Section 3.6 Design

Workflow and Process Analysis for CCC

This tool introduces the importance of workflow and process improvement in a community-based care coordination (CCC) program, describes the value of workflow and process analysis as a means to initiate change necessary for a CCC program, and provides instruction on workflow and process mapping.

Time needed: 3 hours

Suggested other tools: CCC Program Change Management; Workflow and Process Redesign for CCC; Workflow and Process Optimization for CCC; Workflow Process Chart Template

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Table of Contents

How to Use

1. **Review** the importance of workflow and process improvement in the context of implementing a community-based care coordination (CCC) program.
2. **Recognize** and instill in others the value that workflow and process analysis has in effecting changes needed in a CCC program.
3. **Study** the tools and techniques for workflow and process mapping to effectively map and analyze current workflows and processes.

Workflow and Process Improvement

CCC introduces numerous changes into a healthcare community. With its focus on population health management there is greater need to share data across the continuum of care, both in transitions of care for individuals and to monitor the population of those who are managing chronic illness in their homes. Clinical and financial data must integrated and available at one's fingertips. Analyses of patient risk must be made to stratify patients by level of care coordination needed.

In the past, providers waited for patients to request appointments with them. In a CCC program, patients need to be recruited into the program and providers must be proactive about ensuring that appointments are made and kept – not just to earn the reimbursement that the visit represents – but to manage access to the entire population, keep people well, and save money in the process. There is a greater need to communicate with community services (even if health information is not directly shared). Population health also focuses on wellness and preventive services, which often are processes that have not previously been a focus of the healthcare delivery system, have not been reimbursable for providers, and again, occur more in the home environment and with community resources.

CCC also entails different forms of communication and different considerations in choosing with whom to communicate and when. Patient home monitoring may be almost fully automated, and patients may also be seen in their homes. Hospitals are expected to contact patients after they leave the hospital. Providers are expected to check in with patients they have not seen on a regular basis. Patients are encouraged to self-manage their conditions, and supportive communications (also called motivational interviewing) represent new ways to hold conversations with patients. Providers need to empower patients to set their own action plans and visit agendas, and not to totally rely on the provider to be the "fixer of all health issues." Such communications represent a significant shift from how communications have occurred in the past, which have typically been paternalistic rather than patient-centered, and directive rather than partnering.

Selecting providers with whom to refer patients is also a new consideration for providers. In the past, there may have been a "buddy" relationship with those to whom patients were referred, where in a shared risk environment that typically accompanies a CCC program, it is important to evaluate a potential provider referral for the quality and cost of care that can be provided.

Changes brought about by CCC often entail the need to analyze current workflows and processes, improve upon workflows and processes, and in some cases to make adjustments through redesigned workflows and processes as new things are learned about CCC and optimization strategies are deployed.

As such, workflow and process improvement is not a one-time activity, but a part of a continual process improvement program. It is impossible for any community to implement, all at once, every conceivable new way to do things. It is best to lay the groundwork with essential changes and then proceed systematically to try out other strategies to move closer to a true CCC program. As such, workflow and process improvement should be performed at several junctures in development of a CCC program:

- **Workflow and process analysis** helps communities understand current processes, and when compared to needs helps stakeholders recognize the importance of change.

- **Workflow and process redesign** is the task of redesigning current processes to meet new needs and improve upon workflows and processes that no longer work in the new CCC environment.
- **Workflow and process optimization** is the ongoing task of monitoring whether or not the improved processes are working and continue to work when additional changes are made over time. Refinements in workflows and processes may be needed as the CCC program matures.

Workflow and Process Analysis as a Means to Manage Change

Process improvement experts suggest that the best way to overcome resistance to change is to engage users in making their own changes. Building trust is especially important in the clinical and broader community. It is important that users understand how and why certain processes are performed and that the data and information surrounding those processes are evidence-based and come from reliable sources.

When individuals take a critical look at the processes they currently perform, often recognition of bottlenecks, delays, duplication of effort, and other issues become very clear—and can be powerful motivators for change. Analyzing current processes and workflows encourage process improvement for several reasons:

- Understanding current processes and what changes are needed for CCC helps contribute ideas for improvement.
- Having a well-defined picture of current processes can help identify needed changes. People are often so accustomed to performing a process they often do not "see" what is broken.
- Correcting broken processes in advance of implementing a CCC program helps reduce the need for more change than necessary at a time when a lot of change is naturally occurring.
- Initiating process improvement early in a program reduces the feeling by users that change is being thrust upon them and they are being forced to accept someone else's changes. Even if the changes are the best possible, forced change is very often resisted. (See *CCC Program Change Management*.)

