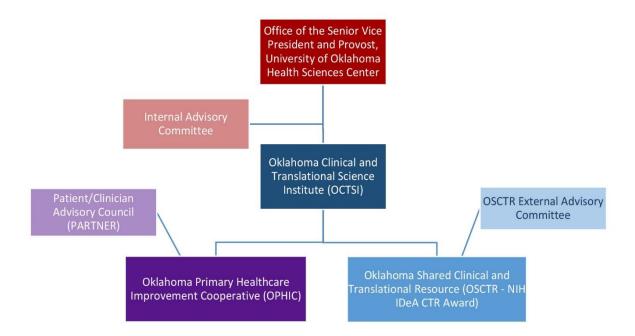
## Overview

The James W. Mold Oklahoma Primary Healthcare Improvement Cooperative (OPHIC) is an administrative unit within the Oklahoma Clinical and Translational Science Institute at the University of Oklahoma Health Sciences Center. Through collaborations with other essential organizations, OPHIC supports the dissemination and implementation (D&I) of evidence-based improvements in primary care throughout the state.



## OPHIC D&I support services include:

- 1) Dissemination of primary care-relevant, impactful, implementable information and resources
- 2) Practice performance assessment, feedback, and benchmarking
- 3) Peer clinician consultation and coaching (also called academic detailing)
- 4) Practice facilitation
- 5) Technology assistance

OPHIC collaborates with the Oklahoma Foundation for Medical Quality, MyHealth Access Network. The Public Health Institute of Oklahoma, and The National Resource Center for Academic Detailing. Its funding comes from grants (AHRQ and NIH), contracts (Oklahoma State Department of Health and the Oklahoma Department of Mental Health and Substance Abuse Services), and \$140,000 per year in infrastructure funding from the state legislature through the University Hospital Authority and Trust.

# History

The need for OPHIC was established by the results of dissemination and implementation research projects conducted between 2000 and 2013 by researchers in the OU Department of Family and Preventive Medicine (DFPM) and clinician members of the Oklahoma Physicians Resource/Research Network and additional implementation work done by faculty in the OU School of Community Medicine in Tulsa (shown below).

| Project   | Time Period  | Funding<br>Agency                                | Funding<br>Amount |
|---|--------------|--|-------------------|
| Planning grant to enhance PBRN capacity to: 1) collect data electronically; 2) study under-represented populations; 3) translate research into practice; and 4) become financially self-sufficient  | 2000 -2001   | AHRQ   | \$63,800          |
| Smoke-Free Families: Reducing smoking during pregnancy  | 2003 - 2005  | RWJF/OSMA*                                       | \$79,094          |
| Improving mammography screening rates   | 2004 - 2005  | CMS/OFMQ*  | \$40,000          |
| Improving colorectal cancer screening rates   | 2003 - 2006  | NCI  | \$292,035         |
| Improving delivery of adult preventive services   | 2004 - 2006  | AHRQ   | \$150,000         |
| Increasing well child visit rates and quality   | 2005 - 2006  | OHCA*<br>(Medicaid)                              | \$44,973          |
| Prescription for Health: Delivery of behavioral interventions in primary care   | 2005 - 2007  | RWJF   | \$299,926         |
| Increasing childhood immunization rates   | 2009 - 2010  | OHCA*  | \$134,648         |
| Improving asthma care   | 2009 - 2011  | NHLBI  | \$1,680,075       |
| Linking primary care to nutrition education through Cooperative Extension   | 2007 - 2010  | AHRQ   | \$11,000          |
| Improving detection and management of chronic kidney disease in primary care  | 2010 - 2013  | AHRQ   | \$425,122         |
| <b>IMPaCT</b> : An evidence-based approach to dissemination and implementation  | 2011 - 2013  | AHRQ   | \$999,015         |
| Beacon Community Award: Demonstrate improvement in quality through a health information exchange and performance reporting.   | 2010 - 2013  | Office of the<br>Natl.<br>Coordinator<br>for HIT | \$12,043,948      |
| Small conference grant to further develop the primary care extension in IMPaCT states   | 2013         | AHRQ   | \$49,974          |
| Oklahoma Shared Clinical and Translational<br>Resources – Community Engagement and<br>Outreach Core   | 2013-present | NIH  | N/A               |
| Comprehensive Primary Care Initiative: A Field Service Team of practice facilitators use MyHealth generated performance measures and to help practices provide higher quality, cost efficient care. | 2013 - 2014  | CMS CMMI   | N/A               |

