



Best-Practices in ORAL OPIOID AGONIST THERAPY Collaborative



Guide to Measurement

Guide to Measurement	1
Overview	2
Summary of Quality Improvement Measures	3
What do we measure for improvement?	4
Step 1 – Decide your aim	4
Step 3 – Choose measures	6
Step 4 – Confirm how you will collect your data	7
Step 4 – Compile, present, and report your data	8
Step 5 – Analyze your data to decide what it is telling you	9
Step 6 – Get started!	10
Appendix I: Measures Definitions- Diagnosis and Treatment Initiation	11
Appendix II: Measures Definitions- Treatment Retention and Optimal Dosing	13
Appendix III: Measures Definitions- Quality of Life and Bundle of Care	15
Appendix IV: Frequently Asked Questions	17
Appendix V: Measurement template	19
Appendix VI: Sampling sizes	20
Appendix VI: Interpreting Run Charts	21
Appendix VII: Profile EMR OUD Form	23
Appendix VIII: Scoring PROMIS Global Short Form	27

Overview

Measurement for improvement is an important part of participation in the Best Practices in Oral Opioid Substitution Therapy (BOOST) Collaborative. Measurement tells us if we are improving, reaching our aims, and helps teams communicate about their improvement. Measurement for improvement should be useful, but need not perfect- the goal is to obtain just enough “good enough” data to take action.

Each team will collect between four and eight QI measures, accompanied by a qualitative Team Narrative Report on a monthly basis. **Reports will be due on the last Thursday of the month. The first reporting date is scheduled for Thursday, October 26th, 2017.**

To support teams with measurement expectations, the following pages describe steps, tools, and tips to assist your team to select, compile, report, and analyze your quality improvement findings.

[Appendix I](#) provides operational definitions of measures.

[Appendix II](#) provides answers to some frequently asked questions related to measurement.

For any questions left unanswered, please contact the BOOST core team for help at boostcollaborative@cfenet.ubc.ca or 604-682-2344 x 66888.

Cole Stanley

Collaborative Medical Lead

Laura Beamish

Collaborative Co-lead

Danielle Cousineau

Collaborative Co-lead

Angie Semple

Program Assistant

Summary of Quality Improvement Measures

Focus Areas	Diagnosis and Treatment Initiation	Treatment Retention and Optimal Dosing	Quality of Life and Bundle of Care
Define your population of focus (POF)	1.1 Population of Focus	2.1 Population of Focus	3.1 Population of Focus
Collect Required Measures	1.2 Proportion Engaged in Care / Lost to Care 1.3 Oral Opioid Agonist Therapy Access	2.2 Active Oral Opioid Agonist Therapy 2.3 Optimal Oral Opioid Agonist Therapy Dosing 2.4 Retention on Oral Opioid Agonist Therapy	3.2 Quality of Life
Choose from optional measures (where applicable)	1.4 Outreach 1.5 Rate of Take Home Naloxone Training 1.6 Self-Reported Number of Overdoses	2.5 Time from Induction to Optimal Dose 2.6 Other Substance Use	3.3 HIV Screening Rate 3.4 HCV Screening Rate 3.5 Syphilis Screening Rates 3.6 Hep A and Hep B Vaccinations 3.7 Depression Screening Rates with PHQ-9

Why do we measure for improvement?

Measurement is an important part of improvement. How will you know if the changes you are making are improving outcomes? How will you demonstrate to clients, leaders, and peers that your efforts are contributing to better care?

As we begin to make changes in the care and services we deliver, measurement helps us:

- Understand current performance
- Observe if the changes we are making are having a desired impact on outcomes
- Compare our performance with similar sites to foster learning
- Communicate clearly about our improvement effort and outcomes
- Identify negative or unexpected outcomes related to changes we are making
- Know if we have reached our aims

What do we measure for improvement?

Your team will track between four and eight quality improvement measures that are aligned with your aim. This document will help you identify the important measures that relate to your aim (required measures). Optional measures are also provided to offer flexibility and fit for your team's unique improvement journey.

If your team is having difficulty with the measurement offerings, please contact the Collaborative staff for help.

How do we measure for improvement?

Step 1 – Decide your aim

After the Launch, you should have a good sense of what your team wants to accomplish. Your aim should align well with the overarching Collaborative aim (see Tool Box 1) and include all of the characteristics of a good aim (specific, measureable, actionable, realistic, timely). The aim statement should include when we want to reach our goal, and by how much we want to improve (e.g. 50% over the next 4 months). For examples of team aims aligned with the Collaborative aims, see Tool Box 2.

Tool Box 1

Preparation Resource Manual

Find tips on how to get started and create a great aim

Our BOOST Collaborative Aim

By July 1st, 2018, we aim to provide equitable access to integrated, evidence-based care to help our population of clients with opioid use disorder achieve:

- 95% initiated on oral opioid agonist therapy (oOAT)
- 95% retained on oOAT at ≥3 months
- 50% average improvement in PROMIS Quality of Life score

We will achieve these aims while focusing on client experience, embedding quality improvement into all that we do, and working collaboratively with the community to ensure needs and conditions that promote success along the continuum of care are met.