Workflow and Process Mapping

Workflow and process mapping is the task of documenting how workflows and processes are performed currently, or how changes will be made. It should be noted that a "process" is *work performed* and "workflow" is *how the work moves* from one stage to another toward the process' completion. Mapping a process and its workflow is a fairly well-defined science, with a number of tools and techniques that can be used to understand current workflows and processes as well as identify opportunities for improvement.

Process improvement is not a new concept for healthcare. However, the process of constructing a map and identifying areas for improvement may be new skills for healthcare professionals. In addition, process mapping for knowledge workers is often difficult because it is challenging to document one's thought process, and others who may attempt to do the mapping for them can't "see" their mental processes. Mentally performed processes, however, are as important to map,

analyze, and redesign as any other process. It is often found that mentally-performed processes are subject to assumptions, lack of information, and distractions which can result in errors or less than ideal decision-making.[1]

There are several steps in workflow and process mapping:

1. **Build cohesive teams** of individuals who actually perform the process(es) that will be impacted by the CCC program. It is the engagement of the actual persons performing the processes – because they know what they do – that (a) achieves the most accurate results, and (b) helps create "ah ha" moments in which the desire for change is cultivated.
2. **Orient team members** on the purpose of mapping current workflow and processes, and the ultimate goal of improvement in light of the CCC program that is being adopted. Individuals need reinforcement that this is a good use of their time.
3. **Select tools and methods**, and instruct team members. There are a variety of tools from simple to complex, manual to automated, those that follow "common sense" and those that follow a defined methodology. An important note is that many of the defined methodologies are derived from manufacturing processes. Assembly line production of widgets is often far removed from the focus on health care, and knowledge workers who perform mental processes. The best approach is one that marries the tools from manufacturing with the methodologies needed to understand healthcare-related workflows and processes.

   Although there are several types of tools commonly used, the following are most suitable for a CCC program. (Templates for each of the tools are provided at the end of this document.)

   - ☐ ***Swim lane process chart*** permits the arrangement of steps in a process into rows or columns (like "lanes in a swimming pool") that describe who or what department or entity performs various tasks in the process. This can be useful for spotting duplication of work and gaps, especially when transitioning care.
   - ☐ ***Flow process*** chart is one of the oldest tools and is generally focused on manual processes. However, it uses largely narrative descriptions of processes that clinicians tend to prefer, and incorporates process diagram symbols that can be used by analysts to help understand opportunities for improvement. It also encompasses some measurement of units of work, time, and other factors helpful when the mapping is also performed to estimate staffing needs and to address delays, excessive wait time, etc. The questions at the top are also good reminders of how to analyze a current process for improvement.
   - ☐ ***Systems flow chart*** is typically used when incorporating information flow. It is probably the most common tool used in process mapping today. Although all the tools may be supplemented with additional documentation, the systems flow chart frequently is supplemented with decision tables when there is complex decision making to be depicted. Instructions for use of this tool are provided in the next section.

   While these formal tools can be helpful, it is most important to use a tool that is user-friendly. Content is more important than format. Many organizations have been successful simply passing out sticky notes for people to write tasks on and then sequence

on a wall or large sheet of paper. Since process mapping can take a fair amount of time and often it is difficult to remember every task performed, giving everyone a pad of sticky notes and having them write down tasks as they are performed can be a quick and accurate way to start the process. Once posted on a wall or large sheet of paper, everyone can contribute to improving the map, including showing variation by using different color sticky notes.

4. **Map current processes and workflows**. Ensure that all details of processes are being addressed. Where there are alternative flows or multiple ways information comes to you or is used, include all possible choices. If each clinician or each nursing unit performs processes differently, map all of the processes separately, or use a spreadsheet to annotate differences. While the goal of processing mapping (or CCC) is not to standardize everything, a judicious amount of standardization where feasible can contribute immensely to a smooth-running CCC program.

    - ☐ *Map current processes and workflows as they are actually performed*, not how they are intended to be performed. A large proportion of issues with current workflows and processes where there is not an impending change to be accommodated is that the intended processes are not being performed correctly. The process is fine, the performance is not. But the performance needs to be understood in order to potentially make adjustments in the process that would help ensure correct performance.
    - ☐ *Avoid identifying opportunities for improvement prior to completely mapping current processes*. Individuals who are new to process mapping often find they get excited about the possibility for change – which is desired, but then start to anticipate the changes – which may result in not attending to the completion of the current mapping or in some cases grandiose expectations that may not be achievable.

5. **Obtain baseline data**, using statistical charts as necessary, to define goals and expectations for change.