<sup>\*</sup> Contracts or subcontracts

# **Need for a Dissemination/Implementation Infrastructure**

Once we were satisfied that we had developed an effective way to help practice improve their process of care, it became clear that we needed an infrastructure to deliver support to primary care practices throughout the state, including practices who were not interested in joining our two practice-based research networks. To do that, we needed a statewide database, a more robust electronic dissemination process, a larger cadre of peer consultants, regional practice facilitators (PF), longitudinal records of practice improvement, an automated data analytic platform for producing practice dashboards, and collaborative affiliations with other organizations and agencies.

# **Primary Care Practice Database**

One of the first steps taken by OPHIC was to develop a comprehensive, dynamic database of the primary care practices and the clinicians, physician assistants, and nurse practitioners practicing in the state. In order to allow tracking, we assigned each practice a unique practice identifier and used each individual clinicians' NPI as a unique clinician identifier. Data was drawn from the CMS National Plan and Provider Enumeration System (NPPES), state licensure data, and data from our state Medicaid agency. This database serves a distinct role in identifying practices and clinicians who might want to participate into OPHIC projects. The database is continually updated by our practice facilitators. Currently, there are more than 2,200 Oklahoma primary care practices in the database. To date, more than 300 of these practices have been involved in OPHIC-related projects.

## **Electronic Practice Record**

For each OPHIC project, we create an electronic practice record (EPR) to collect and organize all of the information about practices. That information includes:

- 1) Practice name and unique OPHIC ID number;
- 2) Practice Self-Assessment & priority of the targeted change;
- 3) OPHIC support notes (includes support type facilitation, technical assistance, peer coaching, administration, etc.) with goals, objectives, and DMAIC change strategies planned for the contact, an outcome rating, and narrative note describing the encounter;

- 4) Clinicians and staff who consented to participate in the project;
- 5) Quarterly Performance Measures for the practice in the project;
- 6) Structural and functional information about the practice such as ownership, electronic health record, patient demographics, size and type of practice, participation in quality improvement and payment demonstration projects, and the Change Process Capacity Questionnaire (CPCQ) collected via survey;
- 7) Attitudes about the impact of the proposed change on the care of patients and the Adaptive Reserve, a survey measuring the attitude about change in the practice, collected via survey from every practice member; and
- 8) Structure and function of 53 elements of an advanced primary care practice collected using the Building Blocks of Primary Care Assessment.

The EPR is used primarily by the practice facilitators. The information collected provide an extensive database for comparing the changes in primary care practices over time and resulting from the particular project. It is also a rich source of both quantitative and qualitative data on facilitator and practice activities, obstacles, and successful strategies during each project.

## **PARTNER**

PARTNER is an advisory council composed of patients, community-based organizations, and primary care clinicians. It provides advice and guidance to the OPHIC codirectors regarding issues of general importance, current and future opportunities, and current and ongoing projects. PARTNER meets quarterly and hosts an annual statewide retreat focused on a topic of particular importance (e.g. roles for OPHIC, opioid misuse in Oklahoma, social determinants of health). Members serve 3-year terms and are paid \$1,000 per year for their time and expertise.

# **OPHIC Dissemination and Implementation Support Strategies**

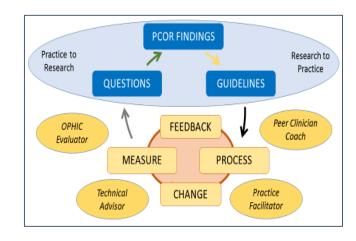
OPHIC uses an evidence-based, multi-component approach to disseminate and help practices implement new processes of care. The elements of this approach include: 1) a virtual learning community for sharing resources and best practices; 2) peer clinician consultation and coaching; 3) baseline and periodic performance feedback; 4) practice facilitation; and 5) technical assistance to implement information technologies, develop patient registries, improve

EHR documentation, and report measures. The OPHIC D&I strategy is shown in the figure below. The elements in the top oval display the dissemination strategy.

