



## CHAPTER TWENTY-ONE

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# CHANGE CONCEPTS

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### Chapter Purpose

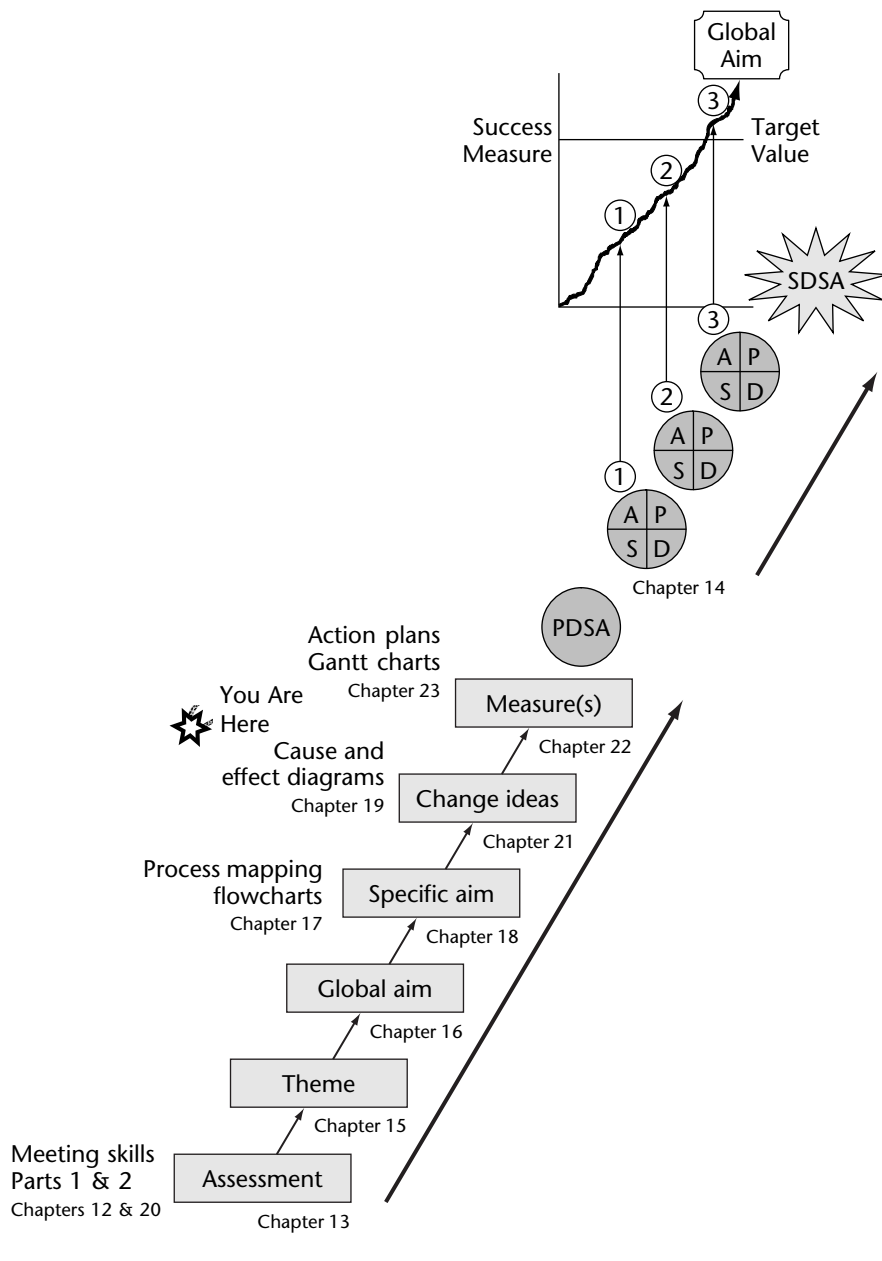
*Aim.* To understand how change concepts can contribute to developing new change ideas for improvement.

*Objectives.* At the completion of this unit, you will be able to

- Define a change concept.
- List common change concept categories.
- Identify when change concepts enter the overall improvement process.
- Describe how a change concept can lead to specific change ideas.
- Describe a clinical example of a change concept applied to a change idea.

Change concepts help to stimulate change ideas for testing the process you hope to improve. The more good change ideas you have the better your prospects for successfully reaching your aim. This chapter describes how you can use a change concept to stimulate specific change ideas and thereby expand your options for redesigning processes and for improving care. A good time to employ change concepts is when you are considering possible changes that can be tested using the plan-do-study-act (PDSA) method (see Figure 21.1).

FIGURE 21.1. IMPROVEMENT RAMP: CHANGE IDEAS.



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## What Is a Change Concept?

*Change concepts* are stimulants for developing and designing detailed and specific tests of change. Combining change concepts with your deep knowledge of a process can lead you and your team to new thinking about the process and specific, high-yield change ideas to test. De Bono (1992) suggests that if you understand an underlying concept on which a specific idea is based, you can use that concept to develop numerous ideas and options.

