

Section 4.19 Implement

Workflow and Process Redesign for CCC

This tool provides the “second step” after initial workflow and process analysis has been completed, and includes instructions for identifying problems needing improvement, determining the root cause of the problem, and redesigning and testing the improved process.

Time needed: 3 hours

Suggested other tools: Workflow and Process Analysis for CCC; Workflow and Process Optimization for CCC; CCC Program Change Management

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How to Use

1. **Review** the *Workflow and Process Analysis for CCC* tool if not previously studied. That tool provides the basic structure for mapping current workflows and processes. If a workflow is being newly created, the *Workflow and Process Analysis for CCC* tool can help with drafting the concept of how the new workflow and process might be performed.
2. **Study** the current workflow and process map to identify areas needing improvement, or even where there is simply something new that must be added to an existing process. Determine the root cause of problem(s) to avoid redesigning only a symptom of the problem and not the underlying issue, or the redesigned process will continue to be problematic.
3. **Document** the redesigned process in a new process map, test out the new process, make any corrections, implement the new process, and monitor results.

Analyze the Current Workflow and Process

When creating the workflow and process map, it should be analyzed to ensure completeness and accuracy, including identifying any variations. Caution was suggested that the current workflow and process should not be redesigned until the current map was finalized.

Once finalized, the current workflow and process map should be analyzed to:

1. **Identify problems needing improvement.** The following are potential problem areas to study:
 - **Bottlenecks** – A bottleneck is a part of a process that causes the entire process to slow down or stop. An example may be that only a single person is available to perform that part of the process and queues regularly form waiting for that person. Another example may be that there is consistently a lack of information that needs to be acquired before the process can proceed. Obtaining the information may take calls to other organizations, family members, etc.
 - **Sources of delay** – A delay in a process means that there is an interval of time where the process is not being worked on. In identifying delays, it is important to distinguish delays from purposeful time outs (which are control points in health care) or waiting periods in which monitoring is occurring but further action is ceased (which also is necessary in health care to ensure that a patient is not having adverse reaction or other undesired event as a result of part of a process). A true process delay is one that results in a waiting period that should not have to occur if the workflow in the process was corrected.
 - **Rework due to errors** – Rework due to errors can be avoided if the error situation is improved upon. The focus on the process should be to consider what errors do occur, how they occur, and the probability that errors could occur and the impact they may have. Errors can occur as a result of poorly designed processes, although often they occur when people do not follow the process as intended. Errors should be a target of investigation, as it is possible that workarounds or ignoring parts of a process are occurring because part of the workflow is problematic.
 - **Role ambiguity** – Where there is role ambiguity between two or more people, gaps or unnecessary duplications often result. This is very likely to occur when implementing totally new processes with new types of workers. For example, the distinction between a case manager's role in preparing a patient for discharge and a care coordinator's role in preparing the patient for accepting care coordination support once in the home could easily result in gaps or unnecessary duplications if processes performed by each are not clearly delineated.
 - **Gaps in process completion** – When a part or parts of a process are routinely not completed, further investigation should identify their cause. Very likely, the gap can be an oversight as a result of lack of information or thinking that the part of the process was performed by someone else. Alternatively, a gap can occur because the workflow is such that a person is distracted and forgets the process, a person believes that part of a process is not necessary, or simply because the person dislikes performing that part of the process.

