



EMR Guide for the Patient's Medical Home

2023 Update

This document has not been updated since originally published. The principles remain valid, but some important changes are:

- 1) AMA Accelerating Change Transformation Team (ACTT) has replaced Toward Optimized Practice (TOP) and the website is: <https://actt.albertadoctors.org/> . The Patient's Medical Home (PMH) web page is: <https://actt.albertadoctors.org/PMH> and information on the PMH and Health Neighbourhood change packages is found at: <https://actt.albertadoctors.org/pmh/capacity-for-improvement/change-packages-for-primary-care-clinics/>

The PMH Practice Assessments are located here: <https://actt.albertadoctors.org/PMH/capacity-for-improvement/PMH-Assessments/Pages/default.aspx>

- 2) Panel identification and panel maintenance processes are key for participating in both screening (ASaP) and the [Central Patient Attachment Registry](#) (CPAR). These are key documents:
 - Panel Process Change Package: <https://actt.albertadoctors.org/file/panel-process-change-package.pdf>
 - STEP Checklist: <https://actt.albertadoctors.org/file/step-checklist.pdf>
 - CPAR Panel Readiness Checklist: https://actt.albertadoctors.org/file/CII-CPAR_Panel_Readiness_Checklist.pdf
- 3) The Alberta Screening and Prevention (ASaP) maneuvers, intervals and ages are updated when the evidence changes. Please refer to the latest documentation for the most recent update for the maneuver, interval and age population before developing or editing a preventive screening EMR search/notification/alert at: <https://actt.albertadoctors.org/PMH/organized-evidence-based-care/asap>, NOT the intervals and ages in the following document.
- 4) The EMR Supports page at ACTT is: <https://actt.albertadoctors.org/EMR/Pages/default.aspx>

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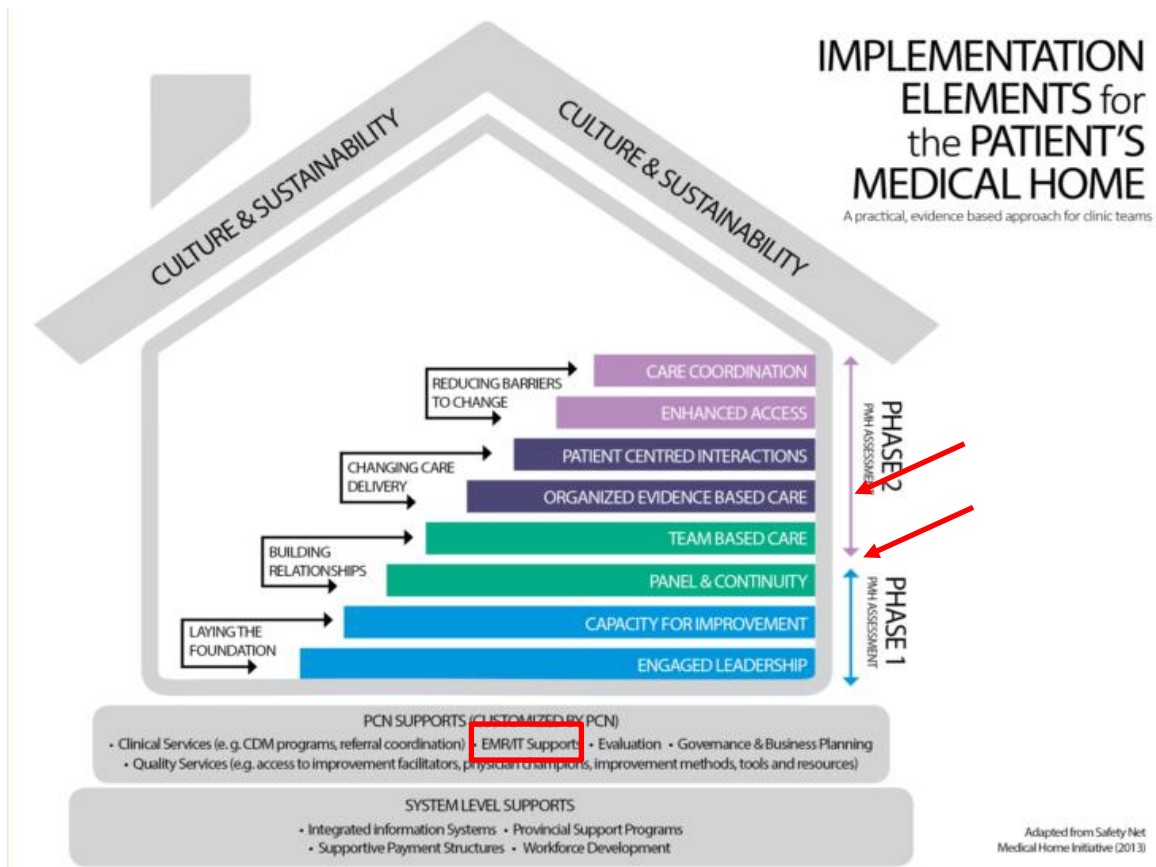
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Introduction

Patient's Medical Home



When an EMR is used in a meaningful way within the Patient's Medical Home (PHM) model it supports effective patient panel identification, panel maintenance, panel management and will enable proactive panel-based care for patients in a practice.

Meaningful use of the EMR for 'Panel & Continuity' involves knowing which patients are actively attached to each provider and using this information for scheduling purposes and to monitor supply, demand and continuity with the provider. This work is **foundational for success**, and must be discussed with the entire practice, arriving at agreed upon policies and procedures on **what, why** and **how** data is to be captured and maintained with the EMR.

'Organized Evidence Based Care' for preventive screening is a logical place to start to learn how to use the EMR for panel management, or in other words, proactive panel-based care. Once EMR processes have been successfully implemented for preventive screening, they can be adapted for disease management and care of patients with complex health needs. Finally, 'Care Coordination' processes will leverage those developed for panel, continuity and organized evidence based care.

Foundation for Success - Commitment to Standardization in the EMR

Successful **standardization of data entry** for improvement or change, apart from leveraging the inherent functionality of the EMR, relies heavily on three “people and process” principles in conjunction with the use EMR functionality.

These are:

1. Team

- Includes having ‘engaged leadership’ and inclusive team representation within each clinic or organization; a clinic champion for EMR standardization can be named
- EMR improvements or changes do not happen in isolation, and require commitment of time and resources for improvement to happen
- Combining EMR improvement with enhanced use of team, process improvement with a clinical goal in mind and practice facilitation is the ideal strategy in working toward adoption of the PMH
- Leverage PCN supports where they exist (i.e. Improvement Facilitators, Panel Managers/Coordinators, etc.)
- Team sets aside time to meet to agree on processes that enable proactive panel-based care and documents them to keep everyone on the same page (e.g., job aid and/or standard operating procedure manual)

2. Data Quality

- Data Standardization – for the main areas of data input, the entire clinic team should discuss and agree upon:
 - use of fields in a standardized way, create structured exam forms or templates for the consistent capture of patient information; if the team wants to find it later or be able to search a population for the information, it helps to know where it was entered and if the EMR search/query tool can search it
 - utilizing standardized text or macros (common repeated text) whenever possible instead of free text
 - verification processes to ensure over time that data recording is reliable (e.g., BP is always in the BP field and not in a text box)
 - job aids for staff to assist with consistent patient data chart entry (e.g., scanning and attaching documents to patient charts)
 - processes to record patient problems with the appropriate ICD9 identifier (highly recommended) Sample Problem List: Appendix B
- Roles and responsibilities for charting (e.g., does the person who rooms the patient always chart BP, height and weight). When making changes to information outside of chart notes (e.g. to patient demographics or when making bulk /batch changes) it is recommended that the individual making the change enter their initials in an appropriate area.

- It is advised that one person or a small group provide direction for patient data entry to ensure high quality in the clinic and minimize data inconsistency. Creating ‘Good in, Good out’ processes at the practice
- Documentation of Standard Operating Procedures (Policies, Procedures and Processes) assists a clinic team in having a common understanding of workflow; these should be reviewed periodically
- Communicate with the practice team the linkage between data entry and the ability for a point-of-care reminder (e.g. Notifications , Rules, Alerts, etc.) to function and inform reporting

3. Incremental Change

- A key recommendation is to take baby steps in EMR changes, especially when it concerns practice-wide point-of-care reminders. These can be managed to make the changes small and sustainable for the practice team
- Use the simple but effective ‘Model for Improvement’ method including applying plan-do-study-act (PDSA) cycles to identify and test small incremental changes toward the desired and clearly identified improvement goal
- When a new point-of-care reminder is put in place an associated, documented ‘people process’ needs to be developed and implemented; thus making the change effective and sustainable, by embedding it into the work process and clinic culture

Help Files

Along with this EMR Guide and Videos made available on the TOP website, the embedded EMR Help Files from the vendor can be a great untapped resource with detailed instructions on how to optimize EMR functionality.

Additional opportunities exist with many EMRs through the vendor external (community) portals or websites to get technical support or provide ideas to promote future functionality.

PMH Resources

Patient’s Medical Home

<http://www.topalbertadoctors.org/change-concepts/introduction/patientsmedicalhomeinalberta>

Patient’s Medical Home Implementation Field Kit

<http://www.topalbertadoctors.org/patients-medical-home-implementation-field-kit/>

Patient’s Medical Home Assessments:

Readiness

<http://www.topalbertadoctors.org/file/pmh-assessment-for-practices--readiness.pdf>

Phase 1

<http://www.topalbertadoctors.org/file/pmh-assessment-for-practices--phase-1.pdf>

Phase 2

<http://www.topalbertadoctors.org/file/pmh-assessment-for-practices--phase-2.pdf>

Panel Identification

Patient Panel Definition

A patient panel is a set of patients that have established relationships with a primary provider. There is an implicit agreement that the identified physician or nurse practitioner and team will provide comprehensive, longitudinal primary care. Relational continuity, or an ongoing relationship between a primary provider and a patient, is enabled by a patient identification process.

