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**Suggested Citation**

Contents

Instructor’s Guide ........................................................................................................................... 1
  Time ............................................................................................................................................ 1
  Objectives .................................................................................................................................. 1
  Exercises and Activities To Complete Before and During the Session ...................................... 1
Module 10 ...................................................................................................................................... 3
  Workflow Maps .......................................................................................................................... 3
  Important Workflows in Primary Care Practices ........................................................................ 6
  Reference .................................................................................................................................. 10
Appendix 10A ............................................................................................................................... 11
Appendix 10B ............................................................................................................................... 33
Module 10. Mapping and Redesigning Workflow

Instructor’s Guide

Practice facilitator (PF) competencies addressed in this module:
- General skills in basic quality improvement and coaching

Time

- Pre-session preparation for learners: 45 minutes
- Session: 85 minutes

Objectives

After completing this module, learners will be able to:
1. Describe the purpose and process for mapping workflow.
2. Identify activities that take place in a primary care practice setting that may be important to map.
3. Create a workflow map of common and complex activities.
4. Use the redesign reflection questions to help a practice redesign a workflow.

Exercises and Activities To Complete Before and During the Session

Pre-session preparation. Ask the learners to review information in item 1 and access item 2. (45 minutes)

1. The content of this module.

During the session. Presentation (30 minutes)

1. Present key concepts of this module.
Activity for learners. (20 minutes)
1. Break into pairs or small groups. Ask learners to assign roles: practice facilitator and participant(s) (optional).
2. Provide learners with large paper, pencils, and sticky notes for mapping.
3. Exercise 1. Map a simple process. Ask learners to: create a workflow map from memory of the participant making a call with his or her cell phone.
4. Map the same workflow a second time while the practice facilitator observes the process and corrects the map.
5. Exercise 2. Create a Swimlane workflow map of a complex process from a practice. Ask learners to map handling patient calls to clinicians (or another multi-individual, multistage process with which the learners are familiar).
6. Create a workflow map of handling patient calls to clinicians (or another multistage, multi-individual process with which the learners are familiar).

Discussion. Ask questions and explore answers with learners. (10 minutes)
1. What did you learn from the mapping exercise?
   a. Highlight lessons such as:
      i. Mapping the process as it is, rather than what you think it is or think it should be.
      ii. Having the person who owns the process map their part of the process.
      iii. Understanding the role of the facilitator in supporting the mapping process.

Activity for learners. (15 minutes)
1. Reconvene pairs or small groups. Have learners evaluate and redesign a workflow from Exercise 1 or 2.
   - Use Redesign Reflection questions from Table 10.1 in module to redesign workflow.

Discussion. Ask questions and explore answers with learners (10 minutes)
1. What changes did you make to your workflows and why?
2. What did you learn about working with a group to redesign a workflow?
3. How will you use this with a practice?
Module 10.

Workflow is defined as a series of steps, frequently performed by different staff members and often dependent on related workflows, that accomplishes a particular task. Workflows represent how work actually gets done, not the protocols that have been established to do the work.

Clinicians and staff in busy practices suggest that one of the most helpful things a facilitator can do for them is help them map key workflows. Workflow mapping is a way of making the invisible “visible” to a practice so they can look for ways to improve their processes to increase efficiency, reduce errors, and improve outcomes. As a facilitator, you will have the skill, time, and vantage point to help a practice map its key workflows and then to lead discussions about improving them.

While many practices will have participated in workflow mapping for implementing electronic health records, many will not have used these processes with the idea of improving quality and outcomes. Workflow mapping is the process of documenting the specific steps and actions that take place in completing a particular task. Creating a workflow map enables you and the practice to see what is currently happening, identify opportunities for improvement or change, and design new, more effective processes.

You and the quality improvement (QI) team will need to consider workflows associated with the following three processes:

- Perceived process (what we think is happening);
- Reality process (what the process actually is); and
- Ideal process (what the process could be).

The perceived process can be obtained by having the group map what they believe the current process is. The reality process is obtained by having various group members validate the former through direct observation; the ideal process should reflect the workflow the improvement group aspires to and wants to implement.

Workflow Maps

Creating a workflow map is not difficult. However, it is very important to map what is actually happening, not what the practice “thinks” is happening or wants to happen. Figure 10.1 shows an example of a detailed workflow map. You will need to identify every step of the activity and who performs it. It is important that each individual involved in a process can describe how a particular activity takes place. In addition to a traditional form of detailed workflows, Swimlane workflows are also an option. Swimlane mapping is performed when you want to illustrate a single process that involves more than two roles simultaneously across time. Figure 10.2 is an example of a Swimlane workflow. When mapping a workflow, you should not rely on a single person to describe a process unless that person controls and executes all steps of the process being mapped.
Figure 10.1. Sample workflow map: lab result follow-up

Lab results faxed → MA takes lab result from printer → MA pulls patient’s chart → MA gives chart and lab result to RN/LVN → RN/LVN follows lab result protocol → RN/LVN writes normal, mildly abnormal, or very abnormal lab result is? → Lab result is?

