Welcome to:
Tools to spark (and teach!) quality improvement in your office!
Disclosure

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We do not have any conflict of interests to disclose and we are not affiliated with any commercial entities or organizations that serve to profit from this presentation. This program has received financial support from the Department of Family Medicine, University of Ottawa.
1) Demystifying the steps in QI:

- **Identify**: Identify my clinic’s priority areas for improvement,
- **Team**: Build my QI team and maintain engagement,
- **Root**: Understand the root of the problem,
- **Intervention**: Identify and select the change best suited for my practice,
- **PDSA**: Implement the change and monitor improvement

2) Optimizing my learner’s QI experience:

- **Project**: Selecting a meaningful and doable project,
- **Tools**: Providing tools for each step of the QI process,
- **Template**: Following a template process
1. Quadruple aim

- Improved patient experience
- Better health outcomes
- Lower healthcare costs
- Improved care team experience
The six dimensions of quality

- Safe
- Effective
- Patient-Centred
- Timely
- Efficient
- Equitable
Care Gap in Health Care

There are many options to find QI opportunities in health care

- Clinical Audit
- EMR data
- Surveys
- People around us
- Patients
- Resident projects
- Provincial or national initiatives and programs (quality councils, Choosing Wisely, cancer screening initiatives, etc.)
- Surveys
- Serious Event Analysis (SEA)
- Other..
Problem/Opportunity Statement

• Step 1: Identifying problem

<table>
<thead>
<tr>
<th>What I am doing</th>
<th>What I want to be doing</th>
</tr>
</thead>
<tbody>
<tr>
<td>I'M LATE TO WORK</td>
<td>KEEP CALM AND BE ON TIME</td>
</tr>
</tbody>
</table>

What I am doing

What I want to be doing
Care Gap Analysis

How often we are late at work

<table>
<thead>
<tr>
<th></th>
<th>Me</th>
<th>My colleague</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td></td>
<td></td>
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<tr>
<td>80</td>
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<td>60</td>
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</table>

GAP
Aim Statement

“Some is not a number, soon is not a time.” Donald Berwick

Aim statements should be “SMART”!

- **S**pecific
- **M**easurable
- **A**ttainable/Actionable
- **R**elevant/Realistic
- **T**ime-bound

We will **reduce/increase/stop/xxx something important** and which **we can change**, by some **feasible amount**, within **some realistic time frame**.
# Tool #1: Project/Improvement Charter

## Quality Improvement Charter Worksheet

<table>
<thead>
<tr>
<th>Project Title:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Leader:</td>
<td>Executive Sponsor:</td>
</tr>
<tr>
<td>Team Members:</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients/Clients/Family Who Will Benefit:</td>
<td>Types of Clinical and Administrative Staff, Suppliers, etc. Involved:</td>
</tr>
<tr>
<td>Problem/Opportunity Statement (What's wrong with quality?):</td>
<td></td>
</tr>
<tr>
<td>Aim Statement (What are we trying to accomplish? Numerical target for improvement, over what time?):</td>
<td></td>
</tr>
<tr>
<td>Measures (How will we know if we are improving?):</td>
<td></td>
</tr>
<tr>
<td>Outcome Measures</td>
<td></td>
</tr>
<tr>
<td>Process Measures</td>
<td></td>
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<tr>
<td>Balancing Measures</td>
<td></td>
</tr>
</tbody>
</table>
## AIM Statement

<table>
<thead>
<tr>
<th>AIM Statement</th>
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</thead>
<tbody>
<tr>
<td>Increase use of FOBT kits.</td>
</tr>
<tr>
<td>Decrease long-term use of benzodiazepines without clear indication by 40% from 5% to 3%.</td>
</tr>
<tr>
<td>Decrease potentially inappropriate prescriptions (PIPs) from 5% to 3% by December 2019.</td>
</tr>
<tr>
<td>Don’t prescribe nonsteroidal anti-inflammatory drugs (NSAIDS) in individuals with hypertension or heart failure or CKD of all causes, including diabetes.</td>
</tr>
<tr>
<td>Reduce the long-term use of proton pump inhibitors (PPIs) where indication is lacking from baseline (33%) to 10% by March 2020.</td>
</tr>
<tr>
<td>Primary physician or team pharmacist perform a medication reconciliation within two weeks of hospital discharge for all newly discharged patients from 80% to 100% by January 15, 2020.</td>
</tr>
</tbody>
</table>
1. Develop a SMART Aims for your improvement idea
   - One sentence
   - Consider the SMART elements

2. Review your group’s SMART Aim
   - Was it SMART?

You have 5 minutes
Assemble the Team

QI requires team work

- Physicians
- Residents
- Allied health
- Support Staff
- Patients
- Others
## Tool #2: Team Guide and Template

<table>
<thead>
<tr>
<th>Name</th>
<th>Representing</th>
<th>Influence</th>
<th>Impact</th>
<th>Role in this project</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

### Internal Team Members

|      |              |           |        |                      |
|      |              |           |        |                      |
|      |              |           |        |                      |

### Other Stakeholders

|      |              |           |        |                      |
|      |              |           |        |                      |
|      |              |           |        |                      |

**Level of influence they have? (Low/Med/High)**  
**Level of impact this work has on them (Low/Med/High)**
Understanding the Problem

“People always feel happier when a dog licks their face, so we’re developing a new antidepressant made from dog drool!”