Panel vs. Caseload

A **panel** is the set of patients attached to a specific primary provider. A primary provider is a physician or nurse practitioner mainly responsible for providing comprehensive primary health care longitudinally over time to a panel of patients.

A **case load** is a group of patients under the care of a provider for a limited scope of care. A specialist will have a case load as will some family physicians, general practitioners or nurse practitioners working in the areas of maternity care, women's health and other areas. For example, a PCN has a maternity clinic where family doctors who specialize in obstetrics offer care to low-risk patients during their pregnancy. In this case each family doctor will have a case load of patients not a panel of patients. In another example, a pediatrician is a member of a PCN. The pediatrician may have a handful of patients for whom she provides their comprehensive, primary care but for most of her patients she is a consultant and these patients have a family doctor to provide primary care. In this case the pediatrician has a small panel and a large case load of patients.

Panel Resources

Panel Guide

<http://www.topalbertadoctors.org/file/guide-to-panel-identification.pdf>

Supportive Tools for Every Panel (STEP) Documents

Developed and shared by the Calgary EQuIP (Elevating Quality Improvement in Practice) Team, these documents outline the activities and outputs for panel identification and panel management screening for use at both the practice and PCN levels.

STEP Checklist: a summary of the activities and outputs for panel identification and panel management screening in a checklist format.

STEP Toolkit: the activities and outputs of panel identification and panel management screening with suggested tools and related links

STEP Workbook: for use at the practice level to guide clinic teams through the activities and provide a means to record outputs for future reference

STEP Reference Page on the TOP website contains webinars that support the documents.

Demographics

Basic Demographic Information

In the demographic area of the patient chart the basic information that is needed for patient panel identification is:

- Full Name
- Date of Birth
- Gender
- Complete address
- Phone number(s)
- Primary provider
- Patient status (Active or Inactive)
 - Status Date
- Confirmation¹ date
- Alberta Patient Healthcare Number (PHN)

Other demographic/attachment fields exist by individual EMR. These other fields may also support patient panel identification and maintenance processes.

Confirmation

Most EMRs have a designated field for patient demographic data confirmation (also commonly called **verification or validation**). Marking this field/box indicates that the primary provider attachment, address, phone, and patient status are confirmed and up to date. The field also applies a date stamp so that all team members know when it was last done.

Confirmation is a crucial process for patient care. When a critical result arrives at a clinic, it is essential that the patient's contact information is up-to-date so that they may be contacted in a timely way.

Calculating the **confirmation rate** which may also commonly be called verification rate is an important process check that indicates how often patient data and attachment is verified by the team. The confirmation rate calculated over a longer period of time, such as year, should be higher for clinics with established processes than a confirmation rate calculated over a shorter period of time such as three months. A team may choose to calculate a confirmation rate over an appropriate timeframe that will give them feedback on their process improvements. [See Confirmation/Validation Rate](#)

Central Patient Attachment Registry (CPAR)

CPAR is a centralized database that captures the attachment of Primary Care Physician or Nurse Practitioner and their patients. CPAR is a joint project between The Alberta Medical Association, Alberta Health (AH), and Alberta Health Services (AHS). The registry will enable improved relational and informational continuity in primary care across Alberta. Participating providers will have their panel lists

¹ Team members mark a field in the EMR to indicate the basic demographic information and attachment to a primary provider is correct. The name of this field varies by EMR.

submitted through a secure electronic portal to the registry that will look to see if other primary providers are paneling the same patients. Participating providers will receive 'conflict reports' listing names of their patients who also appear on the confirmed panel lists of other providers. Another report will identify when a patient on a provider's confirmed panel has information that does not match the patient client registry, including if the patient is deceased.

Teams will confirm at the practice that a patient is attached to a provider and record this in the EMR. What CPAR can do is verify that patients are not attached to other providers. When a patient appears on a provider's conflict report, it signifies that the patient has been attached to another provider's panel outside the practice and it will need to be addressed with the patient to confirm which provider (of those they are paneled to) they wish to consider their primary provider.

Five Key Changes in Behaviors at the Practice

1. At every interaction ask who the patient identifies as their primary provider
2. Record it in the EMR & Date Stamp it
3. Maintain & Review the panel List
4. Utilize the panel list to plan care delivery
5. Submit the Panel List to CPAR

Configuring Status

Many EMRs have the ability for a system administrator or user to customize patient statuses for the practice in addition to what is available in the EMR at 'Go Live'. This will allow the practice to specify various types of active and inactive patients in patient lists, reports or for setting up population-wide point-of care reminders.

Examples of Patient Status Used in Primary Care		
Status	Status Name	Additional Information
Active	Office Patient	Active office patient attached to a provider in the practice.
	Specialty Service	This patient may be active in the practice but only for a given service (e.g., vasectomy, aesthetic, maternity care, aviation medical, circumcision, IUD). Some clinics give a status to each type of specialty service.
	Temporary	Applied to a patient seeking walk-in care. These patients are not considered part of the provider's panel.
	New	When a practice is still accepting new patients, a patient may not be confirmed as an office patient until after a first or second appointment.
	Orphaned/unassigned	When a provider leaves a practice resulting in an unassigned panel, these patients may be identified.
	Emergency Department	Mainly in rural centres, where a patient record exists for a visit that occurred in ER of a non-clinic patient.
	Long term care	For a group of patients seen in a long term care site but not in the practice.
	Lapsed or Dormant	Some clinics prefer to use this term for patients that are inactive, with no clinic visit in a period of time (e.g., 3 years). They will be given this term during panel clean up or maintenance, until confirmation of attachment can be ascertained.
Inactive	Inactive	Includes formerly active patients with no clinic visits in a period of time defined by the practice, (e.g., 3 years.)
	Deceased	Patient is deceased.
	Non-clinic patient / Not Our Patient	When a patient chart is created but the patient was never actually seen at the practice (e.g. may apply if a new patient made an appointment but never attended or a chart may have been created for lab work received for a non-clinic patient, etc.)
	Duplicate or Archive	When a patient has accidentally been registered more than once and the EMR does not have the ability to merge duplicate records the archived record has this unique status.

Producing a Provider's Panel List

During the panel identification process the first step is to produce a list of all active patients attached to a provider using the report/search functionality of the clinic EMR. It is useful if the panel list includes the following columns of information:

- Name (first, last)
- Gender
- Date of birth (or age)
- Last visit date

- Last verification date (last date the primary provider and attachment were confirmed)
- PHN or ULI (this will be useful for CPAR² purposes)

Sorting by the column headers in the panel list in the EMR or a spreadsheet is a quick way to get an impression of:

- Older patients that may be deceased
- Patients with no visits to the clinic within the last 3 to 5 years
- Patients that have never had their attachment or primary provider confirmed
- ULI that indicate out of province patient

TIP: Many EMRs will produce the list with the EMR report/search functionality but also offer exporting the list for further sorting and analysis in Microsoft Excel or Open Office Calc. **Basic spreadsheet training is recommended.**

Last Visit Date may assist to identify active patients:

- Patients with a visit in clinic during an agreed-upon, predetermined period (e.g., last 3 years)

These lists usually create awareness for initial panel clean up. Confirmation of the data produced on the lists with the primary provider and team will help to determine validity of the information. Further panel clean-up is assisted by additional searches in the EMR.

Initial Panel Clean-Up

Searches/reports that assist initial panel clean up include producing a list of active patients attached to a provider, with the additional search parameters of:

- **Last visit date** (and no future appointments)
- **Age:** Sorting the list of active patients by age is valuable. In viewing the list of active patients from oldest to youngest or over the age of 90 years, a provider is usually able to indicate if there are patients on the list who should be marked as deceased
- **No visits** to the practice (and no future appointments) – producing a list of patients that are attached to a provider will identify patients that registered but may have never shown up to the practice. This search may identify patient charts created but the patient was never actually seen at the practice (e.g. may apply if a new patient made an appointment but never attended or a chart created for lab work received for a non-clinic patient, etc.)
- **Appointment Type/Reason** – If the practice uses the appointment type or reason when scheduling visits, searching by this information may produce lists of patients that are not family practice panel patients such as ‘aviation medical’ or ‘Botox injection’
- **Billing code** - If the clinic offers specialty services to patients that are not members of the physician’s family practice, they may be identifiable by billing code from the Schedule of Medical Benefits

² Central Patient Attachment Registry (CPAR) is a centralized provincial database, going live in 2018, which captures the attachment of Primary Care Physician or Nurse Practitioner and their paneled patients.

- Ask the physicians if there are any billing codes that they routinely use for patients that are not members of their family practice panel
- **Procedure codes** –
 - E.g., searching by procedures offered at the practice, but all the patients may not belong to the practice, such as vasectomy (75.64)
 - Long term care patients are billed with an 03.03E billing code
- **Address or postal code** - Sorting of active patients by the address/city or postal code searches can be valuable in identifying individuals that may not be part of the family practice panel due to their place of residence; temporary workers to an area may be identified this way
- **Test Patients** – each clinic has test patients that were created for training or practice purposes, for reporting and analysis; they should not be included in the family practice panels. A common practice for test patients is to use the last name “Test”. Be sure there are no real patients with the last name Test.

IMPORTANT: The primary provider and/or the practice team need to review the data from reports to ensure that the correct information is being pulled into them. Due to unique protocol at a practice, fields may be used in a specific way and this may impact the accuracy of reports.

Bulk/Batch Actions

Once a list is produced and sorted, most EMRs are capable of applying a bulk change to the entire list or a group within the list. Making bulk changes makes the process of initial clean-up and ongoing panel maintenance faster and easier. For some EMRs the clinic needs to produce the list and then contact the vendor to support the bulk change.

TIP: Carefully verify data with the primary provider and/or care team before making a bulk change.

Panel Maintenance

Once an initial clean-up is complete there are several processes that support maintaining a clean confirmed patient panel list for each primary provider. Those processes include:

1. Ongoing phone/address data, primary provider attachment and status confirmation at patient check-in. Developing and monitoring a process for all front desk staff with expectations for data confirmation is recommended.