- Very abnormal: RN/LVN brings lab result to clinician → Clinician reviews lab result → Clinician gives instructions to RN/LVN → RN/LVN implements instructions per standing orders
- Normal or mildly abnormal: RN/LVN calls patients about lab results → RN/LVN schedules repeat lab for mildly abnormal lab per standing orders

Source: Bodenheimer T. Workflow mapping: a tool for achieving meaningful use. University of California San Francisco, Department of Family and Community Medicine, Center for Excellence in Primary Care. Reprinted with permission. See Appendix 10B.
Figure 10.2. Sample Swimlane workflow map: office visit

Adapted from “Physician Assistant (PA) Office Visit,” Health Resources and Services Administration.
To be effective in helping your practice map and redesign workflow, you will need a good working knowledge of the practice’s electronic health record and information technology systems so that you can assist them in redesigning workflows that use these systems. A good way to map complex processes is to observe the process in action. You may find that there is not a single process for carrying out a particular task, but several variations in how the activity takes place.

An important rule of thumb when mapping a process is “the person who controls the process controls the pen.” This means the person who actually carries out a particular process is the one who maps that step of the process.

**Important Workflows in Primary Care Practices**

Important processes that you will need to be prepared to help a practice map include:

- Answering phones
- Making appointments
- Scheduling procedures
- Making referrals
- Providing health advice by phone or e-mail
- Assigning patients to panels
- Completing new patient workups
- Educating patients and family
- Managing patient panels
- Planning patient visits
- Coordinating referrals
- Conducting patient outreach
- Checking formularies
- Entering lab results into the information systems
- Making referrals for specialty care and community services
- Consulting with specialists

Many additional activities carried out by a practice will need to be redesigned when it transitions to team-based care. These include:

- Registration
- Appointment scheduling
- Medical assistant role (pre-visit, vitals, agenda setting, checking chronic and preventive care needs, ordering)
- Receipt of test results by clinician (lab, x ray, other)
- Receipt of test results by patient (normal, slightly abnormal, very abnormal)
- Internal messaging (which messages go to whom, what action is required)
- Prescription refills (chronic meds, acute meds, secure script meds)
• Billing workflow
• Form completion (clinician role, other team member role)

You should also be prepared to assist in mapping and redesigning clinical care processes for specific patient groups:

• Preventive care
• Acute problems (major/minor)
• Chronic conditions (diabetes, hypertension, asthma)
• Complex care needs
• Mental health
• Chronic pain
• Women’s health
• Pregnancy
• Well child care
• Palliative/end-of-life care

Many resources available online for free or at a small cost can assist you in preparing polished maps. Maps can also be handwritten or constructed with sticky notes to allow a practice to move activities around and redesign workflow. These types of maps are better during the active mapping stage. Your program may provide these resources or ask that you use them, or you may want to explore them on your own.

**Helping practices redesign workflows.** Redesigning workflows has two goals: improving performance and increasing efficiency. Once you document the reality process, you will need to assist the QI team and other members of a practice to redesign the workflow to incorporate the desired improvements and then test these changes using the Plan Do Study Act (PDSA) process.

When redesigning workflow, it is essential to have all key players involved in the process. The frontline staff who are currently or will be implementing the workflow will have recommendations and ideas for how to maximize efficiency and effectiveness.

It is rare that a workflow is completely independent of other processes in the practice. In most cases, workflows for one activity will overlap or depend on the execution of another activity or process. It is important to identify and consider these dependencies when redesigning workflow, as the effects of redesigning a workflow can be positive or negative.

It will be important for the team to be able to determine the potential peripheral effects of redesigning workflows. The Model for Improvement and PDSA can help a practice identify unanticipated effects of redesigned processes and correct them before taking them to scale.