Tool Box 2

Example aims aligned with BOOST aims, with measures included

Example 1: By July 1st, 2018, we aim to use our information system for monitoring important clinical outcomes, partner with community and others to outreach and connect our clients with important resources, and deliver the best possible experience in care. We will be satisfied we have achieved our aim when:

- 95% of our population of focus is on oOAT
- 95% of our population of focus on oOAT have missed less than 10% of their doses in the last 3 months
- We see a 50% average increase in the PROMIS Quality of Life score in our population of focus

Example 2: By July 1st, 2018, we aim to create better linkages with mental health and substance use teams to ensure our clients are receiving wrap-around care for their opioid use disorder. We will have achieved our aims when:

- 95% of our population of focus is retained in care at 3 months
- 100% of our population of focus is screened for depression using the PHQ-9 questionnaire
- 90% of our population of is screened using the PROMIS Quality of Life survey

Step 2: Define your Population of Focus

Population of Focus (POF):

Here we want to get a list of active clients who have been seen by our team in *the last year* and have a history of opioid use disorder. In our current state, it is difficult to get a highly accurate list due to incomplete and inaccurate problem lists.

For Profile EMR users, we can approximate the POF by running the EMR query titled “BOOST 1 POF baseline” in the QI/query environment. For users of other EMRs or paper charting systems, our team can assist you in determining your POF. Remember, in QI we do not need “perfect” data in order to get started, and we can make changes to improve our data quality as we go along.

Profile EMR query: BOOST POF baseline

For your POS, this will return all active clients with ICD-9 codes: 304.7 and/or 304.00 and/or 304.0 and/or 304.9 and/or Problem List contains any one or more of the following: OUD, opiate, opioid, methadone, heroin, Suboxone with date last seen being more recent than one year ago. You can then subtract clients meeting the numerator definition who have clear documentation of having moved or gone elsewhere* (MOGE), or simply inactivate the charts and close PARIS referrals for these patients so they won't be counted in a subsequent query.

With some clean-up of our Problem Lists, we hope that we can simplify our process for getting an accurate POF list. With the new OUD visit template in Profile EMR, there is a checkbox that will allow addition of “304.0 opioid use disorder” to the client’s Problem List. If we ensure that this is added for all of our active clients with OUD, then we can use a simpler query that will give us a more accurate POF list. For teams using other EMRs or paper charting systems, you may also consider some data clean-up and standardization in order to improve the accuracy of your POF lists. Our team can assist in this process.

Profile EMR query: BOOST POF 304.0 opioid use disorder

For your POS, all active clients with disease code 304.0 in the Problem List and date last seen being more recent than one year ago

Step 3 – Choose measures

Start by identifying where along the spectrum of services your team exists (see Preparation Manual). This will provide guidance to measure your population of focus (POF) and identify important measures that relate to your aim. These will be your required measures. Full definitions are provided in [Appendix I: Measures Definitions](#).

Identify Focus Areas aligned with your team's aim	Diagnosis and Treatment Initiation	Treatment Retention, Optimal Dosing	Quality of Life and Bundle of Care
Define your population of focus (POF)*	1.1 Population of Focus	2.1 Population of Focus	3.1 Population of Focus
Collect Required Measures	1.2 Proportion Engaged in Care / Lost to Care 1.3 Oral Opioid Agonist Therapy Access	2.2 Active Oral Opioid Agonist Therapy 2.3 Optimal/Stable Oral Opioid Agonist Therapy Dosing 2.4 Retention on Oral Opioid Agonist Therapy	3.2 Quality of Life

Choose from optional measures (where applicable)*	See Appendix I	See Appendix I	See Appendix I
---	--------------------------------	--------------------------------	--------------------------------

*Review the optional measures that relate to the services you offer. What are some important processes that you would like to improve to reach your aims? Select from the optional measures and/or use [Appendix III: Measures Template](#) to define new measures. If your team is having difficulty with the measurement offerings, please contact the Collaborative staff for help.

Step 4 – Confirm how you will collect your data

What data do you need and where will it come from? The majority of the metrics presented will already be something that you collect in your Electronic Medical Record (EMR), but you may need to standardize how the data is recorded in order to maximize the utility of the data. Step-by-step instructions for Profile EMR queries will be listed online at <http://stophiv aids.ca/boost-webinar-recordings/>. The Profile EMR OUD visit form is explained in [Appendix VII](#).

If your team does not use an EMR or uses an EMR other than Profile, templates have been made to support data collection. Use [Appendix III: Measures Template](#) to help you confirm how you will collect each measure. This will help you define very specifically what you are measuring and how it will be measured.

Tool Box 3

Use consistent definitions

The easiest way to ensure you are consistently tracking the same measure is to use the definitions described in this document and clearly document how each measure is collected. Use Appendix I: Measures Definitions and Appendix III: Measurement Template for standard definitions and collections practices.

Use sampling for survey

Sampling works well for survey if you have a large population. For example, if you have 95 clients in your population of focus, you can randomly select and input 52 surveys. See Appendix IV: Sampling for sample size and more tips.

Step 4 – Compile, present, and report your data

For those teams using Profile EMR, specific queries have been developed to allow you and your team to easily pull the data required for reporting. An OUD visit template has been created to allow for simplified tracking of BOOST Collaborative measures. A reporting template (Excel spreadsheet) has been developed to visualize your data in run charts as well as a narrative template (Word Document) for qualitative reporting. See Tool Box 4.

For teams using another EMR or those without an EMR, the same two reporting templates are available to compile, present and report quality improvement data.

Reporting will occur monthly. **Reports will be due on the 5th business day after the first of the month beginning in October 2017.** The first reporting date will be **October 6th, 2017** etc. See www.stophiv aids.ca/oud-collaborative for a schedule of events.