- This process can be checked using EMR reporting. Run a search to produce a list of patients with visits in a given period of time and determine what percentage of patients was confirmed during that time frame
 - Standard operating procedures should be in place for front desk staff for:
 - Patients no longer part of the clinic
 - Patients not seen in the clinic (e.g., records created for patients where lab work was received or seen at another facility like the local ER)
 - Patients seen at your clinic but not your family practice patients (e.g., walk-in or temporary patients)
 - Patients scheduled for a “meet and greet” appointment
2. Conducting searches at regular intervals and applying bulk actions to patients that are no longer active at the practice. The regularity of the intervals varies by practice. It may be monthly for the first year and then every six months thereafter. Reports that assist identifying these patients include searches by:
- Last visit date (and no future appointments)
 - Age
 - No visits to the practice (and no future appointments)
 - Appointment Type/Reason
 - Billing code
 - Address/city or postal code
 - Last Name is Test (first be sure there are no actual practice patients with the surname Test)
3. Patient outreach. Some practices identify active patients with no visits in the past 3 years (and no future appointments), prioritizing those overdue for preventive screening care, then reaching out proactively to determine if they are still members of the practice. The outcomes of the outreach involve updating the patient demographics, physician attachment and offers of preventive screening care.

Panel Management

Panel management, also known as population management is a proactive approach to health care. Population means the panel of patients associated with a provider or care team. Population-based care (or panel-based care) means that the practice team is concerned with the health of the entire active population of attached patients at the practice, not just those who come in for visits.³

The Patient's Medical Home implementation element of 'Organized Evidence Based Care' involves embedding evidence-based guidelines into daily clinical practice where each encounter is designed to meet the patient's preventive and chronic illness needs. Setting up population-wide point-of-care reminders supports these planned interactions and EMR functionality supports appropriate follow-up care.

Approaches to Panel Management

Opportunistic

When approaching panel management opportunistically, it means catching a patient while they are in the practice or calling on the phone with a team member, to offer care.

For example, a 52 year old female is in the practice for an appointment to inquire about the vaccine for shingles. While in the office her blood pressure is taken and she is offered requisitions for a FIT test, plasma lipid profile, fasting glucose and mammogram because they are all overdue.

Methods to identify patients that are overdue for clinical services may involve:

- Setting up population wide point-of care reminders that alert a team member that a patient is due for a clinical service
- Setting follow-up or another type of alert at the individual patient chart to proactively set up for the next intervention
- A team member that combs through the charts of patients meeting certain criteria, who have an appointment, to identify clinical services that are due and marking the chart to indicate this

Outreach

An outreach method to panel management involves identifying active, confirmed paneled patients overdue for clinical services that do not have appointments and '*reaching out*' to offer care. This process involves using the search/reporting tool in the EMR to produce lists of patients.

For example, a 58 year old male was last in the clinic 2.5 years ago for a knee injury. The panel care coordinator (PCC) at the practice has run a report that shows this patient is overdue for a plasma lipid profile, a FIT test and a fasting glucose. The PCC phones the patient and confirms that he is still a patient of the practice attached to his paneled physician. * As per clinic protocol, the PCC makes an offer that the patient can come by the clinic and just pick up the lab requisition to get the overdue screening done and the clinic will follow-up as necessary. The patient agrees.

³ Module 20. Facilitating Panel Management. May 2013. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/professionals/prevention-chronic-care/improve/system/pfhandbook/mod20.html>

*Note: such protocols vary from practice to practice. It is an important process that must have provider agreement before implementation.

TIP: It is recommended that a practice initiating outreach complete panel identification and maintenance processes first then begin with patients that have been confirmed as attached, active patients. This will prevent the experience of contacting patients that are deceased or no longer active at the practice.

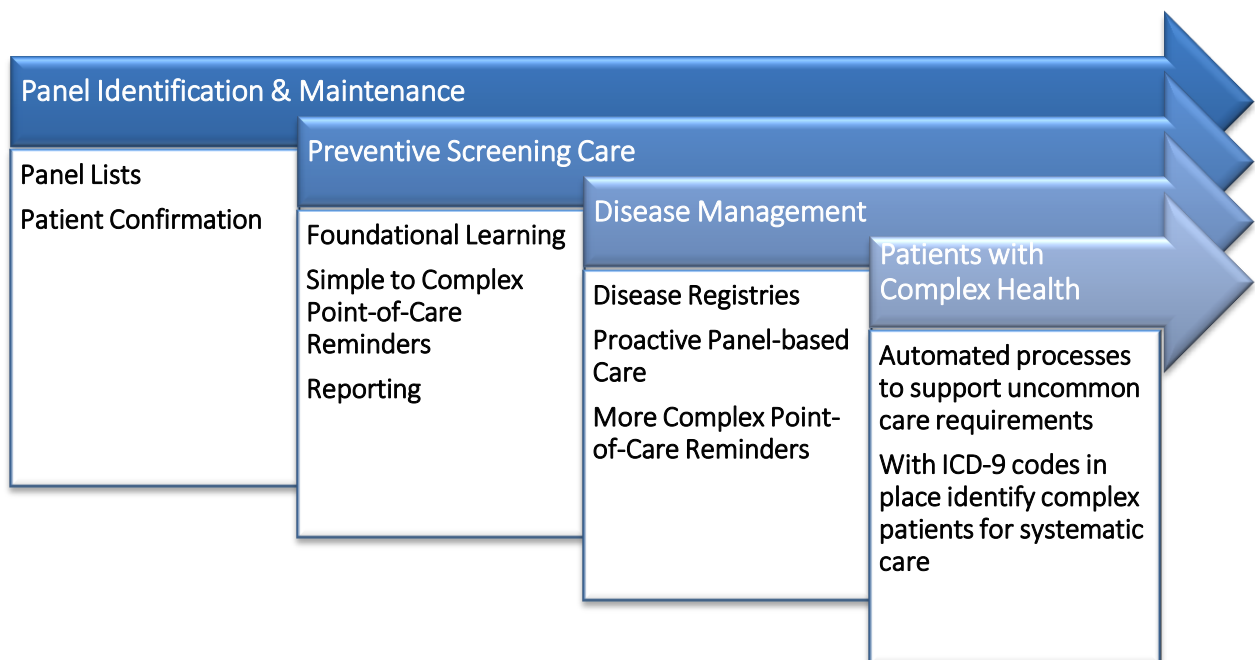
Prioritizing Patients for Outreach

For practices that are beginning outreach for the first time, identifying where to start can be a challenge. Consider using searchable criteria in your EMR that can guide you to reaching out to patients that may have the most to gain by offers of care. Consider the following criteria:

- Last visit date close to 3 (or more) years ago
- Age (older patients are at higher health risk than younger patients)
- Number of screening maneuvers due, e.g., consider starting with patients over 60 years of age with no colorectal cancer, diabetes or lipid panel screening due
- Patients with chronic conditions

Panel Management: How to Get Started

Once patient panel identification and maintenance processes are in place, it is recommended to begin proactive panel-based care with the following approach:



Preventive Screening Care

- Preventive screening care involves a small number of data elements compared to disease management
- There is benefit to starting with some clean sources of data like electronic lab feeds compared to information that may be inconsistently charted in the clinic
- Clinic team will learn:
 - the importance of and begin standardization of naming protocols for scanned documents (e.g., mammograms and colonoscopy reports)
 - from this experience about patterns in their data entry and can make correction for future meaningful use of EMR
 - practice standard operating procedures that enable proactive panel-based care
- The searches and population-wide point of care reminders should start simple and can build to the more complex
- Practices can build on:
 - the number of screening maneuvers they are addressing and/or
 - the population of patients at the practice that point-of-care reminders are set for (e.g., gender and age)
- Provides a foundational experience for process improvement

Disease Management

- Clinic team take lessons learned from less complex preventive screening care processes that can then be applied to disease management
- Involves more complex searches with more data elements than screening
- A dependency exists on reliable registries of patients with a given disease
 - Providers will learn the importance of consistent coding in the Problem List of the EMR
- Clinic team will build on the benefits of standardized data entry
- Building of more complex point-of-care reminders with increased reliability of planned, prioritized care

Management of Patients with Complex Health Needs

- With a solid foundation in preventive screening care and disease management, patients with complexities and multiple co-existing conditions will have visits that address many predictable health issues by using available EMR resources to more efficiently and reliably meet patient's important needs

Tools for Panel Management

For the following areas it is recommended that when a team agrees on the processes that they are documented as standard operating procedures so that when a staff member leaves and a new staff member starts there is documentation.

Charting for Team-Based Patient-Centered Care

For a team to provide care that is patient-centric and takes care of the whole patient, a single provider in the practice can no longer document in an ad hoc manner. The team needs to know where to find pertinent information and know that the information can inform proactive, panel-based processes (such as searches or reminders) that can act as a safety-net around the individual patient care.

EMR users need to be aware of the search capabilities of their EMR. **Where information is entered matters!** In general, fields that can inform a search or report include:

- Drop down lists
- Radio buttons
- Boxes only designed to record specific information like blood pressure or weight
- Templated fields in an exam template

Even in an area where free text can be entered, if certain information is entered with a consistent term, it may be searched. Where common repeated text (macros or auto-replace) is used, it may be uniquely searched.

Chart in a way that the team can help care for the patient:

- Care team members know where to find information
- The patient's data may be included in population-wide reminders that helps to prevent patients "falling through the cracks"
- Monitoring and management can be done systematically

Scanned Documents

Every clinic receives electronic faxed documents which get linked to individual patient records. The naming or indexing of these documents as they are attached must enable two processes:

- 1) When a provider is viewing the patient chart they should easily identify the information and be able to find it quickly. Some EMRs have the ability to search for a document name at the individual patient level.
- 2) In the EMR search /query tool it is possible to produce a list of patients that have a type of linked document within a period of time. These same document names can be used to create a population-wide point-of-care reminder or a flowsheet.

