



AN HQO INITIATIVE

# Learning Community

Advancing Improvement in Primary Care in Ontario

## Advanced Access and Efficiency Workbook for Primary Care



# Section 1

## Introduction & Overview

### ACKNOWLEDGEMENTS

This workbook is the result of the efforts of the Health Quality Ontario (HOO) (formerly Quality Improvement and Innovation Partnership) Advanced Access and Efficiency Working Group.

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Health Quality Ontario  
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## Forward

Access to health care continues to be one of the most talked about issues in medicine today, with wait times for specialists and emergency care being the focus. Unfortunately, primary care is not excused from this challenge as many patients have to wait **2 weeks or more to see their own physician**. This creates a cascade of issues for physicians, patients, staff and the health care system as a whole, ***but it doesn't have to be this way***.

As a family physician myself, I am well aware of the time pressures we face and the difficulties we have in meeting the demands of our practices. Personally, I knew I needed to make a change if I wanted to avoid burnout. **Implementing Advanced Access has been the one thing that has most significantly improved my practice and the quality of my life.**

Advanced Access is a philosophy which focuses on meeting the demands of one's practice population in a patient-centred and timely fashion, with the goal of patients being able to get an appointment when they need it – be it today, tomorrow or 3 months from now. Although a challenging target, **most practices are, in fact, closer to achieving this than they realize**. If it currently takes 2 weeks to get in for a non-urgent appointment – *but it always takes 2 weeks* – then the practice is meeting its demands... just 2 weeks late. The challenge is getting that demand met today.

The benefits of achieving Advanced Access and having patients able to see their own physician or provider when they have the need are broad and far-reaching:

1. Patients are happier and less anxious.
2. Staff are happier and are no longer forced to triage patients.
3. Physicians are happier as they no longer feel they are on that proverbial treadmill.
4. Patient care improves solely because patients are able to see their own physician or provider when they have the need.

There are numerous challenges in the complex world of health care today, but the issue of access is unique in that **we know the solution**. In addition, **no special tools or equipment are required** – simply the openness to look at your schedule differently and the willingness to make the effort to change are factors for success.

This workbook outlines all of the fundamental information required to understand the concept of Advanced Access and Efficiency as well as the tools, measures and techniques which can be utilized to assist with implementation. The information is presented in a practical format and backed by the experience of numerous clinicians and change management consultants.

The solution to better access in primary care is available, achievable, and outlined in this document. The benefits are far-reaching but require your efforts to get there. I truly hope you can utilize this information to help **improve patient care, enable provider health and revitalize primary care**.

**Vineet Nair, MD CCFP**

Family Physician at The Core Family Health Centre in London, Ontario

## 1.1 Introduction

Advanced Access is a set of beliefs, principles and practices that, when implemented, enables a primary care provider to “do today’s work today.” “The core principle of Advanced Access is that patients calling to schedule a physician (provider) visit are offered an appointment the same day.”<sup>1</sup>

Primary care providers who decide to improve access to patient care are well aware of the daily challenges experienced in their current practice. Those who implement Advanced Access and efficient working methods will find solutions to many of the following challenges:

- Long wait times for and at appointments
- Busy waiting rooms
- Hectic work days
- Patient complaints about waiting
- Staff dissatisfaction with their working environment
- The pressure to complete prevention screening
- No time for providers and staff to meet as a team
- The demands of an aging population that needs more chronic disease management
- No time for patient self-management
- High patient use of walk-in clinics and emergency rooms

Patients should be part of a respectful partnership with their care team, including having access to an appointment on their day of choice. An improvement in access can result in improved patient and provider satisfaction.

Deciding to implement the principles and practices of Advanced Access and improving office efficiency requires everyone involved to commit to a paradigm shift, because it is, for many providers, a radical change in thinking and behaving. Moving towards an Advanced Access environment is a team activity that involves both clinical and non-clinical staff working in collaboration to determine which solutions and concepts work for their practice. A committed provider and staff (and, where the provider is part of a larger organization, commitment from leadership) are key to its successful implementation. This workbook is a how-to guide that will support you as you work towards eliminating long delays to get an appointment and delays during appointments, in seven steps.

# 1.1 Introduction

## Step One – Assess Your Readiness and Capacity

Assessing your readiness and capacity will help you decide when you are ready to take this journey. The assessment will help you understand:

- The knowledge, skills and resources that you will need for the journey
- The internal motivation and energy you and others will need
- The human resources available to you during the journey

## Step Two – Form an Improvement Team

Achieving Advanced Access and improving office efficiency are team activities to change the practice, so key players must be involved. The team needs to be committed to the principles of access and efficiency, to know what is expected of each member, to understand how they will proceed together and to agree on how success will be defined by the team. Success is not dependent on size: Two-person teams and eight-person teams can achieve an equal measure of success.

## Step Three – Assess Your Starting Place

Before you can improve your practice's access and efficiency, you need to thoroughly understand your current situation. Conducting a detailed assessment of your practice and collecting data on key measures will give you the information you need to plan your improvement journey, and to know when the changes have resulted in improvements.

## Step Four – Decide Where to Improve

In the diagnostic phase of the journey, the team reviews the assessment data and decides where to focus improvement efforts so that they have the greatest impact.

## Step Five – Test Changes and Monitor Progress

During this step you will test change ideas on a small scale using the Plan-Do-Study-Act (PDSA) cycle. Test changes before you implement them to make sure that they will result in improvements. Small-scale testing takes less time, minimizes risk and enables you to test many different ideas without undue stress on the practice. Testing also lets you see a change idea in action under many different circumstances, to ensure it works.

## Step Six – Implement and Sustain the Changes

Once you have tested a change under a number of real-life conditions, and are convinced that the change results in an improvement, you can implement that change into your daily practice. Often, improvement ideas are not maintained as a part of day-to-day practice over the longer term. Taking time to address all of the elements of implementation will increase the likelihood that the change can be sustained over time.

# 1.1 Introduction

## Step Seven – Spread the Change

Spread is the process of taking a successful change and reproducing it in other parts of the organization or in other organizations. During implementation, teams learn valuable lessons necessary for successful spread, including key infrastructure issues, optimal sequencing of task and working with people to help them adopt and then adapt a change.

Spread efforts will benefit from the continued use of the Plan-Do-Study-Act (PDSA) cycle. Practices adopting the change need to plan how best to adapt the change to their work setting and to determine if the change resulted in the desired and predicted improvement.

“Never doubt that a small group of interested, committed people can make great change...indeed it is the only thing that ever has.” – Margaret Mead

The workbook is divided into six sections for ease of use:

- Introduction & Overview 1
- Principles of Access 2
- Principles of Efficiency 3
- Measures 4
- Tools 5
- Appendix 6

## 1.2 Fundamentals of “Doing the Work”

### 1.2.1 What is the Question You Are Trying to Answer?

Always in the forefront of our work is the question, What are we trying to accomplish? This question keeps us focused on how we can better meet our patients’ needs. Sometimes actions that appear small or insignificant can make a big difference. By understanding what you are trying to accomplish, you will be able to define what you need to measure and how to collect the data.

### 1.2.2 Build Measurement into Your Daily Workflow

Although data collection is often perceived as additional work, it is important to link it into normal workflows. Team members who can see meaning in the data will collect it in an efficient and predictable way.

### 1.2.3 Post Your Data

A central location — such as a data wall in a staff room or back hall — is a great way to communicate progress to all members of the team. By posting measures and PDSAs (small tests of change), all team members then have the opportunity to feel they are contributing to the improvement journey.

### 1.2.4 Create Team Ownership for the Data

By creating team ownership for the data, all team members will understand how their accurate coding or scheduling affects the quality of the data and, ultimately, the practice.

### 1.2.5 Use the Data to Drive Decision Making

By discussing the data and its meaning at team meetings, members will understand the need to reflect on the data when making future decisions to test other changes. Fully understanding the use of collected data provides an incentive for team members to maintain and monitor measurement systems.



# 1.3 The Model for Improvement

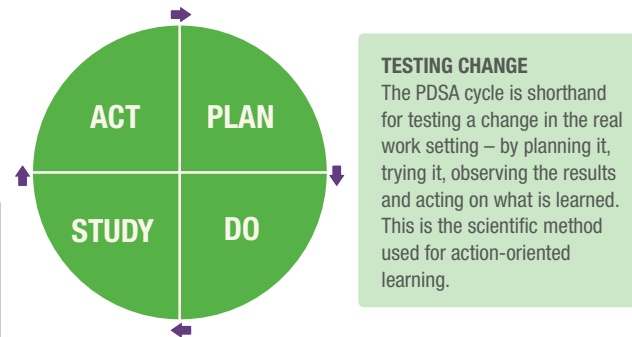
The methodology included in this workbook is based on the Model for Improvement, developed by Deming and Shewhart.<sup>3</sup>

The model has two parts:

1. Three fundamental questions, which can be addressed in any order.

2. The PDSA cycle, which is depicted as a continuous circle. This cycle continues to grow in complexity and is tested over time.

THREE FUNDAMENTAL QUESTIONS	APPLICATION
What are we trying to accomplish?	<b>SETTING AIMS</b> Commitment to improving is reflected by a strong and well-worded aim statement.
How will we know when a change is an improvement?	<b>ESTABLISHING MEASURES</b> Collecting data on key outcome, process and balance measures is the only way to determine if there is improvement.
What changes can we make that will result in an improvement?	<b>SELECTING CHANGE</b> Teams must test and implement changes in order to improve.



The application of the model includes selecting aims, measures and testing changes, studying the results and then acting accordingly. Once ideas have been tested and studied, successful changes can be implemented with a high degree of confidence.

It is important for us to remember that not all change leads to improvement, but all improvement requires change.

What kind of change will lead to improvement? We use PDSA in conjunction with change concepts as a general notion or approach in developing specific ideas for change that lead to improvement. The ideas will need to be specific enough to test and implement in a particular situation, moving from a general thought to a specific idea that is actionable and can be implemented.

<sup>3</sup> The Plan-Do-Study-Act (PDSA) cycle was originally developed by Walter A. Shewhart as the Plan-Do-Check-Act (PDCA) cycle. W. Edwards Deming modified Shewhart's cycle to PDSA, replacing "Check" with "Study." [See Deming WE. The New Economics for Industry, Government, and Education. Cambridge, MA: The MIT Press, 2000].





