Corporation. Used with permission.

Patient has A1C 5.7 to 6.4

The patient had previous A1C of 5.7-6.4 but has no PREDIABETES or DIABETES diagnosis in the problem list. Consider adding this in the problem list if appropriate. (ID:521)

Last HGBA1C=6.1 % on 3/25/2015

Acknowledge reason:



Not Appropriate at This Time

Statin Recommended

The patient has DM and is currently NOT on a statin; moderate to high intensity statin depending on 10-year ASCVD risk is recommended based on AHA/ACC guidelines. Use with caution in advanced CKD. (ID:402)

Last LDL=124 mg/dL on 3/13/2013

Last ALT=11 IU/L on 3/13/2013

Last EGFR=106 mL/min/1.73 on 3/13/2013

Acknowledge reason:



Will address next visit 6 Month Postpone 1 year Postpone Medical Contraindication

-  Orders
-  Medications
-  Allergies
-  Statin Workflow Diagram

Increase in Statin Intensity Recommended

The patient is currently on a statin that may not be intensive enough; high intensity statin is recommended (atorvastatin 40-80mg/d or rosuvastatin 20-40mg/d) based on AHA/ACC guidelines. Statins are contraindicated in pregnancy; use with caution in childbearing-age women. This BPA may trigger incorrectly if statin was ordered as free-text sig (not discrete sig). Use with caution in advanced CKD. (ID:406)

Last Statin Order: 07/01/2014, PRAVASTATIN 40 MG TABLET, Take 0.5 Tabs by mouth once daily.

Last LDL=215 mg/dL on 2/13/2013

Last ALT: Not on file

Last EGFR: Not on file

Acknowledge reason:



Will address next visit 6 Month Postpone 1 year Postpone Medical Contraindication Lower Intensity Appropriate

-  Order Entry
-  Medications
-  Allergies
-  Statin Workflow Diagram

Implementation strategies: All sites received the 'CVD Bundle Implementation Toolkit'



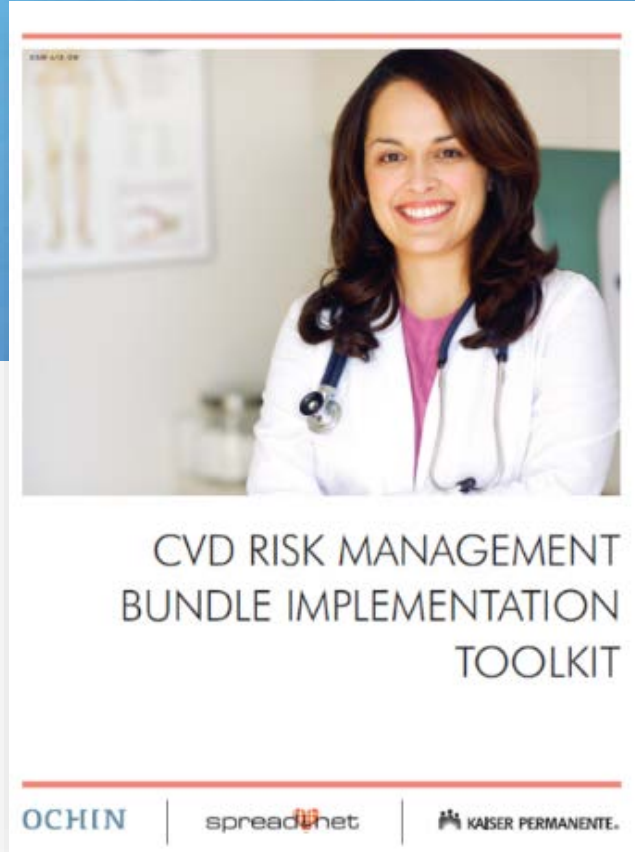
CVD RISK MANAGEMENT
BUNDLE IMPLEMENTATION
TOOLKIT

TABLE OF CONTENTS

1. Introduction	
a. How to use this Toolkit	1
b. Overview of Cardiovascular Disease (CVD) Risk Management Bundle	2
2. Orienting your clinic staff to the CVD Risk Management Bundle's medication guidelines	
a. History: The 'ALL Initiative' for reducing cardiovascular (CVD) events in patients with diabetes	3
b. Testimonials from other OCHIN member community health centers (CHCs) that implemented the ALL Initiative	3
c. Introduction by Scott Fields, MD: Chief Medical Officer/Chief Medical Informatics Officer for OCHIN and Professor and Vice Chair of Family Medicine at OHSU	5
3. How to use the CVD Risk Management Bundle	
a. Operational definitions	6
b. Health Maintenance Alerts (HMAs)	6
c. Best Practice Alerts (BPAs)	8
d. Visit synopsis	15
e. Roster tools	16
f. Dashboards	19
g. Reporting Workbench Overview	20
4. Change Management Strategies	
a. Introduction to Change Management	21
b. Change Management—Practical Approach	21
c. How to Use the PDSA cycle to Test and Refine the Change	24
5. Implementation Tips from Other CHCs	26
6. Appendices	
a. Patient Education Materials (available in English and Spanish)	
Patient Handout: FAQs	31
Patient Brochure	35
Exam room poster	39
After Visit Summary	41