Key principles for linking scanned documents

- Create a list of acceptable document words that can be used at the practice that is agreed upon by the clinic team (clinicians and team members). [See Appendix C for examples](#)
- Use the drop down list in the EMR; avoid free typing
- Certain clinical reports need to be distinguished to enable panel management
 - Distinguish mammogram results from all diagnostic imaging
 - Some consult reports need consistent naming:

- Colonoscopy reports
 - Flex sigmoidoscopy report
 - Colposcopy report
- Provide training to staff and place a printed list of acceptable keywords with indexing tips at every workstation where documents get linked to patient charts
- Name based on type of consultation rather than the name of the consultant
 - E.g., If a referral is for gastroenterologist consult, name the letter “Gastroenterology consult” not “Dr. Black consult”
- Only central clinic EMR administrator(s) should be allowed to add, delete or modify the main list

Manual Entry of Lab Data

Most EMRs have the ability to manually enter lab data that may be received by fax or completed within the clinic. Data may be received this way due to the lab originating from a source outside the region. If this lab data is entered as a “Manual Result” rather than a scanned document it can usually be trended and searched. Manual labs completed in clinic such as a random glucose test should be entered in manual labs. Some clinics use Manual Labs to enter singular results that are from Alberta Netcare that the provider wants to see in the lab results sections and so that the results can be graphed with other investigations received electronically.

Example 1:

A provider is opening a new practice. After the first appointment and the patient is accepted into the practice, on the visit for the first comprehensive medical, the provider wants the last three pap results entered in the patient’s chart. A team member looks up the results and dates from Netcare in the chart with the manual labs feature careful to note the dates, results and that the source is Alberta Netcare.

Example 2:

A patient with diabetes is also under the care of an internal medicine specialist at a diabetes clinic outside of the area where the primary care practice is. The clinic gets copied on the patient’s lab results ordered by the other clinic and they are received as a fax. So that the lab values can be trended with the lab results ordered at the primary care office, the faxed results are entered as manual lab results and appear in the patient’s lab investigation section of the EMR not just as a document stored in their chart.

Useful Applications of Manual Lab Entry

The manual lab result feature of EMRs offers a clinic flexibility to store results or information in a way that they can be trended and searched. Some ways in which clinics are using this feature:

- Preventive screening care offers are all documented as manual lab results – they are searchable and assist the clinic team in monitoring offers and measuring screening care. This requires some set-up and is very effective where it is the team that does preventive screening care work
- Pain Disability Index is a score that is tabulated at the clinic that documents the level of pain a patient has. For practices that have a chronic pain clinic, manual lab entry allows them to record the score and trend against medications over time. It can also assist in quality improvement measurement.
- A clinic is tabulating frailty scores of their older patients. Recoding the scores in manual labs allows them to trend these scores over time, determine which patients in the practice have or have not had a frailty assessment and allows population based measures.

Searches/Queries – Getting Started

When learning to create searches the following tips will assist in obtaining accurate data:

- Be informed on how data is recorded at the clinic; this will provide direction on which fields to search
- Build the search one parameter at a time
- Validate, as each line of the search is created, that the results are correct before adding another parameter to the search
- Search for the positive first then search for the negative
 - E.g., if you are searching for female patients 50 – 74 y that have not had a mammogram in the past 2 years first identify all patients that have HAD a mammogram in the past 2 years. Once you have validated that your search criteria are correct it is easy to search for patients that have NOT had a mammogram.
- Verify that your results are correct

Beneficial Searches for Care Planning

When patients have been documented as having complex health needs (e.g., Problem List includes “Complex Health” as an active problem, monitoring frequency of care planning as well as follow-up is key. Useful searches are:

- Patients with complex health needs with no care plan in the last year
- Patients with complex health needs with a care plan but no specific appointment type designating a care plan follow-up in the last 6 months
 - This search depends on the practice having a unique appointment type designated as a care plan follow-up.
 - Alternatively, a panel manager could create a search that identifies the patients with a care plan completed within a given time (e.g., 1 year) and then looks for specific types of appointments since then to identify patients that may need follow-up

Follow-up

EMRs have features for individual patient follow-up where a task is created to remind a team member to follow-up with a patient at a specific time for a specific reason. This feature is indispensable for chronic disease management and care of patients with complex health needs. Importantly, this task can be future dated so that the person who needs to action the follow-up need only see it when it is timely. It is also important to document when a follow-up is closed. Follow-ups remain documented in a patient’s chart for record. In comparison, messaging is more immediate and is usually acted on in a short time frame, often while the patient is in the clinic. Messaging is often used for many non-patient purposes.

Clinical Decision Support: Population-wide point-of-care reminders

Most EMRs have a tool that will search the database for specific criteria to identify patients due for clinical service. Population-wide point-of-care reminders may be called ‘rules’, ‘triggers’, ‘alert’, ‘notification’ etc., and these are really just searches that run in the background of the EMR and provide notifications when a patient meets the criteria.

These can be created based on internal clinic information such as charting, scanned documents, billing or external information such as incoming lab or imaging data. These point-of-care reminders will automatically go away when the search criteria are met. Population-wide reminders are key enablers of proactive panel-based care. The higher the data quality in a practice, the more reminders a practice team are able to create and use reliably.

Recognizing that individual patient care will be tailored and that there are exceptions to the rules, reminders generally have the ability to be individualized for patients and modes of documenting exemptions may exist.

Individual Patient Alerts

At the individual patient level, EMRs have the ability to create a note or alert for an individual patient. Individual patient alerts can vary from critical pop-ups to notes that appear in certain areas of the EMR such as scheduling, appointments or in charting.

Panel Management Processes

Preventive Screening

As per the Alberta Screening and Prevention (ASaP) Program:

Revised Screening Maneuvers Menu for Adults **2017** Alberta Screening and Prevention Program (ASaP)

Maneuver	Age (Years)	Interval General Population
Blood Pressure	18+	Annual
Height	18+	At least once
Weight	18+	3 years
Exercise Assessment	18+	Annual
Tobacco Use Assessment	18+	Annual
Influenza Vaccination	18+	Annual
Mammography	50-74	2 years
Colorectal Cancer Screen One of: <ul style="list-style-type: none"> • FIT • Flex Sigmoidoscopy • Colonoscopy 	50-74	2 years
		5 years
		10 years
Pap Test Do Pap test Optional Pap test DO NOT DO Pap test	25-69	3 years
	21-24	
	<21	
Plasma Lipid Profile Non-Fasting	40-74	5 years
Cardiovascular Risk Calculation	40-74	5 years
Diabetes Screen One of: <ul style="list-style-type: none"> • Fasting Glucose • Hgb A1c • Diabetes Risk Calculator 	40+	5 years

The age and interval of given information is suitable for the general population. The need of individual patients will vary. For each maneuver, the physician/provider should offer testing as appropriate. See evidence-based practice points on reverse.

Documenting for ASaP

It is important that all ASaP maneuvers are documented in a consistent manner, ideally in a searchable field in the EMR.

- BP, Height and Weight are recorded as vitals
- Lifestyle/modifiable risk factors are often recorded in an exam template or designated area – see more about this in the Lifestyle/Modifiable Risk Factors section
- Influenza screening includes:
 - Administering a vaccine
 - Recording of vaccination administered elsewhere
 - Record of offer to vaccinate or counsel
- The following are documented as investigations/lab results:
 - Mammography
 - Colorectal cancer screening – FIT
 - Pap test
 - Plasma Lipid Profile
 - Diabetes screening (HbA1c or fasting glucose)
- Colonoscopy and sigmoidoscopy are usually documented as a report. When received it is important that these are named/indexed appropriately and in a standardized way, (e.g., “Colonoscopy Report”)

CV Risk Calculation

- This is a highly valuable tool to assess risk in patients with no previous cardiovascular disease (e.g., NOT taking a ‘statin’ class of medication)
- Conduct on average risk patients age 40 – 74 every 5 years
- Requires other data held in the EMR: gender, tobacco use, BP, non-fasting lipid data and diabetes diagnosis (for some CV Risk calculators)
- May use an internal EMR CV Risk Calculator or an external calculator such as: <http://chd.bestsciencemedicine.com/calc2html#basic>
 - Dependency on where the provider records the result or if it is auto created from the internal calculator in the EMR
- The preventive care screening search is to identify patients 40 – 74 y, not taking a ‘statin’, that have not had a CV Risk calculation in the past 5 years
 - Patients already at risk, such as those taking a statin, do not need to be assessed

Lifestyle/Modifiable Risk Factors (ASaP+)

Modifiable risk factors should be recorded in a consistent fashion to enable preventive screening care as well as to monitor and manage patients who screen positive. All members of the clinic team should know where modifiable risk factors are recorded in the EMR and who is responsible for entering them. It is recommended to enter modifiable risk factors in an area of the EMR that is searchable and can enable a population-wide reminder.

- Height and weight (to calculate BMI and weight changes)
- Physical Activity
- Tobacco Use
- Alcohol Use
- Diet – Fruit and Vegetable Consumption

ASaP Program Participation

Providers registered in the ASaP Program with TOP will use chart review methodology to look for results of completed screens as well as offers, declines or exemptions. Consistency of recording assists in the chart review.

ASaP EMR Extraction Methodology for Schedule B

Practices and PCNs measuring ASaP results for Schedule B purposes using EMR extraction methodology need only focus on the record of results (have a screen completed) which, in general, is easier to search in the EMRs than offers, declines and exemptions.

Exclusions/Exemptions

Some patients are excluded from general adult preventive screening for clinical reasons. Developing consistent processes to document the exclusions assists the team in collaborating on preventive screening care. Some exclusions/exemptions are:

- Females with a complete bilateral mastectomy are excluded from mammograms
- Females with a total hysterectomy (no longer have a cervix) are excluded from pap smears
- Patients with documented cardiovascular risk and treatment no longer are screened for CV risk and may have different intervals for lipid profiles
- Patients diagnosed with diabetes are not screened for diabetes
- When diagnosed and undergoing interventions for colorectal, breast or cervical cancers, the routine screening intervals no longer apply and patients will follow their recommended care

A team should consider how documentation of the exemption criteria impacts team-based screening care.

