

Preparing for Accreditation: Getting the Picture

How to Prepare Process Flowcharts

by: Julie Coffey

Previously, I discussed the rationale and benefits of adapting a process approach to laboratory management and touched on how to develop and implement processes.¹ It is essential to document your processes in some format—text, tables or flowcharts. In this article, I provide more detailed guidance on how to map processes.

Benefits of mapping and documenting processes are:

- ♦ Understanding how processes interact
- ♦ Highlighting process flaws
- ♦ Streamlining and reducing cost
- ♦ Improving work flow
- ♦ Obtaining consistent results
- ♦ Identifying high-risk processes (those that are prone to error, or for which an error is potentially catastrophic)

STEP ONE: Set the boundaries

Clarify the start and end (boundaries) of the process. It is very easy to extend beyond the boundaries of the process and thus complicate it unnecessarily. Begin at the highest and simplest level possible: draw a simple flowchart that traces the process of a laboratory examination from physician order to the reported result. This sets the stage. Map processes down to greater detail and determine the sequence and interactions of processes. Usually the output from one process will form the input to the next.

STEP TWO: Determine how far to drill down

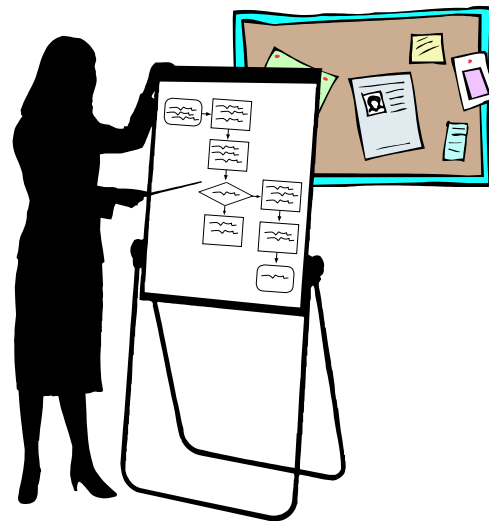
Determine the level of detail you will present. Avoid complicating the big picture by including too much detail. Make high level flowcharts first (you may subsequently decide to create a series of related sub-process charts to further describe the process). Avoid including so much detail that your process crosses the line and becomes a step-by-step work instruction (procedure).

STEP THREE: Determine what is done, and who does it

Determine the input, output and the major steps in the process. Do this in collaboration with all individuals involved in the process. Begin with the “AS IS” process, i.e. what you are doing right now. This will allow you to identify problems and revise the process. You need to know where you are at, before you can determine where you are going! In addition, you may need “buy in” from staff to embrace the need for change. If staff recognize the flaws in the current processes they may be sold on the idea of improving them, and front line staff, not management, will drive the change.

STEP FOUR: Document it

Use the appropriate symbols as illustrated in Table 1 to draw a simple flowchart. This can be done three ways: manually, with word processing software, or with specialized flow-charting software.



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If you want to include more details, you may create a deployment (or cross-functional) flowchart. This is a flowchart that displays steps according to the personnel/department involved and the time needed to complete each task. Typically, the personnel or department involved is listed on the left, separated by a horizontal line. The bottom axis is sometimes used to depict time, moving left to right. Figure 1 provides an example of a deployment flowchart produced using flow-charting software.

Once the processes are documented, they should be considered “controlled documents” and should form a part of your Quality Management System documentation. You may wish to include

a series of process charts in your quality manual, particularly those for the quality essentials such as personnel, equipment, purchasing and inventory, document and record control or information management. Flowcharts that depict technical process could be included within the related procedure manuals. Since one process will usually refer to a number of supporting procedures, these process flowcharts work well as an “introductory” page for procedures.

STEP FIVE: Improve it




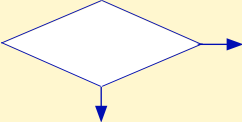

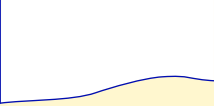

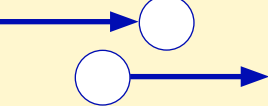
Evaluate your processes and determine if changes are needed. This is done by creating a flowchart of an “ideal” process and comparing it to your existing process.

STEP SIX: Implement it

- a) Define the criteria for determining that the process is effective. This involves setting goals for quality performance, for example:
 - ♦ Westgard rules for quality control of quantitative results
 - ♦ Criteria for an acceptable and an unacceptable specimen
 - ♦ Target turnaround times
- b) Ensure that there are adequate resources available to implement the process.
- c) Communicate, orientate and train staff.