Using the Systems Flowchart to Map Current Processes

In general, there are two basic symbols that can be used to depict the flow of all processes. Additional symbols, such as depicted in the Flow Process Chart, are sometimes used to help highlight special types of processes (such as delays or transportations) and also to help users navigate large maps.

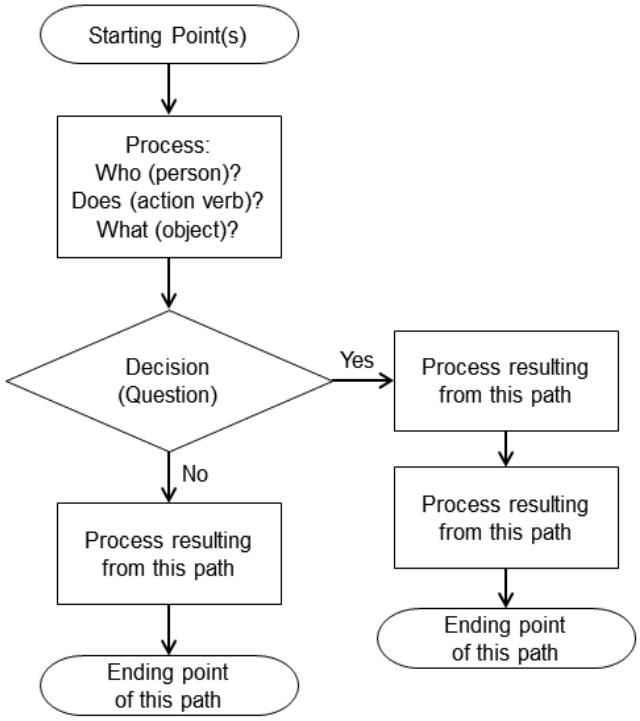
The key symbols and how they are used are:

Oval: Designates boundaries (starting and ending points) of the process currently being documented. These are especially helpful when wanting to relate one process map to another. Ovals, or other shapes, can also be used to designate when a flow must be broken up into segments on the same page or on multiple pages.

Rectangle: Explains the process. Included in this symbol should very briefly be information on:

- Who (by credential; not name)
- Does (action verb)
- What (process)

Diamond: Identifies decision points. Every process will have multiple decision points, most of which are mental processes. In general, a systems flowchart with no decision symbols can be considered to be incomplete (or unnecessary because the process flow is then a straight line).



Decision points include:

- When is there a point where the flow might vary? Describe this by asking a question in the decision symbol that illustrates what information is needed to make the decision. For example:
    - Is this patient ready for discharge?
    - Where is the patient being discharged to?
- What are the choices or alternatives in how the flow varies? Each decision symbol must have at least two branches. (For example: Yes, ready for discharge or no, not ready for discharge; discharge to home or discharge to nursing home.) It is easy to add a third branch if necessary (e.g., home, home with home health, nursing home). If more branches are needed, two possibilities should be considered:
    - The process actually has multiple sequential decisions, each of which should be illustrated by a separate decision symbol and branches. This is most often the case in healthcare process mapping, often due to new process mappers not mapping at a detailed enough level.
    - The process does have only one decision with many more branches, in which case there should be reference to a decision table made in the decision symbol. The decision table can then lay out all the possible branches.[2]

Analyzing Current Process Map

Although it is always tempting to start analyzing the current process for improvement, the first step in analyzing a current process should be to ensure that it is complete. It is often necessary for someone not familiar with the process to look at the map and attempt to understand it. If there are any questions or flow is not clear, these will be highlighted and need to be corrected.

In addition, if there is more than one person, group, or entity conducting the same process, there could be variation in how the process if performed. Part of analyzing the current process map should be to attempt to capture the variation. As noted above, this could be achieved by different colors for each variation, or separate maps can be drawn and then superimposed on each to identify variants. Variation is acceptable if there is no difference in outcomes – including the time it takes to perform the process, the cost of the process, and the results of the process. If there is strong evidence that there are issues with variation, one key finding of the analysis of the current process is to find common ground and attempt to reduce variation.