Relevant, impactful, and implementable information and resources are disseminated electronically through the Research-to-Practice-to-Research Exchange (explained further below). Electronic conversations on current, rapidly evolving topics occurs on a listserv created for the Oklahoma Physicians Resource/Research Network (OKPRN). Alternatively, when an

outside organization identifies an evidencebased process it wants OPHIC to disseminate, OPHIC designs educational materials and sends a clinician to the practices to explain and discuss the new process.

The lower oval displays the process for helping practices make changes. The change process emphasizes understanding the practice workflow process, considering



changes that might improve measures of the process and outcomes, and using the feedback to iteratively change the workflow for still more improvement. Surrounding the implementation tactics are the OPHIC support services. Peer clinician consultants (PCs) help the practices translate guidelines into practice processes. Practice facilitators (PFs) support the practice's implementation of changes in their work. A Technical Advisor (TA) helps practices enhance or implement information technology needed to measure the process and outcomes of the change. Frequent and ongoing performance measurement gives the practice feedback to stimulate continuing change in order to provide better quality of care.

The OPHIC evaluation team analyzes the aggregated practice measures and change support services to improve OPHIC D&I strategies. We publish the findings of D&I projects in peer-reviewed journals or to the RPR Exchange for dissemination to the practice improvement community.

## Research-to-Practice-to-Research Exchange (RPR Exchange)

RPR Exchange provides timely information to primary care clinicians and, in theory, makes it easier for community-based clinicians to influence research and development projects carried out by Oklahoma research and improvement teams. It was built with an awareness of the large volumes of information being produced and disseminated to primary care clinicians. The

intention is to offer high value, implementable information from a trusted source. An OPHIC clinician reviews the published literature daily, identifies resources that are primary care-relevant, impactful, and implementable, and sends them to a librarian at OU-Tulsa. The librarian attaches the appropriate codes and search terms, adds them to a searchable database, and sends them out via e-mail and/or text messages. RPR Exchange has four components:

- A searchable repository of information relevant to primary care clinicians and practices.
   A majority of the resources in the repository are meta-analyses, reviews, guidelines, and published reports of large clinical trials. Peer consultation aids and other clinical decision aids are also included as well as some patient education materials, best local practice ideas, and public health announcements.
- 2. E-mail notifications to members with concise summaries and links to materials and resources considered important, implementable, and durable (high value information).
- 3. A process by which members can send clinical questions, clinical observations, research suggestions, and requests for assistance to OU faculty.
- 4. An affiliated listserv developed by the Oklahoma Physicians Resource/Research Network (OKPRN).

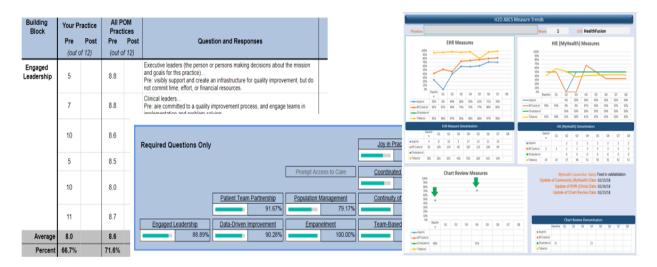
## **Performance Measurement and Feedback**

Baseline performance measurement with benchmarking, trending alerts practices to opportunities and motivates them to improve. We also use baseline performance measurement to identify high performers whose methods can often inform our team and other practices.