## 1.4 The PDSA Model

### **P PLAN AND PREDICT THE SMALL TEST**

Plan the steps of the change you are testing. Small tests are best: one or two staff members, with very few patients (or charts, or phone calls, etc.), on one day, if possible.

Ask: What is one idea we want to try out? What have we done that we want to do more of? What are other clinics doing? Be sure to predict what you think may happen during the test. It is the gap between this prediction and what actually occurs where most of the learning or discovery takes place.

### **D DO THE SMALL TEST**

For example, tests could include:

- Testing the tracking tool with the provider, NP or other team members
- Testing the teaching form with three patients
- Making test phone calls to five patients to check on their exercise goals

### **S STUDY**

What happened in this small test? Did our prediction prove correct? Did we answer the question(s) we were asking? Have we increased our degree of belief that this test will work under different conditions? Different situations? Different providers?

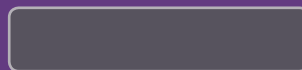
### **A ACT**

You can do one of three things:

1. **Implement:** After a test goes smoothly and when there are no more questions to answer about this change, you might accept this change with no more testing, and make it “the new way we do it.” In other words, your degree of belief is high.
2. **Keep testing the same idea:** Test this same change again. Make adjustments so that you can test it with different providers or different patients and can answer “What if?” questions. Your degree of belief at this stage is somewhat low.
3. **Reject the change:** Move on to testing another idea. You have no degree of belief that the change you tested can be modified to work under any condition.

# Section 2

## Principles of Access



## 2.1 Understand and Balance Supply and Demand

The relationship between supply and demand cannot be underestimated: It is the key to all workflow. If you understand supply (appointments available) and demand (requests for appointments) as a first step, then you will be able to organize your practice to reduce delays, improve flow and improve patient, provider and staff satisfaction.

A practice must understand its yearly supply and demand (panel size and visit rate) and also its daily supply, demand and activity (SDA). Measuring SDA on a daily basis helps identify natural variations in the practice and areas for improvement.

To achieve timely access for patients, the supply of appointments must be equal to or greater than the demand for appointments. If, through measurement, it is determined that demand is greater than supply, then supply must be increased and/or demand must be reduced.

The measures needed to determine supply and demand are fully described in Section 4.



## 2.2 Increase Supply of Visits

There are many strategies you can use to increase supply.

### 2.2.1 Maximize Provider and Staff Schedules

Review schedules of all providers to see if they are really meeting patients' needs. For example, are time-away policies needed within the practice? Create proactive plans to meet patient demand while providers are absent.

### 2.2.2 Optimize the Care Team

The care team may vary depending on the nature of the primary care practice. In some practices, the care team may include a provider, office nurse and receptionist. In others, it may include a nurse practitioner and other allied health providers. To optimize the care team, you need to ensure that all members of the team are working to their full scope of practice. Providers must educate patients about alternative care within the practice such that patients understand the team approach. To help track types of appointments, and who may do them, use the Understanding Your Practice worksheet in Section 5.5.

### 2.2.3 Identify and Manage the Constraint

Use standardized guidelines and protocols to increase alternate modes of care.

### 2.2.4 Develop a Care Delivery Model (Who Does the Work)

Identify the roles of the care team, as well as the process for providing care and advice to patients using agreed-upon guidelines.

### 2.2.5 Remove Unnecessary Work from a Provider

Develop a role for other team members to manage sub-populations of patients, such as those with CHF, hypertension or hyperlipidemia, or those needing anti-coagulation therapy.

### 2.2.6 Use Group Visits and/or Shared Medical Appointments

High users of health services — those living with chronic illnesses — can sometimes be better supported through the use of group consultations or group visits.

### 2.2.7 Use Technology

EHR/EMRs, e-mail and patient portals are strategies that can reduce demand for face-to-face visits.

### 2.2.8 Encourage Patient Engagement and Self-Management

By providing a consistent approach to managing illnesses, the care team can increase patients' self-management skills, reducing the need for face-to-face visits.

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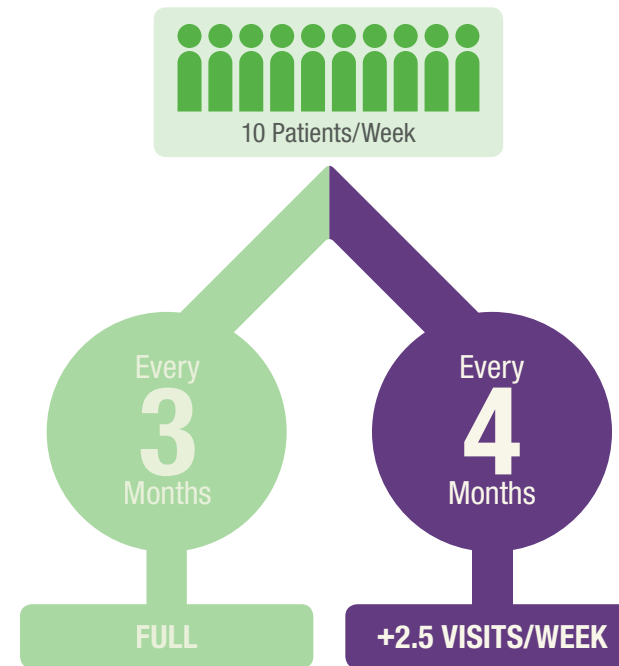
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## 2.3 Reduce Demand for Visits

- 2.3.1 Max-Pack and Reset Schedule**  
Doing as much as possible at each visit may reduce the need for future visits.
- 2.3.2 Challenge/Extend Visit Intervals**  
Before automatically rescheduling patients, question whether the follow-up is really needed. Consider extending the visit interval instead. For example, if 10 patients in a week were rescheduled to every four months instead of every three months, there would be a net gain of 2.5 appointments/week.
- 2.3.3 Promote Continuity**  
Patients who are able to see a trusted provider generate fewer revisits.
- 2.3.4 Reduce No Show Appointments**  
Providing appointments to patients in a timely way reduces no shows.
- 2.3.5 Use Alternate Methods of Care Delivery**  
Nurse visits, self-care promotion, telephone treatment protocols, e-mails and group visits can reduce demand for provider consultations.



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## 2.4 Reduce Appointment Types and Times

### 2.4.1 Appointment Types

Eliminating the distinction between urgent and routine appointments reduces the likelihood of both patients and providers gaming the system. This decreases the need for triage by schedulers to negotiate with patients, therefore reducing time spent on the telephone. Providers will then simply need to distinguish between short or long appointments (multiples of short), and the care team can decide together how best to make the distinction. Patients who typically need long appointments include new patients, those managing chronic diseases and those booking annual exams.

### 2.4.2 Appointment Times

Use building blocks to create short and long appointment times. Determine a basic unit of time, such as 10 or 15 minutes. All other appointments are multiples of the shortest time. The schedule then only needs to combine two or three basic units to create the necessary appointment length. Protocols can be developed to guide schedulers booking the appointments.

### 2.4.3 Truth in Scheduling

Schedules are often created around the ideal number of patients/hour, and then applied to all providers' appointment templates. However, some providers cannot meet this ideal, due to practice style or the volume of patients requiring more time. Measurement and tracking of the actual length of a large number (50-100) of consecutive appointments will inform a schedule template that matches the reality of the provider's pace.

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## 2.5 Reduce Backlog

There are two types of backlog: Good backlog is made up of patients who have chosen to be seen in the future because it better fits their schedules, or because appointment timing is driven by physiology (e.g., pre-natal visit, well-baby exam, chronic disease follow-up). Bad backlog is characterized by patients who would like to be seen the same day, but whose appointment is pushed forward due to a full schedule. There are strategies you can use to reduce bad backlog.

### GOOD BACKLOG

- Patient's choice to be seen at a later date
- Driven by physiology

### BAD BACKLOG

- Pushed appointments due to a full schedule

#### 2.5.1 Work Smarter

Shape the handling of demand: Choose a quieter time to work down backlog.

#### 2.5.2 Work Harder

Temporarily increase the supply of visits by adding sessions to the beginning or end of the day.

#### 2.5.3 Add Temporary Resources

Add a care team member or hire a locum for the short term.

Ways to measure backlog within a practice are provided in Section 4.2.10.



## 2.6 Develop Contingency Plans

Contingency plans help to address variation in patient demand or decreased provider supply to meet patient needs in the practice. The unexpected is often predictable (e.g., flu season). By developing contingency plans, the practice can act proactively.

### 2.6.1 Daily Huddles

Huddles can be used at the beginning of and/or throughout the day to review office flow and proactively match demand with supply. (See the Huddle Sheet, Section 5.4.)

### 2.6.2 Develop Time-Away Processes

Protocols and policies for time away from the office for all professionals can ensure that adequate staff is always present to meet patient demand.

### 2.6.3 Develop Multi-Skilled Staff

Staff that can be cross-trained to cover while others are away increases the likelihood that patient demand can always be met.

### 2.6.4 Manage Demand Variation Proactively

Once variation within the practice is understood, supply can be adjusted to meet demand fluctuations.

### 2.6.5 Add More Appointment Times to Address Seasonal Fluctuations

Seasonal fluctuations include flu shot clinics in the fall, pre-school physicals, wintertime snow-bird prescriptions, etc.

### 2.6.6 Anticipate Unusual but Expected Events

If patients bring extra family members to visits, identify this early and modify the visit time accordingly. If patients are chronically late, flag accordingly.

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# Section 3

## Principles of Efficiency



## 3.1 Balance Supply and Demand of Non-Appointment Work

Just as visit supply and demand must be measured, understood and matched, it is equally important to identify waits, delays and inefficiencies in non-appointment work such as phone message management, prescription refills, referral management and diagnostic tests and reports. There are a number of ways to do this.

- 3.1.1 Create a process to manage and distribute all messages and communications.
- 3.1.2 Use a standard template for correct message taking and action.
- 3.1.3 Eliminate paper messages where possible.
- 3.1.4 Identify the most appropriate person to respond to non-appointment work.
- 3.1.5 Create a dedicated phone line to take messages from patients, including all pertinent prescription information.