Tool Box 4

Profile EMR Queries

EMR queries will rely on POS to query lists of patients for each site, so it is important to determine that the OUD clients seen by your team have an accurate POS in the EMR. Some teams may find that they cannot get an accurate list based solely on POS of clients. We can work with your team to identify additional parameters that can be used to more accurately identify your patients for inclusion in your query results.

Profile EMR queries:

- *BOOST POF baseline*
- *BOOST POF 304.0 opioid use disorder*
- *See Appendices 1-3 for queries for (N) numerators and (D) denominators of measures*

Excel Metric Reporting Tool

Customizable spreadsheets are available to track data and compute and visualize measures over time. This tool will be used by all teams, regardless of their EMR. Teams will be able to input aggregate quality improvement data for each measure that is tracked. As values are input, the spreadsheet will automatically calculate proportions and create *run charts* (see Tool Box 5).

Word Narrative Reporting Tool

An online template is also available for teams to report their aims, changes being tested each month, things they are most proud of, and challenges. The narrative describes the overall improvement efforts and helps to explain improvement data.

Step 5 – Analyze your data to decide what it is telling you

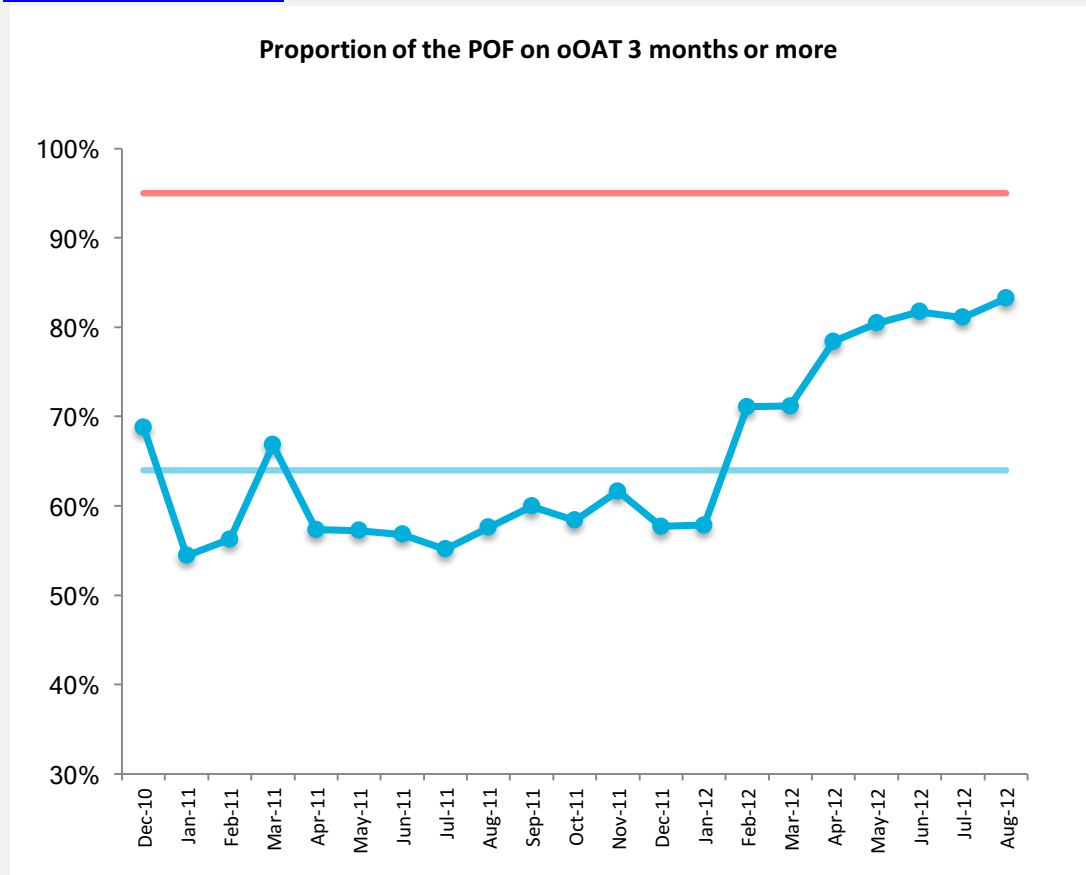
Your team should dedicate regular team meeting time to look at what your measures are telling you. Measurement should help you decide if you are getting closer to your aims. Measurement can also inform your next steps.

Use data in your Excel reporting tool at team meetings. This tool will automatically calculate and present your data in run charts; a very common way to present improvement data (See Tool Box 5).

Tool Box 5

Using run charts to analyze your improvement data

Run charts are a common way to display data for improvement. Observed data are plotted in a time sequence with time plotted on the horizontal or x-axis. An example of a run chart is shown below and tips for interpreting run charts are presented in [Appendix V: Interpreting Run Charts](#).



Step 6 – Get started!

Remember, measurement is for quality improvement. It should be useful, not perfect. You should collect just enough and good enough data to be able to take action based on what you are learning. Make a commitment early to embed data collection, review, and analysis into your team and organizational processes.

Appendix I: Measures Definitions- Diagnosis and Treatment Initiation

Step 1: Define your Population of Focus (see above).