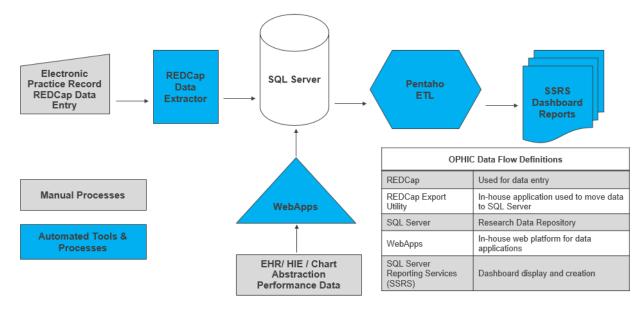
Whenever possible we involve practices in the construction of performance measures and consult with them about how and where to find the data. Ideally, these measurements are performed electronically. Measurements are repeated when needed (e.g. quarterly) to inform the PDSA trials. These follow-up measurements, usually via EHR audits or electronic registry reports, can include relatively small numbers of recent encounters (e.g., the 10 most recent eligible encounters) and include qualitative assessment of instances of lower-than-expected performance. More complete measurements are typically done at the end of an intervention period and again 6 and 12 months later when possible to assess sustainability.

The PF helps with measurements used for quality improvement purposes, such as reviewing the last 10 charts for evidence that the change was effective. Measurements for research purposes are collected by PFs using a protocol for data collection and analysis to reduce potential bias.

Performance feedback is provided to practices in a dashboard format as shown below. Dashboards are populated and updated electronically through SQL Server Reporting Services (SSRS). This tool is web-based and therefore allows PFs to access dashboards in the field.



To produce these dashboards, OPHIC has built a data analytics infrastructure that is repeatable across multiple projects and scalable regardless of project size. The figure below outlines OPHIC's data infrastructure at a high level. REDCap is used for electronic practice record data entry. An application was built to move the REDCap data to SQL Server 2016. WebApps, an in-house web-based data-capture platform, is used for performance measurement data entry. This data is combined with the REDCap data in a SQL Server repository. Pentaho's (a business intelligence software) ETL tool is used to manipulate and run processes.



# Peer Consultation (aka Academic Detailing)

Peer consultation (PC) is a critical component of OPHIC's dissemination and implementation support methodology. Primary care clinicians with training and/or experience in the process to be implemented visit with enrolled practice to review, explain, and discuss the evidence that underpins the new process and potential implementation strategies. The PC also discusses the practice's baseline performance measures when they are available. The PC then helps the practice clarify its goals, objectives, strategies, and priorities for improvement. If necessary, the PC introduces the practice facilitator, explains their role, and discusses any remaining questions and concerns about the project. Initial visits typically occur at the practice site but videoconferencing has been effective for distant practices and when barriers to an inperson visit exist. In the H2O program, PCs received \$450 per visit and included travel expenses. Practices commit 60 minutes of clinician and staff time for these visits.

OPHIC recruits and trains academic- and community-based primary care clinicians for each project. Initial training was provided by the National Resource Center for Academic Detailing (NaRCAD), which prepared OPHIC faculty to conduct training for subsequent projects. The training now includes information about OPHIC quality improvement methods, the role of the peer clinician consultant and coach, and information about the specific topic and processes to be disseminated and implemented.

For each project, we provide PCs with evidence summaries and printed guides to use when explaining information to practices. OPHIC often contracts with NaRCAD or Alosa Health to develop the evidence summaries and the printed guides to assure consistency in format and presentation of content. Detailer guides often include clinical decision-support tools useful to clinicians and practice staff. An example is provided later in this monograph.

To help practices align implementation efforts with practice goals and priorities, each project includes a Practice Self-Assessment and Goals and Priority Ranking. The self-assessment displays objectives and strategies that might help them achieve each of four goals (quality patient care, financial security, joy in practice, and healthy community). An example is shown below. We have produced 20-minute PC-narrated videos using these Practice Self-Assessment Tools to help practices decide whether they want to participate in a particular project and to help them consider their goals and strategies ahead of the PC-practice meetings.