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## 3.2 Synchronize Patients, Providers, Information, Rooms and Equipment

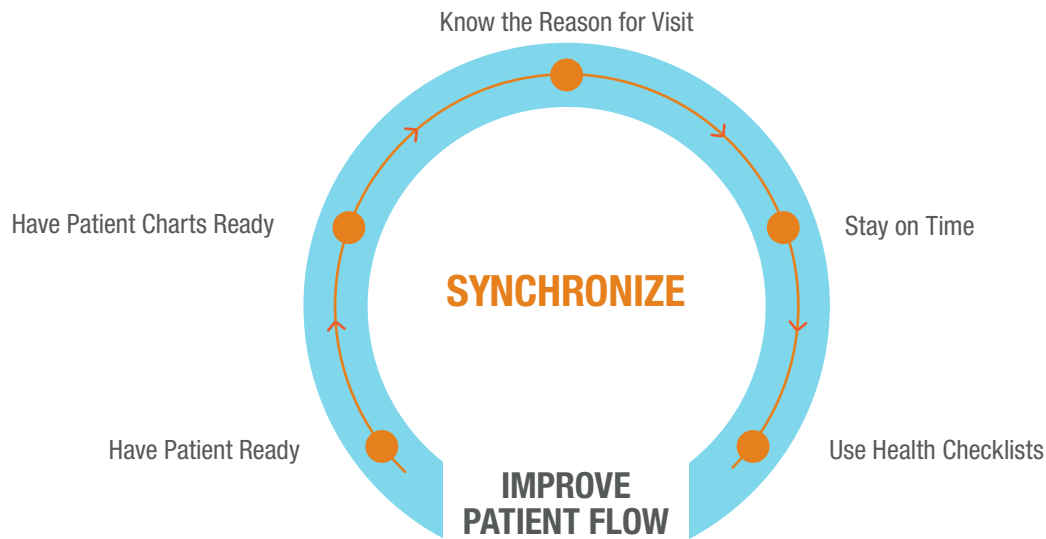
**3.2.1 Develop Rooming Criteria**  
Using rooming criteria to get patients ready (e.g., shoes and socks off for patients with diabetes) will increase the efficiency of visits and improve patient flow.

**3.2.2 Institute Daily Huddles**  
Good internal communications will ensure that lab work and diagnostic reports are available in patient charts.

**3.2.3 Create Reception Scripts**  
Scripts noting the reason for the visit will ensure that the care team is ready and prepared.

**3.2.4 Start on Time and Stay on Time**  
If a session starts late, the whole day continues to be late and never catches up. For example, if a provider never arrives before 9:15 a.m. do not book patients at 9:00 a.m. Teams must agree on the importance of starting and staying on time.

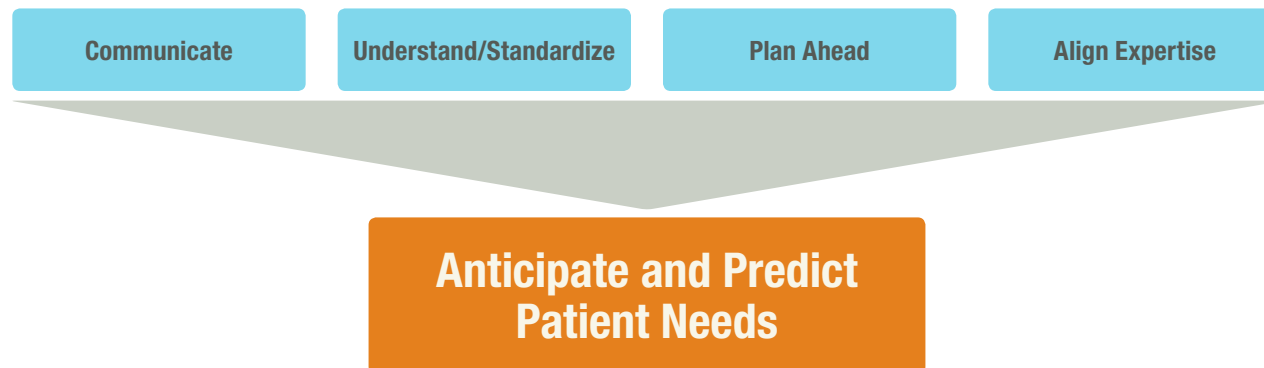
**3.2.5 Use Health Checklists**  
Checklists can be instrumental to ensuring that comprehensive care delivery is carried out at each visit, and to avoid a later visit. The use of age-specific guidelines can optimize planning for the patient's visit.



## 3.3 Anticipate and Predict Patient Needs

Some of the strategies described in previous principles also apply here.

- 3.3.1 Use huddles to communicate flow, rhythm and signals.
- 3.3.2 Understand and standardize common procedures.
- 3.3.3 Plan for unexpected but predictable events.
- 3.3.4 Plan for seasonal demand.
- 3.3.5 Align the expertise of care teams with patient needs.



## 3.4 Optimize Rooms, Staff and Equipment

### 3.4.1 Standardize Stock and Inventory

All staff members can have input into what constitutes a well-stocked, standardized exam room. Use of a stocking checklist will ensure adequate inventory levels in each room as well as who stocks the rooms and when stocking will occur.

### 3.4.2 Move Equipment to the Patient

Where possible, have enough equipment available, so that you can reduce the number of steps for both patient and provider (e.g., a printer within each exam room).

### 3.4.3 Develop Signals

Non-verbal cues and signals facilitate communication among staff members without halting work (e.g., icons on computer screens to signal readiness of the next patient).

### 3.4.4 Train/Cross-Train Staff

What is the doctor/provider doing outside the appointment that could be done by another member of the care team? (To help track the types of appointments and who may do them, use the Understanding Your Practice worksheet in Section 5.5).

### 3.4.5 Unplanned Activity and Interruptions

By tracking unplanned activity and interruptions, teams can identify disturbances in workflow and generate change ideas for testing.

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## 3.5 Manage Constraints

It is important to map the office flow and patient journey by creating a process map or value stream map. Once the map has been developed, strategies to address delays could include the following:

- 3.5.1** Move work away from the constraint (e.g., the person at the front of the bottleneck, where the most waiting occurs).
- 3.5.2** “Lighten the backpack”: Look for ways that other providers or members of the team can provide routine care (e.g., stable chronic disease management, well-baby visits, etc.).

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## 3.6 Eliminate Waste

Finding and eliminating waste goes a long way toward making work processes truly efficient. Waste is any activity that takes time, resources or space but does not add value to a service. Work processes often include eight common sources of waste:

**Overproduction:** ordering unnecessary lab tests

**Waiting:** waiting for the provider to arrive

**Transportation:** moving the blood pressure monitors between exam rooms

**Over-processing:** handling paper more than once

**Inventory:** batching forms for completion

**Motion:** having to leave the exam room to get supplies

**Defects:** doing something incorrectly the first time

**Human potential:** for example, a nurse not working to his/her full scope of practice

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# Section 4

## Measures



# 4.1 Summary of Advanced Access and Efficiency Measures

MEASURE	WHAT IS IT AND WHY DO IT?	HOW TO GATHER	FREQUENCY OF COLLECTION	TIPS
Panel size equation (see Section 4.2.1)	To understand the relationship between supply and demand within your practice, and to be able to develop strategies to balance if necessary.	Use the panel size equation.	Annually, or as changes in supply or demand occur.	If demand is greater than supply, remember that this is a yearly number. It must be divided by 12 to understand the number of appointments required monthly, and then by four to see the number of extra appointments needed each week, etc.
Third next available (TNA, 3NA) (see section 4.2.4)	This is the gold standard for measuring the length of time patients in your practice are waiting for an appointment. First and second available appointments are not used, as they could be the result of a recent cancellation.	At the same time on the first day of the work week, look ahead in the schedule for the TNA appointment slot and then count the number of days to that appointment. Do not count saved appointments or carve out model appointments.	Weekly until the value is consistently zero. Then use future open capacity to measure availability of appointments (see Section 4.2.9).	It is important to use a consistent method of data collection. Counting weekends is a choice (either do or don't) but the same method of data collection must be used consistently.
Supply (see Section 4.2.6)	The number of appointments available in the schedule. All appointments should be multiples of the short appointment length.	Count the number of available appointments for each work day.	You should understand supply on a daily, weekly and annual basis. Once established it does not have to be counted unless supply changes.	If provider supply increases or decreases permanently, then the equation must be recalculated.
Demand (see Section 4.2.5)	The number of appointments requested today for any day. Demand can be generated internally by the provider and externally by the patient. It is important to understand both internal and external demand, and to measure each separately using the tool provided in Section 5.1.	Using a tick sheet (see Section 5.1), place a tick mark for every appointment requested, depending on the origin. External demand is patient request and internal demand is provider request (see Section 4.2.5).	Daily until practice confidently knows range of demand for each working day.	It is important to gather this data anytime practice demand seems to be changing. It may be necessary to rebalance supply and demand.

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# 4.1 Summary of Advanced Access and Efficiency Measures (cont.)

MEASURE	WHAT IS IT AND WHY DO IT?	HOW TO GATHER	FREQUENCY OF COLLECTION	TIPS
Activity (see Section 4.2.7)	The actual number of short appointment slots used that day. If the provider had additions, then the number will be higher than supply. If the provider had no shows or vacancies, then the number will be lower than supply.	From the EMR/EHR or schedule book, count the number of short appointments used each working day.	Daily until practice confidently knows the range of activity for each working day.	If the number of short appointments used is consistently greater than the number of appointments in the schedule, it is important to recalibrate appointments to better reflect what is actually happening in the practice. If the provider never starts before 9:15, for example, do not begin appointments at 9:00.
Continuity (see Section 4.2.12)	The number of times patients are able to see their own provider relative to other providers of the same discipline within the practice.	Calculate the percentage of patients seen by their own provider: Divide the number of patients of Provider X who were seen by Provider X in the past 30 calendar days by the total number of patients of Provider X who were seen by any provider in the practice in the past 30 calendar days. Multiply by 100.	Monthly.	Patients who see their own provider generate fewer visits.
No shows or failure to keep appointment (FTKA) (see Section 4.2.8)	Patients who do not keep appointments and do not notify the practice prior to their scheduled time. These appointments represent lost productivity and resources.	Keep track of the number of patients who fail to keep their appointments and record on the Demand, Supply, Activity and No Shows worksheets.	Daily.	When patients notify the practice of their inability to attend, their appointment is a cancellation and not a no show.
Future open capacity (see Section 4.2.9)	Use this measure when TNA is consistently zero. This measure will help you understand if too many appointments are being pre-booked to meet daily demand.	At the beginning of the month calculate the total number of appointments (supply). Also calculate the number of open appointments. Divide the open appointments by the total appointments and multiply by 100 to get the percentage of future open capacity.	This can be done daily, weekly or monthly. It is important to note that 50% booked at the beginning of the day is different than 50% booked at the beginning of the month.	Before using future open capacity, it is crucial to understand the relationship between supply, demand and activity within your practice. The amount of open capacity required is unique to each practice.