Preparing for Workflow and Process Redesign

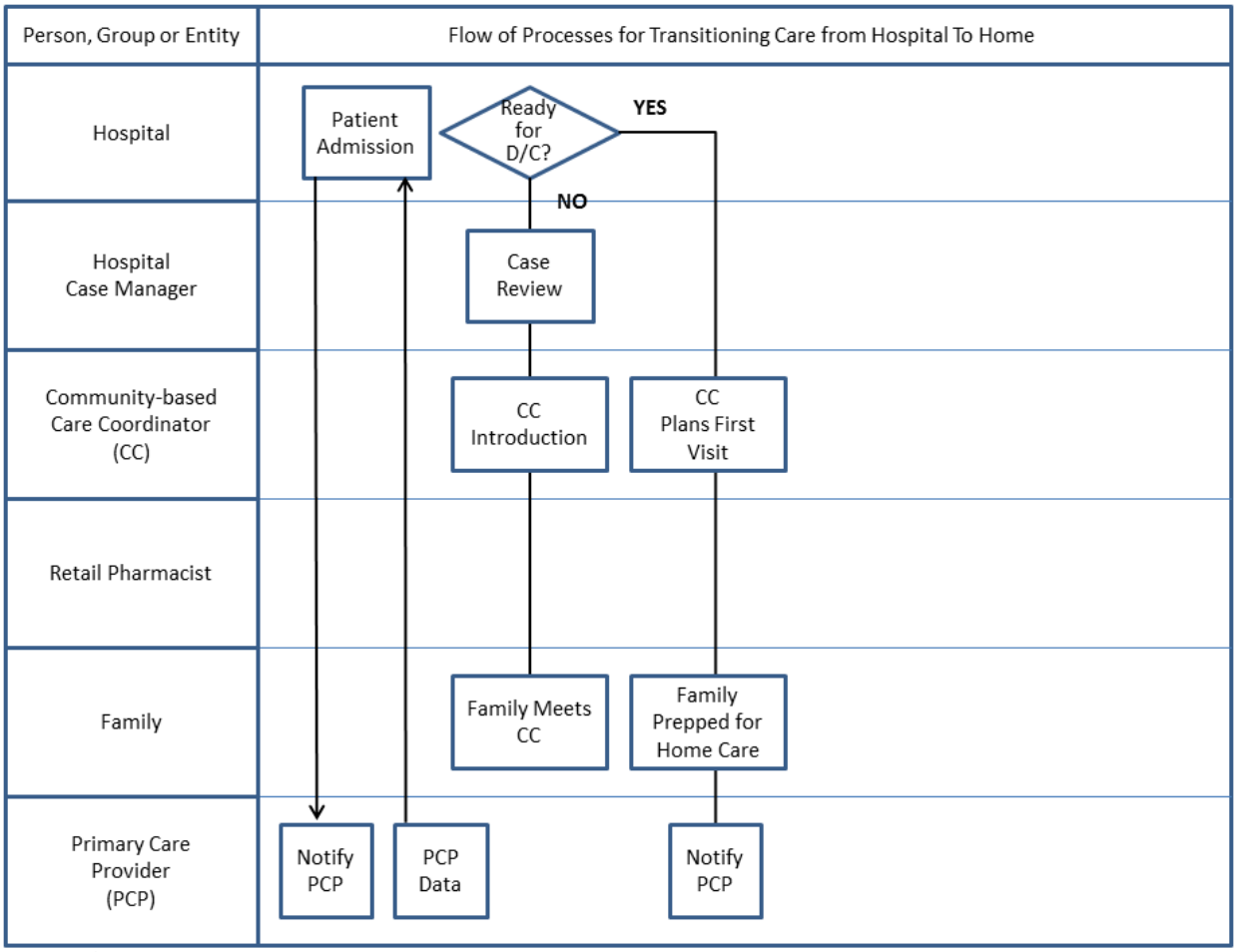
In preparing to make a change in a process' workflow, it is very important to remember that change is difficult. There must be a valid reason for the change, and there must be evidence that the change is needed. Physicians, in particular, are reluctant to make a change when it is not clear that the change is needed or they cannot support without evidence that the change will be better.

Analysis of the current process map should ensure that supporting documentation is available to help with the redesign for improvement. Supporting documentation may include policies and procedures for more detail on the process. Some desired documentation may not be available. For example, if a workflow is problematic because there is a lack of patient health information, it may be necessary to conduct a short survey about what specific information is needed, how often it is or is not available, and/or what sources are more remiss than others in providing the documentation.

Whatever supporting documentation can be gathered in advance of making a decision about how a process' workflow should be changed will help gain acceptance of the change.

(See *Workflow and Process Redesign for CCC* for tips on redesigning workflows.)