New workflows will often require realigning jobs, changing staff time allocation, roles, and responsibilities to fit the redesigned workflows. This in turn will require changes to policies and procedures, job descriptions, training, and accountability/reporting systems for ensuring tasks are completed.
When working with a QI team and practice staff on redesigning workflow, you will need to provide them with a copy of the existing workflow. This should be large enough for everyone on the team to view together and to mark up as they design new processes. Table 10.1 contains some questions that can be useful in starting a team on the redesign process. Review the following questions with the practice:

**Table 10.1. Redesign reflection questions**

- Is there a problem with current performance? Do you need better results?
- Have you been skipping any critical steps?
- Are all steps necessary? Are there areas of unnecessary duplication or redundancy?
- How often do you have to do each step?
- Are there areas that rely on an individual to remember to do something? Any process that relies on memory is prone to error.
- What happens if the process breaks down? Do you need a fail-safe mechanism?
- Can some steps be done simultaneously?
- Is there a more logical way to sequence the steps?
- What skills are necessary to perform each step?
  - If more skills are required, can current staff be trained or do duties need to be shifted to more qualified staff?
  - Could someone with fewer skills perform this step? Would they need training or support?
  - Could someone be hired to perform this step?
  - Could this step be outsourced?
- Is there any technology that would make this process more efficient or easier to do? Are you thinking outside the box? Is there an entirely different way to get this done?
- Who do you know that handles this task very well (an exemplar)? Can you study their workflow?

**Implementing and sustaining new workflows.** Once the team has developed a new workflow, it will need to be implemented and evaluated. The PDSA process from the Model for Improvement can be a good way to test the effectiveness of a new workflow. You will need to be prepared to assist the QI team in implementing and evaluating the impact of a new workflow as part of the PDSA cycle. You also need to include them in thinking through the different administrative changes that will be required to fully implement and sustain newly redesigned workflows.

Throughout this process, your goal as a facilitator will be to build the team and practice’s capacity to engage in these processes in the future, as understanding and modifying existing workflows is an essential component of any improvement process. AHRQ’s *Integrating Chronic Care and Business Strategies in the Safety Net* toolkit contains resources from Clinical
Microsystems for training practices in workflow mapping. This toolkit is available at: https://www.ahrq.gov/ncepcr/care/chronic-tool/index.html.

Note: this module is based on Module 5 of AHRQ’s 2013 Practice Facilitation Handbook. Available at: https://www.ahrq.gov/ncepcr/tools/pf-handbook/index.html.
Reference

A Guide on Workflow Mapping

LA Net Community Health Resource Network
A Practice Based Resource Network
Learning Objectives

• Identify the three types of flowcharts
• Explain the use for flowcharts
• Apply the 6 steps used to produce a flowchart
• Evaluate an organizational process using your flowchart
Workflow Mapping

- Workflow maps are also referred to as flowcharts, flow maps, flow diagrams, flow sheets, and process maps.
- A workflow map is defined as a visual representation of a process.
- A process considers a sequence of operations with a start and end point.
Use for Workflow Maps

• To map current practice flow
  
  Are we really doing what we say we do?

• Begin to identify areas for process improvement

• Visual aid and representation of roles and responsibilities

• Add-on to an organization’s policies and procedures

• Process maintenance
Types of Flowcharts

1. **High-Level flowchart**: is a diagram that provides a brief overview of a process only highlighting major events in the process.

2. **Detailed flowchart**: is a map that marks every step in a process, which includes decision points, waiting periods, and feedback loops.

3. **Swimlane flowchart**: is a map that displays processes carried out for multiple roles across multiple stages.
Common Symbols

- Start/End
- Operation
- Decision
- Delay
- Direction
- Connection
Example: The process of buying a box of cereal.

High-Level Flowchart:
- Arrive at the grocery store
- Walk to the cereal aisle
- Pick up a box of cereal
- Walk to cashier with cereal
- Pay for the box of cereal

Detailed Flowchart:
- Arrive at the grocery store
- Walk to the cereal aisle
- Decide on cereal
- Pick up a box
  - Corn Flakes: Walk to cashier with cereal → Pay for the box of cereal
  - Honey Oats: Walk to cashier with cereal → Give cashier coupon
What it looks like

Example: The process of buying a box of cereal.

Swimlane Map

Customer

- Arrive at the grocery store
- Walk to the cereal isle
- Decide on cereal
- Pick up a box of corn flakes
- Pick up a box of honey oats

Cashier

- Walk to cashier with cereal
- Place box on belt
- Give cashier coupon and cash
- Give cashier cash
What it looks like

Example: The process of buying a box of cereal.

Swimlane Map

Cashier takes box from belt
Cashier scans box code
Cashier states final price
Cashier receives cash and coupon
Cashier gives customer change
Who is involved?

Involve all those who play a part in the process.