# Pain and Opioid Management: Do No Harm Goals, Objectives, and Strategies

| GOAL                 | OBJECTIVE                                | TARGET STRATEGY                   | ASSESSMENT | PRIORITY |
|----------------------|--|-----------------------------------|------------|----------|
|                      | Chronic pain assessment                  |                                   |            |          |
|                      | Better Pain Care                         | Multi-modal pain plan             |            |          |
|                      |  | Patient and practice education    |            |          |
|                      |  | Guideline-based decisions         |            |          |
|                      |  | Opioid risk assessment            |            |          |
| Quality<br>of Care   | Quality Safer Opioid of Care Prescribing | Prescription refill policy        |            |          |
|                      | S  | Patient-informed consent          |            |          |
|                      |  | Monitoring opioid risk and misuse |            |          |
|                      |  | Alcohol screening and referral    |            |          |
|                      | Better Mental<br>Healthcare              | Depression screening and referral |            |          |
|                      |  | Referral and co-management        |            |          |
|                      |  | Chronic pain/opioid registry      |            |          |
|                      | Better Primary Care                      | Access and continuity of care     |            |          |
| Financial            |  | ED/Hospital follow-up protocol    |            |          |
| Security             | Document, Code &<br>Bill                 | EHR/PMS changes                   |            |          |
|                      | D-4- 1 0 -1'4                            | QI team, dashboards, measures     |            |          |
| Data-driven Quality  |  | Improve information technology    |            |          |
| Joy in               | Teamwork                                 | Huddles, roles, protocols         |            |          |
| Practice             | Patient Centered Care                    | Patient survey or PFAC            |            |          |
|                      | No OD/Suicide                            | DMSHAS Naloxone hub               |            |          |
| Healthy<br>Community | Deaths                                   |                                   |            |          |

| ASSESSMENT                              | CODE |
|---|------|
| Not answered                            | 0    |
| No protocol and/or not used             | 1    |
| Partial protocol, rarely used           | 2    |
| Partial protocol, used some of the time | 3    |
| Protocol, used most of the time         | 4    |
| Protocol, used all the time             | 5    |

#### PRIORITY

Rank in order of priority, with 1 as most urgent.







#### **Practice Facilitation**

OPHIC employs a group of practice facilitators (PFs) who work closely with practices to help them improve their processes of care in order to achieve their goals. Many PFs have master's degrees in public health while others have nursing, medical, counseling, or education degrees. All of our current PFs completed the online training provided by the University of Buffalo. As that program has recently been discontinued, future OPHIC PFs will have to be trained through an internal process. Additional project-specific training occurs during a weekly one-hour educational videoconference.

PFs attend the peer clinician consultation visits where goals and priorities are discussed and then help the practices form QI teams that establish measurable objectives and initial strategies. They teach practices how to evaluate their care processes and how to design and carry out rapid plan-do-study-act trials of small changes in limited numbers of patients. They make strategic suggestions to the practice QI team based upon their training and observations from successful methods used in other practices. In collaboration with practice staff, they perform initial and follow-up audits on the last 10 eligible patients seen. We train PFs to use the Lean Six Sigma DMAIC method for managing practice change and guiding the practice in acquiring their own process skill in change management. They, define opportunities, then measure performance, analyze performance data, improve practice delivery system process and outcomes, and control improved processes.

PFs assist between 6 and 10 practices at a time for between 6 and 12 months, depending upon the project. In-practice assistance is often supplemented with phone calls, video meetings, and e-mails. The PFs may spend as much as ½ day per week in each practice for as much as a year on complex implementation projects. For less complex initiatives, an intensive phase of ½-day weekly or biweekly visits for three months is followed by a maintenance phase of monthly visits for 3 to 9 months. PFs spend as much of the assigned time as possible in the practice even when they have completed their planned work for a visit because we believe that their presence encourages the practice to focus on their goals and enhance the personal and supportive relationship. All contacts with the practice are recorded in the EPR.

Initially, PFs were assigned to quadrants of the state to assure longitudinal continuity with practices. As OPHIC took on more simultaneous projects, it become more important for some PFs to be assigned to specific projects and to work primarily with practices engaged in those projects. Those PFs hold weekly project coordination meetings with the other PFs assisting practices involved in their project. PF work is supervised by a Program Resource

Manager who makes PF assignments, schedules PF training, tracks PF practice activities, and conducts weekly check-in meetings to solve problems that arise with a project.

## **Information Technology Support**

Many practices, particularly those not affiliated with a health system or in a remote area of the state need help to generate performance data from their electronic health records (EHRs). They may also need help reconfiguring templates, order sets, registries, and workflows. As patient portals, text messaging, and other forms of patient communications have become more important, many practices need help developing those capacities. Depending upon their backgrounds and training, the PFs are often able to help. When they are not, we have contracted with a local healthcare consulting services company, the Oklahoma Foundation for Medical Quality, which has expertise in health information technology, data analytics and health care review to assist them.