Swim Lane Process Chart Template (*with partial example*)



Workflow Process Chart Template

Flow Process Chart															
Process: ❑ Present ❑ Proposed								Analysis (✓)							Performed by: Date:
Operation	**Transportation**	**Inspection**	**Decision**	**Delay**	**Storage**	**Time**	**Quantity**	Why is it done this way? Why is it done by this person? Why is it done at this time? Why is it done at this location? Why is it done – is it necessary? **Details of present/proposed process:**							**Notes**
○	⇨	□	◇	D	▽			1.							
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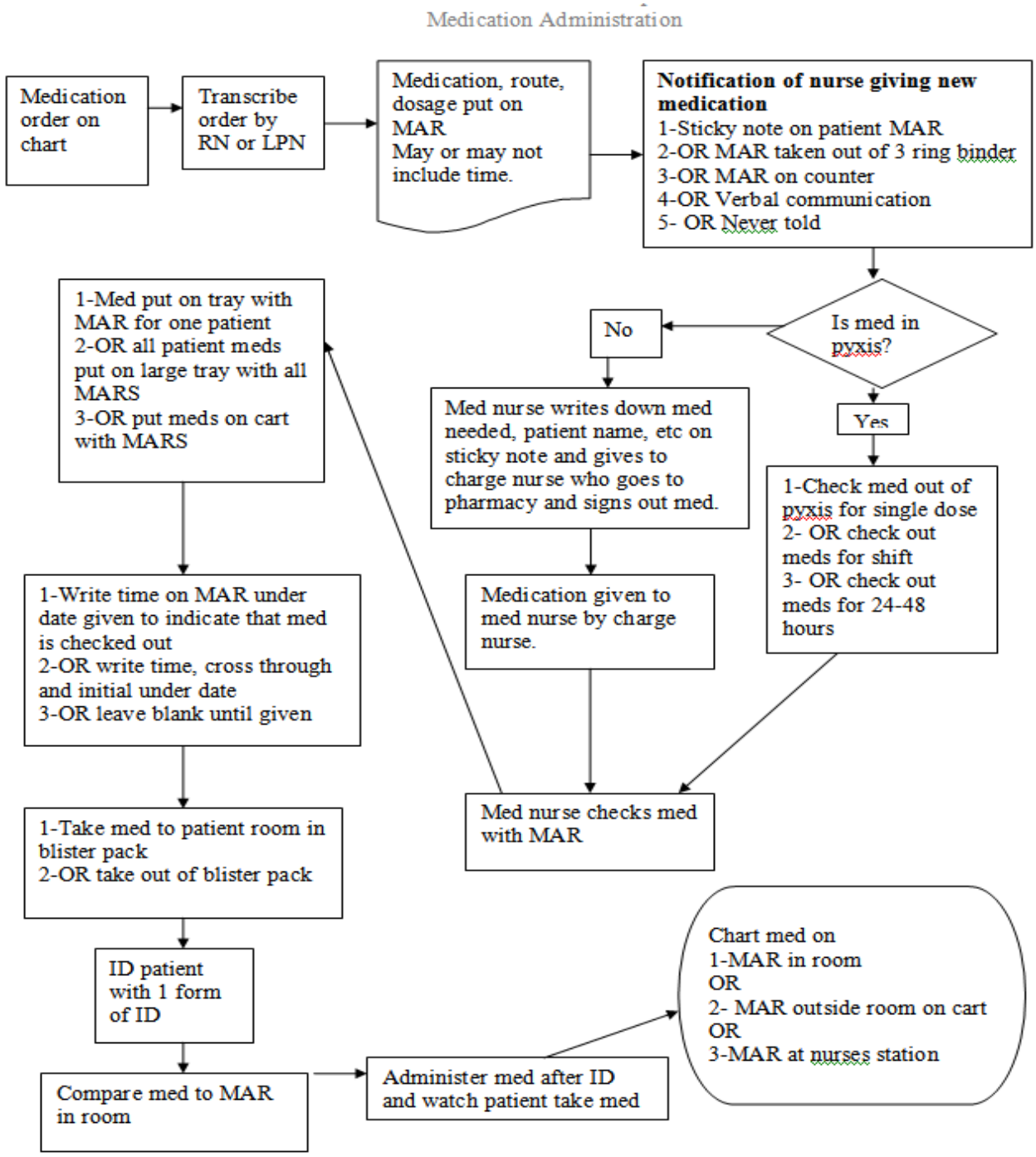
Sample Systems Flow Chart

Note: This is a process map from a critical access hospital with five nurses planning to implement bar code medication administration. The numbered items in the symbols represent variations in how nurses perform the specific component of the process. While the map has some "technical errors" in construction, it is a good illustration that maps do not have to be perfectly constructed – they just need to be complete and accurate. This hospital did an excellent job of capturing variation, some of which were identified immediately as either against policy or at risk for errors and could be addressed even before automation was implemented.



References

[1] Amatayakul, M. (2012). *Process Improvement with Electronic Health Records: A Stepwise Approach to Workflow and Process Management*. CRC Press – Taylor & Francis Group.

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