- ***Unnecessary duplications*** – Duplication is not always unnecessary in health care. Duplication provides a system of checks and balances where there is high risk. However, unnecessary duplication, such as repeatedly asking a patient for the same demographic information, can be cumbersome for the person required to ask for the information and annoying to the patient. Automation should be able to alleviate some of this. At any time duplication is believed to occur, it is important to stop and determine if the duplication is truly unnecessary and potentially find alternative ways to ensure checks and balances are in place without rote duplication which can actually result in further errors.
- ***Unnecessary steps*** – Similar to unnecessary duplications, some steps have been built into health care processes intentionally as control points. However, some of these have long been resolved in other ways, such as by automation, yet continue to be the standard of practice. As with unnecessary duplications, always consider the impact of making the change.
- ***Long cycle time*** – Long cycle time refers to a situation where it takes a long time to perform a task during which there can be intervening events that actually change the outcome of the process before the process itself is finished. An example is when a patient calls for an appointment to address a current health care issue and the issue “goes away” before the patient can be seen by the provider. In this case there may be no resultant harm to the patient’s health (although the patient’s experience of care may be harmed). However, there often can be either immediately obvious harm or delayed harm. In the situation described it is possible that the patient’s issue actually is still present but the patient has learned to live with the issue – which then could exacerbate and become worse than if it had been taken care of promptly. As a result, long cycle time is always an important issue to try to resolve through process improvement.
- ***Lack of adherence to standards*** – Some believe that standards of practice in health care refer to what is usual. In the case of improving processes, however, standards refer to practices which have been researched with scientific evidence confirming their validity and reliability. Much like gaps, such lack of adherence may be due not to how the process is *intended* to work, but how it is carried out.
- ***Lack of information*** – This is one of the key issues with many health care processes, especially those that have new components or are new processes entirely. Lack of information should be easily repairable if the issue is actually that the information is not in an information system or not provided in an easy-to-use manner. However, if the information is not collected at all, that may or may not be a solvable problem. If the information *can* be collected but is not currently collected, obtaining the information will add time to the overall process.

If the information is not collected currently it could be that the information *cannot* be collected or cannot be collected with any degree of accuracy. This becomes a case of “be careful what you ask for.” Of course, lack of information could be similar to lack of adherence to standards when the person performing the process fails to obtain or look for the information. Therefore the process should be analyzed to see if there are better ways to make the information more visible.

- ***Lack of quality controls*** – Several control factors have been noted above, and lack of controls is a vitally important issue to address. Quality controls, however, should be easy to use and meaningful.
- 2. Identify where new processes and their workflows not previously performed can be added to existing processes**, or whether these must be separate processes. In a CCC program, there will be new processes never performed. However, just because they are CCC processes does not mean that the care coordinator is necessarily the appropriate person to perform all the new processes, or that the care coordinator is qualified (or may be over qualified) to perform the work. This is what makes implementing a CCC program challenging. When designing or optimizing CCC processes and workflows, all stakeholders' processes must be considered.

Determine Root Cause(s) of Problems

Sometimes a problem is not what it appears to be. Much like picking weeds, if the root is not removed the weed will simply grow back. Or to use a health care analogy, fixing a symptom does not necessarily cure the disease. It may be necessary to use other tools to determine the real reason for workflows or processes that do not work well.

Some tools you might consider using include:

- ***Statistical charts***
 - ***Radar*** – This tool graphically shows the size of gaps among performance areas. It can be useful in pinpointing what person, group, or entity is most contributing to a problem so that further investigation can be made and other potential issues discovered.
 - ***Pareto*** – The Pareto chart commonly refers to the 80/20 Rule: in plotting all factors contributing to an issue, the 20 percent of causes contributing to 80 percent of the problems often can be identified. Once the factors that have the greatest cumulative effect on a process are identified they can be targeted for improvement, generally with positive results overall.
 - ***Histograms*** (a.k.a. bar charts) and pie charts graphically demonstrate frequency with which various values of a particular variable occur in a set of data. These can help identify problems or in choosing solutions.
 - ***Scatter diagrams*** – These diagrams help analyze relationships between two variables to determine, through the use of correlation, the likelihood of one variable causing another.
 - ***Control chart*** – The control chart is used to monitor quality, where a run chart with a center line representing the mean value of the process is used with an upper control limit and a lower control limit to monitor where a process has gone out-of-control and needs correction. The timing and persons involved at the time of the out-of-control events can be further analyzed for root cause.
- ***Relations diagram*** – This diagram depicts related events, showing those which are causes and which are effects.