Example:

A female patient is offered a pap but remarks that she has had a total hysterectomy 10 years ago and asks if she needs one. The clinic team member indicates no. The team notes that the reason they didn't know was because the evidence of the hysterectomy was in a document called "surgical report". The team wants to ensure this doesn't happen again and agrees that possible actions they can take are that:

- The total hysterectomy needs to be added to the Past Surgeries area of the chart
- The surgical report is coded with the additional term "Total Hysterectomy"
- The patient is exempted from the population-wide reminder for pap smears in the clinic

ASaP Searches - Examples

There are 2 general approaches for completing the ASaP specific searches:

1. Searching for patients due for an ASaP maneuver. We use this approach to build lists for opportunistic and outreach screening processes.
2. Searching for patients who have had the maneuver completed. We generally use this approach for quality improvement purposes to track how we are doing.

Searches for ASaP Maneuvers

Age and/or Gender Criteria	Maneuver/Timeframe
Patients in a specific age range and gender	have not been screened (seen) in the appropriate interval (e.g. 3 years)
Identify patients 18 + with no	Height recorded on the chart Weight recorded on the chart in the past 3 years Blood Pressure recorded in the last year Tobacco assessment in the last year Exercise assessed in the last year Influenza vaccination nor counsel in the last year
Identify females 25-69 that have not had a Pap test in the past 3 years	
Identify females 50 – 74	have not had a mammogram in the past 2 years (a mammogram may be a scanned document and/or an electronic result depending on the region)
Identify patients 40 +	have not had a fasting glucose OR a HbA1c test in the last 5 years
Identify patients 40 – 74	have not had a plasma lipid profile test in the past 5 years
Identify patients 50 – 74	have not had a fecal immunochemical test in the past 2 years OR a flex sigmoidoscopy in the past 5 years OR a colonoscopy in the last 10 years (where a FIT test is a lab result and a flex sig or colonoscopy can usually be identified by a scanned report)

In this section we will show an approach for each of the ASaP screening maneuvers. There may be more than one way to search and it will also depend on your clinic’s documentation. Other approaches will work but we suggest you validate your search results, whatever approach you take.

Disease Management

Beneficial Searches for Disease Management

- Patients with a given diagnosis with:
 - No clinic visits in a period of time
 - A monitoring test not completed in a period of time
 - Monitoring tests that have values above a threshold

Chronic Disease Management

Proactive panel-based care of a cohort of patients with a given condition (e.g., diabetes or hypertension) is enabled by certain EMR features:

- Problem list – [See Appendix B – Sample Lists](#)
- Point-of-care reminders set for a population of patients

- Pop-up notifications in various areas of the EMR
- Follow-ups, worklists

While patients with chronic conditions are treated and managed as individuals, processes for proactive panel-based care act as an extra “safety-net” to identify patients that may be due for care.

Example:

Peter is a chronic disease nurse that works for a PCN and a clinic. Peter has collaborated with the panel manager, who is very savvy at EMR searches, to build a number of saved searches that he runs weekly that support his work for chronic disease management. Peter has access to the clinic EMR remotely so he can run these searches and contact patients on days when he is not embedded in the clinic. The diabetes searches that the panel manager built for Peter are:

- List of patients with a diagnosis of diabetes and no clinic visit in the last 6 months and no future visits booked in the next month
- List of patients with a diagnosis of diabetes that have not had an HbA1c result in the last 6 months
- List of patients with a diagnosis of diabetes, whose last HbA1c result was over 7.0

Peter reviews the lists as part of his regular work as a chronic disease management nurse and calls the patients appropriately for follow-up or he may task another team member to call the patient to book an appointment.

Example 1:

A panel manager at a clinic does a search that produces a list on a monthly basis for patients with chronic conditions such as diabetes or chronic kidney disease that have had NO VISITS (and no future visits booked) in a period of time (e.g., 6 months or a year, depending on the condition). This allows the panel manager to reach out to these patients, confirm that they are still patients of their primary provider at the clinic, and offer a management appointment.

Example 2:

A panel manager uses lab data to run a monthly search in the EMR to identify patients that have lapsed in getting lab tests done that support management of their condition. For example, a monthly search identifies any patient with a diagnosis of diabetes with no HbA1c result on file in a period of time, such as 6 or 7 months. The clinic may set protocol for the panel manager to act on this list or the list may be provided to the CDM nurse for action.

Example 3:

A panel manager has created a search in the EMR for the CDM nurse that produces a list of all patients with a diagnosis of diabetes that displays the patient’s last lab values for HbA1c, fasting glucose, blood pressure and last visit date. The CDM nurse runs the search on a weekly basis and can sort columns in the report to identify patients that may need follow-up. By running the search live in the EMR the CDM nurse can easily click on the patient’s name to be directed to their chart to get more information for next steps.

These examples identify ways that clinics can set up processes that act as a “safety-net” and be proactive in identifying patients early for interventions.

Chronic Disease Management Searches – Examples

Registries

A disease registry, identifying patients with a coded disease condition, is the first step in preparing for panel management of patients of a given condition. **The process of coding of patients with a condition to produce a list is called a ‘patient registry’.** Ideally, all patients with a condition will have the condition noted in their ‘Problem List’ in a consistent way. For example, Diabetes is always called ‘Diabetes Mellitus’ and will likely have the ‘250’ ICD-9 code attached to it. It is important that an entire practice agree on terms for the conditions to create registries. In this example Diabetes is not named with other inconsistent terms such as ‘Diabetes’, ‘DMII’, ‘DM2’, ‘Diabet M’, etc.

TIP: Free typing in the problem list is NOT recommended. Physicians should use the drop down list when coding problems. In some cases a “clean-up” of the list may be needed to enable consistent coding moving forward.

While the Service Codes used in claims or billing is a very useful search to inform the practice when forming registries, it is not in itself accurate enough to be used when creating point of care reminders. An accurate problem list should be the trigger for the point of care reminders.

Problem Lists

EMRs have at least one designated area to enter confirmed diagnoses in the problem list. Agreeing as a team to have consistent entry into one area in a consistent way is critical to enable team-based care of patients with chronic conditions.

There are useful searches that will support creation of disease registries. By looking in other areas of the EMR, patients without the problem in their ‘Problem List’ can be identified. [See Appendix B – Sample Lists](#)

Feature of EMR	<u>Example 1</u> Data that would inform Diabetes Mellitus Registry	<u>Example 2</u> Data that would inform Hypertension registry
Billing	Diagnostic code 250	Diagnostic code 401
Medications	Currently taking metformin or insulin	Currently taking an antihypertensive
Lab	HbA1c over 7 %	BP > value specified by clinic MDs

The bulk action feature from reporting area of the EMR is a useful tool when producing a list of verified patients with a given condition to add it to the patient problem list in bulk.

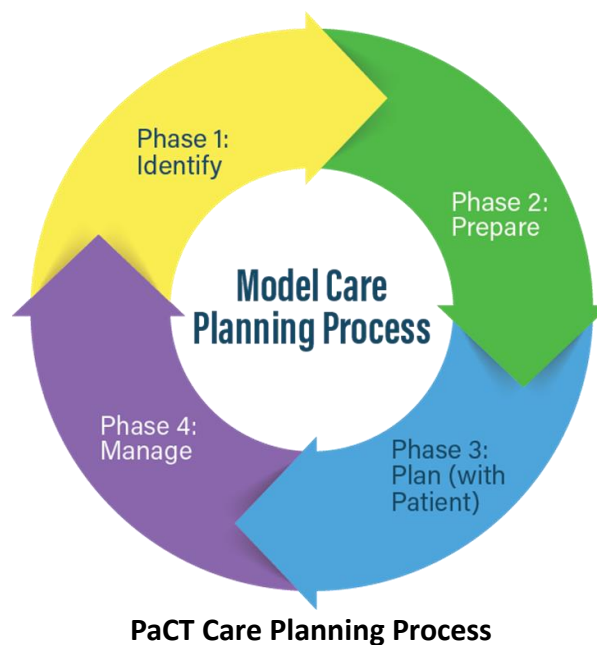
Care of Patient with Complex Health Needs

Patients Collaborating with Teams (PaCT)

PaCT is a next step in the Patients Medical Home journey. The next opportunity to positively impact care for those with the most complex health needs, including those at risk for or having multiple chronic diseases.

Care Planning

“The process by which healthcare professionals and patients discuss, agree upon, and review an action plan to achieve the goals or behavior change of most relevance and concern to the patient.”



PaCT Resources

For more information on PaCT, please visit <http://www.topalbertadoctors.org/pact/>

PaCT Processes

Clinics participating in PaCT will need to have well-established processes for panel identification and maintenance to ensure that they are offering care planning to their confirmed patients. Once the Central Patient Attachment Registry (CPAR) is available, it is recommended that clinics participate to ensure that they are offering care planning to their CPAR verified patients.

This section of the EMR guide focusing on PaCT is intended to be used by teams alongside the PaCT How-To Guide. The sections below follow the “Potentially Better Practices” as they relate to the “Optimize EMR” focus of each phase.

PaCT Prewrite

- Uploading the Care Planning Template into your EMR
[See Appendix A- Care Planning Template](#)
- Discuss and agree upon standard charting procedures for team-based care

PaCT Identify Phase:

- Identifying patients with complex health needs
- Marking the patient's chart with "Complex Health"

PaCT Prepare Phase:

- Appending relevant patient assessment information to the record.
- Pre-populating the care planning template
- Generating requisitions

PaCT Plan Phase:

- Care Planning Template Use:
 - Standardizing documentation to enhance pre-population
 - Optimizing documentation during the appointment
- Creating reminders for follow up appointments

PaCT Manage Phase:

- Maintaining the care planning document over time
- Creating reminders for planned care interventions
- Standardizing processes for referral tracking

PaCT Pre-work

Uploading the Care Planning Template into your EMR

A new care planning template has been created for the PaCT initiative that is patient-centered and relies on evidence-based care planning principles. For processes on how to make the template available in your clinic EMR, use the template at the care planning visit, save and use for follow-up visits, see your EMR specific tip sheet.