In the H2O project, OPHIC contracted for the services of technology advisors (TA) from OFMQ to assist practices with these and other IT challenges. OFMQ had been Oklahoma's health information regional extension center (HIT-REC). OFMQ worked closely with a local health information system provider, MyHealth, to help practices establish and use connections between their EHRs and the MyHealth health information exchange (HIE).

# The Oklahoma Primary Healthcare Extension System

In a parallel effort to establish a more comprehensive and inclusive primary healthcare extension system, OPHIC leaders collaborated with the Public Health Institute of Oklahoma (PHIO) in 2012 to establish The Oklahoma Primary Healthcare Extension System (OPHES). OPHES is made up of multiple independent non-profit county-based organizations, certified by PHIO, called county health improvement organizations (CHIOs). Certification requirements included 501c3 status, board-level representation of a number of key organizations including primary care practices and local hospitals in addition to public and mental health agencies and other important community organizations. The certification process was intended to raise the capabilities and stature or existing county-based coalitions in order to make them more effective and more attractive to potential funders. OPHIC has collaborated with OPHES on one large project on reducing cardiovascular event risk reduction and will collaborate with selected CHIOs on a second project involving COVID testing.

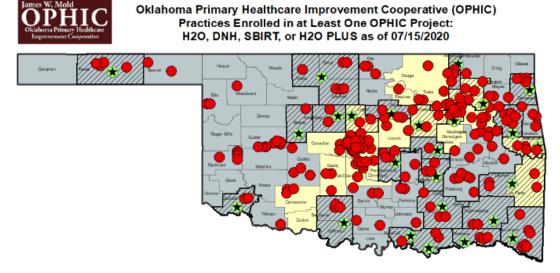
# **OPHIC Projects**

# D&I projects conducted by OPHIC as of October 2020.

| Project  | Time Period | Funder             | Funding<br>Amount |
|--|-------------|--------------------|-------------------|
| Evidence Now: Healthy Hearts for Oklahoma<br>Dissemination/Implementation of CV risk<br>reduction guidelines in primary care | 2015 - 2020 | AHRQ               | \$14,977,883      |
| Do No Harm: Implementation of pain management and opioid use guidelines in primary care                                      | 2018 – 2021 | SAMHSA/<br>DMHSAS* | \$2,144,066       |
| Implementation of SBIRT** for alcohol, drug abuse, and depression in primary care  | 2020 - 2022 | SAMHSA/<br>DMHSAS* | \$2,086,332       |
| 1815 Project: Improving the Health of Americans Through Prevention and Management of Diabetes and Heart Disease and Stroke   | 2019-2021   | CDC/OSDH*          | \$480,000         |
| Addressing Opioid Use Disorders in Olders Adults through Primary Care Intervention   | 2021-2024   | AHRQ               | \$2,500,000       |
| CARES Act: Mental Health Integration through Training and Technology   | 2021        | DMHSAS*            | \$850,000         |
| Community-engaged Approaches to Testing in Community and Healthcare settings-<br>Underserved Populations (CATCH-UP)          | 2021-2023   | NIH                | \$5,000,000       |

<sup>\*</sup> Contracts

The following map shows the location of the practices that have participated in at least one OPHIC project as of July 2020.

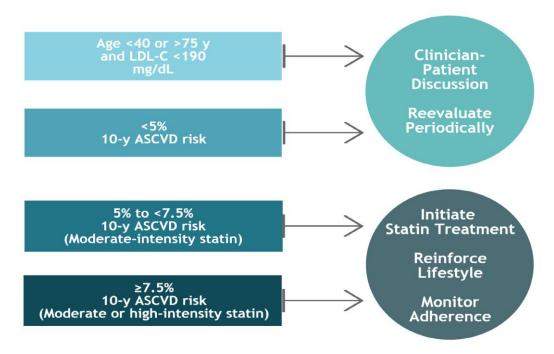


Note: Metropolitan counties are yellow. Cross-hatched counties have a certified county health improvement organizations (CHIOs).