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# 4.1 Summary of Advanced Access and Efficiency Measures (cont.)

MEASURE	WHAT IS IT AND WHY DO IT?	HOW TO GATHER	FREQUENCY OF COLLECTION	TIPS
Backlog (see Section 4.2.10)	The number of appointments between the present and the TNA appointment. Do not count appointments that are booked due to patient choice or physiology.	Count the number of appointments between now and TNA.	Anytime the TNA is increasing above acceptable practice targets.	Be sure the practice can distinguish between good backlog and bad backlog.
Cycle time (see Section 4.2.11)	The time elapsed between the scheduled appointment time and the time the patient is walking out the door. This information will help the practice understand the patient flow and where waiting occurs. It will also identify opportunities to improve efficiency or reduce the number of steps in the process.	A cycle time tracking sheet is necessary. Patients can be asked to track the times at various steps within their appointment. Other methods to collect this information may work better for your practice. This information is used in conjunction with the process map.	As often as is required to understand the length of patient visits in order to inform tests of change. Repeat each time changes are tested or implemented.	Decide as a team the number of random samples required to inform the quality improvement team. Sample at different times of the day or days of week.
Red zone (value-added time) (see Section 4.2.11)	Percentage of the cycle time spent in face-to-face contact with a member(s) of the care team.	On the cycle time form calculate all the minutes spent with members of the care team. Divide by the total number of minutes spent at the appointment and multiply by 100 to get the percentage of face-to-face time.	As often as is required to understand the length of patient visits in order to inform tests of change. Repeat each time changes are tested or implemented.	Include time the patient spends with all members of the care team that adds value to their visit.
Patient satisfaction survey (see Section 4.2.13)	Feedback from patients is essential to respecting their roles as partners within the care team.	Use the survey in Section 5 or a tool of your choosing. Select a random sampling.	At baseline, and whenever improved changes are implemented. Frequency will be a practice decision.	Do not do the survey if data are not going to be studied or acted on.

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## 4.2 From Principles to Practice — A Place to Record Your Data

For data-gathering methods please refer to the Summary of Advanced Access and Efficiency Measures (Section 4.1).

The worksheets are available in Section 5.

### 4.2.1 PANEL SIZE EQUATION

**To Obtain Roster Balance:**

**Supply** must equal **Demand**

**Supply** – (# weeks worked annually) \_\_\_\_\_ x (# visits/weeks) \_\_\_\_\_ = \_\_\_\_\_  
must equal

**Demand** – (# patients) \_\_\_\_\_ x (patient visit rate) \_\_\_\_\_ \* = \_\_\_\_\_

### 4.2.2 PANEL SIZE EQUATION – INTERPRETATION

**Supply of visits** must equal **demand for visits**

1. Complete the panel size equation in Section 4.2.1.
2. Calculate the difference between your annual supply of appointments and your annual demand for appointments.
3. Identify the scenario on the next page — either A or B — that describes your practice, and read about what to do next.

\* Patient visit rate – Divide the number of unique patients seen in the last 12 months into the number of visits to the practice that these patients generated within the same period.

## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### A If supply is greater than or equal to ( $\geq$ ) demand:

- If supply is  $\geq$  demand, you are ready to embark on achieving an Advanced Access working environment.
- Collect your TNA appointment measure. If it is constant, it confirms that your supply and demand are in balance. If it is not constant, this may be due to a recent change in demand or supply of appointments e.g., vacation, flu season, etc.

### B If demand is greater than ( $>$ ) supply:

- If demand is greater than supply by a modest margin of 600 visits\* or less (600 visits is used as a guide based on our experience with other practices implementing Advanced Access), then you must either increase supply, decrease demand or do both. Achieving an Advanced Access working environment is within your reach provided you are motivated to dramatically change how you work both as a provider and as a team.
- If demand is  $>$  supply by a large margin (more than 600 visits per year), you may have a panel size that is too large for your current supply. Looking at ways to decrease demand and increase supply is important, and examining efficiencies in patient flow and non-appointment work will also help. In a practice setting where demand is significantly greater than supply, the likelihood of reaching a zero TNA standard is less than for the previous two conditions. By applying many of the principles and strategies of access and efficiency, wait times for patients/clients can be significantly reduced, from weeks to days.
- Calculate the number of appointments per day by which either demand must be reduced or supply increased (or a combination of both) — e.g., decrease demand by one appointment and increase supply by one appointment — to achieve balance.

#### EQUATION

Annual demand – annual supply = X

$X \div \# \text{ weeks worked annually} = Y$

$Y \div \# \text{ days in work week} = \# \text{ appointments you must make up}$

#### EXAMPLE

$3380 - 3000 = 380 \text{ appointments/year}$

$380 \div 45 = 8.4 \text{ appointments/week}$

$8.4 \div 4 = 2.1 \text{ appointments/day}$

- Once balance has been found, it will be possible to assess the ratio of pre-booked to booked appointments that is required to meet daily demand.

\* A deficit in supply compared to demand of 600 visits translates to 13 visits/week or three visits/day for a provider working 45 weeks/year and four days/week (these numbers will change based on the number of weeks worked/year and days worked/week).



## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### For Both Scenario A and B

- Tracking daily demand, supply and activity (DSA) data will help you understand the ratio of booked to pre-booked appointments needed to meet daily demand in relation to supply.
- Collect enough DSA data (a minimum of four weeks' worth — more is better) to find out the range of demand for each day worked (e.g., Monday, 19-22 calls; Tuesday, 17-20 calls; Wednesday, 15-18 calls; etc.).
- A different number of open appointments will be made available each day, based on the findings of the daily demand data (subtract daily demand from daily supply to determine the daily ratio of pre-booked to open appointments).
- Reduce your backlog — calculate the bad backlog and estimate how much time it will take to eliminate.
- Introduce/test the new schedule once bad backlog has been eliminated.
- Continue to collect DSA by sampling to see if the number of daily requests for appointments falls within the range calculated by daily demand data or if demand is changing in some way (e.g., collect one week on a Monday, another week on a Tuesday, etc.).
- Focus on finding efficiencies in your flow of appointments in the office and in non-appointment work. Process mapping is a tool that can help you find ways to be more efficient at appointments.

**Note:** A change in any number in the annual supply/demand equation will change the balance — e.g., a reduction in the visit rate will increase supply, an increase in days worked will increase supply, an increase in panel size will increase demand, a reduction in visits/day will decrease supply, etc.

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## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### 4.2.3 DEMAND, SUPPLY AND ACTIVITY REFLECTIONS

1. Print and/or photocopy and use the DSA worksheet in Section 5.1.
2. Follow the instructions provided on the worksheet for tracking demand.
3. Internal demand represents future appointments made for patients when they are leaving your office, e.g., for follow-up appointments.
4. External demand represents every appointment made for patients/clients who contact the office requesting an appointment for today or for any future date.
5. Be sure to put more than one tick mark for patients/clients who take up a multiple of time slots; e.g., a periodic health exam may require three 15-minute appointments, or 45 minutes, which equals three tick marks.
6. Use the tables in Section 4.2.5 to add up the total internal and external demand and record daily.
7. Record supply total daily in Section 4.2.6.
8. Record activity total daily (number of actual appointments used; may be more or less than schedule template) in Section 4.2.7.
9. Record no shows daily in Section 4.2.8.
10. At the end of a minimum of four weeks (remember, the more data you have the better) review the data to see what they are telling you. Try to answer the following questions:

#### For demand data

- Looking at all the data collected, what is the range of demand for each day of the week (e.g., Monday, 19-22; Tuesday, 18-20; etc.)?
- How does the internal demand compare with the external demand?
- Could some of the internal demand be reduced by extending revisit rates or could another member of the care team deal with some of the return visits?
- How large is the variation of demand on a daily basis (e.g., 19-22 requests vs. 10-25 requests)?
- What strategies can be used to reduce this variation?

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## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### For supply and activity data

- What is the relationship between the scheduled supply and the actual number of appointments used (activity)?
- Is the activity consistently greater or less than the supply?
- Could the schedule be modified so that it is more aligned with the work that is actually taking place?
- Could other team members see some of the patients/clients instead?
- How much does the supply vary from week to week (e.g., Week 1, Monday, 30 appointments; Week 2, Monday, 20 appointments)?
- If there is a wide variation in supply, what contributes to this variation? Try to identify strategies to reduce the variation.

### For supply and demand comparisons

- Once the bad backlog is eliminated, can enough slots be left open each day to accommodate all the external demand (e.g., Monday, 21 slots; Tuesday, 19 slots, etc.)?
- Would doing this still leave enough slots available to pre-book chronic disease, prevention, pre-natal, etc., appointments to accommodate these populations of patients/clients?
- Are follow-ups being booked early in the day and later in the week to leave space for the higher-demand periods (if this is what your demand data showed)?
- What is your overall degree of belief that the daily demand and supply data are a true picture for your practice?

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## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### 4.2.4 THIRD NEXT AVAILABLE

Record your TNA here:

MONTH	WEEK 1	WEEK 2	WEEK 3	WEEK 4	AVERAGE TNA
1 (       )					
2 (       )					
3 (       )					
4 (       )					
5 (       )					
6 (       )					
7 (       )					

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# 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

## 4.2.5 INTERNAL DEMAND

Date Range:  
From: To:

Record your internal demand by day of the week here:

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	WEEKLY TOTAL
1						
2						
3						
4						
5						
6						
7						
8						
Daily Average						

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# 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

## 4.2.6 EXTERNAL DEMAND

Date Range:  
From: To:

Record your external demand by day of the week here:

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	WEEKLY TOTAL
1						
2						
3						
4						
5						
6						
7						
8						
Daily Average						

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# 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

## 4.2.7 TOTAL DEMAND

Date Range:  
From: To:

Add your internal demand with your external demand to receive you total demand.