Discuss and agree upon standard charting procedures for team based care

Care planning is a team activity. For this to occur there should be general protocol on where information is stored in the chart so that all team members can both contribute to the chart, find information in the chart and contribute to the care plan appropriately. This would impact team members of diverse roles across the practice: scanners, medical office assistants, nurses, pharmacists, physicians, etc. In summary, chart in a way that team members can help care for the patient. Some benefits include:

- Care team members know where to find the information.
- The patient's data can inform population-wide reminders to alert when care services are due
- Monitoring and management can be done systematically

Identify Phase

Identify patients with Complex Health Needs

The first step in the care planning process is to identify patients for care planning. Your PaCT team will have reviewed the suggested menu for selecting a patient population (see menu below). In the EMR-specific Guides you will see suggested approaches to searching each of the menu items.

Part of the improvement process for you team may be improving how your selected population is identified by your EMR. For instance, if you select ‘frail patient’s’ as your focus, you may have to work on how frailty is documented to make it reliably searchable.

Menu

<i>Clinical Criteria</i>	<i>Risk Factors</i>	<i>Utilization Parameters</i>
<input type="checkbox"/> People with advanced illness <input type="checkbox"/> Complex Conditions: (Multiple Sclerosis, Parkinson’s Disease or Lupus) <input type="checkbox"/> Dementia <input type="checkbox"/> Multiple Chronic Conditions (e.g., 3 or more) <input type="checkbox"/> Patient eligible for a Complex Care Plan <input type="checkbox"/> Multiple medications <input type="checkbox"/> Functional impairment <input type="checkbox"/> Adults under 65 with disabilities	<input type="checkbox"/> Age (e.g., > 85, or > 75) <input type="checkbox"/> Frailty <input type="checkbox"/> Modifiable risk factors <input type="checkbox"/> <i>Social risk factors</i> <input type="checkbox"/> High risk (using predictive risk assessment tool)	<input type="checkbox"/> Many visits (e.g., > 10) in the last year <input type="checkbox"/> Hospitalizations (2 or more within the past year) <input type="checkbox"/> ER visits (3 or more) in the past year <input type="checkbox"/> Had a care plan in the past but not in the last year <input type="checkbox"/> Receiving home health services <input type="checkbox"/> No visits to the clinic in the last year (with risk factors or a chronic condition)

*Note – these are some main considerations – not an exhaustive list

Other patient data will be used to inform a team if a patient is appropriate for or due for care planning. Data that a team may use for this purpose includes:

- Visits:
 - Date since last visit. Searching for patients with chronic conditions or risk factors that have had a lapse since their last visit (e.g., one year) may represent patients due for care planning
 - Number of patient visits to the clinic. This is searched from the number of appointments or visits. Some patients with many visits to the clinic (e.g., > 10/year) may assist the clinic in identifying patients with complex health needs

- Hospitalization and/or ER reports. These are external documents received at the clinic, usually as a fax/e-fax. In this case how these are indexed/named and attached to the chart matters. With consistent naming protocol, the number of hospital and/or ER reports can be found for a patient
- Scanned documents:
 - Past care plans. If care plans are consistently named and linked in the patient's chart, past care plans can be found and as the date they are indexed can be determined, these can inform follow-up visits or follow-up care plans. The billing of the care plan can also be used to inform follow-up
 - Reports and referrals,
- Home health services. Documenting in a consistent way which patients receive home health services would assist in identifying all these patients; some of which will represent patients with complex health needs.

Recording "Complex Health Needs" in the EMR (Critical Step)

A critical step to monitor and follow-up with patients with complex health needs is to have one place in the EMR where the term "complex health needs" is recorded and is searchable; it is also beneficial if it is searchable for your quality improvement measures. As a clinic, determine and agree on **one place** it will be recorded. It is recommended that this be in the:

- Problem List (The term "Complex Health" may need to be added to the Problem List master list of terms by the clinic's EMR administrator.) See Sample Problem Lists
- Profile/Medical History

Prepare Phase

Append patient assessment information to the record

Some patients identified for care planning may have seen other providers and had various diagnostic, lab or other tests completed that may be relevant to the care planning process. Some of this information might be available on Netcare. This potentially better practice suggests that someone from the care team looks at Netcare for relevant information and adds it to the EMR in a standardized way.

See [Foundation for Success - Commitment to Standardization in the EMR](#)

Populate care plan template with known information in advance of the encounter

Some EMR data can be entered once in the patient's chart and then flow to the care plan (mapped). By charting this way team members will save time when looking for information and it will take less time to create the care plan and there will be less chance of data discrepancies and errors. Data that can be mapped in most EMR's includes:

- Emergency Contact Info
- Current Problems
- Medications – Current (OTC & Rx) & Failed
- Allergies
- Family Medical History
- Significant Historical Medical Events
- Test & Treatments
- Labs
- Diagnostic Imaging
- Modifiable Risk Factors including Tobacco, Alcohol, Exercise, Obesity (BMI), Diet of Fruit & Vegetables

Other data that is less likely to be mapped in most EMRs should be charted in a consistent way so that the team knows where to enter it and where to find it in the record when working on the care plan with the patient. Such data includes:

- Care Team Members
- Medical Team Members
- Social History (Risk Factors)
- Frailty Identifier
- Medical and Assistive device
- Personal Care Directives
- Goals of Care
- Follow ups

NOTE: How and where you capture information in the EMR will determine the amount of information that can be mapped/linked to the Care Planning Template (see appendices).

Please refer to individual EMR Guide for details on pre-populating the template

<http://www.topalbertadoctors.org/tools--resources/emrsupports/#vendor>

Generate lab and/or diagnostic imaging requisitions in advance of the encounter

EMRs have requisitions for laboratory and diagnostic imaging that are generated from the system. If your team is not using this feature, this is an opportunity to begin using this feature to proactively generate and provide requisitions to patients in advance of appointments.

Some EMRs have built in capabilities to e-fax directly from the system to the lab or imaging centre of the patient's choice. There are also a number of third party software options that allow for secure electronic transmission of requisitions.

Plan Phase

Documenting in the care planning template

In the prepare phase, the care plan template activities focused on populating the template before the patient arrives for their appointment. In this section, the change is the population of the template during the appointment. These sections include:

- Medical goals and targets
- Patient goals (health and life)
- Medical action plan
- Patient self-management action plan
- Potential barriers and coping plan
- Follow-up plan (who, when what, next visit)
- other identified care team members outside of the clinic or PCN involved in the patient's care

Some teams will already be used to charting during the appointment. The goal is to have the information in the template by the end of the appointment with the patient so that you can print a copy for the patient.

It is suggested that you check settings on your EMR to see if/how you can print in a font size appropriate for the patient.

Set a reminder in your EMR for follow up appointments

Most EMRs have a function to set a reminder to the appropriate staff member to call a patient in for follow up. The patient should be aware of the follow up date based on their care planning follow up plan but many will still want or need a follow up call.

Many clinics already use this function in some capacity but there may be additional considerations for care planning that could be discussed.

Manage Phase

Maintaining the care planning document over time

As patients come in for follow up appointments there will be a need to add, delete and change information in the care planning template. Each EMR will handle this task in a slightly different way and you will need to become familiar with how your EMR handles this and what is optimal for you and your team. Over time, you may wish to start a new template which may be based on time or the volume of change over time for each patient.

Creating reminders for planned care interventions

Most EMRs have a reminder system where you can be reminded during the appointment that a care intervention is due or where you can create searches for certain interventions overdue/coming due.

Standardizing processes for referral tracking

Most clinics have processes for tracking referrals to specialists, programs and services. Participation in PaCT may be an opportunity to review processes and examine some of the features in your EMR for more effective referral tracking.

Measurement

While implementing the Patient's Medical Home, a practice or team will not know how they are doing unless they measure for improvement. Process measures reflect the things that are done in the practice and how the systems are operating. Example measures are:

Confirmation/Validation Rate⁴

It is useful to measure how often the team is confirming the patient demographic information (address and phone) and physician attachment. When a clinic is new to the process of patient confirmation it can be measured in the search tool.

Process Measure(s)

For example a team that wants to measure how they did in a week:

$$\frac{\text{\# patients confirmed this week}}{\text{\# patient visits this week}} \times 100 = \text{confirmation rate (\%)}$$

A clinic may also have an expectation over a period of time and can determine if the validation goals are being met. For example if a practice has an expectation that their validation rate over a 3 month period should be 95% the formula would be:

$$\frac{\text{\# patients confirmed in the last 3 months}}{\text{\# patient visits in the last 3 months}} \times 100 = \text{confirmed rate (\%)}$$

Outcomes Measure (3 years)

Overtime a clinic can use an agreed upon timeframe (e.g. 3 yrs.) to determine that the confirmation of attachment percentage to their most responsible primary provider and team has been sustained.

$$\frac{\text{\# patients confirmed in the 3 years}}{\text{\# patient visits in the 3 months}} \times 100 = \text{confirmed rate (\%)}$$

For all the above calculation by adding all the individual primary provider percentages a comprehensive clinic's percentage for confirmation can also be determined.

[Appendix D: Calculating Panel and Clinic Confirmation Rates Worksheet](#)

⁴ When patient demographics and primary provider relationship are checked at the clinic that is called confirmation even though the box in the EMR may be called "verified" or "validated". A confirmed patient panel is produced at the clinic through this process. The Central Patient Attachment Registry will **verify** the patients on the confirmed panel to identify only those patients attached uniquely to that primary provider.

Screening Rate Based on Completed Screens

A practice will also find that they are able to measure rates for preventive screening care. Measuring completed screens looks for completed results. The generic equation is:

$$\frac{\text{\# patients in eligible population with a result during the screening interval}^+}{\text{\# patients in the eligible population}^*} \times 100 = \text{screening rate (\%)}$$

⁺The screening interval is the time frame during which the screening maneuver should be done

* The eligible population would include all the active, paneled patients for a provider whether they came into the clinic or not as all rates are calculated over the paneled population.

