



**DRAMATIC PERFORMANCE IMPROVEMENT™**

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# **Patient Visit Mapping Toolkit**

## **A Bird's Eye View of Patient Experience**

### **Introduction**

The first tool led you through tracking patient visits. Now we need to translate those verbose tracking sheets into easily grasped "snapshots" so that we can see the patterns of our current patient visit process.

This tool will lead you through "mapping" the patient visits you already tracked. Mapping a visit makes the visit easy to understand at a glance, and will be instrumental in learning, and teaching others, about the way things are at your site.

### **Summary Instructions for Mapping Tracked Visits**

- 1.** Patient visit "maps" are graphical "snapshots" of patient visits (i.e., experiences). You are to create maps for the visits you tracked.
- 2.** These graphical snapshots make it easy for the team to discern patterns, or common characteristics of dysfunction within the current patient visit process. The patterns, in turn, focus the team on what needs to be remedied through redesign.
- 3.** Please plot the maps on regular paper. Attach your tracking sheet and encounter form to your finished mapping for future reference.
- 4.** Once you're done transfer these mappings to flip chart sheets that can be read from a distance of 10-15 feet.



## What Are Patient Visit Maps?

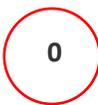
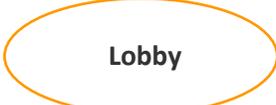
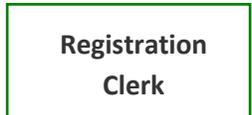
Maps are simply the graphical representations of tracked patient visits. The highly visual maps facilitate learning. With mapping, not only do you see more quickly the problems of the current processes, but others can absorb the same information at the same pace—which is critical to teamwork.

The graphics are not fancy, nor are they intended to be. We use them to facilitate understanding. The more complicated the tools used to understand processes, the more distracting they are. So we keep our tools simple. Each map represents a single patient visit or experience. With each map we are interested in just a few key facts.

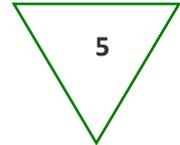
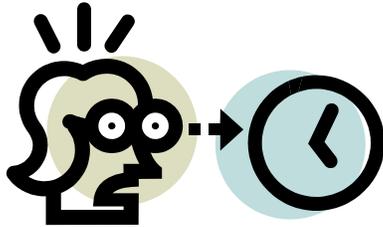
- How many times did we ask the patient to move during the visit?
- At each patient service stop, what work was performed and by whom?
- Throughout the visit, when and for how long did the patient have to wait?
- How long did this whole process take, and within that time how much time did the patient actually spend with the provider?

## What Graphical Symbols Are Used in a Map?

The graphical elements are few in number. They include a clock, an oval, a rectangle, and a triangle (upside down). They are used to illustrate different aspects of the patient visit. Refer to the example on page 5 as you read this section.

1. **Time matters.** As redesigners, we are a little obsessed with time. So, on the far left of each map will be the actual time of the event. To the immediate right of that will be a circle with a number—that’s the “stopwatch” that tells you at a glance how long the patient has been under your roof. The visit starts at “0” minutes and continues down the left side of the map until the patient exits. 
2. **Stops equal ovals.** In health care, we love to move patients around from place to place. So we want to illustrate this on our maps. *Every* time a patient physically moves to a new location, we want to stick an oval on the map and we want to label it so we know exactly where the patient is. This graphical element tells us how many times the current process forces the patient to move. NEVER add an oval unless the patient MOVES to a new location, no matter how many activities occur at a given stop. 
3. **People equal rectangles.** Rectangles denote the face-to-face interactions between staff and patients that occur while a patient is at a given stop. Within the rectangle you will note who is interacting with the patient. Outside of the rectangle and to its right side you will note the details of the work performed. We consider all face-to-face contact to be “value-added”, in other words, time valued by the patient. 

- 4. Waits equal triangles.** Our favorite. The triangle denotes “waiting time”, time the patient spends waiting—wherever—without face-to-face interaction with staff. Waits occur in seating areas such as the main waiting room, exam room and laboratory. Waits also occur while standing in line waiting for services such as check-in, check-out, or appointment scheduling. We consider all waiting time to be non-value added—or time the patient would rather spend doing something else. There are some exceptions to this, but they are rare. Inside the triangle we note the time—in minutes—the patient spent waiting. This allows us to see very quickly where and for how long waits occur.