It is important to note that a change concept cannot be used as a substitute for examining the process you aim to improve. Using change concepts is successful when coupled with your process knowledge.

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## Why Use Change Concepts?

Change concepts can help you clarify your thinking about where in a process a change can be made to result in substantive improvement. Change concepts are useful for jump-starting improvement ideas and offering new perspectives for change that you might not have considered previously. When you are ready to consider changes in a process, using change concepts can enrich your thinking and amplify idea generation.

Change concepts have been popularized in two books:—*The Improvement Action Guide: A Practical Approach to Enhancing Organizational Performance* (Langley, Nolan, Norman, Provost, & Nolan, 1996) and the *Clinical Improvement Action Guide* (Nelson, Batalden, & Ryer, 1998). Langley et al. list seventy change concepts, based in part on Deming's system of profound knowledge (Deming, 1986). These concepts and their categories are listed in Table 21.1.

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## How Can You Use Change Concepts in a Process?

Figure 21.2 provides a visual example of some ways that change concepts can be used to redesign care. This diagram is based on actual improvement work focusing on hip replacements. The interdisciplinary lead improvement team's aim was to achieve superior clinical and functional health status, satisfaction, and cost outcomes for this population. By first creating a flow diagram and studying the current process of care and then considering change concepts, the team was able to generate specific ideas for improving the hip replacement process.

**TABLE 21.1. LANGLEY'S CHANGE CONCEPTS.**

Category	Change Concepts
<b>Eliminate waste</b>	<ul style="list-style-type: none"> <li>• Eliminate things that are not used</li> <li>• Eliminate multiple entry</li> <li>• Reduce or eliminate overkill</li> <li>• Reduce controls on the system</li> <li>• Recycle or reuse</li> <li>• Use substitution</li> <li>• Reduce classifications</li> <li>• Remove intermediaries</li> <li>• Match the amount to the need</li> <li>• Use sampling</li> <li>• Change targets or set points</li> </ul>
<b>Improve work flow</b>	<ul style="list-style-type: none"> <li>• Synchronize</li> <li>• Schedule into multiple processes</li> <li>• Minimize handoffs</li> <li>• Move steps in the process close together</li> <li>• Find and remove bottlenecks</li> <li>• Use automation</li> <li>• Smooth workflow</li> <li>• Do tasks in parallel</li> <li>• Consider people as in the same system</li> <li>• Use multiple processing units</li> <li>• Adjust to peak demand</li> </ul>
<b>Optimize inventory</b>	<ul style="list-style-type: none"> <li>• Match inventory to predicted demand</li> <li>• Use pull systems</li> <li>• Reduce choice of features</li> <li>• Reduce multiple brands of same item</li> </ul>
<b>Change the work environment</b>	<ul style="list-style-type: none"> <li>• Give people access to information</li> <li>• Use proper measurements</li> <li>• Take care of basics</li> <li>• Reduce demotivating aspects of pay system</li> <li>• Conduct training</li> <li>• Implement cross-training</li> <li>• Invest more resources in improvement</li> <li>• Focus on core processes and purpose</li> <li>• Share risks</li> <li>• Emphasize natural and logical consequences</li> <li>• Develop alliance/cooperative relationships</li> </ul>
<b>Enhance the producer/customer relationship</b>	<ul style="list-style-type: none"> <li>• Listen to customers</li> <li>• Coach customers to use product/service</li> <li>• Focus on the outcome to a customer</li> <li>• Use a coordinator</li> <li>• Reach agreement on expectations</li> <li>• Outsource for "free"</li> <li>• Optimize level of inspection</li> <li>• Work with suppliers</li> </ul>

TABLE 21.1. (Continued)

Category	Change Concepts
<b>Manage time</b>	<ul style="list-style-type: none"> <li>• Reduce setup or startup time</li> <li>• Set up timing to use discounts</li> <li>• Optimize maintenance</li> <li>• Extend specialist's time</li> <li>• Reduce wait time</li> </ul>
<b>Manage variation</b>	<ul style="list-style-type: none"> <li>• Standardization (create a formal process)</li> <li>• Stop tampering</li> <li>• Develop operational definitions</li> <li>• Improve predictions</li> <li>• Develop contingency plans</li> <li>• Sort product into grades</li> <li>• Desensitize</li> </ul>
<b>Design systems to avoid mistakes</b>	<ul style="list-style-type: none"> <li>• Exploit variation</li> <li>• Use reminders</li> <li>• Use differentiation</li> <li>• Use constraints</li> <li>• Use affordances</li> </ul>
<b>Focus on the product or service</b>	<ul style="list-style-type: none"> <li>• Mass customize</li> <li>• Offer product/service anytime</li> <li>• Offer product/service anyplace</li> <li>• Emphasize intangibles</li> <li>• Influence or take advantage of fashion trends</li> <li>• Reduce the number of components</li> <li>• Disguise defects or problems</li> <li>• Differentiate product using quality dimensions</li> </ul>

Source: Langley et al., 1996. Used with permission.