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	WEEKLY TOTAL
1						
2						
3						
4						
5						
6						
7						
8						
Daily Average						

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# 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

## 4.2.8 SUPPLY

Date Range:  
From: To:

Record your supply by day of the week here:

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	WEEKLY TOTAL
1						
2						
3						
4						
5						
6						
7						
8						
Daily Average						

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# 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

## 4.2.9 ACTIVITY

Date Range:  
From: To:

Record your actual activity by day of the week here:

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	WEEKLY TOTAL
1						
2						
3						
4						
5						
6						
7						
8						
Daily Average						

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# 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

## 4.2.10 NO SHOWS

Date Range:

From:

To:

Record your no shows by day of the week here:

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	WEEKLY TOTAL
1						
2						
3						
4						
5						
6						
7						
8						
Daily Average						

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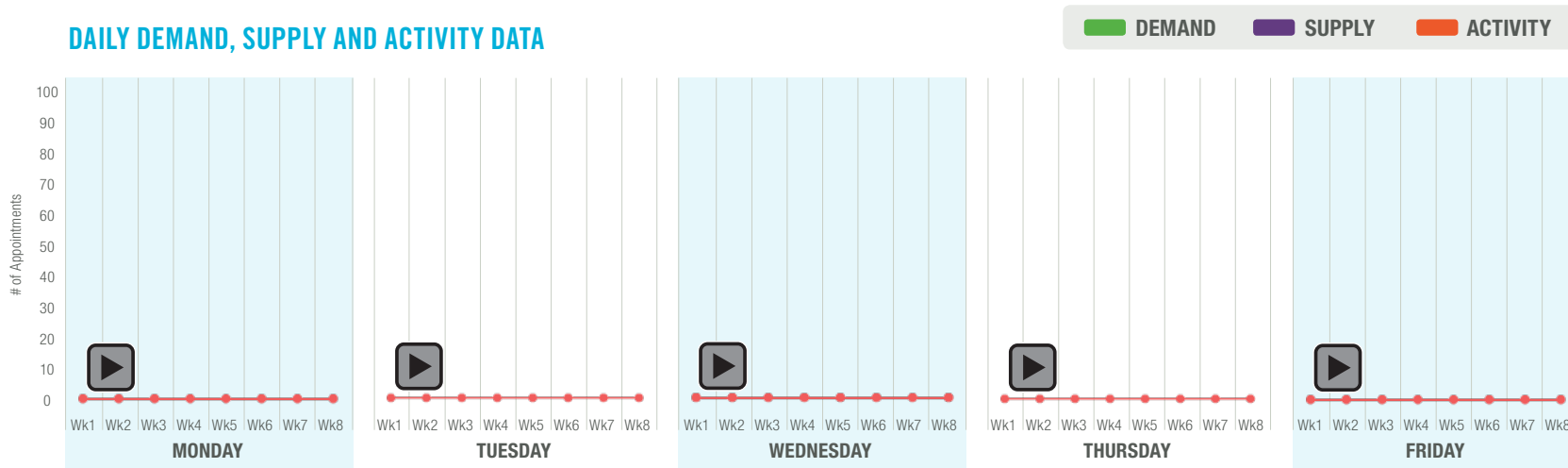
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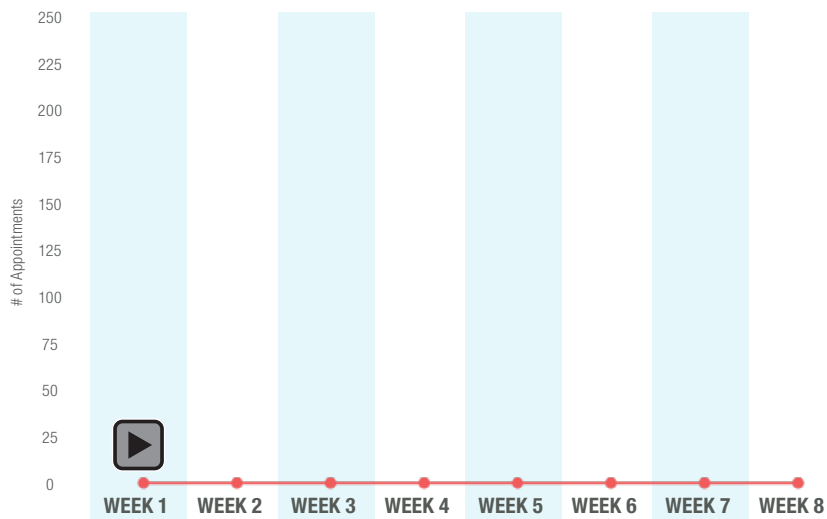
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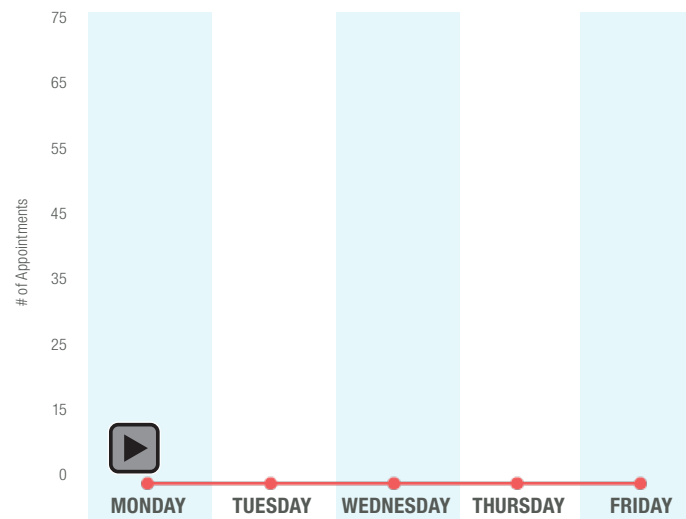
DAILY DEMAND, SUPPLY AND ACTIVITY DATA



WEEKLY DEMAND, SUPPLY AND ACTIVITY DATA



AVERAGE DEMAND, SUPPLY AND ACTIVITY DATA



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## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### 4.2.11 FUTURE OPEN CAPACITY

Record your future open capacity here:

FUTURE OPEN CAPACITY		MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	% OPEN
Week 1	Open						
	Pre-booked						
Week 2	Open						
	Pre-booked						
Week 3	Open						
	Pre-booked						
Week 4	Open						
	Pre-booked						
Week 5	Open						
	Pre-booked						
Week 6	Open						
	Pre-booked						

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## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### 4.2.12 BACKLOG REDUCTION

#### Step 1: Record

Number of booked appointments between now and date of TNA \_\_\_\_\_

Good backlog (Number of patients in schedule by choice or physiology) \_\_\_\_\_

Bad backlog = Line 1 – Line 2 \_\_\_\_\_

#### Step 2: Record

Initial backlog reduction through review of future schedule (duplicates, unnecessary appointments, etc.) \_\_\_\_\_

#### Step 3: Record

Remaining backlog = (number in Step 1) \_\_\_\_\_ – (number in Step 2) \_\_\_\_\_ = \_\_\_\_\_ appts.

#### Backlog reduction plan strategies (check all you plan to use)

- Add appointments to each day
- Add appointments on weekends
- Add hours at beginning or end of day
- Use lunch time
- Shift administrative time to patient time
- Temporarily add care team members (e.g., locum)
- Other \_\_\_\_\_

Start date \_\_\_\_\_ End date \_\_\_\_\_

The above strategies are time limited and used only until the backlog has been reduced.

## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### 4.2.13 CYCLE TIME/RED ZONE (VALUE-ADDED TIME)

EQUATION COMPONENTS	WEEK 1	WEEK 2	WEEK 3	WEEK 4	FOR AVERAGE MONTHLY CYCLE TIME DIVIDE DENOMINATOR BY NUMBER OF PATIENTS SURVEYED
Numerator = # of minutes/visit spent with the care team (red zone time (value-added time))					
Denominator = # of minutes from the beginning of the scheduled appt. to the time patient leaves					
x 100 = percentage of red zone time (value-added time)					

### 4.2.14 CONTINUITY

FOR A PROVIDER	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6
Numerator = # of visits/month to the care team						
Denominator = # visits/month to the practice						
x 100 = percentage						

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## 4.2 From Principles to Practice — A Place to Record Your Data (cont.)

### 4.2.15 PATIENT ACCESS SATISFACTION TALLY SHEET

Number of patients surveyed

QUESTIONS	EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
How would you rate your satisfaction with getting through to the office by phone?					
How would you rate your satisfaction with the length of time you waited to get your appointment today?					
How would you rate your satisfaction with the availability of the clinician or staff member you wanted to see today?					
How would you rate your satisfaction with the personal manner of the person you saw today (courtesy, respect, sensitivity, friendliness)?					
How would you rate your satisfaction with the time spent with the person you saw today?					

### 4.2.16 SUSTAINING IMPROVEMENTS

One of the most frequent misunderstandings in sustaining improvements is assuming that all gains will continue without monitoring. It is important for the practice to continue to hold regular meetings to review performance measures and identify ongoing adjustments that may be required. The measures included in this workbook may not always need to be gathered, but high-performing teams monitor a

few key measures over time. If system problems are identified, the more detailed measures included here may be resumed, to help get teams back on track. It is suggested that three key measures, such as TNA or future open capacity, no show rates and patient satisfaction with access, be continuously monitored for sustainability of improvements.



# Section 5

## Tools



# 5.1 Tracking Daily Demand, Supply, Activity and No Shows by the Provider

**Instructions:**

**Demand:** Every day, record the number of requests for an appointment with the provider. Record every request, whether or not the appointment is booked for that day or a future date. This includes follow-up appointments people make as they leave your office (internal demand), as well as the external demand that comes through by phone, walk-ins, fax or e-mail. Tip: Use the shortest appointment slot as your basic unit of measurement, and tick off every unit of appointment. For example, if your shortest appointment slot is 10 minutes, use this as your basic unit of measurement; e.g., a 30-minute appointment would be recorded as three ticks.

**Demand Count:** Place a tick beside each request for a short appointment. Remember that long appointments need more ticks.

**Supply:** At the beginning or end of each day, use the appointment schedule to gather the supply information. Record the number of appointments (using the shortest appointment slot) for each day. This includes all appointments in the schedule, whether they are booked or not.

