

EMR Optimization

Module 4 – Quality of clinical data

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Introduction

Read me first! The [EMR Optimization Reference Guide](#) and [Module 3 – Primary Care Quality Indicators, Primary Care Data Extract and Reports](#) supplement this module.

The purpose of this module is to review completeness of [Primary Care Quality Indicators \(PCQIs\) and Home Clinic Client Summaries](#) along with associated EMR configuration needs (where applicable) and to further apply EMR data quality concepts to your EMR.

This module is not a comprehensive review of the above topics. For more detailed information, refer to the suggested links throughout this document or your Home Clinic Liaison. Additional resources are available in our online and on-demand [Home Clinic Toolkit](#).

At the end of this module, your clinic will:

- Understand the importance of capturing clinical data in a consistent manner supporting a standardized way to collect and submit:
 - PCQI data
 - Home Clinic Client Summary data
- Understand the importance of EMR data completeness, currency, and consistency in relation to Home Clinic Client Summaries, PCQIs and the PCDE
- Learn how your EMR can support strong data capture practices
- Know where to access PCQI completeness results and identify opportunities to improve EMR data capture

Quality of clinical data capture

As outlined in the [EMR Optimization Reference Guide](#), there are evidence-based data quality characteristics that can support high quality clinical data in your EMR. Three key characteristics to consider include: (1) Completeness; (2) Currency; and (3) Consistency (form and capture). These characteristics are part of a larger data quality evaluation framework developed by physician-researchers at the University of Victoria, British Columbia (Bowen M., 2012; Bowen M., 2012). The figure below lists the characteristics, followed by further description and explanation on the following page:

Figure 1: EMR data quality characteristics

CHARACTERISTIC	DESCRIPTION	EXAMPLE	HOME CLINIC CONTEXT
Completeness	Is the data free from significant gaps and reliable?	Prescription for diabetes but no diabetes diagnosis recorded	Have you completed all applicable PCQIs for your enrolled patients as outlined by your EMR clinical alerts and reminders? Completion of PCQIs supports submission of a comprehensive

			PCDE and claiming the applicable Family Medicine tariffs for eligible family physicians.
Currency	Does the data represent the most recent activities and reflect the most current information available?	Absence of recent blood pressure recording for patient with hypertension diagnosis recorded in the EMR	Are you up to date on enrolment remediation activities and ensuring your enrolment records are accurate? Do you have the most current information captured according to your PCQI clinical alerts and reminders?
Consistency (form and capture)	Are data elements captured in the same way (form) and consistently recorded in the same place (capture)?	Form: Same diagnosis recorded in multiple formats (Diab2, Type2 Diabetes, DM2). Capture: Blood pressure recorded in discrete data field by Provider A but in free text in clinical note by Provider B.	Decide on standardized form and capture of key elements of Client Summaries to share high quality information to eChart Manitoba: <ul style="list-style-type: none"> • Health Conditions and Diagnoses • Surgeries, Procedures and Interventions • Suspected Allergies and Intolerances • Prescribed medications • Vital signs

Practice reflection - PCQIs and your PCDE

Your Primary Care Report for Home Clinics includes the count of enrolled patients identified as eligible for PCQI care as well as the count of those patients that had the care recorded in a PCDE submission. This is referred to as PCQI completeness. These scores can be found in the *Primary Care Quality Indicators for Your Clinic* section of the report.

It is recommended that you monitor PCQI completeness over time as your scores can reveal trends and/or opportunities for improvement. Here are some areas you can consider:

Which indicators have a high completeness score?

- What is working well for capturing these indicators?
- Could that be applied to indicators with lower completeness?

Is there one category that is significantly lower than the others (e.g. Diabetes)?

- There are many indicators that extend across multiple PCQI categories
- When completeness is increased for one of these indicators, completeness is improved across all applicable categories.
- Your clinic's effort at one change will have a large impact across multiple PCQI categories
- For example, when your clinic targets increasing capture of height and weight for the Prevention category, completeness will also increase in four other categories: Diabetes, Hypertension, Coronary Artery Disease and Congestive Heart Failure.

Consider the count of patients identified as eligible for PCQI care

- Do you think the patient count provided is representative of the number of patients you think should be eligible?
- Is there an indicator applicable to many of your enrolled patients?
- Would a larger portion of your enrolled patients benefit from focusing on a particular indicator?

Use SMART Goal setting to target improvement

(see [EMR Optimization Reference Guide](#))

- An example of a PCQI related SMART goal could be:

“Increase patients with a blood pressure measurement in the prevention PCDE file (indicator 2.11) by 15% by the January Primary Care Report for Home Clinics.”

Home Clinic Client Summaries

Recording clinical information in a complete, current, and consistent manner will help your clinic efficiently find and use information to support patient care, improve practice reporting, and support comprehensive submission of your PCDE. For Home Clinics who have implemented the Home Clinic Client Summary Service, having a consistent data capture approach will support good quality Client Summaries being posted in eChart Manitoba.

Home Clinic Client Summary is a document that contains an enrolled patient’s key health information provided from your Home Clinic’s EMR. Client Summaries are posted in eChart Manitoba once your Home Clinic has implemented the Home Clinic Client Summary Service and are accessible by authorized eChart users across the province in support of patient care. Learn more about Client Summaries in our [Info sheet](#), [FAQs](#) and online [5-minute video](#).

