

# Steps to enhance practice efficiency:

## part 1 — measuring patient flow

by OMA Practice Management and Advisory Services



Every day, numerous demands are placed on physician time — many of which directly impact time spent with patients. A 2008 study of five physicians in a community-based internal medicine practice identified that, on average, each physician handled 24 phone calls, 12 prescription refills, 17 email messages, 20 lab reports, 11 imaging reports and 14 consultation reports on top of patient visits each day.<sup>1</sup>

As demand for physician time grows, it becomes increasingly important to identify opportunities to improve office efficiency and find previously lost time in the day. This article will outline methods of varying complexities that can be used to measure patient flow, with the aim of addressing any bottlenecks or redundancies in a practice setting. Part 2, to be published next month, will identify opportunities to relieve some of the time pressure.

To determine a measurement schedule, you first need to identify the variations in your practice to find the average. For example, patient flow during a busy flu season may not be representative of the average visit. While it is beneficial to understand the impact these variations in practice have on your day, it is important to have a baseline from which to compare. Likewise, a visit at the start of the day could look very different from a visit at the end of the day.

Sample a cross-section of your patient population to identify any differences in length of visit and possible causes (i.e., pediatric-parent with child, routine visit, prescription renewal, new patient, etc.).

Involving a wide range of your office staff is the key to success in any measurement activity. The results will hope-

**Patient Flow: Figure 1**



fully lead to process changes, and ideally improvements, thus having staff involved early will facilitate buy-in down the road.

### Value Stream Mapping

Value stream mapping is a lean management process used to determine a current state and identify an ideal future state. Originally used in the manufacturing sector, the principles can be applied relatively seamlessly to a medical office visit. The method follows a product, item, deliverable, or person — in this

case, a patient — through a process from beginning to end. By following a patient through their visit and noting in detail what is happening at each step, you (the physician) can determine which

Identify which interruptions are necessary and which could be eliminated or delegated to ensure you are spending your time where you add the most value — with your patients.

steps bring value to the visit. Through the process of lean management, any step that is not seen as bringing value is considered “waste” and therefore can be considered for elimination.

To begin the process of value stream mapping, consult with staff in your practice to create an outline of the steps involved in an office visit. You may choose to begin your evaluation at the time an appointment is set, at the time the patient arrives to the clinic/office, or at the time the patient checks in, and end when the patient leaves the office.

The sample outline on page 20 (Figure 1) begins when a patient checks in. If you choose to evaluate an encounter earlier in the process, begin your outline at that point and add any additional steps required (i.e., Appointment set → Arrive at clinic, etc.).

Once an outline has been created, begin to fill each stage with detailed steps. Note your value stream map could get large, so using sticky notes on a wall or large table surface is suggested so as not to be limited by the edge of a page.

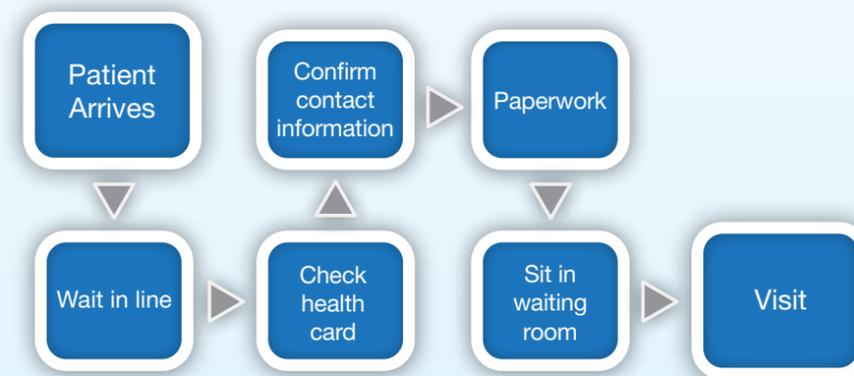
To truly have an accurate picture of the visit, try to be as detailed as possible. Something that might be perceived as one step may actually be several, as shown in the example in Figure 2, opposite. Also, it is important to note any unintentional steps that occur on a frequent basis (e.g., having to leave the exam room for supplies). The entire “current state” mapping process should take 45 to 60 minutes to complete.

Once a visit has been mapped from beginning to end, it is important to test your map by following a sample of patients through their visits. Communicate with patients about the process you are undertaking and seek permission to have their visit shadowed. An office staff member can shadow the visits, making note of the steps involved at each point, and mark

those on your map. Shadowing a visit does not require the staff member to be in the exam room during the visit; this portion of the map can be validated by you (the physician), or perhaps by the office nurse, if applicable.

Once the current state map has been completed to a level you are satisfied with, begin the process of identifying which steps add value and which are “waste.” It should be noted that some items marked as “waste” may actually be necessary steps in a visit; it is up to you (the physician) to use your experience, keeping in mind the elements of your practice that are important to you to ensure that quality of care remains the primary focus of a visit. A suggested approach would be to start by identify-

**Patient Flow: Figure 2**



ing any areas of duplication or lost time in the visit.

While many symbols can be used in a value stream map, this can also be done using a simple colour-coded method to mark each step (see page 22, Figure 3).

Now that you have identified areas of value and “waste,” work with your staff to develop an ideal “future state” map. It would be very difficult to remove all “waste” from the visit, so begin with the simplest solutions and then expand.

### Cycle-Time Measurement

Cycle-time is the period of time to complete one full cycle of a process, job or task from start to finish. In the case of patient flow, cycle-time measurement involves tracking and noting the time required to complete each stage of the patient visit to arrive at a total cycle-time for the visit. Cycle-time measurement is often used as a next step to value-stream mapping to drill even further into the process, but can also be done independently once the general steps in the visit have been identified.