SPREAD-NET Study

- The SPREAD-NET Toolkit is:
 - Information on how to use the CVD Bundle
 - Resources to help implement the CVD Bundle
 - Staff orientation slides
 - Patient education handouts
 - Workflow ideas
 - Summary of scientific evidence and national clinical guidelines
 - Change management strategies



SPREAD-NET TOOLKIT

CVD RISK MANAGEMENT BUNDLE IMPLEMENTATION TOOLKIT

3c. BEST PRACTICE ALERTS (BPAs)

User guide: The CVD Risk Management Bundle includes two types of best practice alerts (BPAs).

- BPAs that suggest adding certain documentation.
- BPAs that fire when a patient is clinically indicated for a cardioprotective medication or medications.

BPAs can be accessed in the visit navigator by clicking on the BEST PRACTICE button.

The BPA window allows the user to do any of the following, as appropriate:

- Order Entry
- Medications
- Allergies
- Jump to the Health Maintenance Screen
- Jump to problem
- Open a Smartset
- Jump to the Immunization/Injection window
- Link to relevant information (e.g. workflow diagrams) about the BPA.

Q: How will you know if a BPA fires?

A: The BPA navigator tab turns yellow. For wide screen views, see Appendix 8.



When Toolkit Was Initially Released (July 2015):

When a user suppressed a BPA with an acknowledgment reason, it would only be suppressed for that user and that encounter type. If the same user opened a different encounter type for the same patient, then the BPA suppressed previously would trigger again.

Updated (as of May 2016):

The BPA is now suppressed for all encounter types for the user who suppressed it. The BPA will be visible for other users, preserving the ability for other clinicians or staff to make their own decisions.

Q: What do you do when it fires? How do you respond?

A: There are five options:

• Chart as suggested

Certain BPAs fire to indicate that additional charting is advised. These BPAs can be satisfied by completing the chart documentation as advised in the BPA. The BPA will then disappear. An example is adding a diagnosis to the problem list.

• Provide the recommended care

Certain BPAs fire if a recommended medication has not been prescribed. Once prescribed, the BPA will disappear.

• Postpone the BPA

The BPA is postponed for 6 months or 1 year, per the user's choice.

• Override/Medical Contraindication

This option allows you to note that this patient is contraindicated for the medication. The BPA is postponed for 1 year.

• Or just ignore it!

Please note: If you override or postpone the BPA, the only way to 'undo' that is to ask your site specialist.

Q: What is the logic underlying the BPAs?

A: It is often shown in the BPA text itself. The details are given in the CVD Risk Management Bundle, and below. Within the BPA, you can find a link that provides the logic.

Q: How do I use information on the BPA logic to help encourage providers to pay attention to the BPAs?

A: The BPA logic can help you show providers why the BPA is firing; knowing why and how this works might make them more likely to pay attention to the BPAs.

CVD RISK MANAGEMENT BUNDLE IMPLEMENTATION TOOLKIT

3e. REPORTING WORKBENCH-DIABETES ROSTER REPORTS

Reporting Workbench (RW) is a real-time reporting tool that can be used to track patients for clinical, financial, or administrative purposes. RW is accessible to users based on security settings and certain reports (clinical, financial, etc.) are limited to certain users. RW can be easily accessed through EPIC Hyperspace and offers some customization functionality.