Tips:

• Start with a small group if it’s a challenge to start with the entire group
• Pick a champion for this group
• Be sure to have all materials on-hand
• Provide the team with an overview of what the mapping process looks like
• Clearly state the objective and process selected for this exercise
The 6-Step Process

Step 1: Identify a process to map (use the Know Your Process template)
Step 2: Begin with a high-level flowchart
Step 3: Move into a detailed flowchart
Step 4: Walk through the process once or twice
Step 5: Validate the maps to ensure they truly reflect the current process
Step 6: Identify quick fixes and distinguish them from larger fixes (use LA Net’s Impact & Complexity Grid)

(REMEMBER: A flowchart captures the process AS IS, not how it is supposed to be)
**Know Your Processes - Practice Core and Supporting Processes Assessment:** Ask each member of the staff to rate the core and supporting processes using this worksheet. Based on these findings, staff members choose what to work on improving. Rate each process by putting a tic mark under the heading which most closely matches your understanding of the process. Also mark if the process is a source of patient complaints. (See Appendix, page A14-A16 for the Pareto worksheet and example to help you analyze the data.)

**Steps for Improvement:** Each of the processes below should be flowcharted in their current state. Explore improvements for each process based on the outcomes of the assessment tool. Once you have flowcharted the current state of your processes and determined your change ideas use the PDSA Cycle Worksheet on page 26 to run tests of change and to measure. The collection of flowcharts will create your Practice Playbook (see page 29).

<table>
<thead>
<tr>
<th>Processes</th>
<th>Works Well</th>
<th>Not a Problem</th>
<th>Small Problem</th>
<th>Real Problem</th>
<th>Totally Broken</th>
<th>Cannot Rate</th>
<th>We’re Working On It</th>
<th>Source of Patient Complaint</th>
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</thead>
<tbody>
<tr>
<td>Answering phones</td>
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<td>Appointment system</td>
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<td>Messaging</td>
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<td>Scheduling procedures</td>
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<td>Reporting diagnostic test results</td>
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<td>Prescription renewals</td>
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<td>Making referrals</td>
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<td>Pre-authorization for services</td>
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<td>Billing/Coding</td>
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<td>Phone advice</td>
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<tr>
<td>Assignment of patients to your practice</td>
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<td>Orientation of patients to your practice</td>
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<td>New patient work ups</td>
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<td>Education for patients/families</td>
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<td>Prevention assessment/activities</td>
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<tr>
<td>Chronic disease management</td>
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</table>
Impact & Complexity Grid

- **Build Complexity:**
  - ✓ Low Complexity/High Impact
  - ✓ Low Complexity/Low Impact

- **Next Stage:**
  - ✓ High Complexity/High Impact

- **Avoid Option #4:**
  - High Complexity/Low Impact

<table>
<thead>
<tr>
<th></th>
<th>Low Impact</th>
<th>High Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Complexity</td>
<td>High Complexity/Low Impact</td>
<td>High Complexity/High Impact</td>
</tr>
<tr>
<td></td>
<td>(Option #4)</td>
<td>(Option #3)</td>
</tr>
<tr>
<td>Low Complexity</td>
<td>Low Complexity/Low Impact</td>
<td>Low Complexity/High Impact</td>
</tr>
<tr>
<td></td>
<td>(Option #2)</td>
<td>(Option #1)</td>
</tr>
</tbody>
</table>
Scheduling PCP Follow-up Appointments for Patients Prior to Hospital Discharge

- Resident signs discharge order
- Resident enters "Call clinic for appt"
- Resident gets info about f/u appt?
- Yes: Attending wrote a note?
  - Yes: Attending wrote f/u appt in note?
    - Yes: Resident enters f/u appt into DC Summary Note
    - No: Resident signs discharge order
  - No: Resident calls clinic to get appt
    - Is it between 9AM - 5PM Mon-Fri?
      - No: Patient given Discharge Instructions WITHOUT f/u appt
      - Yes: Resident is given f/u/appt
- No: Resident signs discharge order
- RN prints Discharge Instructions and gives to patient
- Patient given Discharge Instructions WITH f/u appt
How to Analyze my Map

You can use your process map to assess problem areas or potential areas for improvement by examining some of the following:

- Bottlenecks and other sources of delay
- Rework due to errors
- Role ambiguity
- Duplicated efforts
- Unnecessary steps
- Sources of waste
- Variation
- Hand-offs
Tips on Mapping

• Be sure to map current process
• Get key players involved and their input
• Recognize that any flowchart will take multiple attempts to complete
• Leverage existing experts and experiences
Workflow Mapping Exercise

• Break into groups of 5 to 6
• Be sure to have:
  – Poster board paper
  – Post-its (or 5x6 index cards)
  – Marker
• Pick a leader and a scribe
• Ground rules:
  – State process: Making coffee
  – Define beginning and end points
  – Assumptions: you already have coffee, a coffee pot, and you do not have a Keurig
Questions to Ask