Step 2: Select Required Measures

1.2 Proportion Engaged in Care / Lost to Care	
Numerator	Teams will determine their definition of “engagement” and/or “lost to care” based on their client population and program. For example, a team can define engaged in care as all clients with at least two care visits (with MD, NP, RN, etc.) in the last 12 months.
Denominator	POF
Calculation 1	$(\text{Numerator} / \text{Denominator}) \times 100\% = [\text{Proportion Engaged in Care}]$
Calculation 2	$100 - [\text{Proportion Engaged in Care}] = \text{Lost to Care}$
Suggested goal	95% Engaged in Care
Notes	Teams will work together to come up with a definition that is feasible and hopefully comparable between teams.
Profile EMR queries	<i>BOOST 1.2N Engaged in care/lost to care</i> <i>BOOST 1.2D Engaged in care/lost to care = POF</i>

1.3 oOAT Access	
Numerator	Number of clients with a treatment initiation date entered in OUD form (notNull)
Denominator	POF
Calculation	$(\text{Numerator}/\text{Denominator}) \times 100\%$
Suggested goal	95%
Notes	Using the new OUD visit template, providers will fill in approximate first OAT initiation date if person has ever been on OAT. This can then be used to accurately identify all those who have accessed treatment. This differs from baseline data presented that was based on having an OAT prescription in the EMR in the past 12 months.
Profile EMR queries	<i>BOOST 1.3N oOAT access</i> <i>BOOST 1.3D oOAT access = POF</i>

Step 3: Select Among *Optional* Measures

1.4 Outreach	
Numerator	Number of clients in need of outreach, with documented outreach in the previous month
Denominator	Number of clients with identified need for outreach
Calculation	(Numerator/Denominator) x 100%
Suggested goal	90%
Profile EMR queries	<i>BOOST 1.4N Outreach*</i> <i>BOOST 1.4D Outreach*</i> *require development based on how teams standardize recording of outreach need and reception

1.5 Rate of Take Home Naloxone Kit Training	
Numerator	Number of clients with documented Take Home Naloxone training as indicated on OUD visit template form
Denominator	POF
Calculation	(Numerator/Denominator) x 100%
Suggested goal	90%
Profile EMR queries	<i>BOOST 1.5N Rate of THN training</i> <i>BOOST 1.5D Rate of THN training = POF</i>

1.6 Self-Reported Number of Overdoses	
Numerator	Number of clients with “# ODs in last 30 days” on OUD visit template form greater than 0
Denominator	POF
Calculation	(Numerator/Denominator) x 100%
Suggested goal	Decrease by x%
Notes	Teams may want to modify this definition based on their needs.
Profile EMR queries	<i>BOOST 1.6N Self-reported number of ODs</i> <i>BOOST 1.6D Self-reported number of ODs</i>

Appendix II: Measures Definitions- Treatment Retention and Optimal Dosing

Step 1: Define Population of Focus

Step 2: Select Required Measures

2.2 Active oOAT	
Numerator	Number of clients who have an active (non-expired) prescription for Methadone, Kadian (SROM), or Suboxone – operationally in EMR Profile this is number of clients with a Last Day in the Prescription Creator on the OUD visit template form that is greater than the refresh date of the QI/query environment
Denominator	Numerator of 1.3 oOAT Access
Calculation	$(\text{Numerator}/\text{Denominator}) \times 100\%$
Suggested goal	95%
Profile EMR queries	<i>BOOST 2.2N Active oOAT</i> <i>BOOST 2.2D Active oOAT</i>

2.3 Optimal oOAT Dosing	
Numerator	Number of clients receiving at or above 60mg for Methadone and 16mg for buprenorphine
Denominator	Numerator from 2.2 Active oOAT excluding those clients on Kadian (SROM)
Calculation	$(\text{Numerator}/\text{Denominator}) \times 100\%$
Suggested goal	95%
Notes	*The denominator for this calculation is the numerator of the Active oOAT excluding those on Kadian (SROM) as there is no commonly accepted value for optimal dose
Profile EMR queries	<i>BOOST 2.3N Optimal oOAT dosing</i> <i>BOOST 2.3D Optimal oOAT dosing</i>

2.4 Retention on oOAT	
Numerator	Number of clients with OAT duration > 90 days on OUD visit template form
Denominator	Numerator from 2.2 Active oOAT
Calculation	(Numerator/Denominator) x 100%
Suggested goal	95%
Profile EMR queries	<i>BOOST 2.4N Retention on oOAT</i> <i>BOOST 2.4D Retention on oOAT</i>

Step 3: Select Among *Optional* Measures

2.5 Time from Induction to Optimal Dose or Stable Dose	
Calculation	Example for time from induction to stable dosing – for each patient with a stable dose date entered, calculate the difference between that date and the most recent start date, and then calculate average all of these differences
Suggested goal	Decrease by x days
Notes	We can design queries based on the teams desire for either time from induction to optimal or stable dosing.
Profile EMR queries	<i>BOOST 2.5 Time from induction to stable dosing</i>

2.6 Other Substance Use	
Numerator	Number of clients with positive UDS for amphetamines and benzodiazepines
Denominator	POF
Calculation	(Numerator/Denominator) x 100%
Suggested goal	No goal
Notes	This query can be modified based on what teams think is important to measure
Profile EMR queries	<i>BOOST 2.6N Other substance use</i> <i>BOOST 2.6D Other substance use = POF</i>

Appendix III: Measures Definitions- Quality of Life and Bundle of Care

Step 1: Define Population of Focus

Step 2: Select Required Measures

3.2 Quality of Life	
Calculation	Using the PROMIS v1.1 scoring method for this 10 question Quality of Life scale, find the raw score out of 50 and then average all the results for most recent completed PROMIS forms
Suggested goal	Increase average score by 50%
Profile EMR queries	<i>BOOST 3.2 Quality of life</i>

