

PABC EMR Toolkit

Implementing electronic medical records in private
practice physiotherapy settings



Canadian
Physiotherapy
Association



PHYSIOTHERAPY
ASSOCIATION OF
BRITISH COLUMBIA



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Table of Contents

ABOUT THE PABC EMR TOOLKIT	4
PURPOSE OF THE EMR TOOLKIT	4
INTRODUCTION	5
HOW TO USE THE EMR TOOLKIT	6
ABOUT ELECTRONIC MEDICAL RECORDS	7
WHAT ARE EMRS?	7
WHY USE EMRS?	8
THE “MEANINGFUL USE” MODEL AND THE PROGRESSIVE VALUE OF EMRS	9
EMR CHALLENGES	11
WHY IS PABC INTERESTED IN EMRS RIGHT NOW?.....	12
2015 PABC EMR SURVEY – KEY RESULTS	13
GETTING STARTED	16
AT A GLANCE:	16
ASSESS YOUR NEEDS	17
CONDUCTING A READINESS ASSESSMENT	20
SETTING GOALS AND PRIORITIES FOR EMR IMPLEMENTATION	21
SETTING A BUDGET	22
TOWARDS A TECHNOLOGY ENABLED PRACTICE	25
CHOOSING AN EMR SYSTEM.....	26
AT A GLANCE:	26
THE HISTORY OF PHYSIOTHERAPY EMR IN BC	27
PHYSIOTHERAPY EMR VENDOR SYSTEMS	28
VENDOR PROFILE CHARTS	29
DEVELOP A VENDOR ANALYSIS QUESTIONNAIRE FOR YOURSELF	30
EVALUATING EMR VENDORS AND EMR SYSTEMS.....	30
DEVELOPING A CONTRACT WITH YOUR VENDOR	31
PREPARING YOUR CLINIC	32
AT A GLANCE:.....	32
FINALIZE YOUR HARDWARE CHOICES	33
UPDATE YOUR POLICIES AND PROCEDURES	34
CONSIDER THE EMR CHANGE THE PRACTICE’S WORKFLOW.....	35
STAFF TRAINING	36
DECIDE ON A GO-LIVE STRATEGY	37
DEVELOP THE PLAN	38
IMPLEMENTATION	39
AT A GLANCE:.....	39
INTRODUCTION	40
EMR SYSTEM INSTALLATION AND TRAINING.....	40
DATA CONVERSION	40
ACCEPTANCE TESTING	41
GO LIVE!	41
USER GUIDES AND HELP SYSTEMS.....	41
ACCESSING SUPPORT SERVICES	41
DATA ENTRY, QUALITY AND REPORTING – IMPLEMENTING BEST PRACTICES	42
MAINTENANCE AND OPTIMIZATION	43

