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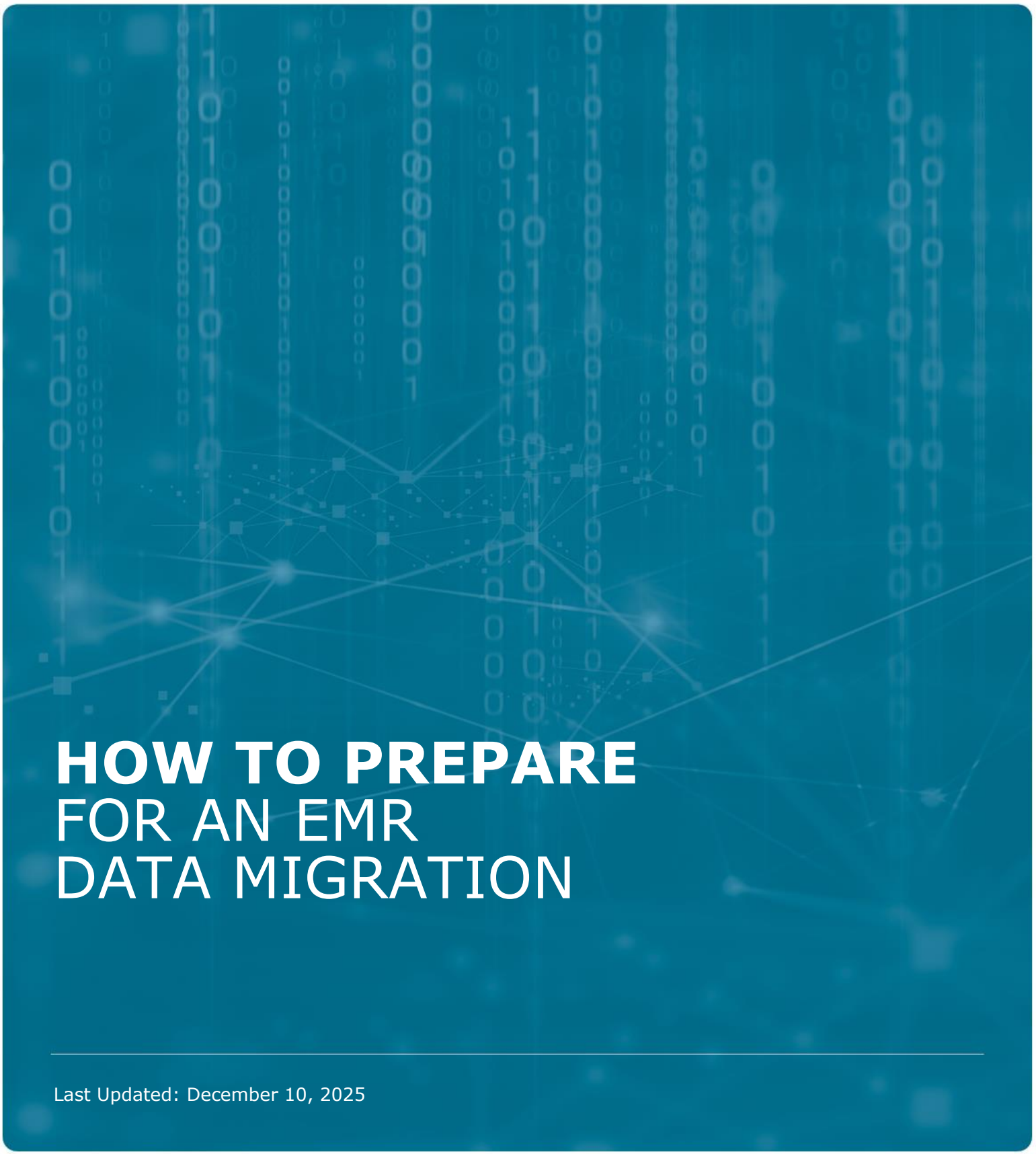

HOW TO PREPARE FOR AN EMR DATA MIGRATION

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Contents

DISCLAIMER

This document provides general guides and approaches only. We strongly recommend that you retain a knowledgeable and qualified professional to regularly assess and maintain your clinic's technology and ensure compliance with your privacy and security policies.