• Who knows what a workflow map is?
• Who has experience in workflow mapping?
• Did you consider your start and end points? What were they and how did your team come to this conclusion?
• How did you deal with process agreements/disagreements?
• Did everyone have input? If not, why?
In Conclusion

• The 3 types of flowcharts include: High-level, Detailed, and Swimlane flowcharts
• Flowcharts are used to map current processes, identify barriers and opportunities to increase efficiency, and to train newly hired staff of a process
• There are 6 major steps in mapping a flowchart
• There are a series of questions that need to be discussed after you develop your map that ask about repetition, role maximization, and decision points
Remember

Workflow maps serve as a tool to improve care for patients, improve efficiency in practice, and redistribute work and job responsibilities.
Thank You!

LA Net Community Health Resource Network
3940-B East Broadway, Long Beach, CA 90803
Phone: 562.434.2000
www.lanetpbrn.net
Workflow mapping: a tool for achieving meaningful use

Center for Excellence in Primary Care
UCSF Department of Family and Community Medicine

Tom Bodenheimer, MD
Goals

- Explain workflow mapping
- Discuss why workflow mapping is useful prior to and after EHR implementation
- Demonstrate how to create workflow maps
- Review some meaningful use workflow examples
Example 1a: How not to provide lab results to your patients
Example 2a: How not to do Rx refills

1. Patient calls clinic for Rx refill
2. Receptionist answers phone
3. Receptionist writes down patient's Rx request on slip of paper
4. Receptionist searches for patient's chart
5. Receptionist takes new phone message from patient
6. Receptionist asks each MA where the chart is
7. Receptionist gives new message to MA
8. Medical records clerk picks up chart one hour later
9. Medical records clerk pulls chart
10. Medical records clerk checks name of patient's clinician
11. Medical records clerk figures out which MA is working with which Clinician
12. MA puts chart on clinician's desk
13. Medical records clerk gives chart with note to MA
14. Clinician approves refill four hours later
15. Clinician puts chart on MA's desk
16. MA calls pharmacy to refill Rx two hours later

Note: DELAY at each step.
Example 2b: Rx refills after workflow mapping

Other workflow changes:
1) MAs teach patients to contact pharmacy for refills
2) Clinicians give patients with chronic meds lots of refills
3) Clinicians implement standing orders for MA to refill meds for patients with well controlled diabetes, hypertension, and cholesterol
What is a workflow map?

• A visual representation of a process
  – A process is a series of actions, steps, or tasks performed in a certain order to achieve a certain result
• Defines the beginning of a process, the end of a process, and all the steps in-between
• Defines who does what in the process
• A measurement of what IS
Workflows before implementing EHR are different from those after EHR adoption.
Workflow mapping pre-EHR reveals inefficiencies and waste

• Workflow mapping helps practices
  – Identify inefficiencies, waste, and dangers
  – Eliminate wasteful steps
  – Streamline complicated workflows
  – Standardize how work is done

• Example 1 (lab results): workflow mapping uncovered unnecessary steps that could easily be eliminated, making life easier for physicians and staff

• Example 2 (rx refills): workflow mapping showed that big changes were needed to eliminate waste and reduce patient delays
Workflow mapping pre-EHR: Tailor EHR to meet practice needs

- Mapping out processes before EHR implementation helps practices decide how to use the EHR
- Workflow mapping demonstrates what protocols and standing orders are needed to redistribute work
- Workflow maps help practices work with their EHR vendor so that the vendor understands how each person will use the EHR
- Examples 1 and 2: protocols and standing orders written pre-EHR adoption delineate who does what, which facilitates implementation of the EHR
Workflow mapping post-EHR: EHR is a huge change

- Going from paper to EHR changes every single thing in a practice
- Roles will change
  - What will medical records clerks do?
  - Medical assistants will enter vital signs electronically and provide more services in the rooming process
  - Clinicians will type progress notes and use templates
  - E-prescribing often shifts all refill work to Clinicians’ inboxes
- Example 2 (rx refill): Post-EHR workflow can be set up so that Clinicians do not handle every refill. This depends on pre-EHR workflow redesign
Workflows post-EHR: shows practices how best to use EHR

- EHR implementation tends to push work back onto the Clinician. Workflow mapping can prevent this.
- Workflow mapping helps staff look at entire process and think how their work fits into a larger system.
- Workflow maps help practices decide which personnel they need post-EHR.
- Example 1 (lab results): If a practice does not have a RN or LVN, Clinicians need to review all labs. If the practice wants to delegate lab review to another team member, the practice would need a RN or LVN because MAs cannot review labs. Also, the practice will not need a medical records person.
Who’s involved with workflow mapping?