PABC EMR Toolkit



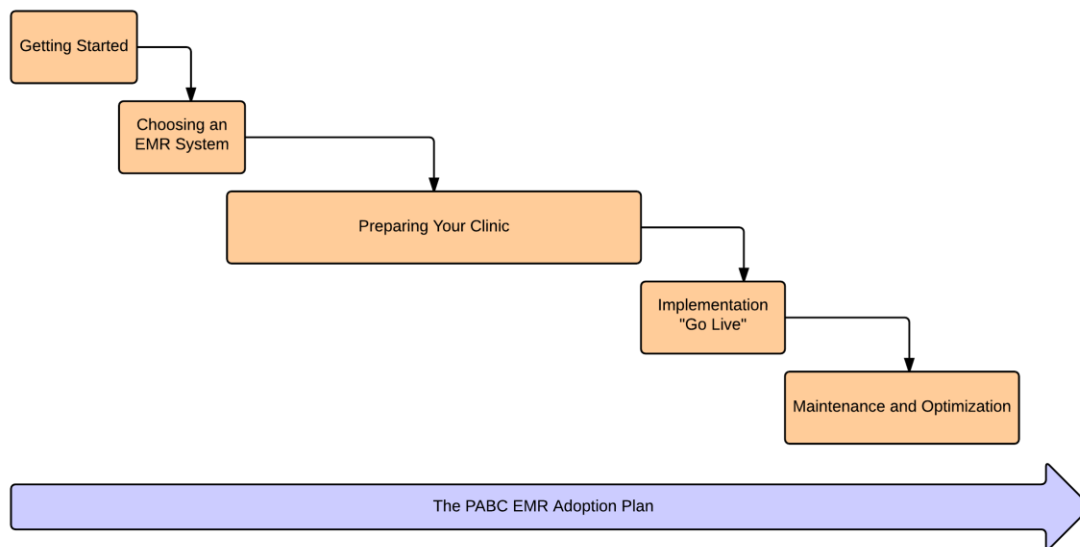
AT A GLANCE:.....	43
MAINTAINING YOUR EMR	44
OPTIMIZATION - MAKING A CAR, NOT JUST AN ENGINE.....	44
CONTINUOUS IMPROVEMENT.....	44
MANAGING CHANGE.....	45
AT A GLANCE:.....	45
BUILD AND MAINTAIN A “TEAM”	46
RECRUIT CHAMPIONS.....	46
HAVE A LEADER	46
INTRODUCE AND COMMUNICATE THE CHANGE	47
AIM FOR “QUICK WINS”	47
MANAGE RESISTANCE TO CHANGE	47
BEWARE: PITFALLS TO AVOID.....	48
VENDOR LOCK-IN AND DATA TRAPS	48
NOT MANAGING CHANGE WELL	48
UNREALISTIC EXPECTATIONS	48
NOT THINKING OF THE FUTURE	48
SUCCESS STORIES	49
PIONEERING OPEN SOURCE SOFTWARE FOR PHYSIOTHERAPY: EDDY BETINOL AT THE JOINT PHYSIOTHERAPY IN COURTENAY	49
THE BENEFITS OF EMR FOR MOBILE PHYSIOTHERAPY: KIM HALL OF PHYSIO2U	49
BEING AN EARLY ADOPTER OF EMR IN A TRADITIONAL PHYSIOTHERAPY CLINIC SETTING: STEVE WONG OF TRELOAR PHYSIOTHERAPY – KERRISDALE.....	49
APPENDIX: REFERENCES AND ACKNOWLEDGEMENTS.....	50
REFERENCES	50
ACKNOWLEDGEMENTS.....	50

About the PABC EMR Toolkit

Purpose of the EMR Toolkit

This toolkit is provided by the Physiotherapy Association of British Columbia to support private practice physiotherapy clinics seeking to implement Electronic Medical Records (EMRs). It offers information to guide physiotherapists through the EMR adoption process from idea to optimization. While a well-planned and executed EMR offers many benefits, the process has proven to be a challenging endeavor due to the uniqueness of each contextual application. By using the toolkit, clinics make use of the lessons of the physician experience in EMR adoption, best practices in the literature, as well the advice and experience of early adopters in the physiotherapy profession.

The toolkit is organized in the following sections to reflect the process of an EMR adoption:



The PABC EMR Toolkit contains:

- Best practices and planning information
- Practical tools and templates; and
- Success stories of physiotherapists employing EMR in their clinics

The Physiotherapy Association of BC makes no representations or guarantees of any kind whatsoever regarding the content or use or application of the PABC EMR Toolkit and specifically disclaims any responsibility for its application or use in any way. The information in the PABC EMR Toolkit, including but not limited to articles, opinions, views, graphics and images is provided for informational purposes only. It is not intended to provide medical or legal advice whatsoever and should not be relied upon in that respect. References in The PABC EMR Toolkit to the goods or services of a third party or to the opinions or experiences of a third party are not endorsements or approval of such goods, services, opinions or experiences by PABC.

Introduction

Kashyap states, "Implementing an EMR is probably the most difficult, significant, and potentially beneficial change a practice can make"¹. While he was speaking of physician community practices, both the challenges and the potential benefits EMR brings apply to private practice physiotherapy clinics as well.

The experience of other health care disciplines has shown that implementing an EMR is a bit like fishing. Any rookie can grab a pole, line and a lure and throw it in the water. But if instead he heeds the advice of the experienced – where to cast his line, what lure to use, what time of day to fish – he is far more likely to catch the fish he prizes with much less wasted time and effort. Similarly, you can go buy an EMR system and a laptop this afternoon, but you might end up wasting a lot of time and money and never end up with the slick system you thought you would get.

PABC wants you to “go fishing”, but wants to help you in your venture with this toolkit as a guide. The benefits of EMR are well worth the investment. A well-planned and implemented system does improve the efficiency of your clinic and the quality of care you can provide to your patients. EMR also positions your clinic and the profession well for the eHealth initiatives that are taking place both provincially and nationally.

As there is little in the way of private practice physiotherapy literature, the content of this kit is based on the physician experience and general EMR best practices contextualized into the private practice physiotherapy environment. Effort has been made to include information that is most relevant based on the results of the PABC EMR Survey of 2015.