- ***Affinity diagram*** – This diagram helps synthesize a large number of potential causes by finding relationships between effects.
- ***Force field analysis*** – This technique looks at all forces for and against a decision that enables weighing pros and cons of change.
- ***Cause & effect diagrams*** – This technique, also called a Fishbone diagram (or Tree diagram when positioned vertically) is used to explore all potential or real causes that result in a single effect by placing causal categories along the “spine of a fish” to describe the relative importance of a cause by its proximity to the spine.
- ***Physical layouts and movement diagrams*** – These are architectural drawings of space that can be evaluated for optimal placement of equipment, supplies, computer access, staff positioning, patient traffic, etc.

Redesign Workflow and Process for Improvement

Once root causes of problems are identified, it becomes more apparent how to design an improved workflow and process. The root cause of a problem can shift the focus from what may only be a symptom to an underlying cause that may be different than initially anticipated.

The more frequently workflows and processes are analyzed and designed, the more likely the organization will gain from experience and be able to respond more rapidly to workflow and process issues. However, the fact that change takes time to effect may only be slightly mitigated by being more responsive to needs.

In performing workflow and process redesign, it is necessary to:

1. **Document redesigned workflows and processes in an “improved” process map.** Keep the “current” version of the process map, however, as a learning tool and a resource in the event the redesigned workflow and process does not work as expected.
2. **Create use cases, as appropriate.** While testing new and redesigned workflows and processes is ideal, it is not always feasible to conduct a live test. An alternative is to create use cases and to have those who are to implement the improvements evaluate them.

A *use case* is a written description of each step in a process compared with the anticipated result (which may be a person’s response, an information systems response, a time savings, etc.). Persons who will be implementing the improved process can review the steps and evaluate whether they believe the response is correct. The narrative description of each step is usually “user friendly” so that the person can also evaluate how comfortable they feel about the process.

The following is an example of a use case:

Use Case for Improved Patient Discharge Coordination Process <i>[example]</i>	
Process Steps	Result
1. Care coordinator is notified via text message of the issuance of an admission order in the electronic health record for a patient candidate for CCC.	Care coordinator reviews schedule on smart phone synchronized with the CCC program's global calendar and schedules time to meet the patient within one day of admission.
2. Care coordinator reviews information about patient via the EHR and develops a preliminary care coordination plan in preparation for meeting with the patient.	Care coordinator is prepared to meet with the patient with important health information available and with a template ready to insert additional documentation.
3. Care coordinator is notified via text message of the issuance of a discharge order in the EHR for a patient candidate for CCC.	Care coordinator reviews schedule on smart phone synchronized with the CCC program's global calendar and books time to meet patient at least two hours prior to discharge.

As the use case is reviewed, make any necessary modifications.

3. **Train staff on redesigned workflows and processes**, using the redesigned workflow and process map as well as the use case if applicable.
4. **Incorporate redesigned workflows and processes into policy and procedures.** Some organizations directly move the workflow and process map into their procedures.
5. **Establish a designated date** for when improved workflow and process will be implemented.
6. **Monitor results of improved workflow and process.** Provide positive feedback on all aspects that are going well to all who must make the change. Respond appreciatively for suggestions for further changes and take these into consideration based on results.

(Note: Some staff expected to make a change may offer many suggestions for changing the redesigned workflow and process with the hope that it will eventually be returned to the "old way." There will also always be a period of acclimation for any change. This also must be considered in evaluating results.)

Prepare to Optimize Redesigned Workflows and Processes

As noted above, a period of acclimation is necessary for persons to become comfortable with improved workflows and processes. In addition, too much change all at once is generally not well-tolerated in any environment. However, once many of the workflows and processes have been redesigned successfully and new essential processes have been put into place, more advanced techniques and strategies can be planned. Workflow and process redesign should be a significant factor in optimization. (See *Workflow and Process Optimization for CCC tool*.)

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