• One designated person
  – Oversees the team and keeps tasks on track
  – Understands all aspects of the process in detail
  – Drafts the initial workflow map

• The team
  – Decides what processes to map
  – Everyone involved in a workflow should be part of the mapping process
  – Discusses accuracy of the workflow map after it’s been drafted
  – Perfects the process and maps it out
Types of workflow maps

High-Level Flowchart: Shows the major steps of a process. A high-level (also called first-level or top-down) flowchart illustrates a "birds-eye view" of a process.

![High-Level Flowchart of Prenatal Care

Detailed Flowchart: Provides a detailed picture of a process by mapping all of the steps and activities that occur in the process. This type of flowchart includes such things as decision points, waiting periods, tasks that frequently must be redone (rework), and feedback loops. This type of flowchart is useful for examining areas of the process in detail and for looking for problems or areas of inefficiency.

![Detailed Flowchart of Patient Registration
# Know your symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="start_end.png" alt="Start/End" /></td>
<td><strong>START/END:</strong> Indicates the start and end points of a process</td>
</tr>
<tr>
<td><img src="operation.png" alt="Operation" /></td>
<td><strong>OPERATION:</strong> A specific task or activity that is performed</td>
</tr>
<tr>
<td><img src="decision_point.png" alt="Decision Point" /></td>
<td><strong>DECISION POINT:</strong> A point in the process where a yes/no question or a decision is required before moving on to the next step</td>
</tr>
<tr>
<td><img src="direction.png" alt="Direction" /></td>
<td><strong>DIRECTION:</strong> Arrows connect steps in the process and direct flow of information</td>
</tr>
<tr>
<td><img src="delay.png" alt="Delay" /></td>
<td><strong>DELAY:</strong> Indicates the workflow goes into a wait</td>
</tr>
<tr>
<td><img src="off_page_connector.png" alt="Off-Page Connector" /></td>
<td><strong>OFF-PAGE CONNECTOR:</strong> Refers to a process located on another page</td>
</tr>
<tr>
<td><img src="on_page_reference.png" alt="On-Page Reference" /></td>
<td><strong>ON-PAGE REFERENCE:</strong> Refers to a step in the process located on the same page</td>
</tr>
<tr>
<td><img src="unclear.png" alt="Unclear" /></td>
<td><strong>UNCLEAR:</strong> Use this when a step in the process is unknown or not clear</td>
</tr>
</tbody>
</table>

**Note:** There are many more symbols than those listed, but these are the most commonly used ones
Simple steps for workflow mapping

• Step 1. Pick a process to map out, pick which type of workflow to use, and agree on its purpose
• Step 2. Determine the beginning and end points
• Step 3. Identify each step in the process
• Step 4. Put the steps in order
• Step 5. Review and edit the first draft
• Step 6. After a day or two, review the flowchart with the team for input
What to do with your workflow map

• Look at your workflow map and examine it
  – Beginning and end points
  – Each activity and wait symbol
  – Decision points
  – Hand-offs (where one person finishes his or her part of the process and another person picks it up)

• Ask questions about the workflow map
  – Does that step really need to be there?

• Map out the improved process
How *not* to do workflow mapping

- Map out the processes you *wish* you had
- Interview a few key informants to understand the process instead of shadowing everyone involved in the process
- Ignore the opinions of those people who know the process best
- Put your workflow map on the shelf and don’t look at it again
Achieving meaningful use requires workflow change

• Meeting meaningful use requires practice staff to perform functions they may not have performed before
  – Example: Practices will need to provide patients with an after visit summary

• Meeting meaningful use requires efficient high-quality and patient-centered use, not just any use, of the EHR
## Meaningful use criteria: Stage 1