Step 3: Select Among Optional Measures

3.3 HIV Screening Rate	
Numerator	Number of clients with a documented HIV test in the past 12 months
Denominator	POF – clients with diagnosis of HIV
Calculation	(Numerator/Denominator) x 100%
Suggested goal	95%
Profile EMR queries	<i>BOOST 3.3N HIV screening rate</i> <i>BOOST 3.3D HIV screening rate</i>

3.4 HCV Screening Rate	
Numerator	Number of clients with a documented hepatitis C screening test (antibody, RNA or genotype test) in the past 12 months
Denominator	POF – clients with diagnosis of Hepatitis C
Calculation	(Numerator/Denominator) x 100%
Suggested goal	95%
Profile EMR queries	<i>BOOST 3.4N HCV screening rate</i> <i>BOOST 3.4D HCV screening rate</i>

3.5 Syphilis Screening Rates	
Numerator	Number of clients with a documented syphilis serologic test (EIA) in the past 12 months
Denominator	POF
Calculation	(Numerator/Denominator) x 100%
Suggested goal	95%
Profile EMR queries	<i>BOOST 3.5N Syphilis screening rate</i> <i>BOOST 3.5D Syphilis screening rate</i>

3.6 Hep A and Hep B Vaccinations	
Numerator	Number of clients with documented receipt of Hep A and Hep B vaccine at baseline or documented serologies indicating immunity (Hep A IgG reactive and Hep B sAb>10)
Denominator	POF
Calculation	(Numerator/Denominator) x 100%
Suggested goal	95%
Notes	We will need to build in a standard way to document this in EMR, possibly on the OUD visit template form, if teams would like to track this
Profile EMR queries	<i>BOOST 3.6N Hep A and B vaccinations</i> <i>BOOST 3.6D Hep A and B vaccinations = POF</i>

3.7 Depression Screening Rates with PHQ-9	
Numerator	Number of clients screened with PHQ-9 for depression ever
Denominator	POF
Calculation	(Numerator/Denominator) x 100%
Suggested goal	95%
Notes	If your team uses a different tool, please use this.
Profile EMR queries	<i>BOOST 3.7N Depression screening rates with PHQ-9</i> <i>BOOST 3.7D Depression screening rates with PHQ-9 = POF</i>

Appendix IV: Frequently Asked Questions

Q: My team provides care for people who sometimes receive care from other practices and organizations. Should I be worried about the overlap and the possibility of duplicate reporting?

No, not when your goal is improvement. Don't worry about duplicates—focus on the aims you have for your population and the measures you need to know if this population (including your shared care clients) is achieving the desired aims. This can lead to valuable insights and changes in ways that your team organizes and coordinates care with other care partners.

Q: Our aims cover all the focus areas. Do I have to track every single indicator?

It is ideal to track between 4-8 measures. We don't want you to have too many. If you're planning on tracking all five required measures, that doesn't leave you with a lot of room for process measures that can tell you if you are doing what is required to drive improvement. Above all, remember that measures should be useful and reflect your progress in meeting your aims. If you are a team in this position and feel stuck, get in touch with Collaborative staff and we'll see how we can help (at boostcollaborative@cfenet.ubc.ca).

Q: Can we create our own measures that are important to our service focus and aims?

Absolutely! You will likely find the Measures Template in [Appendix V](#) helpful as you seek to define your measures.

Q: We don't have an EMR to pull this data, so what can we do?

There are multiple ways that you can find and pull this data. Think about the measures that are required and important for your aims. Where can you find this data: Charts? Administrative databases? Will you have to start tracking it for the first time? You will have to be resourceful to locate the data; this may take some extra exertion in the beginning, especially if chart reviews are required, but your efforts will be well worth it.

Q: Something is wrong with the Excel calculation; I keep getting results over 100%.

Start by reviewing your numerator and denominator inputs to make sure you don't have a denominator that is larger than your numerator. If you're still stuck, ease the pain by calling or emailing the Collaborative staff.

Q: Do I have to complete every field in the narrative?

No. Just fill in areas on the narrative that apply to the activities and changes that you've made in the reporting month.

Q: What does the Collaborative do with our reports?

When you report your numerical and qualitative data to the Collaborative, our coaches are able to provide encouragement and expert quality improvement coaching to help you as you pursue your aims. Based on what you are telling us, we are also able to customize the learning agenda to meet your needs and to connect you with peers for collaboration and shared learning.

Q: Why do we have to collect and report data monthly?

It goes back to the principles of measurement for improvement. Measurement should be useful, and when you are actively trying to improve a process or outcome, you will need information to act on. You will need around five to six different data points to be able to assess if you have changed your system. If you collect quarterly data, you won't have enough data to learn about the impacts of your changes on your systems; monthly data capture gives you more information more quickly, which is needed to learn about your system and respond in a meaningful and timely way.

Appendix V: Measurement template

Measure setup

Measure name:	
Measure definition	What is the numerator?
	What is the dominator <i>(not always required)</i>
	What is the calculation?
	What is the population of focus?
Goal Setting	What is your numerical goal?
	Who is responsible for setting this?
	When will it be achieved by?

Measure process

Collect	Is the data available? <i>Currently available / available with minor changes / prospective collection needed</i>
	Who is responsible for data collection?
	What is the process of collection?
Analyze results <i>Calculate measure and present results</i>	What is the process for presenting results? <i>Enter into online form / run chart in excel?</i>
	Who is responsible for the analysis?
	How often is the analysis completed?
Review	Where will decisions be made based on results?
	Who is responsible for taking action?