Age	Sex	DOB	POB	Primary Location	Last HbA1c	Last A1C	On Insulin	Insulin A1C	Last Normal Eye Exam	Last Foot Exam	Last LDL	Last LUP	Last AUC	Date	Last AUC	Status					
20 year old	Male		Soleida, Bryan	OPHC LOMVIEW CLINIC	2015	8.3	Yes	1/2016	38.45 mg/dl			01			42	No	Yes				
26 year old	Male		Soleida, Bryan	OPHC LOMVIEW CLINIC	2015	11.4	No		43.87 mg/dl							181	Yes	Yes			
40 year old	Male		Soleida, Bryan	OPHC LOMVIEW CLINIC	1/2015	8.2	No		29.55 mg/dl					127		21	No	Yes			
53 year old	Male		Soleida, Bryan	OPHC LOMVIEW CLINIC	2015	8.4	No		49.29 mg/dl							25	No	Yes			
64 year old	Male		Soleida, Bryan	OPHC LOMVIEW CLINIC	10/2015	8.2	No		51.25 mg/dl							94		45	No	Yes	
40 year old	Female		Soleida, Bryan	OPHC LOMVIEW CLINIC	2/2015	13.7	Yes	3/2015	42.52 mg/dl							74		19	Yes	Yes	
70 year old	Female		Soleida, Bryan	OPHC LOMVIEW CLINIC	10/2015	8.1	No		33.84 mg/dl							23	No	Yes			
37 year old	Female		Soleida, Bryan	OPHC LOMVIEW CLINIC	0/15	8.1	No		36.37 mg/dl										No	No	
57 year old	Female		Soleida, Bryan	OPHC LOMVIEW CLINIC	0/15	7.3	No		35.54 mg/dl										88	No	Yes

The figure above shows the default Diabetes Roster report (not all columns show at once—you can see more of them by scrolling right in Epic). Highlighted boxes indicate that an aspect of diabetes care is due. It is not currently possible to highlight patients who are indicated for but not on a given medication, or patients whose statin intensity should be higher.

Please see below for information on other pre-defined reports that allow you to view different subsets of patients and columns from this roster. Don't be overwhelmed by the number of columns in each report template—these can always be removed by the service area or end-user by creating a new report from the templates and saving it with a new name.

SPREAD-NET TOOLKIT

CVD RISK MANAGEMENT BUNDLE IMPLEMENTATION TOOLKIT

5. IMPLEMENTATION TIPS FROM OTHER CHCS

Congratulations—your clinic is going to implement the CVD Risk Management Bundle. Its tools are based on scientific evidence on reducing risk of cardiovascular disease events.

These implementation ‘tips’ were developed by community health centers that successfully implemented the aspects of this Toolkit related to medication.

When introducing the Toolkit to your clinic

- When you discuss the Toolkit with your staff, explicitly acknowledge that:
 - The provider/patient relationship is paramount; the tools are designed to help with, but not direct, providers’ decisions. Clinicians should hear “these tools will help you deliver great patient care,” instead of “these tools will make you do what we want.”
 - Discuss how the Toolkit fits into other ongoing initiatives.
- Consider integrating the Toolkit guidelines into your clinic’s standard of care. At the very least, ensure that there are no inherent contradictions.
- Organizational changes that occur over time may impact how the Toolkit works in your clinic. Be prepared to be flexible.
- Consider a flexible approach that accounts for your clinic’s unique characteristics. For example, if it is challenging for your patients to get to the clinic, it could influence whether they are asked to make a separate intervention visit.
- Consider how to negotiate a balance between setting clear guidelines and expectations while allowing/encouraging flexibility and innovation.
- Do your best to designate time and effort towards soliciting buy-in from managers, providers and staff on the value of this Toolkit and methods necessary for implementation. This will likely involve presenting at meetings and talking to team members. See suggested strategies, below.

- Work on sustaining and improving buy-in over time. The goal is to reach a point where clinicians ask for the tools rather than having it forced on them.
 - Think about ways to engage the patients’ interest in the medications, as a way of encouraging their participation in preventative care decisions.
- For instance, you can use the clinic posters and brochures to generate patient acceptance and receptivity to the medications.
 - You could refer to the poster (on the exam room wall), as a starting point for talking to the patient about their cardiovascular health.
 - Another idea is to distribute the brochures in your clinic waiting room. In the ALL study, patients asked about their current medications after reading the brochure.