<table>
<thead>
<tr>
<th>Core requirement</th>
<th>Workflow changes needed?</th>
<th>Workflow change ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record patient demographics</td>
<td>Yes</td>
<td>Someone in the practice needs to enter and update demographics</td>
</tr>
<tr>
<td>Record vital signs electronically</td>
<td>Yes</td>
<td>Medical assistant adds to rooming tasks: calculating BMI, entering height, weight, BP, growth charts into EHR</td>
</tr>
<tr>
<td>Maintain up-to-date problem list</td>
<td>Yes</td>
<td>Clinicians often fail to keep problem lists updated. MA reviews problem list during rooming and reminds clinician to update. MA does not make updates in EHR</td>
</tr>
<tr>
<td>Maintain active med list</td>
<td>Yes</td>
<td>MA does med-rec during rooming and makes or pends updates in EHR</td>
</tr>
<tr>
<td>Maintain active allergy list</td>
<td>Yes</td>
<td>MA has series of questions about allergies and is responsible for this task</td>
</tr>
<tr>
<td>Record smoking status</td>
<td>Yes</td>
<td>MA adds this to rooming task and could do brief counseling (readiness to change, perhaps call state quit line)</td>
</tr>
<tr>
<td>Core requirement</td>
<td>Workflow changes needed?</td>
<td>Workflow change ideas</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Provide patients with clinical summaries for each office visit</td>
<td>Yes</td>
<td>The clinician does this and trains MA to carry it out</td>
</tr>
<tr>
<td>E-prescribing</td>
<td>Yes</td>
<td>For initial prescriptions, clinicians do the e-prescribing, but for some chronic refills, MA could do the refill based on standing orders from clinician</td>
</tr>
<tr>
<td>Drug-drug and drug-allergy interaction checks</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Exchanging electronic information with other sites of care</td>
<td>Yes</td>
<td>Care coordinator (probably RN) can assist clinicians with this, particularly tracking/follow-up. If there is no RN, a workflow map would show which steps could be performed by a non-clinician staff person</td>
</tr>
<tr>
<td>Implement a decision support rule and track compliance with the rule</td>
<td>Yes</td>
<td>Tracking compliance could be done by RN care manager</td>
</tr>
<tr>
<td>Systems to protect privacy and security of patient data</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Report clinical quality measures to CMS or states</td>
<td>Yes</td>
<td>Someone would be responsible, perhaps practice manager. The responsible person would need training in CQI, numerators and denominators, measures, etc.</td>
</tr>
<tr>
<td>Menu of additional tasks (choose 5 out of 10)</td>
<td>Workflow changes needed?</td>
<td>Workflow change ideas</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Drug formulary check system</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Lab results into EHR</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Generate lists of patients for QI or outreach (registry)</td>
<td>Yes</td>
<td>The generation of the lists is a technical issue, but panel managers will be needed to work the lists to see which patients need which services, and provide outreach or in-reach. MAs could be the panel managers except their workload is becoming excessive. MAs would do in-reach.</td>
</tr>
<tr>
<td>Electronic health education resources</td>
<td>Yes</td>
<td>Health educator is responsible (if available), but clinicians/MAs would also provide the information to patients</td>
</tr>
<tr>
<td>Med reconciliation between care settings</td>
<td>Yes</td>
<td>Between settings is complex, but within the primary care practice, MA can do med-rec as part of rooming</td>
</tr>
<tr>
<td>Summary of care record for referrals and transitions</td>
<td>Yes</td>
<td>This is mainly a clinician function but it also needs to be tracked and reminders done (MA and/or RN care coordinator)</td>
</tr>
<tr>
<td>Immunization data to regional registries</td>
<td>Yes</td>
<td>Someone on team responsible</td>
</tr>
<tr>
<td>Surveillance data to public health agencies</td>
<td>Yes</td>
<td>Someone on team responsible</td>
</tr>
<tr>
<td>Patient reminders for prevention/chronic care</td>
<td>Yes</td>
<td>This is a panel manager task</td>
</tr>
<tr>
<td>Patient access to lab results, problem and med lists, allergies</td>
<td>Yes</td>
<td>Creating a secure patient portal is technical issue, but actually providing the information would be an MA task</td>
</tr>
</tbody>
</table>
Suggested workflows for meaningful use

• The following workflow are examples

• How your practice works may be different

• Pilot the EHR workflows with one MA or one receptionist and one clinician and a couple of patients to see if they work
Example flowchart: documenting vital signs
(example, blood pressure)

MA calls patient from waiting room

MA takes the patient’s blood pressure

MA enters blood pressure in the EHR

Blood pressure is documented in EHR
Example flowchart: maintaining active medication lists

1. MA rooms patients
2. MA opens patient’s active medication list in the EHR
3. Does patient have an active medication list?
   - yes: MA performs medication reconciliation (med rec) with patient using med list
   - no: MA inputs medication name, dose, and instructions in patient’s medication list
4. See med rec workflow
5. MA updates list as needed
6. MA/clinician prints out after visit summary with updated medication list
7. MA checks for patient understanding of medications
8. End visit
9. MA updates patient’s list in EHR
10. Does clinician change medications?
    - yes: Clinician updates patient’s medication list in EHR
    - no: MA/clinician prints out after visit summary with updated medication list
11. MA sees clinician
12. Did the patient bring in all their medications?
    - yes: MA performs medication reconciliation (med rec) with patient using bottles
    - no: Obtain patient’s medication history from former primary care clinic
13. See med rec workflow
14. MA performs medication reconciliation (med rec) with patient using bottles
15. See med rec workflow
16. MA inputs medication name, dose, and instructions in patient’s medication list
17. MA updates list as needed
18. MA sees clinician