Overview

Switching or merging electronic medical record (EMR) systems can be complex, time consuming and sometimes costly. This guide provides an overview of what a clinical data transfer is, the steps involved, and how to prepare your data and best avoid common issues that may arise during the migration. Clinics will need to work closely with their EMR vendor(s) during this process and should have early conversations with them to set expectations and start documenting a project plan, including costs, timelines, data clean-up, potential impact to operating hours, and post-migration supports. Clinics should fully explore their options and discuss business needs before committing to a migration and ensure any project plans are agreed upon and documented.

As you embark on this project, we recommend taking some time to review your Data Sharing Agreement and make sure it's up to date.

Doctors Technology Office (DTO) and the Practice Support Program (PSP) are available to support family doctors as they migrate or merge their EMR data to a new platform. Physicians can benefit from tailored advisory sessions and at-the-elbow coaching supports to help understand the transition process and to prepare panels for smoother data transfer. Contact dtoinfo@doctorsofbc.ca to learn more about these support services.

Types of Data Migration or Data Merger Projects

The terms ‘data migration’ and ‘data merger’ can sometimes be used interchangeably. However, for the purposes of this guide, we’ll consider them to be unique, distinct project types.

Data Migration

At its core, a data migration is moving data from one database to another.

The most common scenario is when a clinic moves from one EMR vendor to another, but data migrations also occur when a physician stays with the same vendor but moves the data to a new database (e.g. when a physician joins a new clinic and needs to transfer their data).

Data Merger

A Data Merger is a variant type of data migration that involves taking two or more EMR databases and combining them into one database on the same EMR platform, while still maintaining their own physical locations. This type of project is becoming more common as clinics within the same community work towards creating unified charts for their patients. These projects are more complex

than a data migration project. With these types of projects, there is usually more care needed to align the workflows between the clinics prior to the merge as well as some work needed to compare data types and ensure they are aligned as much as possible. Your EMR vendor and/or the DTO can work with you to identify what can be aligned.

The **Source EMR** refers your existing EMR or database. It's from this database that your data will be extracted.

The Target EMR refers to your new EMR or database. Your data will be migrated to this database.

Data Split

This is also a variant data migration project type and is done when a physician, or a subset of physicians at a clinic, leave to start their own practice and would like a copy of their patient data. A copy of the clinic's current database is made and used to start a new database at the new clinic. Any patients not belonging to the departing physicians are removed from the new database while the original database typically remains fully intact.

Patient transfer

This is when only one or a small number of patient records need to be transferred. For example, when a patient changes their family physician and their new physician needs a copy of the patient record.

Types of Data Exports

An export is a copy of the data that will be imported into the new EMR database. A **Rich Data Clinical Export** is most often used and recommended when performing a clinical data migration or data merger, but there are other types of extracts that may also be used and serve different purposes.

The **data export** is a copy of the data from the Source EMR that will be used to migrate into the Target. Your source EMR will run a process to copy the data into files, which can then be sent to your Target EMR. The format of the files will vary by EMR vendor.

Patient Demographics

This type of data transfer focuses solely on the transfer of patient demographics such as name, phone number, address, PHN, etc.

This type of transfer is most common in practices that are moving from paper charts to electronic but have already been using a billing system. For this type of transfer, there is a data portability standard that is widely used throughout British Columbia called the MSVA 3.0 format and was created by the Medical Software Vendors Association.

PDF Export

A PDF Export is an export of a patient's entire chart in PDF format. Depending on the vendor, this might be one file per patient containing all the information or separated into multiple documents based on the type of information. For example, one file containing the patients' demographics and all chart notes, plus separate files for the lab results, documents, etc. PDF exports are also used for single patient transfers. A limitation of this type of export is that it is not possible to pull information from the PDF and place it into discrete fields in your new EMR. This can make searching for information on a patient time consuming.

Most commonly, this is used when a physician is retiring, or a clinic is closing. These files can then be provided to a company that specializes in document retention, such as MedRecords.

This type of export is also sometimes used when the vendor you are moving to is unable to process the type of rich data extract file that the other vendor provides.