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Table 1: Flowchart Symbols

	Meaning	Explanation
	Start or End Input/Output	The beginning or endpoint
	Task or action	What is done
	Decision point	Text in this box should be in the form of a question: yes/no, accept/reject, pass/fail, criteria met/not met
	Predefined process	Used when the major process has subtasks not included in this chart
	Document	A report or form is filled out, meeting minutes, etc.
	Arrow	Connector from one task to another
	Continuation	Go to another page, or go to another part of the chart. Indicate where with a symbol inside the circle.

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STEP SEVEN: Monitor and measure

Continually measure the effectiveness of your processes. If problems are identified, modify the processes as needed.

Summary

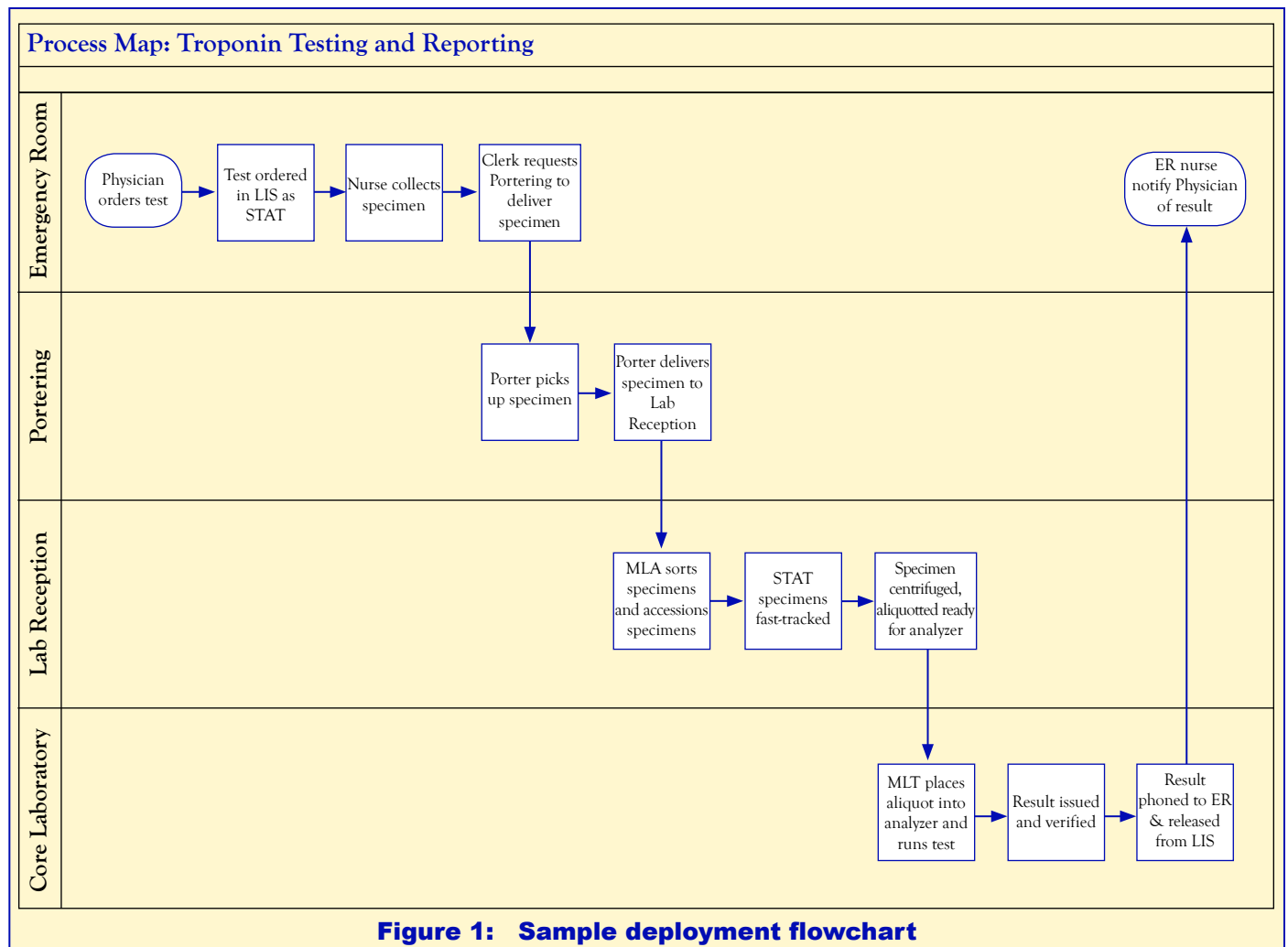
Depiction in the form of a flowchart is a simple and effective means to document processes. Creating the flowcharts will enable staff to formulate a clear picture of how the process works, will help identify gaps and weaknesses in your processes, and will be the starting point toward improvement of the process.