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Analysis Tools

• Process mapping
• Swim lane
• The 5 WHYs
• The 5Ws and 2 Hs
• Fishbone diagram
• Pareto Chart
Elements of a Process Map

- **START POINT**
- **ACTION STEPS**
- **STOP POINT**
- **DECISION POINT**
  - Yes/No

[https://www.youtube.com/watch?v=F-7cjdtRQ9Y](https://www.youtube.com/watch?v=F-7cjdtRQ9Y)
Being on time at work: Process map

1. Wake up
2. Kids awake?
   - Yes: Breakfast
   - No: Shower!
3. Breakfast
4. Getting dressed
5. CRISIS?
   - Yes: Fix crisis
   - No: Drop crisis
6. Drive to work
7. Arrive at work
8. Drop kids off
   - Yes: CRISIS?
   - No: Drive to work
Tool #3: Swim Lanes

Current State: The Pizza Place

Source: North Carolina Center for Public Health Quality
Future State: The Pizza Place

- Order Generated
  - Get Dough
  - Coat Dough with Olive Oil → Add Tomato Sauce
  - Add Pepperoni, Cheese
  - Bake Pizza
  - Plate or Box Pizza → Deliver Pizza to Customer
Tool #4: 5 WHYs
Tool #5: 5 W 2H

- What technique?
- What tools?
- Did it happen?
  - Did it start?
  - Did it end?
  - Which stages?
  - Any deadline?
- Where?
  - In which country?
  - What is the destination?
  - From where did they start?
- When?
  - Did it happen?
  - Which stages?
  - Any deadline?
- How?
  - Which method?
  - Which procedure?
- Why?
  - Did it?
  - Is the author?
  - Is the beneficiary?
  - Has this problem?
  - Has the solution?
  - Is the victim?
  - Took the decision?
- Who?
- What?
  - Object
  - Matter
  - Shape
  - Topic
  - Conversation
  - History
  - Course
- How much?
  - Cost?
  - Measures
    - Weight
    - Distance
    - Unity
  - Sums
  - Length?
Tool #6: Fishbone Diagram
My Problem
Complete the Fish Diagram provided to you

- Consider the various factors that may be contributing to that problem

You have 5 minutes

Dress me!
Fishbone Diagram
GRAM (ISHIKAWA/ROOT CAUSE ANALYSIS)
Designing the Solution

So what’ya gonna do about it?
Tool #7: Pareto Chart

Pareto Chart - Reasons

- **Vital Few**
  - FP: Renewal quick sign off: 556
  - FP: Competing priorities during encounter: 484
  - Patient: Does not understand risks: 471

- **Trivial Many**
  - Other providers: 352
  - Patient: Unmotivated/Concerned with return: 245

80% Cut off (80:20 Rule)
Change idea

Easiest and highest benefit

- Make more laundry often
- Make my lunch the night before
- I will get up earlier
- I will go to bed earlier
- I will move closer to work
- I will get rid of my kids
Not all changes are created equal...

<table>
<thead>
<tr>
<th>BEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forcing functions</td>
</tr>
<tr>
<td>Automation and computerization</td>
</tr>
<tr>
<td>Standardization and protocols</td>
</tr>
<tr>
<td>Checklists and double check systems</td>
</tr>
<tr>
<td>Rules and policies</td>
</tr>
<tr>
<td>Education/information</td>
</tr>
<tr>
<td>Reminders “be more vigilant”</td>
</tr>
</tbody>
</table>
Measurements

Balance

Processes

Outcome
# Use a Family of Measures

Measure system performance from different directions/dimensions

<table>
<thead>
<tr>
<th>Process Measures</th>
<th>Outcomes Measures</th>
<th>Balancing Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Are we doing the right things to get there?</td>
<td>• Where are we ultimately trying to go?</td>
<td>• Are the changes we are making to one part of the system causing problems in other parts of the system</td>
</tr>
<tr>
<td>• Measures of the workings of the system</td>
<td>• Are your changes leading to improvement</td>
<td>• Measures of other parts of the system</td>
</tr>
<tr>
<td>• Are we doing the right steps</td>
<td>• Measures of the customer or patient</td>
<td>• % of patients who leave without being seen</td>
</tr>
<tr>
<td>• % of patients receiving medication reconciliation on admission</td>
<td>• % of patients with zero unintentional discrepancies / month</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• % of adverse drug events/1000 doses</td>
<td></td>
</tr>
</tbody>
</table>
Data Collection: Strike a Balance

Too little can reveal nothing.