Rich clinical data export

A Rich Clinical Data Export is an extract of the clinical data as discrete data, allowing it to be imported into another EMR into the corresponding fields. This type of data export is the most common type and is what will discussed throughout the remainder of this guide.

Phases of a Data Migration Project

The length of a data migration project will vary depending on many factors, but in general, you can expect it to take an average of three months from start to finish. Your EMR vendor(s) will be able to provide you with a more accurate estimate of how long your specific project will take. The Doctors Technology Office is available to provide you with guidance and an overview of this process, and the Practice Support Program can assist you with hands-on support where applicable.

To help explain the data migration process, let's break down the project into 3 main phases, the duration of each will depend on your vendor:

- Pre-implementation/requirements gathering
- Testing
- Data Migration

Phase 1: Pre-Implementation

During this phase, you will work with the EMR vendor(s) to set your expectations and work on preparing the data for export.

Designate a Lead

One of the biggest factors in the success of a data transfer project is engagement. You will need to work with your vendor(s) to understand how the data will look in the new system and how best to prepare your data beforehand. As each EMR is different, not all data can be processed the same. As a lead in this project, engaging early in the process with your EMR vendor, asking questions, and doing the necessary prep work will help ensure that there are no surprises and your data is fully transferred to the new EMR. You should plan to have regular contact with your EMR vendor(s) through this process, this includes regular meetings and email correspondences.

- Clinical Lead – Designate at the clinic who is familiar with the clinical data and is authorized to make decisions for the transfer.
- Administrative Lead – Designate at the clinic who is familiar with the administrative data and is authorized to make decisions for the transfer. The administrative data would include billing, appointments, etc.

Preparing your data

When preparing for a data migration, it is important to clean your data as best as possible before it is extracted. ***Good data out means good data in***. This is important to reduce the possibility of errors during the transfer, as well as reduce the amount of clean up that might be required once the transfer is complete. This doesn't ensure that the data transfer will be perfect or that clean up won't be needed once the migration is complete. However, it should make the process go smoother and require less work to clean the data post-migration. We recommend that you reach out to the Practice Support Program at psp@doctorsofbc.ca as they have dedicated teams that can help you with your panel.

This section will help identify areas that might need to be cleaned prior to the data transfer.

Choosing charts to transfer

The first step is to determine which patient charts will be transferred. Typically, this is based on the *Most Responsible Physician* or similar field within the EMR. All the patients associated with that physician will need to be included in the transfer. If the entire clinic is moving to a new EMR, it likely makes sense to transfer all the charts. If only one physician or a subset of physicians are leaving, then it will be important to make sure that all the patients in the database are correctly associated to their *Most Responsible Physician.*

Key questions to ask your EMR vendor:

- Do all the patients need to be transferred?
- If only a subset of patients are to be exported, how are those patients identified?
  - Is it using Most Responsible Physician? And if so, how? E.g., MRP field, or a specific interaction by the physician on the patient chart, such as an encounter note
  - Is there an alternative data field or approach that can be used?
  - Can I limit the subset of patients using the patient status field? (Active, Inactive, Deceased, Transferred)

Work with your vendor or the Practice Support Program to generate a report that you can review to ensure that the list of patients to be exported is correct. Using this report will allow you to update your source EMR and to identify whether patients need to be re-assigned in advance of your data migration.

Common Issues

With data migrations/mergers, there are common issues that arise, mainly due to differences between the EMR systems and how data is entered and managed. It is important to be aware of the following issues so you can discuss them with your vendor and create a plan to mitigate the impact whenever possible. Common issues and recommended solutions are outlined below.

DISEASE CODING

EMRs use codes to identify data and one of the most common sets of codes that you interact with are disease codes. Most EMRs use ICD-9 codes for disease coding. Even when using the same coding system, however, issues can still occur during a data transfer.

The example below illustrates a situation where the target and source databases use the same code for diabetes but use different descriptions.

SYSTEM	CODE	DESCRIPTION
Source	250	Diabetes
Target	250	Diabetes Mellitus

When transferred, if the target EMR matches diseases with the code and the description, the target EMR may not detect that these codes are the same. Each code needs to be unique, so you can't have two codes that are the same but with different descriptions.