Medication reconciliation itself is a separate process that will not be discussed here.
Example flowchart: maintaining active allergy lists

1. MA rooms patients
2. MA confirms allergy list with patient
3. Does patient have an active allergy list?
   - Yes: MA asks patient if they have any allergies
   - No: MA inputs allergies into patient’s allergy list
4. Does patient have any new allergies?
   - Yes: MA inputs allergies into patient’s allergy list
   - No: Allergy list updated
Example flowchart: documenting smoking status for patients 13 and up

1. MA rooms patient
2. Is the patient 13 years old and up?
   - yes: MA checks EHR to see smoking status of patient
   - no: Not required to document smoking status
3. Is the smoking status date older than one year?
   - yes: MA asks patient if they smoke
   - no: MA documents smoking status in EHR
4. MA asks patient if they smoke
5. MA documents smoking status in EHR
6. Smoking status documented in EHR
Example flowchart: providing clinical summaries at the conclusion of appointments

1. Clinician finishes visit with patient
   - Does clinician finish documenting patient’s progress note?
     - yes: MA/nurse performs task and documents appropriately
       - MA/nurse prints out clinical summary
         - MA/nurse hands clinical summary to patient
         - Patient receives summary
       -否：Clinician finishes writing progress note within 3 business days
         - MA/nurse prints out clinical summary
         - MA/nurse mails clinical summary to patient
         - MA/nurse sends clinical summary via secure patient portal
         - Patient receives summary
     -否：Clinician informs MA/nurse that note is complete
       - How does patient receive clinical summary?
         - electronically: MA/nurse sends clinical summary via secure patient portal
           - Patient receives summary
         - mail: MA/nurse mails clinical summary to patient
           - Patient receives summary

Example flowchart: reporting on clinical quality measures to CMS (example: % of diabetes patients with A1c>9)

1. Reporting deadline: Within 7 days
   - Yes: Is your practice have a registry?
     - Yes: Practice should talk to EHR vendor about reporting functions
     - No: Does your practice have a registry?
       - Yes: Is your data manager familiar with data reporting?
         - Yes: Data manager opens registry or data reporting program
           - Yes: Are reports pre-made?
             - Yes: Data manager generates pre-made report
             - No: Data manager finds numerator and denominator from report
               - Yes: Data manager inputs numerator and denominator into excel spreadsheet
                 - Yes: Data manager calculates % by dividing numerator by the denominator (%DM pts with A1c>9/#DM pts with A1c>8# DM pts)
                   - No: Data manager sends report to CMS
             - No: Data manager queries number of patients in denominator (denominator=# of diabetes patients)
               - No: Data manager queries number of patients in numerator (numerator=# of DM patients with A1c>9)
                 - No: Data manager sends report to CMS
               - Yes: Data manager sends report to CMS
           - No: Data manager sends report to CMS
         - No: DELAY
           - Contact REC or LEC
       - No: DELAY
         - Contact REC or LEC
Example flowchart: reminders to patients for preventive and follow up care (example: outreach to patients due for annual FOBT)

1. First Friday of the quarter
   - Does practice have a registry? yes
     - Do patients on the list have visits scheduled? yes
       - Care team member performs in-reach to patients
     - no
       - Care team member indicates in registry that patient received FOBT cards
       - 1 month later, care team members run query of patients who received FOBT cards but have not completed FOBT in the last 11 months
   - no
     - Care team member prints reminder letters and labels for all patients on query list
     - Care team member mails out letters with FOBT cards
   - Contact EHR vendor about query function or talk to REC/LEC

2. Does EHR have query function?
   - yes
     - Care team member generates list of patients who have not completed FOBT in the last 11 months
     - See how to generate a query (list of patients) workflow
     - Do patients on the list have visits scheduled? yes
       - Care team member performs in-reach to patients
     - no
       - See in-reach workflow
     - Patient completes FOBT
   - no
     - Care team member repeats outreach next quarter
     - Are there patients still on this list? yes
   - Patients receive FOBT

3. no
   - Contact EHR vendor about query function or talk to REC/LEC
Example flowchart: how to change a job role using lab result follow up as an example

This is not a meaningful use requirement but will be needed to achieve meaningful use.
Conclusion

• Workflow mapping is a great tool to help implement EHR and achieve meaningful use
• EHR adoption does not equal meaningful use
• Workflow maps are a tool to improve care for patients, improve efficiency in practice, and redistribute work and job roles