Example 1: Dr. Brown wishes to calculate the completed blood pressure screening rate for her active paneled adult patients. Blood pressure should be measured annually (ASaP)

$$\frac{\text{\# active adult patients* (18 +) with a BP result in the last year}}{\text{\# active adult patients* (18 +)}} \times 100 = \text{BP screening rate (\%)}$$

active adult patients* (18 +)

* Attached to Dr. Brown in the EMR

Example 2: Dr. Brown wishes to calculate the completed diabetes screening rate for her active adult paneled patients. Diabetes screening is:

- appropriate for adults 40 +
- recommended once every 5 years
- completed with a fasting glucose, hemoglobin A1c result or a diabetes risk calculator score

$$\frac{\text{\# active adult* patients (40 +) with a fasting glucose OR HbA1c OR diabetes risk score in the last 5 years}}{\text{\# active adult patients* (40+)}} \times 100 = \text{Diabetes Screening Rate (\%)}$$

active adult patients* (40+)

* Attached to Dr. Brown in the EMR

Calculating a Screening Rate Based on Offers of Screening Care

Practitioners participating in the Alberta Screening and Prevention improvement project will include both completed screens and offers of the screen. In this case, to measure with the EMR there must be a place that **declined**, **deferred** and **exemptions** for screening are reliably recorded. In this case the generic equation is:

$$\frac{\text{\# active adult patients with an offer of screen or completed screen during screening interval}}{\text{\# active adult patients}} \times 100 = \text{screening rate (\%)}$$

[Appendix D: Calculating Panel and Clinic Confirmation Rates Worksheet](#)

It is recommended to use the chart audit methodology⁵ instead of EMR measures if the offers of screening care are unable to be searched in the EMR.

Disease Management Rate

EMRs are capable of measuring around disease management parameters provided the information is entered in a place where it can be searched.

Example:

Dr. Brown wishes to measure how many of her active paneled patients with diabetes have an HbA1c result below 7% in the last year.

Generic equation:

$$\frac{\text{\# active patients* with diabetes}^+ \text{ with an HbA1c result below 7\% in the last year} \times 100}{\text{\# active patients* with diabetes}^+} = \text{rate (\%)}$$

+ Patients identified as having diabetes when Diabetes is listed as an active problem in their Problem List

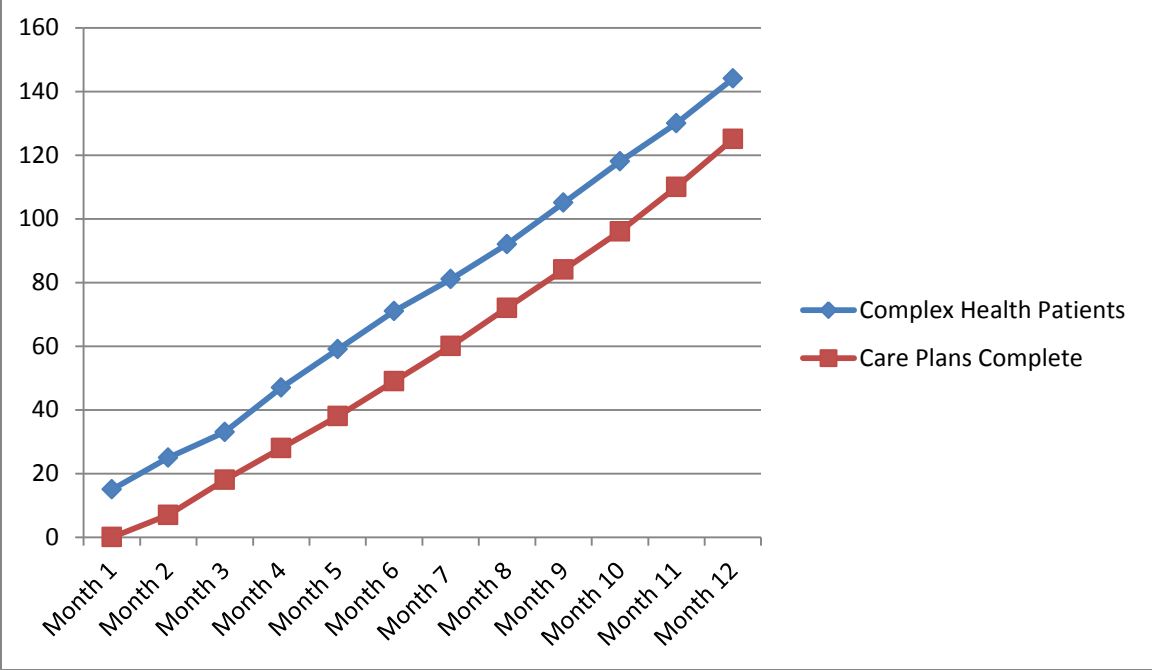
Care Planning

For clinics participating in PaCT, progress on identification and care plans completed may wish to collect supporting measures. In this case the clinic may wish to measure how many patients have been identified as having a complex health needs and, of those patients, how many were offered care plans with the new process on a monthly basis. To do this the two monthly searches would be:

1. number of patients with complex health needs
2. number of patients with complex health needs with a care planning template

An improvement graph may look like this:

⁵ See ASaP EMR Chart Review Instructions: <http://www.topalbertadoctors.org/file/asap-chart-review-instructions-emr.pdf>



Appendix A: Care Planning Template (with prompts)

Original Date of Document Creation: YYYY-MM-DD	Last Updated: YYYY-MM-DD
Patient Name: <first name/last name> Preferred Name: <name> Alberta Health Care # <card number> Date of Birth: <yyy/mm/dd> Primary Care Provider: <name>, Contact: <#> Care Plan Coordinator: <name>, Contact: <#> Personal Emergency Contact: <first name/last name>, Contact: <#>	

Introduction to Your Care Plan and Care Planning Visit

During the course of this visit, this document (called a care plan) will be filled out by your doctor. A care plan is useful when you have several people involved in your care or you have ongoing health conditions. It helps keep everyone on the 'same page' as to what matters to you (your goals, values and preferences). It also helps keep track of what you and your healthcare team have planned or are working on for the next 12 months to improve your health or wellbeing.

It is designed to help everyone involved in your health to know:

- what is important to you
- what your goals are for the next 12 months
- about your health conditions
- the main decisions you and your healthcare team have made about the healthcare and support you need

PART A: Medical Summary

In order to better understand your health conditions and how you are currently managing them, questions about your health, medications, medical history, and treatments, etc. are discussed in the section below.

Current Health Conditions

Please name your current health conditions. What do you know about them? What more would you like to know about them?

1.	<i>Final version: section to expand or collapse depending on the patient's requirements</i>
2.	
3.	

Impact of Health Conditions

How do your health conditions impact you, your daily life and the things that are important to you; in both the short-term and the long-term?

<i>Final version: section to expand or collapse depending on the patient's requirements</i>

Health Target(s)

Specific tests are used to help understand whether a health condition is well managed. Understanding where your numbers are now and where you can work towards will help ensure you can achieve what is important to you, as mentioned above.

Test Results	My Current Number	Where I Need to be
1. BMI (height and weight calculation)		
2. Blood Pressure (BP)	<i>Final version: BMI & BP rows fixed but rows 3+ will expand or collapse depending on the patient's requirements</i>	
3. <add new test results>		

Current Medications			
Please name the medications you are currently taking. How and why do you take them?			
Medication	Dosage	When I Take It	What I Take it For
1.			
2.	Final version: section to expand or collapse depending on the patient's requirements		
3.			
Past Medications			
Are there any medications that you have taken in the past that you want your doctor to be aware of?			
	Final version: section to expand or collapse depending on the patient's requirements		
Allergies and Intolerances			
Your records show that the following are your allergies and intolerances. Is there anything that should be added?			
No Known Allergies <input type="checkbox"/>		Reaction	Severity
			mild, moderate, severe, life-threatening
1.			
2.	Final version: section to expand or collapse depending on the patient's requirements		
3.			
Family Medical History			
In previous appointments you have shared the following family medical history. Is there anything that should be added?			
Condition(s)	Relation		
1.			
2.			
3.	Final version: section to expand or collapse depending on the patient's requirements		
Significant Hospitalizations			
Your records show that the following hospitalizations or emergency visits in the last 2 years. Is there anything that should be added? Include surgical history, hospitalizations or emergency visits in the last 2 years.			
Medical Event	Date		
1.			
2.	Final version: section to expand or collapse depending on the patient's requirements		
3.			
Other Team Members Seen For Tests and / or Treatments			
What other tests or treatments do you receive from members outside of this clinic? Include all tests and treatments and the corresponding health care team member information e.g., specialists, chiropractor, physiotherapist, etc.			
Name of Test or Treatment	Frequency and/or Date	Health Team Member Name	Contact Number
1.			
2.	Final version: section to expand or collapse depending on the patient's requirements		
3.			
Medical and Assistive Devices			
Are you currently using any medical or assistive devices?			
None <input type="checkbox"/> Wheelchair <input type="checkbox"/> Oxygen <input type="checkbox"/> Other <input type="checkbox"/> Specify:			
Personal Directive			
Have you thought about, talked about with family and friends and written down wishes for your health care in the event that you are incapable of consenting to or refusing treatment or other care? Would you be interested to have guidance or assistance to prepare a personal care directive?			
I have a personal care directive Yes <input type="checkbox"/> No <input type="checkbox"/>		I have a Power of Attorney Yes <input type="checkbox"/> No <input type="checkbox"/>	
Power of Attorney Contact Information:	Name:		

	Relationship:	
	Phone Number:	

PART B: Social History

Now that you have provided your medical history, this section captures other aspects of your life that may impact your ability to manage your health such as your finances, housing, and support systems.

Is there anything about your current employment situation or finances that would impact your health and wellbeing? Do you have insurance that covers medications and other services? Do you often have trouble making ends meet at the end of the month?
How has this impacted your ability to buy food, medication, find a place to live and travel to work or appointments?

Is there anything you would like your care team to know about your housing situation? Do you feel safe where you live?

What would you like your care team to know about your current supports in your life?
Who would you describe as your support? Do you feel you have enough support at this time to manage your health? Are there any community resources or services that you use e.g., transportation services, food services, group support meeting, etc.?

PART C: Goals and Action Plan

The section below builds on the information you've provided above by capturing some potential goals and actions that can be taken to better manage your health and improve your quality of life.