One solution your EMR vendor might take in this situation is to create a new code on import called "DIAB":

EXISTING CODE IN TARGET	250	DIABETES MELLITUS
New code created in Target	DIAB	Diabetes

Upon import, the data from the Source that has the code "250" will be converted to "DIAB". There are both pros and cons to this approach.

PROS	CONS:
If both codes mean something different, you have preserved the meaning and have not compromised the existing data.	Now there are two codes with data associated that mean the same thing but are not related. If you wanted to find all your diabetic patients, you need to make sure you do a search to include the additional code.

What can be done to correct this?

1. After the transfer is complete, go through a process to merge the codes.
2. Before the transfer, identify all the codes that might produce this issue. Export a list of the codes from the Target and the Source and compare, and/or export a list of the codes from the test run.
   - If the issue is detected before the transfer, the clinics can work on cleaning up their data to make sure their codes match where appropriate.

FORMS ISSUES

If you're migrating from one EMR vendor to the same EMR vendor, the forms might transfer depending on the capabilities of the vendor. We recommend that you speak with your EMR vendor to find out if forms can be migrated. An example of these forms would be the WCB F8/11 or Prenatal Forms.

If you're migrating to a different EMR, the forms themselves won't migrate but the content of those forms should still migrate, possibly as a PDF or text in an encounter note. This will depend on how your Source EMR exports the data and how your Target EMR can interpret it.

We recommend speaking with your EMR vendors to find out how your forms and related data will look once migrated over.

DUPLICATE PATIENTS RECORDS ISSUES

The issue of duplicate patients can be complex. This could either refer to having multiple charts for the same patient in your Source EMR, or a patient chart already existing in the Target EMR (e.g. when a physician moves to a clinic with an existing EMR).

Duplicate Patients Records Issues Solution

Prior to having your data extracted, it is recommended that you spend some time reviewing your patient panel to see if there are any duplicate charts in the Source EMR and then merging them before the extract.

Key questions to ask your EMR vendor:

- How are duplicate patients handled in the Target system?
- How does the Target system determine which patient charts are duplicates?
- Does the Target system automatically merge the duplicates during the migration?
- If the patient charts aren't merged in the Source database, will this have a negative impact on the transfer?

If you are moving your data to a database that already has patient data in it, you will need to manually merge the duplicate files if the EMR you are moving to does not automatically do this during the data import. There are also cases when you may still need to manually merge some charts together even if your new EMR supports automatic merging during import. Your EMR vendor will be able to let you know how best to handle these.

BILLING ISSUES

The transfer of billing data might not be possible as part of the data migration. Due to the intricate nature of billing data, and the potential impact if the information is incorrectly migrated, billing data is rarely transferred with the same statuses as they are in your Source EMR. In some cases, no billing data is transferred. Most commonly, if the data is transferred, it is done so as a Historical Record. This means you will see a claim in your new EMR for anything you have previously submitted, but they will all be marked as paid/reconciled and be set at $0. This information would only be used for reference and depending on your vendor, you might see the details on the original claim contained within the notes field.

Key questions to ask your EMR vendor:

- Is billing data included in the transfer?
- If yes, what billing data will be transferred? Confirm whether it will include:
  - Full billing history including financial amounts and reconciled status
  - Historical Record that includes all the claims, but marked as $0 with a reconciled status, regardless of status in the Source database
    - Will the claim contain service code, billed amount, paid amount, and/or diagnostic code?
    - Is there an ability to search with these Historical Records?

If the full billing history is not available in your migration, we recommend printing off any financial reports that you may need. These would include year-end, incentive billing, or accounts receivable reports. Your EMR vendor or the Practice Support Program can assist you with this.

SUBMITTING TO MSP

Any unsubmitted claims will not be transferred into your new EMR. It'll be important to decide whether you would like to submit the claims to Teleplan in your Source EMR and manage the reconciliation there, or if you would like to re-enter the claims in your Target EMR and then submit.

You may be required to use two systems for billing until your old claims have been reconciled. Work with your vendor to decide what the best course of action will be.