### How Do You Use These Symbols on a Map?

Once again, refer to the example in this section. The visit map will be vertical in orientation just like this page. Think of the page as having four columns. Time is in the far-left column. Patient stops (ovals) are in the next column. The people involved in the step (rectangles) or waits (triangles) will be noted in the third column. And all the gory details will be in the column farthest to the right. In short, as you go from left to right, more detail is added—so leave good spaces!

The map begins when the patient enters the facility and ends when the patient leaves—just like the patient tracking. You are encouraged to add as much detail as you can—especially to the “fourth column”. This enriches the learning experience when the maps are shared among your colleagues.

### A Word about the Header

Across the top of every map, you should record a header with the following information:

Appt Time	Arrival Time	Reason for Visit	Gender/Age	Provider	Tracker
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Remember: the clock starts running when the patient enters the facility, so it’s important to note the patient’s Appointment time in the header, if the patient has an appointment. If the patient is a “walk-in”, then write that instead of the appointment time. Reason for visit helps us understand if the patient activity relates to the purpose of the visit. Gender/Age is the gender and approximate age of the patient—just to remind us we are dealing with a real, live person here. Provider refers to the name of the provider who saw the patient. And, finally, the Tracker is you.

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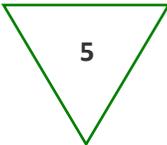
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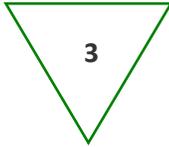
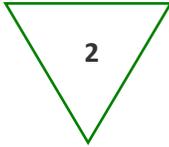
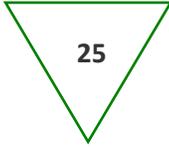
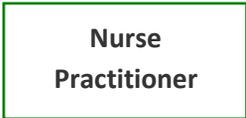
**Appointment Time:** 3:00      **Arrival Time:** 3:10      **Gender/Age:** F/16

**Reason for Visit:** Family Planning (but ended up with a GYN annual)

**Provider:** Carol Smith, NP

**Tracker:** Elizabeth Jones

Clock	Stops	Activity	Details
3:10 	 Lobby	 5	○ Patient signs in on the clipboard at receptionist desk, then sits down.
3:15 	 Registration Office	 Registration Clerk	○ Clerk calls patient to the front window. Patient is registered, insurance updated; patient’s chart missing.

3:19				<ul style="list-style-type: none"> <li>Registration clerk leaves the room to look for the chart. Patient waits in the waiting room.</li> </ul>
3:22				<ul style="list-style-type: none"> <li>Patient is asked to sign consent form and then to wait in the waiting room.</li> </ul>
3:23				<ul style="list-style-type: none"> <li>Registration clerk places chart in provider's slot. Patient waits.</li> </ul>
3:25				<ul style="list-style-type: none"> <li>Health Assistant places patient in exam room, does "work up" – takes weight, patient history, vital signs and enters info in medical record.</li> </ul>
3:40				<ul style="list-style-type: none"> <li>Patient goes for urine sample, while Health Assistant completes lab requisition forms.</li> </ul>
3:45				<ul style="list-style-type: none"> <li>Health Assistant asks patient to undress and wait for clinician.</li> </ul>
				<ul style="list-style-type: none"> <li>Clinician is busy completing other patient charts.</li> </ul>
4:10				<ul style="list-style-type: none"> <li>Nurse Practitioner examines patient and then sends the patient to the lab.</li> </ul>

4:20	70	Lab	7	<ul style="list-style-type: none"> <li>○ Patient waits outside the lab.</li> </ul>
4:27	77		Lab Tech	<ul style="list-style-type: none"> <li>○ Lab tech takes lab requisition and then draws the patient's blood.</li> <li>○ Lab tech sends patient to main waiting room.</li> </ul>
4:31	81	Waiting Room	9	<ul style="list-style-type: none"> <li>○ Nurse Practitioner writes prescriptions, prints Health Education materials from computer.</li> <li>○ Calls patient and escorts into counseling room.</li> </ul>
4:40	90	Counseling Room	Registered Nurse	<ul style="list-style-type: none"> <li>○ Registered Nurse gives information on oral contraceptives, gets signed consent.</li> </ul>
4:45	95			<ul style="list-style-type: none"> <li>○ Patient exits Health Center.</li> </ul>