# **Example: EvidenceNow: Healthy Hearts for Oklahoma (H2O)**

The H2O project included 263 Oklahoma primary care practices interested in learning more about and receiving assistance implementing the latest guidelines for prevention of four cardiovascular event risk factors: low-dose aspirin, blood pressure control, cholesterol reduction, and smoking cessation (the ABCSs). We randomly assigned these practices to four staggered waves in a stepped wedge cluster randomized study design. We studied the impact of the following D&I support: 1) Measurement and feedback of ABCS performance during the baseline year and quarterly for the duration of the study; 2) An in-practice peer consultation visit at the beginning of the intervention and six months later; 3) Graphical descriptions of the guidelines with detailed evidence summaries; 4) Practice facilitation to help practices make the changes needed to implement the guidelines (½ day every week for one year); and 5) Assistance to improve information technology for efficient and performance measurement as needed throughout the project. There were 219 practices completing all phases of the project.

# An Excerpt from the Cholesterol Guide for PCs

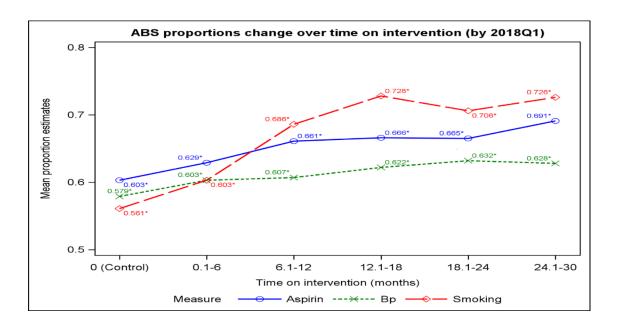


#### Non-statins for cholesterol treatment

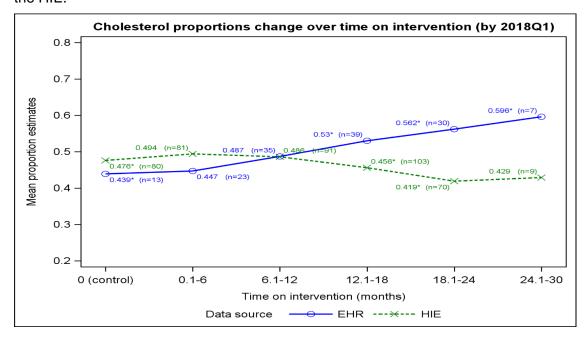
Ezetimibe lowers LDL, but has limited hard endpoint data. 7 Reserve its use for patients unable to take a statin.

PCSK9 inhibitors are injectable agents that reduce LDL dramatically, but their role is not yet clear.8 **Statins should remain the first choice.** 

# **Summary of Results**



Data for the cholesterol measure were most often obtained by manual audits of a selected subset of medical records because the prescribed measure couldn't be generated electronically from many of the EHR systems. Based on the EHR chart abstraction method (blue line), performance improved from a baseline of 45% to 60% at the end of the study (+15). The green line reflects our inability to generate reliable information on the cholesterol measure from the HIE.



# **Estimated QI Support Costs**

For the fixed costs (leadership, program staff), we have assumed a total of 100 practices are supported annually, with each practice receiving 6 months of support, including biweekly PF visits and a single, in-person clinician peer-consultant visit, and two IT consultation visits. The primary variable costs include the practice facilitators, IT consultants, supplies and travel. Travel costs are averages but are variable. Practice facilitation costs are minimized when multiples of 8 practices are enrolled, since one PF can support 8 practices at a time. Cost per practice per intervention is \$ 13,032.