**Activity:** At the end of the day, use the schedule to identify the actual number of short appointment slots used that day. If the provider had add-ons, then the number will be higher than the supply. If the provider had no shows or vacancies, then the number will be lower than the supply.

**No shows (FTKA):** At the end of the day, count the number of booked appointments that were not used and for which the patient did not call to cancel.

DAY:	INTERNAL DEMAND	EXTERNAL DEMAND	DEMAND TOTAL	SUPPLY TOTAL	ACTIVITY TOTAL	NO SHOWS
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						

# 5.2 Primary Healthcare Practice Patient Cycle Time

Type of visit \_\_\_\_\_ Day \_\_\_\_\_ Date \_\_\_\_\_

Scheduled appointment time \_\_\_\_\_ Provider you are seeing today \_\_\_\_\_

Time

1. Time you checked in

2. Time you sat in the waiting room

3. Time staff came to get you

4. Time staff member left you in the exam room

5. Time provider came in the room. If the provider left the room more than once, please note the times

1

2

3

Time left




Time returned





6. Time provider left the room

7. Time you left the room

8. Time you arrived at check out

9. Time you left the practice

Comments

## 5.3 Patient/Family Satisfaction with Primary Healthcare Practice Access Survey

Patients have valuable insight into the quality and process of care we provide. Real-time feedback can pave the way for rapid responses and quick tests of change. This survey can be completed at the time of the visit, to give real-time measurement of satisfaction.

Conduct the survey for two weeks with patients if you currently do not use a survey method. If you do have a method, be sure the data are up to date and reflect the current state of your practice.

Think about this visit:

Date \_\_\_\_\_

- 1** How would you rate your satisfaction with getting through to the office by phone?  
 Excellent     Very Good     Good     Fair     Poor
  
- 2** How would you rate your satisfaction with the length of time you waited to get your appointment today?  
 Excellent     Very Good     Good     Fair     Poor
  
- 3** How would you rate your satisfaction with the availability of the clinician or staff member you wanted to see today?  
 Excellent     Very Good     Good     Fair     Poor
  
- 4** How would you rate your satisfaction with the personal manner of the person you saw today (courtesy, respect, sensitivity, friendliness)?  
 Excellent     Very Good     Good     Fair     Poor
  
- 5** How would you rate your satisfaction with the time spent with the person you saw today?  
 Excellent     Very Good     Good     Fair     Poor

Comments

# 5.4 Huddle Tip Sheet

### Ever thought?

- “No one tells me anything?”
- “You just never know what is going to happen around here!”
- “I don’t want to disturb anyone but I am going to have to leave early.”
- “I wonder if the team knows that Mr. Jones has died.”
- “If I only knew that we could have planned better.”

### Sound familiar?

Implementing a huddle to your daily routine keeps the team informed, builds team collaboration and allows the team to plan for the unexpected.

### What is a huddle?

A huddle is a rapid daily communication meeting. It’s an opportunity to look at: planned work, avoid roadblocks, review schedule changes and plan for patient visits. Planned brief daily communication allows teams to develop a strategy for last minute surprises and proactively plan to match supply and demand for the day.

### How can this help my practice?

Daily communication in the form of a huddle reduces surprises, bottlenecks, and interruptions by ensuring that teams are aware of schedules, equipment, and specialty needs of patients, staff shortages, and unexpected events. It’s also a time to be able to share successes and things learned from the previous day.

#### How do we begin?

- Be collaborative. Discuss the concept with your team.
- Discuss who should be at the huddle meetings.
- Agree to try a huddle daily at a specific time and stick to it.
- Find a location that is convenient, confidential and allows access to information.
- Have a clear set of objectives and make sure the team knows what they are.
- Stand, don’t sit, stay brief and focused, 7 minutes is recommended.
- After a week of huddles check in and see what you need to adjust.
- Develop a Huddle Agenda that should meet the needs of your team.

#### What do we talk about?

- Which patients will take extra time and what is our strategy to manage this and reduce delays?
- How many appointments are available, openings to be filled or chronic no-shows that can be anticipated and pro-active measures can be implemented.
- What procedures are booked? Are we waiting for results?
- Who requires pre-orders, forms or protocols?
- What activities are going on today? E.g. meetings, visitors
- What messages need to answered/responded to now
- Have any of the physician’s clinic shifts changed?
- Are there any conflicts with personnel, space and equipment?
- Do we need to consider any contingency plans for today or tomorrow?

# 5.5 Huddle Sheet

Practice \_\_\_\_\_ Date \_\_\_\_\_

<b>Follow-ups from yesterday</b>
<b>"Heads-up" for today (include sick calls, special patient needs, staff flexibility, contingency plans)</b>
Meetings:
<b>Review of tomorrow and proactive planning</b>



# 5.6 Understanding Your Practice

This sheet is designed for providers to use during consultations. It will help you understand what type of work you are doing. Place a tick in the appropriate column(s) for each patient contact, both face to face and by telephone. Adapt or alter as required.

Day \_\_\_\_\_

Provider \_\_\_\_\_

Consultation/ contact	Counselling: mental health	New Diagnosis	Chronic disease	Periodic health exam	Episodic illness	Prescription refills	Follow-up			Best dealt with by myself	In my practice, could any of those listed below do this work?			
											Allied health professional	Practice nurse	Other practice doctor	Other
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
Total														

1 M. Murray and D. Berwick. Advanced Access Reducing Waiting and Delays in Primary Care. JAMA 2003;289:1035-1036.

2 Murray M. Modernizing The NHS Patient Care. BMJ 2000;320:10:1596.

# Section 6

## Appendix





# 6.1 Advanced Access and Efficiency Checklist

This checklist may be used as a tool to assist you with logging your current access and efficiency status.

Step	Activity: Develop understanding of what is happening now	Comments	Completed
1	Measure:		
	Panel size		
	Supply		
	Demand		
	Activity		
	Visit rate		
	Backlog		
	TNA		
	Provider continuity		
2	Develop:		
	Patient flow process map with office cycle time		
3	Individual process maps (check-in, rooming, etc.)		
	Review scheduling processes and principle of book early/book late		
4	Activity: Balance supply and demand by testing changes		
	Reduce demand		
	Reduce variation		
	Develop contingency plans and time-off policies		
	Optimize care team		
5	Develop backlog reduction plan		
	Activity: Implement changes		
	Develop a communication plan		
	Develop scripts for common occurrences		
6	Smooth appointment flow		
	Set begin and end dates		
	Activity: Holding the gains		
	Continue monitoring		
	TNA		
	Provider continuity		
	Future open capacity		
	Office cycle time		

## 6.2 Advanced Access and Efficiency Glossary

TERMINOLOGY	DEFINITION
Access scheduling model	A method of offering patients an appointment on the day of their choosing by balancing supply and demand.
Activity	Actual number of short appointment slots used that day. If the provider had add-ons, then the number will be higher than supply. If the provider had no shows or vacancies, then the number will be lower than supply.
Backlog	Number of appointments booked between now and TNA (what we should be doing but haven't).
Care team	The people in a practice who contribute to the care of the patient.
Carve-out scheduling model	A preset number of appointment slots that are blocked off and protected to accommodate same-day/urgent requests for certain types of services, but not others. Typically a 50/50 split.
Constraint/bottleneck	A rate-limiting step in a process.
Cycle time	Total number of elapsed minutes from patient arrival for a medical appointment to patient departure.
Demand	Panel size times visit rate.
Internal demand	Appointments made today for a future date, as the patient leaves the clinic.
External demand	Call-in/walk-in requests for an appointment.
Future open capacity	Percentage of open appointment slots within a specified period of time, e.g., 150 slots in four weeks; 70 are open. $70/150 = .46$ or 46%
Huddles	Brief team meetings to improve communication and visit flow.
Max-packing visits	A way to maximize visit efficiency by doing more than one task during a visit, to reduce future visits.
No show rate	Number of patients who fail to keep their appointment and do not give prior notification of their intent to cancel the appointment.
Non-appointment work demand	Includes documentation, prescription refills, lab reviews, messages, referrals, forms management and phone calls.
Panel/roster size	The number of individual patients under the care of a specific provider.
Provider continuity	Percentage of patients seen by their usual primary provider.
Red zone time (or value-added time)	Total number of minutes a patient spends in direct (face-to-face) contact with his/her care team.
Visit rate/visit interval/revisit rate	Divide the number of unique patients seen in the last 12 months into the number of visits to the practice that these patients generated within the same period.
Supply	The number of appointment slots according to the schedule (daily/weekly/annually).
Third next available (TNA)	The sum of the days between the time a patient requests an appointment and the time of the third next available appointment.

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## 6.3 Package of Change Concepts

### How to Use the Change Package

This package describes the change concepts, or ideas for innovation, that have been shown to improve access and efficiency in primary care practices. A change concept represents a set of practices, ideas and tools that have been effective in other environments and can be tested to ascertain their impact in your environment. Change concepts are broad changes or general approaches that have been found useful in making an improvement. These concepts are not specific enough to be applied directly, and not all concepts will be of interest or appropriate for you at this time. Rather, this package is a “menu” of possible concepts to consider as you set out on your improvement journey.

After you choose concepts to work on, you will need to tailor the ideas to your situation, and describe them in enough detail so that they can be tested using quality improvement methodology. After testing, if your data show that the change is making an improvement in your setting, you can make plans to implement the changes, to ensure the improvement sticks.<sup>1</sup>

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1. Langley, G.J., Moen, R.D., Nolan, K.M., Nolan, T.W., Norman, C.L., and Provost, L.P. (2009). *The Improvement Guide*. 2nd Ed. Jossey-Bass: San Francisco.