How to use the EMR Toolkit

At first glance, the extent of the material in this document may look daunting for the average physiotherapy practice owner/manager. That is certainly expected as the process of an EMR adoption takes more effort than most expect. Additionally, the toolkit is designed to direct large as well as small clinics. Managing change is much more difficult in larger organizations, and therefore requires more tools and planning.

The best way to work through the toolkit is from start to finish, using the tools that you feel apply to your size of clinic. You could skip straight to the “Selecting your Vendor” section as this is the item most forefront in the mind of most. However, minimizing the planning stage for an EMR can result in much wasted time and money down the road. Having a clear expectation of what the EMR can provide, how it changes your clinic’s workflow, and what challenges are common to the experience paves the way for a successful EMR adoption.

It is important to recognize that this toolkit is not a recipe, it is a guide. There are far too many contextual variables for one EMR configuration to work for every clinic. By planning well, however, EMRs have proven to be a powerful tool to improve both the efficiency and quality of health care delivery.

About Electronic Medical Records

What are EMRs?

Electronic Medical Records, or “EMRs” are computer-based medical records used to manage patient information and care. Although some use the terms Electronic Medical Record and Electronic Health Record (EHR) interchangeably, the terms have distinct definitions in Canada. Canada Health Infoway (CHI), the organization largely involved in promoting EMR adoption by health professionals, defines EMR as the ‘computer-based patient record used in the ambulatory or community setting’. CHI defines the EHR as the ‘secure and private lifetime record of each Canadian’s key health history and care within the health system’. This toolkit is focused on EMRs, particularly for physiotherapy practice.

When implemented and used correctly, EMRs are a powerful tool to enhance office efficiency. Records can be searched and found quickly, legibility improved, reports generated automatically, physical storage needs reduced, data analyzed, and much, much more. Information is entered once and yet used in multiple ways.

But EMRs are only partially about operating more efficiently. They are also (if not more importantly) about the quality of care physiotherapy can provide. Many of the efficiencies above also produce improved quality of care. Additionally, the future holds promise for the benefits of interoperability between physiotherapy clinics and other components of the medical system such as physicians’ offices and hospitals for eReferrals, eReporting, immediate access to diagnostic images, and enhanced inter-professional communication. There is potential for knowledge translation projects to be connected to optimized EMRs so that the most recent treatment evidence is connected to the patient record and diagnosis. As data is collected it can be analyzed and more easily gathered from across the nation for research and outcome measure evaluation. Once data is entered into electronic format, possibilities abound.

Why Use EMRs?

The benefits of successful EMRs are wide-ranging. Industries typically adopt electronic systems for purposes of efficiency. This is also true of health care. But EMR benefits only begin with efficiency. Physiotherapy clinics could expect the following benefits with a well-implemented EMR:

Enhance Revenue and Increase Productivity:

- Reduce chart pulling, filing and searching
- Reduce chart storage costs
- Free up office space that's no longer needed to store piles of paper charts
- Free up front office-staff time to allow the practice to encourage more proactive interaction with patients
- Reduce chart materials costs
- Save time with computerized record searches
- Simplify and optimize billing
- Reduce lost billing opportunities
- Improve efficiency of claim submission
- Reduce manual labour with auto and form-filling
- Generate end-of-day reports directly from the EMR system
- Add imaging results directly into the patient's medical record (future).

Legibility and Continuity:

- Avoid mistakes caused by illegible handwriting
- Help colleagues to easily access patient information while covering your vacations and absences
- Attract locums or associates to your organized, modern practice

Flexible Work Environment:

- Access charts from anywhere at any time
- Streamline inter-office communications
- Improved Privacy and Security of Personal Information
- Allow only authorized users to log in securely to prevent unauthorized access to information
- Track and audit user access with automated logs and processes

Improve Health Outcomes for Your Patients:

- Use advanced tools to deliver more evidence-based care through integration of PABC knowledge translation into EMR system (future)
- Maintain more complete, consistent and legible records that you can access efficiently, logically and reliably
- Access diagnostic results from other components of the health system quickly and easily (future)
- Graph progress, outcome measures, and trends
- Generate reminders to better support you and your staff
- Aggregate reports to better understand your patient population
- Make administrative tasks more efficient (e.g. appointments, referrals and recording information from phone calls)