What you want to achieve and why it is important to you
 Please share what matters to you personally and what you want to achieve so you have the best quality of life and health outcomes.
e.g., I want to have my diabetes managed (A1C below 8) so I can travel to Ottawa in the fall for my daughter's wedding.

Where you need to start
 There are a number of areas you can work on to achieve your goal(s) listed above. The list below helps to determine what area is the highest priority for you.

Priority (1=lowest priority; 5=highest priority. The same number can be assigned more than once)

1. Manage medications <i>(e.g., right dose, side effects, medication review)</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> N/A
2. Engage in specific treatment activities <i>(e.g., physio, foot care, mental health, wounds)</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> N/A
3. Monitor and manage symptoms <i>(e.g., pain, dizziness, fatigue, stress)</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> N/A
4. Monitor and manage risk factors <i>(e.g., eating habits, physical activity, mood, social support, alcohol, tobacco)</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> N/A
5. Attend services and appointments <i>(e.g., lab work, specialist)</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> N/A

Action Plan	<p>What specific actions you need to take to achieve your goal(s) (SMART Goal – Specific, Measurable, Attainable, Realistic, Timely):</p> <p><i>e.g., I will check my blood sugar every morning before breakfast and write down my result in my log book</i></p>
--------------------	--

	Is there anything you think of that might get in your way? How could you work around these things? How confident are you that you can achieve the above goal and action plan?
	<i>e.g., I will need to set a regular reminder on my cell phone to remember to check my blood sugar each morning before breakfast and I will put my log book beside my glucometer so I remember to write my numbers down. My confidence is high that I can do this.</i>

We (the physician and patient/agent) have discussed this care plan and the patient/patient agent has received a written copy of it. A similar document has not been completed with another physician in the past twelve months.		
Date (yyyy/mm/dd)	Patient and/or Agent Name	Patient or Agent Signature
Date (yyyy/mm/dd)	Physician Name	Physician Signature

Appendix B: Sample Common Problem Lists/ Diagnostic Codes Lists for Primary Care for standardized EMR data capture

These examples were from real clinics or PCNs

Example 1: TOP 32 CODES

SYSTEM	CODE	DIAGNOSIS
Endocrine	250	Diabetes
	244	Thyroid (hypo)
	279	Obesity
	272	↑ Lipids
Neurological	340	M.S
	345	Epilepsy
	346	Migraines
	434	Stroke
	780.5	Sleep Disturbance
MSK	723	Cervical Disorder
	715	OsteoArthritis
	714	Other Inflammatory Polyarthropathy (Rheumatoid Arthritis)
	729	Fibromyalgia
	724	Back
	781	Chronic Pain
Psycho	311	Depression
	300.0	Anxiety
	290	Dementia
Respiratory	496	COPD
	493	Asthma
CVS	428	Heart Failure
	427	Arrhythmia
	414	Coronary Artery
	401	Hypertension
	443	Peripheral Vascular Disease
GI	564	Functional GI Disorders
Renal	585	Chronic Renal Failure
OB/GYN	628	Infertility
	626	Menstrual Disorders
	627	Menopausal Disorders
ADDICTIONS	305.1	Smoking Dependency Syndrome
	303	Alcohol Dependency Syndrome

Example 2:

Sample Standardized Problem List (simplified without using ICD9 codes)		
Addiction	Depression	Obesity
ADHD	Diabetes	Obstructive Sleep Apnea
Alcoholism	Down's Syndrome	OCD
Alzheimer's Disease	Eating Disorder	ODD
Amputation	Epilepsy	Other
Anemia	Erectile Dysfunction	Panic Disorder
Aneurysm	GERD	Paralyzed
Angina	Glucose Intolerance	Paraplegia
Anxiety	Gluten Intolerance	Parkinson's Disease
Asthma	Grave's Disease	Personality Disorder
Autism	Hemophilia	Phobia
Bell's Palsy	Hepatitis	PMDD
Bipolar Disorder	Hepatitis B	PMS
Blindness	Hepatitis C	Psychosis
Borderline Personality Disorder	High Blood Pressure	PTSD
Cancer	High Cholesterol	Reactive Attachment Disorder
Celiac Disease	HIV	Schizoaffective
Cerebral Palsy	HPV	Schizophrenia
Chronic Pain	Insomnia	Seasonal Affective Disorder
Cluster B Personality Disorder	Learning Difficulties	Seizure Disorder
COPD	Learning Disability	Sensory Processing Disorder
Crohn's Disease	Major Depressive Disorder	Tourette Syndrome
Dementia	Mood Disorder	

Created by Edmonton Oliver PCN

Appendix C: Lists of scanned document index words/keywords

These examples are from real clinics.

Example 1:

- ALLERGIST
- Appointment
- Appt Confirmation
- CARDIOLOGY
- Care Plan
- Care Plan - Signed
- Chart
- Colonoscopy Report
- Colposcopy Report
- Consult Letter
- CT Scan
- DERMATOLOGY
- Discharge Summary
- Driver's Medical
- ECG Graph
- ECG Report
- ENDOCRINOLOGY
- ENT
- Forms
- GASTRO
- GEN SURGERY
- Total Hysterectomy
- INTERNAL MED
- Lab
- Lab – Provincial
- Mammogram
- MRI
- Neurology
- Neurosurgery
- Notice of Admission
- Notice of Discharge
- OBGYN
- OPD Sheet
- Ophthalmology
- OR Report
- ORTHO
- Pap Report
- Parking Placard
- PEDIATRICS
- PLASTICS
- Pre-op Medical
- Referral
- Report
- Requisition
- RHEUMATOLOGY
- Rx Adaptation
- Rx Refill
- Ultrasound
- UROLOGY
- Vascular
- WCB
- Xray

Example 2:

- Admit
- Air Contrast
- ALT
- Anti-HIV
- Anti-Nuclear (ANA)
- Appointment Notice
- Attending physical statement
- Audiology Report
- Beta HCG
- Biopsy
- Blood Culture
- Blood Type
- Blue Cross Authorization
- Breast Ultrasound
- Body Fluid Culture
- Bone Density
- Bonnyville Cancer Centre
- Bubble Pack Authorization
- C-reactive Protein
- Care Plan
- Care Plan - Signed
- Cat Scan
- CEA
- Cervical Culture
- Chart Notes
- Chart Request Acknowledgement
- Chemistry
- Child Welfare Medical
- Chlamydia
- Claims Management Program
- Colonoscopy Report
- Colposcopy Report
- Consult
- Creatinine
- Critical Care Line
- Cross Cancer
- Cytology Report
- Diabetic Consult
- Discharge Instructions
- Discharge Summary
- Double Contrast
- Driver's Medical
- ECG
- Echocardiogram
- EA screen
- Endoscopy
- Ferritin
- Free testosterone
- Gastrosocopy
- GC Probe
- Gynecological Cytology Report
- HBA1C
- Hematology
- Hepatitis
- Home Care
- Total Hysterectomy
- Imaging
- Influenza
- INR
- Iron and TIBC
- Lipid Testing
- Mammogram
- Medical release and report
- Medications
- Mental Health
- Microbiology
- Millard Health WCB
- MRI
- MRSA
- Newborn Metabolic Screen
- NIHB Drug Exception
- No Show
- Occult Blood
- Oncology Imaging
- OPD
- Operative Report
- Ova & Parasite
- Pap
- Pathologist Comment
- Patient Photo
- Perinatal
- Phenytoin
- Physician Admit Advice
- Pre-op medical
- Prenatal
- PSA
- Psychogeriatric Consult
- RAAPID North Patient Summary
- RAH
- Rapid Plasma Reagin Test
- Release of information
- Rx adaptation
- Rx request
- Serum Protein Elect.
- Slick
- Sputum Culture
- Stool Culture
- Superficial Culture
- Surgical Pathology Report
- Syphilis
- TB Update
- Throat culture
- Tom Baker Cancer Centre
- Troponin
- TSH
- UAH
- Ultra Sound
- Urethral Culture
- Urine Microalbumin
- Vaginosis Screen
- Vital Aire
- VRE
- WCB
- Wound Culture
- X-ray

Appendix D: Calculating Panel and Clinic Confirmation Rates Worksheet

Calculating Panel and Clinic Confirmation Rates Worksheet

Confirmation Rates for Dr. _____

3 Month Confirmation
Number of patients confirmed in last 3 months _____ X 100 = %
 Number of Patients seen in last 3 months

Panel Confirmation
Number of patients confirmed in last 3 years _____ X 100 = %
 Number of Patients seen in last 3 years

Confirmation Rates for Dr. _____

3 Month Confirmation
Number of patients confirmed in last 3 months _____ X 100 = %
 Number of Patients seen in last 3 months

Panel Confirmation
Number of patients confirmed in last 3 years _____ X 100 = %
 Number of Patients seen in last 3 years

Confirmation Rates for Dr. _____

3 Month Confirmation
Number of patients confirmed in last 3 months _____ X 100 = %
 Number of Patients seen in last 3 months

Panel Confirmation
Number of patients confirmed in last 3 years _____ X 100 = %
 Number of Patients seen in last 3 years

Confirmation Rates for Dr. _____

3 Month Confirmation
Number of patients confirmed in last 3 months _____ X 100 = %
 Number of Patients seen in last 3 months

Panel Confirmation
Number of patients confirmed in last 3 years _____ X 100 = %
 Number of Patients seen in last 3 years

Clinic Confirmation Rate (All Physicians)

3 Month Clinic Confirmation
Number of patients verified in last 3 months by all physicians in the clinic _____ X 100 = %
 Number of Patients seen in last 3 months by all physicians in the clinic

Clinic Panel Confirmation
Number of patients verified in last 3 years by all physicians in the clinic _____ X 100 = %
 Number of Patients seen in last 3 years by all physicians in the clinic

Date: _____

* For Panel Confirmation Rates, use 3 years or date since practice opened if less than 3 years)*
 If validating every visit you can pull this weekly or monthly. If validating every 6 months or yearly, then change the 3 month interval to what your interval is.

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Created by Highland PCN