Note that it can take over 90 days to reconcile any claims with Teleplan, therefore you may need to keep your Source EMR running during this time to properly reconcile. If you proceed with this, ensure you speak to your Source vendor regarding any associated costs in order to keep your old system active during this time.

APPOINTMENTS

You will need to work with your EMR vendor(s) to understand whether appointments will be part of the migration.

Key questions to ask your EMR vendor:

- Will historical and future appointments be transferred?
- What is the recommendation for handling appointments during the transition period?
- Will my appointment types transfer?

If the appointments are not part of the migration, it's important that you work with your EMR vendor to plan on how you will handle them in the new EMR.

You'll also need to consider how you will handle appointments during any downtime when the data is being migrated. If you are planning to work during the downtime, it will be important to come up with a plan for what to do with your appointments. A good first step would be to print off day sheets for those days, but we encourage you to work with your vendor and PSP coach to fully explore your options.

TEMPLATES

If you're transferring to a database that is same vendor as your Source EMR, you might be able to keep your templates. We recommend taking an inventory of all the templates you would like to keep and compare those with the templates available in the target database. If there are similar templates already available, it might make sense to modify the existing template rather than transferring a similar template. We recommend consulting with your EMR vendor to see what can be transferred and which templates to retain.

If you're migrating to an EMR that is a different vendor than your Source EMR, unfortunately templates cannot be transferred. In this case, we recommend creating an inventory of all your templates so that they can more easily be re-created in your new EMR if needed.

MEDICATIONS

An area to keep an eye on is the migration of the Medications information. Medications can be difficult to migrate, especially because they need to correctly match to your new EMR's medications formulary. Work with your EMR vendor to find out how these will migrate into your new EMR and come up with a strategy to fix any imperfect matches.

In many cases, we've seen that the medications will be migrated but because they don't match to an item in the formulary, the EMR won't support the ability to quickly re-order them. Often the first time you try to refill a prescription for a patient, you will be asked to match it to the correct medication in the formulary. Once it's been matched, however, you won't need to do so again for that patient. Another common issue with Medication is related to the status of the medications not displaying properly, some may show that there are no active medications, or display that all medications are active.

AUDIT LOG AND VERSIONING

The Audit Log (also called Audit Trail) is a record of any activities that occurred within the EMR. These logs include what activity was performed, by whom (user login), and when (timestamp). Currently, auditing and version information is not something that is included in a data transfer. Additionally, only the most recent version of a record is transferred, and all previous versions are left behind.

We encourage you to work with your source EMR vendor to see if there is an alternative way to capture the previous versions as well as to see if it's possible to keep a report of the audit log. They may have a way to provide you with a copy of the audit log. Additionally, it might be possible that the previous versions of the encounter notes could be included in a separate PDF export.

Additional EMR Resources

In addition to the considerations above, work with your vendor to see what resources are offered in your new system, what can be transferred, and what you will need to add yourself. Come up with a plan on how you will get these into your new system.

Create an inventory of the items below and discuss with your vendor:

List of all the forms you use

List of all the macros, typing templates, etc.

List of all the patient handouts, resources, etc.

List of all the requisitions you use

Phase 2: Testing & Data Validation

The data validation phase is often the most important phase of the migration process. During this phase, your EMR vendor will run a test of the migration/merger and present the results for your approval. This is your opportunity to review how the data looks in your new EMR and to identify if there are any deficiencies. If there are any issues, it should be identified and resolved *during* this phase, as fixes can be difficult or not possible once the final migration/merger has been performed.

Your vendor will schedule a meeting with you to review the test data. It is important to schedule enough time for this validation and to minimize any distractions. You can expect that the initial validation session will last approximately 2 hours.

TIP

A second monitor can be helpful as you can have your Source EMR on one screen, with the presentation from the EMR vendor on the other, allowing you to more easily compare the data.

You'll need:
A quiet space

A computer that can access your Source EMR

A phone, preferably with speaker capability (or headset if you are by yourself)

A second monitor (optional)*

Attending the validation should be the Clinical Lead on the project. If possible, the Administrative Lead should also attend to provide feedback.