Cycle Time: 95 minutes

NVAT: 51 minutes/54%

VAT: 44 minutes/46%

Handoffs: 4

PPT: 10 minutes/11%

	<b>Cycle Time</b>	<b>95 min</b>
	<b>NVAT</b>	<b>51 min/54%</b>
	<b>VAT</b>	<b>44 min/46%</b>

## A Word about Statistics

“No one told me there would be statistics!” Relax. A few key numbers help us understand the patient visit better. These statistics are entered into a footer drawn at the bottom of the map. See the example above.

	<b>Handoffs</b>	<b>4</b>
	<b>PPT</b>	<b>10 min/11%</b>

-  **Cycle time.** Cycle time is the length of time it takes to complete a work process. Since we are looking at the patient visit as a work process, the cycle time is the total elapsed time of a patient visit—from the time the patient entered the facility until the time the patient left the facility. Did the visit take an hour and a half? Then the cycle time is 90 minutes. Cycle time is always expressed in minutes.
-  **Non-Value Added Time (NVAT).** Usually, this is the total time recorded in the triangles. This is waiting time. Express it as minutes, and then as a percentage of cycle time. If NVAT totals 60 minutes and the cycle time was 90 minutes, divide NVAT (60) by cycle time (90) to get .66, or 66%.
-  **Value Added Time (VAT).** The easy way to get this statistic is to subtract NVAT (which you just calculated) from cycle time. So if cycle time was 90 minutes and NVAT was 60 minutes, then 90 minus 60 is 30—and this is our VAT. Now do the percentage. Divide VAT (30) by the cycle time (90) to get .33 or 33%. Now you see that NVAT and VAT should always add up to the cycle time and 100%. Always check your math just to make sure it all adds up.
-  **Handoffs.** A handoff is a baton pass, just like in a relay race. When you pass the baton to someone else, you are essentially saying, “I’ve done my part, now it’s your turn.” In other words, the responsibility for the baton has changed hands. It’s the same in a patient visit, though unfortunately in our case the patient is the baton! Whenever the responsibility for the patient-baton passes hands (i.e., someone gives up the responsibility for the patient), a handoff has occurred. Count the number of handoffs that occurred during the visit and record that statistic here. Just one caveat: Do not count the “starter”, the first staffer with whom the patient has contact—typically a front desk person. No one handed off to this person. The first handoff occurs when **this** person *gives up responsibility* for the patient.
-  **Patient-Provider Time (PPT).** Sometimes multiple providers are involved in a visit (physician and nurse, for example). We are interested in the key provider—the person clinically responsible for the patient in this visit. How much time did the patient spend with this provider? Now divide this by cycle time and record both minutes and percentage. You’ve accounted for this once in value-added time, but this gives us an “honesty factor”: How much time did your patient get with the person they came to see (PPT) given all the time (cycle time) they spent under your roof?

Well, that was a lot of information to digest, wasn't it? It's best at this point to review your first complete map and compare it to the example. Then, you are ready to proceed with the next map.

## Seeing Patterns

Once you have finished mapping your tracked visits, the analysis piece of the visit is ready to begin. Your first step is to review the map to look for common characteristics or patterns in your visit process.

Break out a fresh flip chart sheet and title it "Common Characteristics of Patient Visits". If some characteristic appears three or more times on your set of visit maps ("Patients are weighed in the hallway"), then put it on the sheet. The characteristic can be good, bad, or ugly. It only matters that it commonly occurs.

Make sure every statement on this sheet reads wonderfully, meaning that its meaning is perfectly clear to someone who does *not* work at the health center. Do not merely create any incomprehensible list.

### Common Characteristics of Patient Visits

- The patient waited a long time for the provider.
- The patient waited a long time for to be registered
- The patient waited a long time for the nurse
- The patient had to fill out a lot of forms
- The patient was asked to move around a lot
- Provider was frequently interrupted during the visit
- The patient had to see a lot of staff before she could see the provider
- The exam rooms didn't have the necessary supplies
- The exam room didn't have the necessary staff in them when they were needed.