Too much can be overwhelming & confusing.

Quality of data vs Resources/time..
Data is rarely PERFECT, but when is it GOOD ENOUGH to make decisions?

Source: Adapted from DCFM Curriculum
It’s the new year and I want to get “healthier”; ok I want to lose weight...

I will increase my activity level by going to the gym more often.

Propose one measure for each:
Process; Outcome; Balancing

You have 5 minutes
<table>
<thead>
<tr>
<th>PROCESS</th>
<th>OUTCOME</th>
<th>BALANCING</th>
</tr>
</thead>
<tbody>
<tr>
<td>The journey</td>
<td>The destination</td>
<td>And make sure....</td>
</tr>
<tr>
<td>Get up early and go to the gym everyday</td>
<td>Get back in shape</td>
<td>... I don’t get to work late!</td>
</tr>
<tr>
<td>Measure</td>
<td>Indicator</td>
<td>Numerator</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------</td>
<td>----------------------</td>
</tr>
<tr>
<td><strong>PROCESS</strong></td>
<td>Frequency</td>
<td># days went</td>
</tr>
<tr>
<td>Go to the gym</td>
<td>Intensity</td>
<td># hours spent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OUTCOME</strong></td>
<td>Weight control</td>
<td>Weight now</td>
</tr>
<tr>
<td>Fitness Level</td>
<td>Muscle building</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BALANCING</strong></td>
<td>Late for work</td>
<td># days late</td>
</tr>
<tr>
<td>Effect on life</td>
<td>Unhappy family</td>
<td>May not be quantitative</td>
</tr>
</tbody>
</table>
“Not everything that can be counted counts, and not everything that counts can be counted.”

- Albert Einstein
**Tool #7: PDSA**

**Plan**
- Objective
- Questions and predictions
- Plan to carry out the cycle (who, what, where, when)
- Plan for data collection

**Do**
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data

**Study**
- Complete data analysis
- Compare data to predictions – update theory
- Summarize what was learned

**Act**
- Are we ready to implement?
- Should we try something else?
- Next cycle: Adapt, Adopt, Abandon?

Test your change idea – PDSA cycle

I did two loads of laundry Monday and Friday – it worked well but by Thursday I had no clean clothes left. I will try doing laundry Monday and Wednesday. Make laundry twice a week Monday and Friday.
Tracking Progress

To change the way you think about data & results!

• Harness the “awesome power of plotting data over time and then intelligently asking questions”

• Understand why Dr. Deming said: “Understanding variation is the key to success in quality”
QI Toward Optimized Practice

Before

better  | Quality  | worse

---

Reduce Variation

Improve performance
Tool #8
Run Chart

What Is It?
• A run chart is a graphical display of data plotted in chronological order (over time)
• A powerful tool and one of the most useful for understanding and communicating variation
• Easy for team to understand and interpret

When/Why Would I Use It?
• Display data to make process performance visible
• To determine if a change resulted in improvement
• To determine if we are holding the gains made by our improvement efforts
• Answers the question– How will we know that a change is an improvement?

Anatomy of a run chart

- **Direction Desired**
- **Measure Assessed**
- **Chronological Order**
- **Median = 37.8**
- **At least 10-12 data points**
- **Line joining values**

**Median = 37.8**
Probability Based Rules

FOUR RULES

• The four rules have a <5% probability of occurring by chance
• Allow us to determine if the changes made are resulting in improvement

Six or more consecutive POINTS

Either all above or all below the median.

Skip values on the median and continue counting points. Values on the median DO NOT make or break a shift.

Rule 2 – A Trend

Five points all going up or all going down.
If the value of two or more successive points is the same, ignore one of the points when counting.
Like values do not make or break a trend.

Six or more consecutive POINTS

Either all above or all below the median.

Skip values on the median and continue counting points. Values on the median DO NOT make or break a shift.

Rule 3 – Runs
(Too many or too few)

Too few or too many Runs
Too few runs (crossing median) = trend or insufficient data
Add data points
Too many runs = Different effects occurring

Rule 3
Data line crosses once
Too few runs: total 2 runs

Measure or Characteristic

Rule 4: Astronomical Value

Interpreting outliers

Repeated Use of PDSA Cycles
Go and Spread Quality

MAY THE FORCE BE WITH YOU

MY BROTHER!