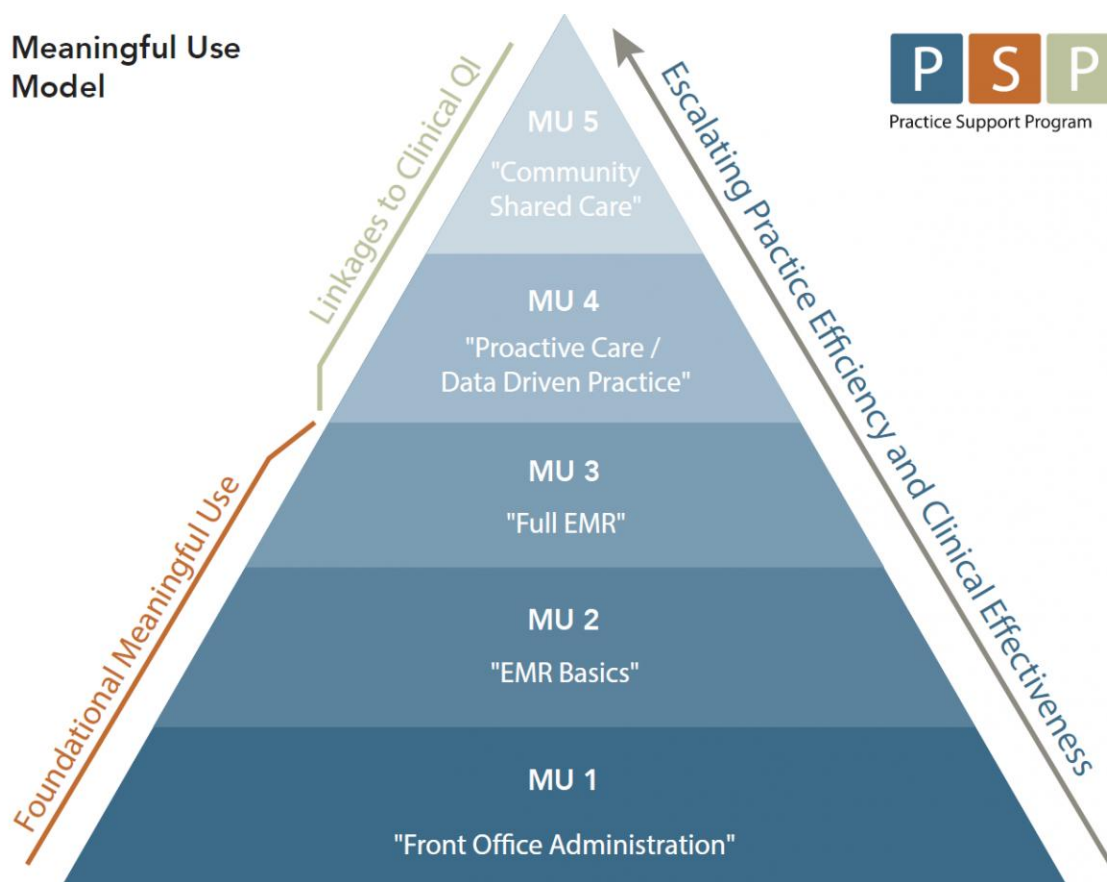
Strengthen Patient Safety:

- Minimize the risk of missing or forgetting important details
- Alerts for contra-indications to treatments
- Improve hand-offs between physiotherapists and minimize mistakes due to illegibility.

The “Meaningful Use” Model and the Progressive Value of EMRs

It is important to understand that implementing EMRs is not a “one-and-done” activity. While all the benefits of EMRs are potentially available, the benefits tend to accrue in stages. Many vendors produce systems for recording medical information electronically. Some of these are of greater use to the care of patients than others. Systems that are able to efficiently collect data and analyze it to the betterment of health outcomes are most ‘useful’. “Meaningful Use” is a concept that has been developed to help explain how increasing levels of EMR usage result in increasing levels of value. It refers to how much “usefulness” an EMR has. Increasing practice efficiency, clinical effectiveness and quality of care occur as practices progress to higher levels of EMR use.

While the Meaningful Use model was originally created for physician and hospital practices, the concept in large part transfers to private practice physiotherapy clinics. A description of each MU level is noted below the model. The PABC EMR Toolkit is designed to take clinics to MU3 with an eye to the future levels of data driven practice (MU4) and interoperability (MU5).



Model graphic used with permission from the Doctors of BC

The increasing levels of Meaningful Use (MU) describe increasing levels of EMR maturity:

MU1

MU1 describes the state many physiotherapy offices are in currently, with booking and billing practices having converted to electronic systems for purposes of efficiency.