*Adapted from the *How-to Guide for Measurement for Improvement*. Available at:
<http://www.patientsafetyfirst.nhs.uk/ashx/Asset.ashx?path=/How-to-guides-2008-09-19/External%20-%20How%20to%20guide%20-%20measurement%20for%20improvement%20v1.2.pdf>

Appendix VI: Sampling sizes

Tips:

- Avoid introducing bias into your sample by surveying on different days and times of the week, and reaching a representative sample of your population of focus
- Consider surveying a larger population of clients. To gather feedback specific to your population of focus, customize a few of the surveys with a small character (e.g., *). Hand these customized forms to your population of focus so that you can easily identify them when you are collecting and compiling results.
- Use the following sample sizes based on your population of focus:

Population of Focus	Minimum Records (90% confidence interval with a width of 0.16)	Population of Focus	Minimum Records (90% confidence interval with a width of 0.16)
Up to 24	All	160-179	67
25-30	24	180-199	70
31-40	30	200-249	75
41-50	35	250-299	79
51-60	39	300-349	82
61-70	43	350-399	85
71-80	46	400-449	87
81-90	49	450-499	88
91-100	52	500-749	94
101-119	57	750-999	97
120-139	61	1000-4999	105
140-159	64	5000 or more	107

Appendix VI: Interpreting Run Charts

Run charts are the tools of choice to help you make decisions about whether your changes are leading to improvements. There are 4 tests that you can apply to run charts to help you identify what's happening after you've made changes, and will ultimately help determine whether it is really an improvement.

Rule 1: A Shift

A shift is six or more consecutive points that all fall above the median or below the median. When counting, skip any points that fall on the median and keep counting. Points on the median do not add to, nor break a shift. To find out if you have too many or too few changes, check against the table below.

Rule 2: A Trend

A trend is five or more consecutive points all ascending or all descending. If two or more consecutive points are the same value, only count one towards the trend. Same values do not make or break a trend.

Rule 3: A Run

A run is indicated when the line connecting the data points crosses the median line too many or too few times, indicating a non-random pattern (expected number of runs can be found in Table 1, below). To figure out the number of runs on your run chart, count the number of times the line crosses the median line and add one. If a point is on the median but the line doesn't cross, do not count it towards the run.

Rule 4: Astronomical Point

An astronomical point is any unusually large or small number. It's usually identified by observation, characterized as:

- An obviously and blatantly different value
- Anyone studying the chart would agree that it is unusual
- Caution: Every data set will have a highest and lowest data point; this does not mean the high and low are astronomical

Table 1: Expected Number of Runs in a Run Chart

Number of data points	Lower limit for number of runs	Upper limit for number of runs	Number of data points	Lower limit for number of runs	Upper limit for number of runs
10	3	8	34	12	23
11	3	9	35	13	23
12	3	10	36	13	24
13	4	10	37	13	25
14	4	11	38	14	25
15	4	12	39	14	26
16	5	12	40	15	26
17	5	13	41	16	26
18	6	13	42	16	27
19	6	14	43	17	27
20	6	15	44	17	28
21	7	15	45	17	29
22	7	16	46	17	30
23	8	16	47	18	30
24	8	17	48	18	31
25	9	17	49	19	31
26	9	18	50	19	32
27	9	19	60	24	37
28	10	19	70	28	43
29	10	20	80	33	48
30	11	20	90	37	54
31	11	21	100	42	59
32	11	22	110	46	65
33	11	22	120	51	70

Appendix VII: Profile EMR OUD Form

EMR OUD Visit Template

304.04 Opioid Use Disorder (OUD) added to Problem List DSM-5 OUD criteria

Prescription Creator

OAT: methadone

	Last Entry1	Last Entry2
Daily dose (mg)	110 Qty: 770	100 Qty: 800
Start Day:	19 Sep 2017	11 Sep 2017
Last Day:	25 Sep 2017	18 Sep 2017
Rx Duration (days)		
Carry Directions:	DWI	DWI
Witnessed Ingestion:		
Direction For Use		

Carry Directions: DWI CARRIES

Witnessed Ingestion: 7 (SEVEN)

Direction For Use

Copy From Last Entries

Create Rx

Treatment course

Treatment stage: Stable dose

OAT initiation date: 06 Sep 2016

Most recent OAT start date: 12 Apr 2017

Stable dose date: 12 Sep 2017

OAT duration: 153

Visit Checklist

Pharmanet Reviewed

Any OAT missed doses in last 7 days? Yes No

If yes, describe:

Current substance use reviewed

OAs in the last 30 days? Last Value? Last date?

Linkage to social work/counseling discussed Last checked:

Has THN kit Last checked:

Has THN training Last checked:

Has access to harm reduction supplies Last checked:

Aware of supervised consumption sites Last checked:

PROMIS Quality of Life Last score First score

Last Lab Results

AST: No Result Found
ALT: No Result Found

Hep A IgG
HCV RNA
Hep B SAb:
HCV Ab:
HIV Ab:

Urine beta-HCG
 ECG Last done:

Rapid UDS Results Cumulative View Last UDS Results at 11 Sep 2017

Cocaine: Positive Negative

Amphetamines: Positive Negative

Methadone: Positive Negative

Opioids: Positive Negative Positive

Oxycodone: Positive Negative Positive

Benzodiazepines: Positive Negative

Fentanyl: Positive Negative

Buprenorphine: Positive Negative

Hydromorphone: Positive Negative

Other:

Profile EMR Queries - Examples

BOOST 1 POF baseline

BOOST 1 POF 304.0 opioid use disorder

BOOST 1.2N Engaged in care/lost to care

BOOST 1.2D Engaged in care/lost to care

BOOST 1.3N oOAT access

Prescription Example:

New Methadone Controlled Prescription for ASHMORE, GUY
 VCH/PHC EMR

Print Defaults Set Reset 7

PLEASE PRINT

PERSONAL HEALTH NO.		PRESCRIBING DATE	
		12 Sep 2017	
PATIENT NAME	GUY ASHMORE		
ADDRESS	2119 GUELPH ST		
	VANCOUVER	BC	DATE OF BIRTH
			27 Apr 2000
Rx: DRUG NAME AND STRENGTH	METHADONE 10 mg/ml		DUE TO THE PATIENT'S (IM)MOBILITY, I CONFIRM DELIVERY IS REQUIRED.
NUMERIC QUANTITY	ALPHA		PRESCRIBER'S SIGNATURE
700 mg	SEVEN HUNDRED		
START DAY: 12 Sep 2017	LAST DAY: 18 Sep 2017		
100 mg/day	SPECIFY NUMBER OF DAYS PER WEEK OF WITNESSED INGESTION IN PHARMACY		
DIRECTIONS FOR USE	METHADONE		7 (SEVEN)
PRESCRIBER'S INFORMATION		PRESCRIBER'S SIGNATURE	
		CPSID	
		FOLIO	
PHARMACY USE ONLY			
RECEIVED BY- PATIENT OR AGENT SIGNATURE		SIGNATURE OF DISPENSING PHARMACIST	

*PHARMACY COPY - COPYING OR DUPLICATING THIS FORM IN ANY WAY CONSTITUTES AN OFFENSE

PRESS HARD
YOU ARE MAKING 2 COPIES
 PRINTED IN BRITISH COLUMBIA

Population of Focus:

Find Objects: OUD dx search

Query Output

Timeout: 300 sec

Object: Client

With Client: including Refnum or FileNum makes the client contextual

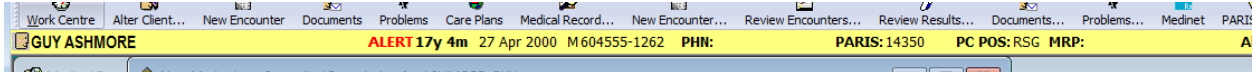
Column	Name	Sort	Count	Sum	Avg	Min	Max
Client - Problem - Diagnosis - Code	Code	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Client - Problem - Dx Description	Dx Descripti	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Client - FileNum	FileNum	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Client - Date Last Seen	Date Last S	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Client - POS - Code	Code	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Group

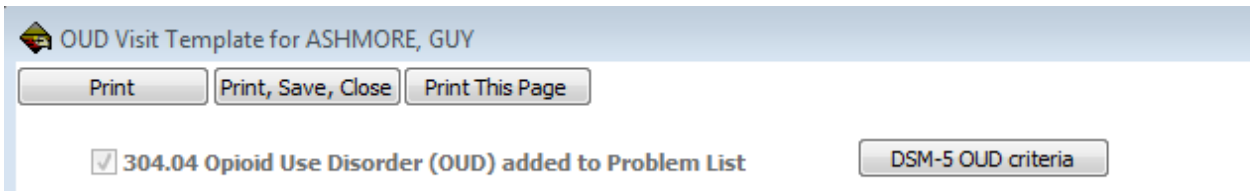
Where	Column	Name	Condition	Value
	Client - Problem - Dx Description	Dx Description	contains	OUD
or	Client - Problem - Dx Description	Dx Description	contains	opiate
or	Client - Problem - Dx Description	Dx Description	contains	opioid
or	Client - Problem - Dx Description	Dx Description	contains	heroin
or	Client - Problem - Dx Description	Dx Description	contains	methadone
or	Client - Problem - Dx Description	Dx Description	is equal to	Suboxone
and	Client - Status	Status	is equal to	Active
and	Client - Date Last Seen	Date Last Seen	is greater than	08 Jul 2016

Data clean-up

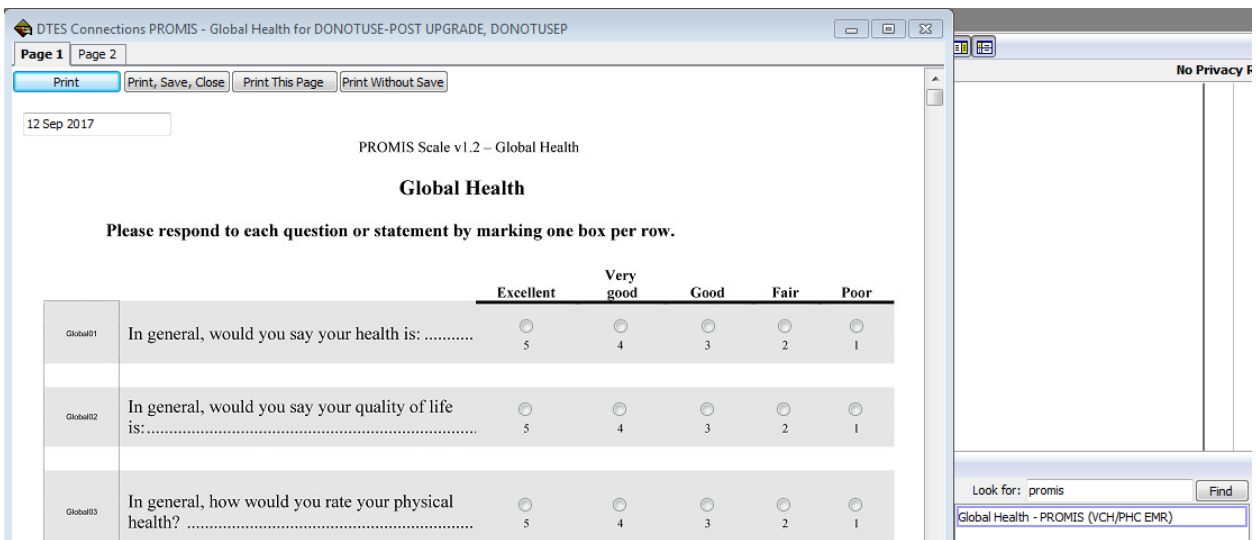
- Ensure POS and MRP are correct
- For patients who are no longer to be followed
 - Inactivate charts
 - Close PARIS referrals
 - Remove MRP designation