Strategies to increase leadership, provider, and staff buy-in

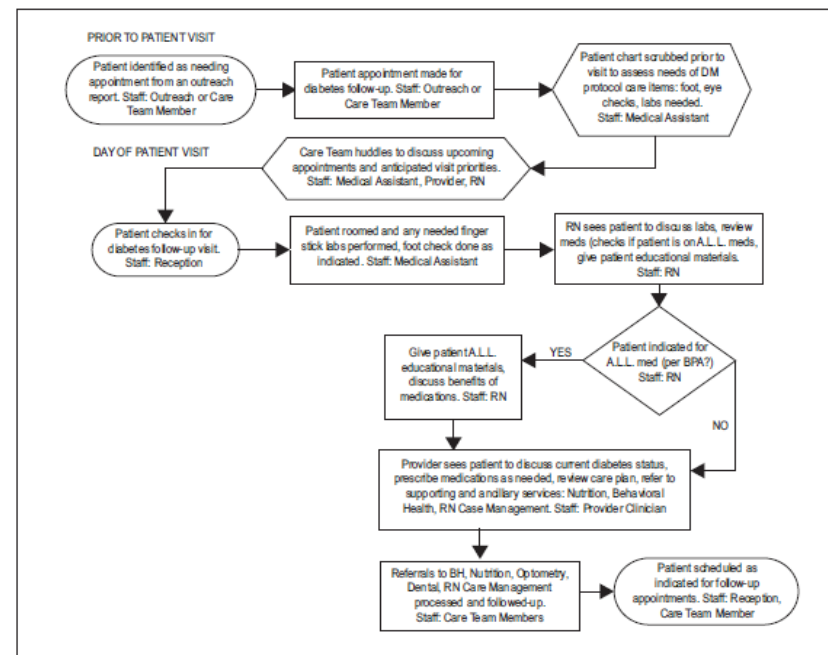
Buy-in from all clinic staff will be critical for success. Strategies to build buy-in include:

- Obtain support from clinic leadership.
 - Spend time discussing the Toolkit, including an honest assessment of clinic impact, with clinic leadership. Do not implement until you have leadership support.
 - Ask clinic leadership to emphasize to staff that they fully support the intervention because it is in the patients’ best interest.

CVD RISK MANAGEMENT BUNDLE IMPLEMENTATION TOOLKIT

Workflow

- The electronic health record (EHR) tools included in the Toolkit are designed to enable clinical decision support related to the prescription of cardioprotective medications for patients with diabetes for your providers, and to provide panel management for your clinic’s scrub and outreach processes.
- Think about which of the tools best fit your clinic’s current practice, and the potential impact adding the tools will have on current workflows and time management.
- Where ever possible, “prepare” the provider to consider the Toolkit medications before entering the exam room, via notes, messaging, etc.
- Keep in mind that sometimes the simplest solution is best.
- Below are two workflow examples from the ALL study pilot sites.
 - This is a Process Flow Diagram. It provides the key steps and owners for each step.



SPREAD-NET study: Two-day Training for Arms 2 and 3

Day 1 – Hands-on practice with tools

1. How to use data generated from rosters and dashboards
2. Practice using Reporting Workbench
3. Generate toolkit rosters and dashboards
4. Draft workflow examples
5. Implementing changes in your clinic

Day 2 - Panel Session & Change Management

1. Implementation tips from ALL study clinic staff (panel session)
2. Understand basic tools and methods of change management
3. Develop an implementation / change management plan
4. Prepare for training and building skills / teaching others at my clinic



SPREAD-NET study: Webinars

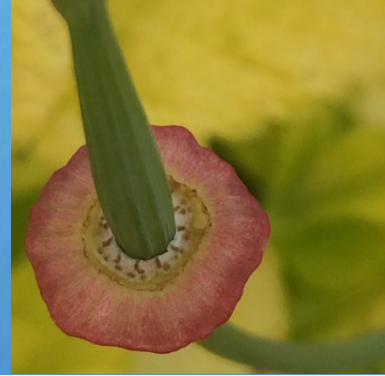
- **Annual Webinar (Arms 1–3)**
 - Kick-off: April 2015
 - Toolkit updates: May 2016
- **Additional Webinar (Arms 1–3)**
 - OCHIN's "Diabetes Improvement Guide:" August 2016
- **Quarterly (Adaptive) Webinars (Arms 2–3 only)**
 - Troubleshooting with the CVD Risk Management Bundle: 9/2015
 - Alerts, Tools, Reporting & Documentation Issues: 12/2015
 - Summary of the clinical guidelines behind the CVD bundle: 3/2016
 - How to create/run reports in Reporting Workbench; a real-time demonstration: 3/2016

SPREAD-NET Study: Practice Facilitation - **Arm 3**



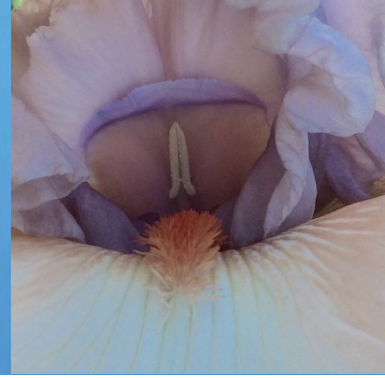
- 'Hands-on approach' to implementation
- Build internal capacity to engage in improvement activities
- Includes:
 - Up to five site visits with support as needed
 - Coaching on tools (how to present to clinic staff, fit into workflows, etc.)
 - Tailored problem-solving support to address identified barriers
 - **Willing to work on ANYTHING clinics want, ALL-focused or not**