## 6.3 Package of Change Concepts (cont.)

### CHANGE CONCEPTS FOR IMPROVEMENTS TO ADVANCED ACCESS<sup>2,3</sup>

CONCEPT	CHANGE IDEAS
<p><b>Understand and balance supply and demand</b> Understanding the patterns of both demand and supply on a weekly, monthly or seasonal basis lets you focus your efforts on shaping demand to match supply and/or increasing (or decreasing) supply during periods of high (or low) demand. The foundation of improved access scheduling is matching the supply and demand on a daily, weekly and long-term basis.</p>	<ul style="list-style-type: none"> <li>• Use the panel size equation to determine the annual supply and demand for each provider</li> <li>• Measure demand for all appointments by provider and day</li> <li>• Measure supply of appointments by provider and day</li> <li>• Measure activity (number of appointments used) by provider and day</li> <li>• Develop a plan for redistributing workload as needed</li> <li>• Develop a plan to monitor provider patient loads monthly</li> <li>• Identify the number of providers and appointments needed to meet daily demand</li> <li>• Adjust provider/staffing hours to match demand pattern</li> <li>• Manage variation in demand (e.g., guide pre-booked appointments to days when you tend to have more supply than demand)</li> <li>• Make sure to “do today’s work today” after eliminating backlog</li> <li>• Develop a plan to continuously measure supply and demand for appointments</li> <li>• Use regular huddles and staff meetings to organize the day and to optimize team communication</li> </ul>
<p><b>Increase the supply of visits</b> Increasing the supply of visits helps to balance patient demand, and can be accomplished in ways other than providers working more hours.</p>	<ul style="list-style-type: none"> <li>• Maximize provider and staff schedules</li> <li>• Optimize the care team — ensure all team members are functioning to their highest level of certification/licensure to maximize response to patient needs</li> <li>• Remove unnecessary appointment work from providers. Make sure providers have time to do “provider work” that only they can do</li> <li>• Look for appointments that could be managed by non-providers</li> <li>• Identify and manage the constraint. Use guidelines and protocols for treatment of simple, common conditions</li> <li>• Group visits and/or shared medical appointments</li> <li>• Use technology, including EHRs/EMRs, e-mail, telephone and patient portals</li> <li>• Encourage patient engagement and self-management</li> </ul>
<p><b>Decrease the demand for visits</b> Reducing the level of demand makes it easier for the system to absorb current and future levels of demand.</p>	<ul style="list-style-type: none"> <li>• Max-pack and reset the schedule</li> <li>• Challenge/extend return-appointment intervals</li> <li>• Promote continuity (match patient with his/her provider for each visit)</li> <li>• Develop a plan to reduce no shows</li> <li>• Develop alternatives to face-to-face interactions — group visits, e-mails, telephone and care management</li> <li>• Promote patient self-management</li> <li>• Review future schedules to ascertain if patients could be managed differently</li> <li>• Make the visit more effective by utilizing other team members</li> <li>• Maximize the efficiency of each visit</li> </ul>

2. Ontario Health Quality Council (March 2009). Quality Improvement Guide — Module 1: Access. Toronto. Available at: [http://www.hqontario.ca/en/qi\\_teams.php](http://www.hqontario.ca/en/qi_teams.php).

3. Institute for Healthcare Improvement. Improving Primary Care Access. Available at: <http://www.ihi.org/knowledge/Pages/Changes/MeasureandUnderstandSupplyandDemand.aspx>.

## 6.3 Package of Change Concepts (cont.)

### CHANGE CONCEPTS FOR IMPROVEMENTS TO ADVANCED ACCESS (cont.)

CONCEPT	CHANGE IDEAS
<p><b>Reduce appointment types and times</b> Complex schedules with many appointment types, times and restrictions can actually increase the total delay in the system, because each appointment type and time creates its own differential delay and queue. Reducing the complexity ultimately decreases system delays.</p>	<ul style="list-style-type: none"> <li>• Standardize appointment types and lengths</li> <li>• Reduce and use only a small number of types and lengths of appointments</li> <li>• Identify appointment types with specific needs, such as specific staff or rooms, or those that need more time</li> <li>• Create a plan to merge/accommodate appointments that will take longer</li> <li>• Educate staff on booking to the provider, not to the first open space on the schedule</li> <li>• Adjust the schedule to match the reality of the provider's pace (truth in scheduling)</li> </ul>
<p><b>Reduce backlog</b> Backlog consists of appointments on the future schedule that have been put off because of lack of space on the schedule to do the work sooner; working down the backlog recalibrates the system to improve access.</p>	<ul style="list-style-type: none"> <li>• Measure backlog</li> <li>• Distinguish between good and bad backlog</li> <li>• Develop a plan to reduce the bad backlog (e.g., add additional appointments temporarily)</li> <li>• Develop a communication plan</li> <li>• Set beginning and end dates</li> <li>• Plan for staffing support</li> <li>• Develop plans for any additional needs while reducing backlog</li> <li>• Display wait-time data</li> <li>• Protect providers with short wait times — don't fill their schedules up with others' work</li> </ul>
<p><b>Develop contingency plans</b> The natural variation in supply and demand that occurs as part of the everyday functioning of a practice often creates problems that contingency plans can address.</p>	<ul style="list-style-type: none"> <li>• Review supply and demand patterns to determine the causes of variation</li> <li>• Develop proactive contingency plans to cover demand variances, such as vacations, immunization seasons, school physicals, hospital admissions, clinic visits that take longer than expected, etc.</li> <li>• Develop a plan to cover the extra work of providers due to both expected and unexpected reasons</li> <li>• Set follow-up appointments towards the end of the week, and early in the day</li> <li>• Develop time-off policies</li> <li>• Smooth appointment flow</li> <li>• Review bookable hours</li> <li>• Identify an end-of-day "cut-off" time (which is not based on "full")</li> <li>• Develop plans for working with mid-level providers</li> <li>• Develop scripts for common occurrences — late patients, appointment scheduling, patients without a primary care provider, etc.</li> <li>• Use appointment reminders</li> </ul>

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## 6.3 Package of Change Concepts (cont.)

### CHANGE CONCEPTS FOR IMPROVEMENTS TO OFFICE EFFICIENCY<sup>4,5</sup>

CONCEPT	CHANGE IDEAS
<p><b>Balance supply of and demand for non-appointment work</b></p> <p>Understanding the patterns of demand and supply at the appointment level will allow you to focus efforts on reshaping and rebalancing this system to match the work.</p>	<ul style="list-style-type: none"> <li>• Process-map the patient/client journey across the office. Do a clinic walk-around with observations</li> <li>• Measure cycle/lead times</li> <li>• Begin a care team workload analysis</li> <li>• Study and predict daily demand for non-appointment work</li> <li>• Match the demand to the correct resource</li> <li>• Study and understand your support staff supply</li> <li>• Separate responsibilities for phone, patient flow and paper flow</li> <li>• Map out specific support processes and improve them (e.g., processes for messages and communication, prescription refills)</li> <li>• Develop a philosophy of doing this moment's work this moment</li> </ul>
<p><b>Synchronize patient, provider, information, room and equipment</b></p> <p>Analyzing and addressing the factors that contribute to delays at an appointment will allow for the planning and testing of improvements.</p>	<ul style="list-style-type: none"> <li>• Start morning, afternoon and evening sessions on time</li> <li>• Develop a script for patient/client arrival and scheduled-with-provider times</li> <li>• Register patients/clients by telephone</li> <li>• Do an interruption study and limit interruptions, especially for providers</li> <li>• Use health prompts to anticipate the full potential of today's need</li> <li>• Use a "chart check" to ensure that all information is correct</li> <li>• Develop mechanisms to keep rooms open</li> <li>• Do a minutes-behind graph</li> <li>• Institute a 15-second rule for asking providers a question between appointments</li> <li>• Use scheduled pauses to apply continuous flow approach to non-appointment activities (e.g., return phone calls)</li> <li>• Use huddles to communicate across providers and staff throughout the day</li> </ul>
<p><b>Anticipate and predict patient needs</b></p> <p>Communication is critical to allowing the team to operate effectively in anticipating and addressing patient/client needs.</p>	<ul style="list-style-type: none"> <li>• Plan and prepare for the patient visit</li> <li>• Obtain and organize all information, equipment and supplies before the patient/provider interaction (e.g., test results in the patient chart, supplies for physicals in the exam room)</li> <li>• Create a reminder system for planned care</li> <li>• Develop a plan for late patients/clients</li> <li>• Develop a plan for late providers</li> <li>• Plan for procedures and other "unusual" appointments</li> <li>• Plan for expected and unexpected interruptions in flow</li> <li>• Do as much as possible with standard protocol</li> <li>• Develop a plan for scheduled team meetings both monthly and weekly</li> <li>• Communicate among the care delivery team throughout the day using huddles, technology, etc.</li> </ul>

4. Ontario Health Quality Council (March 2009). Quality Improvement Guide – Module 2: Efficiency. Toronto. Available at: [http://www.hqontario.ca/en/qi\\_teams.php](http://www.hqontario.ca/en/qi_teams.php).

5. Institute for Healthcare Improvement. Improving Primary Care Access. Available at: <http://www.ihi.org/knowledge/Pages/Changes/MeasureandUnderstandSupplyandDemand.aspx>

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## 6.3 Package of Change Concepts (cont.)

### CHANGE CONCEPTS FOR IMPROVEMENTS TO OFFICE EFFICIENCY (cont.)

CONCEPT	CHANGE IDEAS
<p><b>Optimize rooms, staff and equipment</b> Set the team up for success by managing the environment to promote optimal team performance.</p>	<ul style="list-style-type: none"> <li>• Use open rooming to maximize flexibility</li> <li>• Standardize rooms</li> <li>• Standardize equipment and supplies</li> <li>• Keep rooms fully stocked at all times (e.g., insert a reminder form near the back of the pile of forms so that the clerk sees that the form has been taken out and knows to restock)</li> <li>• Use standard layouts/supplies</li> <li>• Develop signals for equipment</li> <li>• For limited equipment, develop plans to know the location of equipment at all times</li> <li>• Complete a care team workload analysis</li> <li>• Co-locate staff and equipment if possible</li> <li>• Cross-train staff</li> </ul>
<p><b>Manage constraints</b> We can only go as fast as the slowest step, and we want that slowest step to be the natural pace of the provider/patient interaction. If the constraint is elsewhere, it is reducing efficiency.</p>	<ul style="list-style-type: none"> <li>• Identify the constraint (person or process)</li> <li>• Drive unnecessary work away from the constraint</li> <li>• Define all roles and responsibilities</li> <li>• Reallocate work to the appropriate level of skill, expertise and licensure</li> <li>• Reassess forms for ease of completion (check-off boxes, etc.)</li> <li>• Process-map all provider support processes and look for leverage opportunities</li> <li>• Use automation and technology</li> <li>• Move steps in the system closer together</li> <li>• Use continuous flow to avoid batching</li> </ul>
<p><b>Eliminate waste</b> Identify steps and activities that do not provide value and seek efficiency to reduce or eliminate them.</p>	<ul style="list-style-type: none"> <li>• From process maps, seek to identify and eliminate non-value steps</li> <li>• Use the eight forms of waste to trigger ideas for testing changes (overproduction, waiting, transportation, over-processing, inventory, motion, defects and human potential)</li> <li>• Use LEAN fundamentals to focus on patient/client needs and have the flow driven by patient/client, not by the provider's perspective</li> </ul>

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## 6.4 LEAN and the Eight Sources of Waste

### What is LEAN?

LEAN streamlines processes and promotes efficiency by eliminating waste and non-value-adding activities.