## What Are the Next Steps?

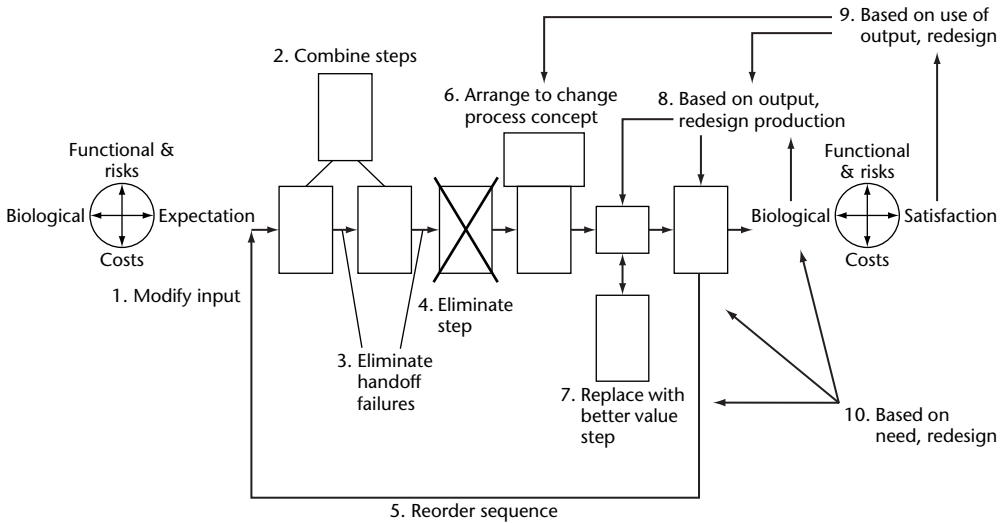
After refining an idea for change—based on process knowledge and change concepts—you are ready to design a test of change using the PDSA method.

## Case Studies

### Intermediate Cardiac Care Unit (ICCU)

The ICCU's lead improvement team brainstormed ideas on *where* to focus improvement. Once the team members had all contributed their ideas, they multi-voted, which led them to a decision to focus on morning rounds. They learned

**FIGURE 21.2. CHANGE CONCEPTS APPLIED TO A CLINICAL PROCESS.**



that morning rounds were not interdisciplinary and that the clinical team often did not know the specific care plans for each patient. This resulted in inconsistent communication to patients, families, and staff concerning the plan of the day, which in turn led to delays in discharges and transfers. After morning rounds were selected as a focus, the team brainstormed ideas for improvement. Walking rounds with all professionals—including patients and families—was suggested, as well as holding consolidated interdisciplinary rounds in the conference room, and “just forcing” people to communicate better. After the team members brainstormed all their ideas, they multi-voted and decided to test the approach of consolidated interdisciplinary rounds in the conference room. It was clear that the different clinical disciplines needed to learn to value each other’s contributions to patient care and also to learn how to communicate differently.

The first PDSA cycle was conducted. This led to many subsequent PDSA cycles, each building on the lessons from the prior cycle (see Figure 14.7). The new insights about communication, professional relationships, and patient care plans were enormous. The medical director spoke frequently with the attending staff and house staff to coach and educate colleagues about the process changes that were being tested. To keep everyone up to date, the ICCU nursing director

communicated frequently with all nursing staff using verbal communications, change of shift updates, and visual displays.

### Plastic Surgery Section

With the specific aim to decrease the backlog for appointments by 50 percent (with a starting baseline measure of ninety-nine days), the Plastic Surgery Section lead improvement team designed tests of change for *shared medical appointments*, a type of medical care popularized by Noffsinger (Carlson, 2003).

The Plastic Surgery team reviewed its flowchart and fishbone diagram to see how shared medical appointments might improve patient satisfaction and clinical productivity while reducing the backlog of patients. The new model included the following elements:

- Patient knowledge: previsit mailing of comprehensive information
- Flowchart of new process: a detailed diagram of patient flow and provider actions
- Role redesign: changing the role of the registered nurses

Developing the detailed diagram of process flows was a key to success for the first shared medical appointment. The lead improvement team also identified the importance of a detailed plan of education and training to optimize the roles of the RNs. The team also believed that practice makes perfect, so conducting mock shared medical appointments—to simulate the patient and provider flows—was an important part of preparing for the first shared medical appointment.

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### Review Questions

1. How might you define change concepts?
2. What are eight categories of change concepts?
3. Where do change concepts fit in the overall improvement process?
4. How does a change concept lead to a change idea?
5. What are the next steps after you have selected a change concept?

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### Between Sessions Work

1. Review the change concept list, and use it to stimulate thinking about ways to redesign your process.
2. Research the best-known change ideas for the process you aim to improve.

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## References

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