You should be prepared for the validation with a list of at least 10 patients that you would like to review. These should be patients that have complex and complete charts and should encompass all the types of clinical work that you do. For example, don't choose 10 complex care patients if you see an even mix of complex care, WorkSafe, maternity, etc.

What pieces of information to look for:

Review patient demographics

Review financials (if this has been migrated)

Review the patient charts and ensure the following are complete:

- Encounter notes
- Personal history (family history, smoking status, etc.)
- Medications
- Documents
- Tasks
- Recalls
- Lab results

In addition, we recommend that you ask your EMR vendor(s) to provide the following reports:

Count of patients in the Source Database

Count of patients in the Target Database prior to import

Count of patients in the export

Count of patients in the Target Database after import

Count of duplicate patients

Count of patients that were duplicated during the import

You can ask your EMR vendor to provide these reports to you before or after your validation session. The purpose of this is to ensure that the correct number of patients were imported into the Target database and that no patients were lost or accidentally merged with the wrong patient. You should also request a list of all the patients that were merged.

Following the session with your EMR vendor, they may also provide you access to the test environment to continue with self-directed validation. Take advantage of this time as it is easier to resolve an issue before the transfer than to fix it afterwards.

If any deficiencies are found, the EMR vendor may need to come up with a fix and perform the test again. It's not unusual for there to be multiple test migrations/merger review cycles to ensure everything is correct before the final migration/merger.

Phase 3: Data Migration

With testing complete, the EMR vendor(s) will work with you to schedule the final data migration. They will use your target go-live date and estimated time required to extract/import the data to determine when the migration should begin. Once the date has been selected, they will work with you on identifying all the steps that will need to be completed and timing.

Once the data has been extracted from the source EMR, there will be a gap before this can be migrated into the target database. During this time, the clinic will not have access to their new system (target database) and anything that is entered into the old system (source database) won't be captured in the transfer.

Your EMR vendor will work with you to try and minimize your EMR downtime and ensure the least impact to your operations. Depending on how long your migration is estimated to take, you might be required to print/scan modified charts or chart on paper for entry following completion of the final migration of data.

Working on "Paper" during final migration

Depending on how long it will take your vendor to perform the migration and when it occurs, you might need to temporarily work without an EMR. It's during this time that the clinic will be on "paper". Your vendor will usually try to reduce the impact of this as much as possible by potentially performing the migration over the weekend or having the clinic close early. This plan depends on the amount of time needed to perform the migration and the typical hours of operation for the clinic.

If the clinic would like to work during the migration, here are some things you can do:

Print schedules for each physician for each day they are expecting to not have access to their EMR

Physicians can chart on paper and then have them scanned into the new EMR after go-live

Alternatively, physicians can write chart notes in their old EMR and then copy/paste them into the new EMR after go-live. If they do this, they should make sure they only record notes in charts on patients that had a scheduled appointment or make special note of each patient where they added information to ensure that none of the information is missed.

Governance/Data Sharing Agreement

If merging data between multiple EMRs or migrating data to a shared EMR, a data sharing agreement should be established prior to performing the migration. If you are working at a clinic with multiple physicians, but don't currently have a data sharing agreement in place, take the time to create one now. In all situations where a physician is creating medical records in a group or shared medical record environment, the College of Physicians and Surgeons of BC requires a data sharing agreement to be established.

More information from the College can be found here:

https://www.cpsbc.ca/files/pdf/PSG-Medical-Records.pdf

The Canadian Medical Protective Association (CMPA) has created an Electronic Records Handbook with sample provisions that can be used when creating your data sharing agreement. These provisions can be found in *Appendix D* of the linked document:

https://www.cmpa-acpm.ca/static-assets/pdf/advice-and-publications/handbooks/com_electronic_records_handbook-e.pdf

Conclusion

This guide was designed to help clinics better understand the process of a data migration/merger project and the work involved, answer commonly asked questions, outline the practical steps clinics can follow, and help to anticipate and mitigate common issues.

In addition to this guide, the Doctors Technology Office and Practice Support Program are here to guide you through this process and answer any questions you may have.