Standardizing form and capture of clinical information can be challenging. As a starting point, Home Clinics can discuss and decide upon the preferred workflows to record clinical information considering both how the data is recorded and where the data is recorded related to Home Clinic Client Summary components including the following categories:

- Health Conditions and Diagnoses
- Surgeries, Procedures and Interventions
- Suspected Allergies and Intolerances
- Prescribed Medications
- Vital Signs

Figure 2: Clinical information in Home Clinic Client Summary



Some areas to investigate may include the following activities:

- Investigate EMR workflows to see if data elements are being consistently collected across all users at your clinic in the same format and same location
- Brainstorm ideas and create a plan to support consistent, efficient, and accurate data entry
- Establish clinic-wide guidelines and communicate the guidelines to all staff members to ensure consistency of recording
 - This may include a list of standardized terminology and codes for commonly recorded items (e.g. items related to the chronic conditions associated with PCQIs or clinical data elements in the Client Summary document).

Note: Health professionals may be able to claim Continuing Professional Development or Continuing Competency credits for performing investigation, evaluation and improvement work related to EMR data quality, Home Clinic workflows and patient care activities.

Your EMR can support strong data capture practices. Talk to your vendor or review vendor resources to learn more about features and functions such as pick-lists, templates and structured data fields that support standardizing the recording of clinical data.

To better evaluate these data quality characteristic in relation to sending Home Clinic Client Summaries to eChart Manitoba, Home Clinics can complete a data quality evaluation exercise using Client Summary mockups from their EMR. More information on this process can be found in the [Home Clinic Toolkit](#) including a video, scoring tool and worksheet.

Strategies to improve EMR data quality

There are some key principles clinicians should consider that facilitate strong EMR data quality related to the capture of clinical information:

- Use discrete data fields over free text
- Standardize data capture for key clinical data (e.g. diagnoses, allergies, prescriptions)
- Standardize workflows for key clinical communication such as referrals, consults, high priority action items
- Configure the EMR to support seamless data collection (e.g. mapping and linking data to auto-populate forms, templates or requisitions, building pick-lists and drop-down menus)

Some other tips and tricks to support strong EMR data quality include:

- Familiarizing yourself with the main point of capture for PCQIs in your EMR
- Becoming familiar with diagnosis codes that trigger PCQI clinical alerts and reminders
- Establishing clinic-wide guidelines for recording clinical data in your EMR
- Using structured data as much as possible (e.g., pre-established codes/descriptions for diagnosis, drop down boxes with discrete data)
- Modifying your EMR to easily select commonly used data elements (e.g. favourite lists)
- Becoming familiar with data elements in your EMR where consistency of clinical data entry is essential for finding information to support patient care and practice reporting

- Reviewing PCQI completeness scores to reveal trends about the capture of PCQIs in your Home Clinic's EMR
- Focusing on one category (e.g., prevention or diabetes) or one indicator (e.g., height and weight) as a starting point. Your clinic does not need to improve all PCQIs at once.

Your vendor is a key resource to support optimizing the features and functions in your EMR to support high quality data capture. Your Home Clinic Liaison can also provide additional support.

The value of reporting features in your EMR

Your EMR may contain features that support analysis of your data which can be leveraged to evaluate and assess EMR data quality. Leverage reporting functionality in your EMR to identify inconsistent EMR data capture. For example, run a report or query to identify patients that:

- Have a condition but the condition is not recorded using your preferred capture guidelines (i.e., standardized form and/or location)
- Were billed for a specific problem but the diagnosis is missing in the expected field
- Were provided a specific medication but the expected diagnosis is missing
- Have inactive medications/prescriptions
- Have a diagnosis but missing recent vital signs such height, weight or blood pressure

Having strong data capture practices will enable your Home Clinic to maximize the value of reporting from your EMR. Contact your Home Clinic Liaison for more information.

Key takeaways

1. Correctness, Currency and Consistency (form and capture) are key EMR data quality characteristics to consider
2. PCQI completeness is an important metric for clinicians to monitor, manage and improve
3. Clinicians can target PCQIs and data elements in the PCDE and Home Clinic Client Summary to focus data quality evaluation and improvement activities
4. Clinicians should work towards good data quality of the clinical information contained in Home Clinic Client Summaries to optimize information sharing to eChart Manitoba
5. Your EMR and the additional reports available from Manitoba Health can support EMR data quality evaluation
6. A number of strategies can be used to evaluate and improve EMR data quality.

Next Steps

- Analyze capture of clinical data in EMR fields targeting those related to PCQIs, your PCDE and/or Home Clinic Client Summaries:
 - Are they complete, current, and consistently recorded?
 - Where is there room for improvement?
 - Is there an easier or more consistent way to enter the data?
 - Are there any shortcuts/favourites/preferences that can be created or configured to assist with consistent entry of the data?
- Create a plan to identify and clean-up records with inconsistent data capture (e.g. PCQIs, prescriptions, allergies, vital signs, diagnoses, medications)
- Review your Primary Care Report for Home Clinics
 - Do the enrolment statistics make sense?
 - Do the PCQI completeness results represent care provided at your clinic?
 - What areas could you target for to improve PCQI completeness scores?
- Leverage your EMRs own reporting capabilities to identify data quality issues. Ask your vendor or your Home Clinic Liaison for support.

References

Bowen, M. (2012). *EMR Data Quality Evaluation Guide, version 1.0*. Victoria: eHealth Observatory, University of Victoria.

Bowen, M. (2012). Defining and Evaluating Electronic Medical Record Data Quality within the Canadian Context. *Electronic Healthcare*, 11((1)), e5-e13.