SPREAD-NET – Preliminary results



- We anticipate little difference between the three study Arms (data now pending)
- **Amount** of support provided may NOT make much difference (though a toolkit alone is unlikely to make any difference)
- Clinic readiness, leadership, structure, resources are more important than kind / amount of implementation support provided

Lessons learned from these studies, and implications for spread



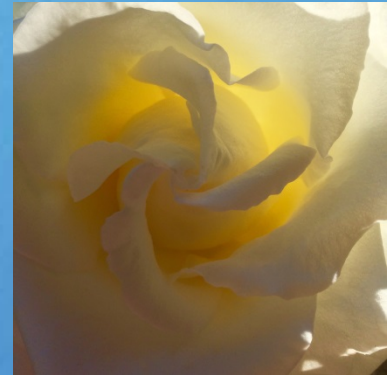
- **CAVEAT:** Many of these lessons are **PRELIMINARY**. The **SPREAD-NET** qualitative data have not yet been formally evaluated.

Lessons learned from these studies, and implications for spread



- **Clinic-level barriers and implementation: CONSIDER ...**
 - Current processes / structure. CHCs not already scrubbing / team-based *will not be able to effectively use tools* built for scrubbing / team-based care. **MUST** have such components in place before they'll use tools designed for such components.
 - Can adopting PHASE-ALL help CHCs implement such processes / apply broadly?
 - How standardized are workflows across teams? How much autonomy?
 - CHC culture / leadership in terms of change process (e.g., Can someone mandate that MAs use BPAs?) and outcomes (Is guideline-based prescribing an expectation? Is there accountability?)

Lessons learned from these studies, and implications for spread



- **Clinic-level barriers and implementation: CONSIDER ...**
 - Maintaining focus on just one aspect of DM care; other priorities compete / take precedence / are incentivized; lack bandwidth
 - How long do they need to focus on this?
 - Can you tie ALL to competing initiatives?
 - Staff turnover – lots
 - A priority for clinic leaders?
 - Even if so, may not be well communicated to staff
 - Were staff given time for it?

Lessons learned from these studies, and implications for spread



- **Clinic-level barriers and implementation: CONSIDER ...**
 - Cultural openness to population-based care / guidelines.
 - Size. In smaller clinics, easier for one person to take the work on / make a difference, or to come to consensus on how to implement, than in larger clinics.
 - Impact of formulary / insurance coverage, especially around statin dosing. Providers unwilling to switch pts to a different, more expensive statin will appear noncompliant.

Lessons learned from these studies, and implications for spread



■ Tool adoption barriers include:

- Don't fit existing workflows / team structures
- Adequate training re **how to use the tools** (toolkit covers this, but on its own is not enough)
- History of inaccurate EHR tools → habit of ignoring them
- Intervention tools target **just one aspect of DM care**.
 - Medication info must be part of a larger set of DM / CVD care
 - However, this can mean that the meds are de-emphasized
- CHC's current level of EHR optimization. If already use HMAs, maybe easier to add in BPAs; if already report using EHR, RWB an easier sell

Lessons learned from these studies, and implications for spread



- **Provider-level implementation barriers include:**
 - Desire for autonomy / discretion
 - Difficult to change from focus on HbA1c to CVD health:
 - *"We just autopilot to a more traditional diabetic stance, ignoring the CVD aspect."*
 - Difficult to change from rx as *treatment* (based on lab values) to rx *preventively*; discomfort with rx for patients with 'normal' or borderline labs
 - SDH factors may be a barrier
 - May not trust alerts (fatigue) or feedback data
 - Lack of clarity on statins; **changing guidelines** → confusion

Lessons learned from these studies, and implications for spread



- Toolkit alone will only work in clinics that are ABLE to implement, not swamped with other initiatives
- Practice coaching / formal facilitation can work, *within context*: may end up focusing on the kind of DM support the CHC is ready to take on
- Consider the clinic champion's role, influence, engagement level
- Engage future users in intervention adaptation
- Training may not 'stick' – how much repetition needed? What kind?
- Inconsistent Webinar attendance
- Culture: Can the CHC set standards of care?



■ Questions?

rachel.gold@kpchr.org