- Ensure 304.0 Opioid Use Disorder added to Problem List
 - Once added for all, will simplify query and give more accurate POF list (BOOST 1 POF 304.0)



Quality of Life Score



Appendix VIII: Scoring PROMIS Global Short Form



Scoring PROMIS Global Short Form

Scoring Global Short Form v1.0 and v1.1

The PROMIS Global Health short form is a 10-item instrument representing multiple domains. It can be scored into a Global Physical Health component and Global Mental Health component using the tables below. Because a scoring table is prepared for a fixed set of items, it can only be used when an examinee responds to all of the items in the set. *One or more missing responses will render such scoring tables unusable.*

The Global scores require re-coding of three items so that high scores reflect better functioning.

Global07	In the past 7 days	How would you rate your pain on average?	5=0 No pain 4=1 4=2 4=3 3=4 3=5 3=6 2=7 2=8 2=9 1=10 Worst pain imaginable
Global08	In the past 7 days	How would you rate your fatigue on average?	5=None 4=Mild 3=Moderate 2=Severe 1=Very severe
Global10	In the past 7 days	How often have you been bothered by emotional problems such as feeling anxious, depressed or irritable?	5=Never 4=Rarely 3=Sometimes 2=Often 1=Always

After recoding, the Global Physical Health score is generated by summing responses to Global03, Global06, Global07rescored, and Global08rescored. The Global Mental Health score is generated by summing responses to Global02, Global04, Global05, and Global10rescored.

Raw Score to T Score Conversion Tables

The following conversion tables allow a user to convert simple summed raw scores from PROMIS global into T-score values on an individual respondent or group of respondents. In all cases, these conversions only work accurately when all questions on the short form have been answered. T-Score distributions are standardized such that a 50 represents the average (mean) for the US general population, and the standard deviation around that mean is 10 points. *A high score always represents more of the concept being measured.* Thus, a person who has T-



Scoring PROMIS Global Short Form

scores of 60 for the Global Physical Health or Global Mental Health scales is one standard deviation better (more healthy) than the general population.

Physical Short Form Conversion Table		
Raw.Score	T.Score	SE*
4	16.2	4.8
5	19.9	4.7
6	23.5	4.5
7	26.7	4.3
8	29.6	4.2
9	32.4	4.2
10	34.9	4.1
11	37.4	4.1
12	39.8	4.1
13	42.3	4.2
14	44.9	4.3
15	47.7	4.4
16	50.8	4.6
17	54.1	4.7
18	57.7	4.9
19	61.9	5.2
20	67.7	5.9

*SE = Standard Error

Mental Short Form Conversion Table		
Raw.Score	T.Score	SE*
4	21.2	4.6
5	25.1	4.1
6	28.4	3.9
7	31.3	3.7
8	33.8	3.7
9	36.3	3.7
10	38.8	3.6
11	41.1	3.6
12	43.5	3.6
13	45.8	3.6
14	48.3	3.7
15	50.8	3.7
16	53.3	3.7
17	56.0	3.8
18	59.0	3.9
19	62.5	4.2
20	67.6	5.3

*SE = Standard Error

- **Conversion Table applies only when ALL questions on the subdomain have been answered**

Hays, R. D., Bjorner, J., Revicki, R. A., Spritzer, K. L., & Cella, D. (2009). Development of physical and mental health summary scores from the Patient Reported Outcomes Measurement Information System (PROMIS) global items. *Quality of Life Research, 18*(7), 873-80. (PMCID: PMC2724630)

Estimating EuroQoL (EQ-5D) Index Scores

Revicki et al (2009) outlined how to use the PROMIS Global Health short form to calculate a EuroQoL (EQ-5D) index score. To begin, use the instructions on page 1 to re-score Global07, Global08, and Global10. Then, use the following formula:

$$\text{EQ5D score} = 0.19123 + (0.00672 * \text{Global2}) + (0.00527 * \text{Global3}) + (0.00830 * \text{Global4}) + (0.04550 * \text{Global6}) + (0.02713 * \text{Global7rescored}) + (0.01305 * \text{Global8rescored}) + (0.00613 * \text{Global9}) + (0.02502 * \text{Global10rescored})$$

Revicki, D. A., Kawata, A., Harnam, N., Chen, W-H., Hays, R. D., & Cella, D. (2009). Predicting EUROQOL (EQ-5D) scores from the Patient Reported Outcomes Measurement Information System (PROMIS) global items and domain item banks in a United States sample. *Quality of Life Research, 18*(6), 783-91. (PMCID: PMC2704290)