The level of detail used to identify the steps in a patient visit, and ultimately the time required for each step, is up to you. You can be as detailed as the steps identified in value-stream map-

ping or group them into the main elements of a visit (i.e., Arrival → Visit → Outcome → Depart). The most important element to cycle-time measurement is to distinguish between visit time and waiting time or administrative time.

A few methods to measure cycle-time include:

- After seeking patient permission, have a staff member shadow the patient visit and note the time required for each stage of the visit, including wait times.

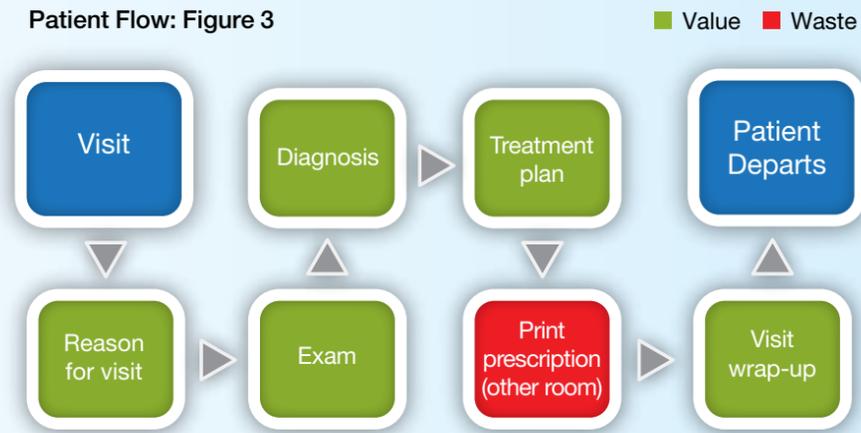
- Attach a time sheet to the patient chart. Have staff mark both the time when they pick up the chart and the time when they hand it off. Total the time for all interactions with the chart, as well as the lag time between, for the total visit time.
- Attach a stopwatch to the patient chart. Start the time when the patient arrives and stop it when they leave — this method will give a complete cycle-time and is not as detailed.

As in value-stream mapping, once you have a full picture of the cycle-time for a patient visit, you can begin to identify areas for improvement or duplicate steps in the process that could be removed.

In the example in Figure 4 (below), the physician leaves the exam room twice for supplies necessary for the next step of the visit. By addressing the accumulated lost time of six minutes per visit over the course of a full-day schedule, there is potential to alleviate significant delays and gain some time.

When thinking about your ideal visit times, it is also important to consider non-visit-related work and the time associated with those. Once you have a better understanding of how your time is spent, you can begin to think about daily and weekly time goals; examples of goals could include to finish all the day's work on the same day, to leave the office at a set time or on time, to not bring work home, or any other goals that contribute to greater

Patient Flow: Figure 3



quality of life for you while still providing high-quality care for your patients.

**Interruptions List**

A relatively simple and resource-light approach to measuring patient flow is to keep an interruptions list (see table on page 23). This method is useful for both physicians and their staff. Over the course of a day, take note of any interruptions or unintended tasks that take you away from your planned schedule and write them down on a list. In order to have a complete picture, try to note the interruption immediately, or at the next available opportunity, so that it is not lost in the busyness of the day.

As in the previous two methods, identify which interruptions are necessary and which could be eliminated or delegated to ensure you are spending your time where you add the most value — with your patients.

**Patient Input**

Perhaps the most direct method to understand flow in your office is that of patient input. It is a quick way to identify the pressure points felt by your patients during an office visit. The value of this qualitative data cannot be overlooked. There are many methods of patient experience measurement, however, for the purpose of this article, we are referring to an in-person connection between the physician and patient or a staff member and patient, if appropriate.

As in all other methods, you can choose the level of detail you want to measure. Asking your patients “Could we have done anything better today?” or “How was your wait?” should bring about some ideas that may not have been considered, or identify issues in the visit process that you were unaware of.

Any time patient input is sought, it is important to circle back and inform

**Interruptions List**

- Pharmacy phone call regarding prescription request.
- Search for form.
- Patient phone consult regarding redness at injection site.
- Leave room to get vaccination brochures for parents.
- Waiting for photocopy.

patients how their input was used, and identify any changes or improvements that have resulted from the feedback. This can be done through a sign posted in the waiting area, a message shared by front-desk staff with patients when they arrive, or a followup by the physician during the visit.

In addition to potentially increasing efficiency, this method also has the positive outcome of signaling to your patients that you value their input and want to take their insights into consideration.

After having completed the process of measuring patient flow, any reduction in steps or lost time that do not have a negative impact to the patient experience, and result in more efficient flow, should be celebrated.

Part 2 of this article series will identify opportunities to relieve time pressure through office layout, day planning and use of technology.

OMA Practice Management and Advisory Services (PMAS) resources aim to help physicians maintain a successful medical practice, including skills development, usable tools, and medical billing support. Additional resources on these and other topics are available on the OMA website at [www.oma.org/PMAS](http://www.oma.org/PMAS). For more information, please email [practice.management@oma.org](mailto:practice.management@oma.org), or phone 1.800.268.7215 / 416.599.2580. ■

**Reference**

1. Baron, Richard J. What's Keeping Us So Busy in Primary Care? A Snapshot from One Practice. *New England Journal of Medicine*. 2010; 362: 1632-1636.

Patient Flow: Figure 4