LEAN defines value as what is needed, when it is needed and without issue.

LEAN asks teams to look at the flow of the work, the time each step takes and whether or not each step or activity adds value to the patient visit. Work flow is improved by removing non-value-adding activities or waste, unless these activities are necessary because of the regulatory environment.

**The eight sources of waste** (waste is any activity that takes time, resources or space but does not add value to a service) are:

**Over-production:** Processes that continue to produce beyond what the patient or provider needs. Over-production takes physical or electronic storage space and demands time to locate and manage (e.g., ordering unnecessary tests, making excess copies of a document, processing paperwork before all the information is received).

**Waiting:** Waiting by anyone, anywhere in the process. Waiting affects providers, staff and patients (e.g., waiting to get an appointment, waiting to be seen on day of appointment, waiting for test results).

**Transportation:** Unnecessary movement of materials, supplies or data (e.g., taking blood pressure cuff from room to room).

**Over-processing:** Includes activities that are unnecessary or are duplicates, and those that exist because things were not done right the first time (e.g., retesting patients, keeping records that are not used, keeping electronic and paper records, resending a fax because the wrong number was entered, handling paper more than once).

**Inventory:** Materials and supplies that do not meet patient needs. Inventory waste comes from pushing services through versus pulling them based on patient need (e.g., patients waiting to be roomed, too many supplies purchased at one time, batching forms to be completed).

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## 6.4 LEAN and the Eight Sources of Waste (cont.)

**Motion:** Extra human and machine motion, resulting from inefficient process design or layout, or from errors. Extra motion does not add value, takes time and increases cycle time (e.g., having to leave the work area to get supplies, sorting through paperwork, searching your desk for what you need to do your job, walking between exam rooms to check availability).

**Defects:** Anything that does not meet patient, staff or provider requirements and could result in dissatisfaction (e.g., incorrect information on the chart or missing information, tests performed incorrectly, losing a test sample and having to recollect it).

**Human potential:** Not using each person's potential to the fullest (e.g., working below scope of practice, lack of proper supplies and equipment, failure to fully utilize time and talents of people, environment that does not build morale).

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## 6.5 Improving Cycle Time Checklist:

The purpose of this checklist is to help you to identify how to minimize or remove waits and delays in the patient visit resulting in improved visit cycle time and improved patient experience:

- Collect cycle time for one month – 15 patients in one week for each provider. Try to vary the day of week and time of day that the cycle time data is collected.
- Work with your QI Coach (if you are part of a Coach Supported Learning Stream) to analyze the data and create a Value Stream Map (VSM).
- Study the VSM to determine where patients are waiting the longest.
- Complete a cause and effect diagram to understand the causes of waits and delays during the day.
- Track the reasons for waits/delays for one week to determine the vital few causes contributing to 80% of the delays.
- Once you have identified the vital few causes, brainstorm possible solutions to reduce or eliminate these causes.
- Decide on change ideas you want to test and plan the PDSA.
- Measure cycle time while testing changes to determine if the change is resulting in improvement.
- Implement successful changes.
- Continue working to reduce causes of waits and delays by continuing to test changes until you reach your goal.

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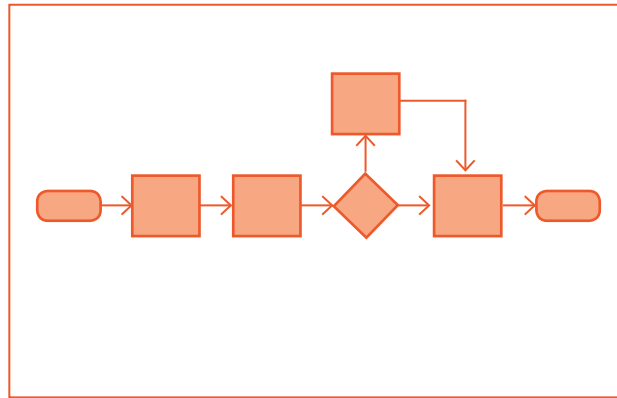
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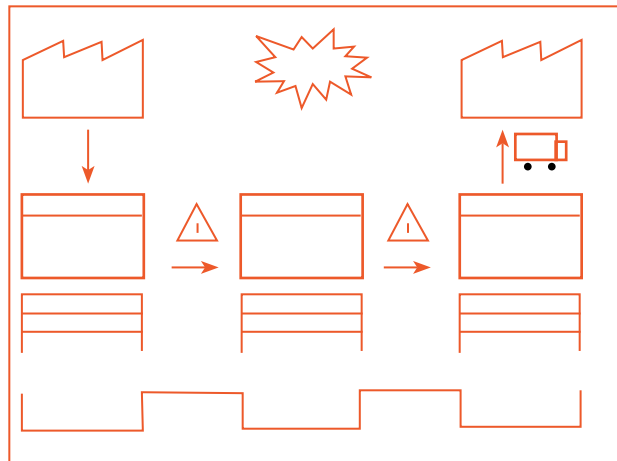
## 6.6 Quality Improvement Tools to Help Identify Waste

The following tools are useful when analyzing work processes and identifying waste and areas for improvement. Talk to your QI Coach to learn more about how to use these and other QI tools.



### Process Map

A picture of the process which illustrates the steps involved, the people involved and any decision points. Used to communicate and standardize processes. **Examples in primary care:** office visit, flu clinic, referral process and FOBT screening process.



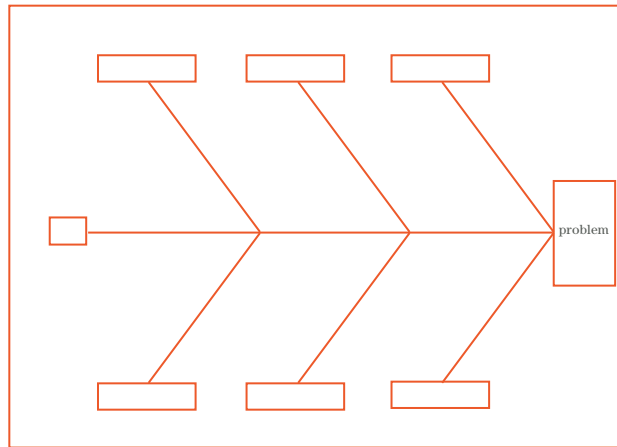
### Value Stream Map

Key data is captured for core activities of the process including cycle time, people involved, delays, and inventory. Value added and non-value added (waste) within the process is identified. **Examples in primary care:** new patient intake, office visit, referral process.

#### References:

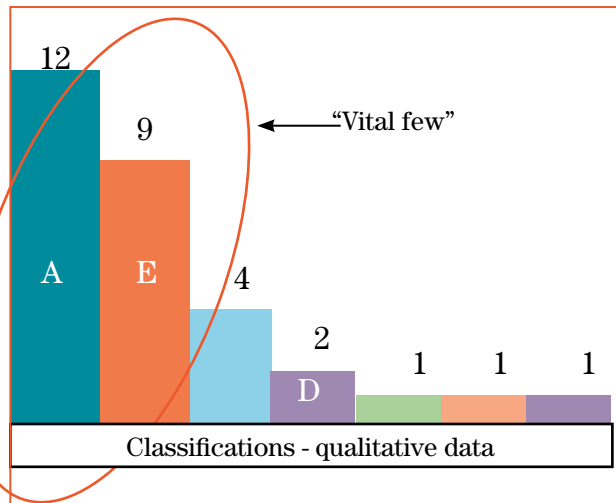
The Improvement Guide 2nd edition: Langley G, Moen R, Nolan k, Nolan T, Norman C, Provost L, Jossey-Bass 2009. Lean Six Sigma for Healthcare- E-zsigma (PPT) QIIP Student Book

## 6.6 Quality Improvement Tools to Help Identify Waste (cont.)



### Fishbone (Cause and Effect Diagram)

A tool used to collect and organize knowledge about potential causes of problems or variation in a process. **Examples in primary care:** *delays during the appointment, inconsistent cancer screening in eligible population*



### Pareto Chart

This tool is used to focus effort on the areas of improvement with the greatest potential impact. It illustrates the 80-20 rule; 80% of the problems are due to 20% of the causes or “the vital few”. **Examples in primary care:** *reasons for interruptions at appointment, reasons for no shows.*

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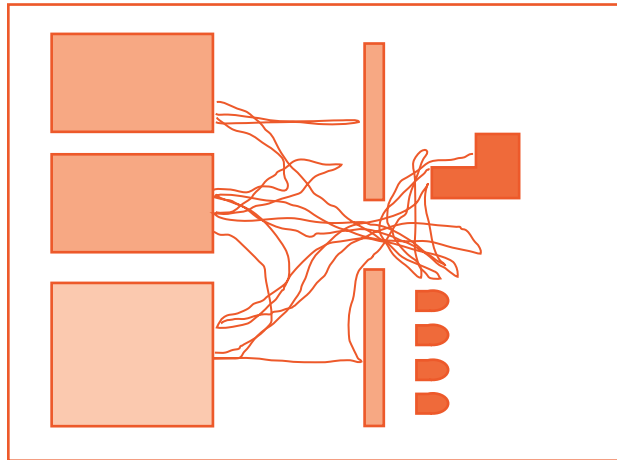
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## 6.6 Quality Improvement Tools to Help Identify Waste (cont.)



### Spaghetti Diagram

A tool used to highlight excessive movement of people or materials. It can also be used to track paper flow. **Examples in primary care:** steps taken by nurse through clinic, movement of referral form through office.

**5-S** A lean principle of identifying and eliminating waste through improved workplace organization through the following five actions; **sort, set in order, shine, standardize** and **sustain**.

A 6th S, **safety** is often included. **Examples in primary care:** exam rooms, waiting room, front office.

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