Staffing

| Position                               | Annual    | Cost/Practice |  |
|--|-----------|---------------|--|
| OPHIC Co-Director (0.4 FTE)            | \$105,924 | \$1,060       |  |
| OPHIC Co-Director (0.4 FTE)            | \$105,924 | \$1,060       |  |
| Administrative Director (0.2 FTE)      | \$41,147  | \$412         |  |
| Administrative Support Staff (0.4 FTE) | \$25,259  | \$253         |  |
| Program Manager (1.0 FTE)              | \$115,430 | \$1,155       |  |
| Resources Manager (0.5 FTE)            | \$43,456  | \$435         |  |
| Practice Facilitator(s)                | \$450,000 | \$4,688       |  |
| RPR Clinical Consultant                | \$36,000  | \$360         |  |
| OPHIC Consultant                       | \$36,000  | \$360         |  |
| Totals                                 | \$959,140 | \$9,878       |  |

## **Travel/Per-visit Services**

| Position                    | Annual    | Cost/Practice |
|-----------------------------|-----------|---------------|
| Practice Facilitator Travel | \$120,000 | \$1,200       |
| Clinician Peer Consultant   | \$45,000  | \$450         |
| IT Consultant               | \$80,000  | \$800         |
| Totals                      | \$245,000 | \$2,450       |

## **Miscellaneous**

| Service   | Annual   | Cost/Practice |
|---|----------|---------------|
| CC Printed Materials (development and printing) | \$20,000 | \$200         |
| Computer/telephone services                     | \$18,000 | \$180         |
| General supplies                                | \$6,000  | \$60          |
| PARTNER   | \$36,000 | \$360         |
| Totals  | \$80,000 | \$800         |

| Total of Totals | \$1,284,140 | \$1,284 |
|-----------------|-------------|---------|
|                 |             |         |

## **Lessons Learned**

## **Separating Quality Improvement from Research**

It is extremely important to clearly separate the quality improvement elements of a project from the research and evaluation elements. Practices should view their participation as part of their ongoing effort to improve their care, and the research/evaluation elements should not interfere with their efforts or our ability to support them. When data needs to be collected from practices for research/evaluation, it should either be done by research assistants without practice involvement or the practices should be reimbursed for their time and effort.

## **Major Disruptive Events**

Primary care practices are currently experiencing an alarming rate of major disruptive events (MDEs) (change in owner, relocation, loss of clinicians or key staff). Fifty-eight percent of H2O practices had experienced at least one MDE in the year prior to enrollment, and 32% experienced at least one MDE during the first year of the project. MDEs often impaired practices' ability to achieve and sustain process improvements.

# Information Technologies/Access to Performance Data

Federally certified EHRs may not be able to report quality measure for either quality improvement or D&I research. Certification only requires that the EHR vendor demonstrate capacity to report one measure. Vendors often charge additional fees for packages that report quality measures. Practices owned by health systems or other organizations may have access to IT support, but the data for quality measure generation for an individual practice often falls into a long queue of other IT-related needs.

MyHealth can generate and report novel performance measures. However, we experienced challenges when trying to connect various EHRs to the HIE, including connection charges and proprietary and non-standardized coding of clinical and laboratory data. Data generated electronically from EHRs is generally accurate, but practices outside of large health systems are often unable to generate anything other than simple measures. We have demonstrated that manual chart abstraction is the most reliable method for quality reporting. For measuring the results of PDSA cycles, manual abstraction of the records of the last ten eligible patients seen is ideal. However, for overall project evaluation, the cost and burdens of manual record abstraction can be excessive.

## **Planned Enhancements**

## **Goal-Oriented Facilitation**

Implementation support has traditionally used a problem-solving approach in which performance deficiencies have been identified and addressed. OPHIC is experimenting with a goal-oriented approach, which assumes that most practices have four major goals: 1) Quality of care for individual patients, 2) Financial security for the practice, 3) Joy in practice for clinicians and staff, and 4) Improvement of the health of the population the practice serves. Each practice will prioritize these goals differently. It is generally possible to help practices tailor improvement strategies to their highest priority goals. This appears to be possible even when the funding agency focuses on a particular set of performance measures.

## **On-Demand Implementation Support**

All OPHIC projects to date have been externally-funded research projects or service contracts in which funders want a group of practices to accomplish prescribed improvements. A service-based implementation support system should be available to help practices with their unique needs and priorities when they are most ready to receive and benefit from the help. While we can often provide that kind of help during group projects, we are trying to develop a sustainable business model to support on-demand assistance to individual practices.

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