These seven steps should help you “get the picture”:

- 1 **Set the boundaries**
- 2 **Determine how far to drill down**
- 3 **Determine what is done, and who does it**
- 4 **Document it**
- 5 **Improve it**
- 6 **Implement it**
- 7 **Monitor and measure**

Reference:

1. Preparing for Accreditation: What’s the Process? Clarifying the Process Approach to Laboratory Management and Assessment. *QMP-LS News*, No. 37, July 9, 2002.



**Attention:
Coagulation
Participants**

Thrombophilia Pilot Survey Cancelled

Please note that the previously scheduled thrombophilia pilot survey in October has been cancelled and replaced with COAG-0210-TH. The survey will include thrombophilia-activated protein C (APC) resistance testing/factor V Leiden screening only. In addition, a questionnaire regarding investigation of von Willebrand disease will also be conducted to aid QMP-LS in developing a future pilot survey.

If you have any questions or concerns, please contact Anne Raby at 416 323 9540 ext. 264 or e-mail raby@qmpls.org.

Virology has Two Pilot Surveys in October

The virology program will be combining hepatitis A, B and C into one survey beginning in October 2002. Two worksheets will be provided, but the same panel of specimens will be used for testing all hepatitis markers. This will reduce the cost and handling of virology proficiency surveys, which in turn will allow us to increase the number of markers being assessed.

Cytomegalovirus (CMV) antibody detection will also be added to the rubella-varicella antibody panel. Cytomegalovirus is an important agent in transfusion and transplantation medicine and is carried out annually in Ontario on more than 170 000 specimens in 20 licensed laboratories (as per our 2000 survey). If your laboratory has started or stopped CMV antibody testing since March 2000, please contact Carol Major at 416 323 9540 ext. 260 or e-mail major@qmpls.org to arrange the appropriate action for the upcoming survey (VIRO-0210-RV).

The Upstate New York American Association for Clinical Chemistry (AACC) Fall Meeting

When?
September 26 & 27, 2002

Where?
Strathallan Hotel
Rochester, New York

For more information please contact, Sandy Panas at 585 453 5019.

CHEM-0210-AE Albumin Excretion Rate

The October surveys will include albumin excretion rate (AER) testing. If your laboratory has started testing AER (microalbumin) quantitatively since the last survey in July, please contact Sharon Webb at 416 323 9540 ext. 237 or e-mail webb@qmpls.org to ensure that your laboratory will be included in the October survey.



Flow Cytometry Workshop

Flow Cytometry Basics and Clinical Applications



CREDIT VALLEY
THE CREDIT VALLEY HOSPITAL

When?

Saturday, November 2, 2002
8:00 am - 4:30 pm

Fee? \$100

(includes lunch and refreshments)

Where?

The Credit Valley Hospital
Auditorium
2200 Eglinton Avenue West
Mississauga, Ontario

Register early as space is limited.

Register on-line today!

www.qmpls.org

For more information please contact,
Astrid Petersons at 416 323 9540 ext. 239 or e-mail petersons@qmpls.org.

Registration Deadline
Friday, October 4, 2002

QMP-LS MAILINGS SENT SEPTEMBER 16, 2002 - SEPTEMBER 27, 2002

- ENDO-0209 Endocrinology Analysis Worksheet & Testing Material
- IMGY-0209 Immunology Analysis Worksheet & Testing Material
- MORP-0208 Morphology Survey Report
- Cytology Committee Evaluation

ITEMS SHIPPED SEPARATELY:

- MSS-0209 Maternal Serum Screening Analysis Worksheet & Testing Material

Provisional reports recently released to QMP-LS Web site:

- MORP-0208 Morphology
- VIRO-0208-C, Virology (Chlamydia, Hepatitis C, Hepatitis A/B,
-HC, -HP, -RV Rubella/VZV)

Items may be shipped separately during the period shown above. Each laboratory will receive items related to disciplines it participates in. If you consider that you should have received an item and have not done so, please contact QMP-LS.