MU2

MU2 describes the state in which a clinic is beginning to use some aspects of EMR for their day-to-day practice. Perhaps they type their charts and insert them into a paper chart. There is some technology enablement in the practice through a mix of paper and electronic methods.

MU3

MU3 on the model describes full EMR. This is the point where all patient data is collected in electronic form. Achieving level 3 sets the stage for gains in patient care and system efficiency.

MU4 and MU5 (Future)

MU4 and MU5 represent an EMR system that is increasingly valuable and is the goal of most health systems' EMR plans. Optimization of systems allows integration of best practices directly with the patient record (a concept known as Clinical Decision Support). Interoperability allows authorized health professionals to view the records of encounters and tests within various components of the health system in real-time. The data collected is increasingly valuable over time as it begins to drive practice and research.

EMR Challenges

Despite all the promises of benefits from EMR use, there is a good reason why few clinics have converted and why physicians only converted to EMR when provided with financial incentive to do so. Boonstra states the process of EMR adoption is “complex on a number of levels: administratively, financially, culturally, legislatively, technologically, and environmentally”².

Starting a new clinic with an EMR is not as challenging as converting an existing paper based clinic. The latter requires more careful thought and planning. Some potential difficulties that are reflected in the literature and echoed in the PABC EMR survey of 2015 are:

- The financial cost of new computers, network infrastructure, and software procurement and training.
- The decision as to which vendor system best matches both the current and future needs of the clinic.
- The logistics of charting with a computer in a physiotherapy practice.
- The temporary loss of staff productivity, and/or income while they become familiar with the new system.
- The fear of change, and fear of the “obsolescence” – some staff will not feel comfortable being asked to work in a different way.
- The conversion of existing hardcopy records.
- Uncertainty over how to manage the project.
- A lack of time to research and undertake the project.
- Privacy and security concerns.

The PABC Toolkit is designed to help give clinics a roadmap through these potential challenges.

Why Is PABC Interested in EMRs Right Now?

Electronic medical records are part of a greater trend towards eHealth in society. From a global perspective, medicine in Canada has been slow to incorporate technology into its fabric for a variety of reasons. European countries, by contrast, have been using EMR for years.

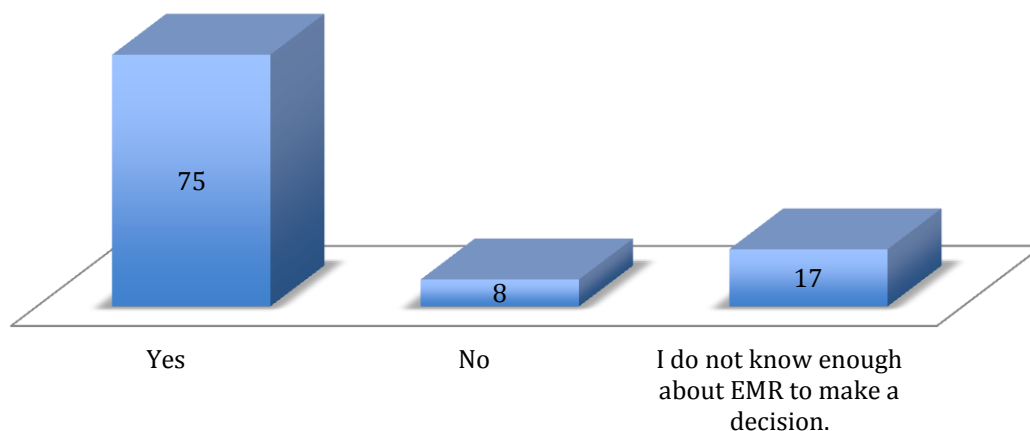
But why is it important to physiotherapy in BC right now? A number of factors are converging to drive the need for physiotherapy to begin to transition to EMR, the most important being:

1. Dramatically increased physician EMR Adoption in the last three years
2. Statutory changes that increase chart retention requirements to 16 or more years
3. Improved software and hardware technology making EMR in physiotherapy more logistically and financially feasible
4. The explosion of ehealth applications that can potentially improve patient care and be incorporated into the patient chart
5. The potential for “clinical decision support”, or integrating knowledge translation projects of the association (e.g. Lateral Epicondylitis Toolkit) directly into EMR systems
6. The potential for “interoperability”, or communicating with other components of the healthcare system
7. The potential for collecting, analyzing and making use of the masses of data that would otherwise be locked up in paper charts

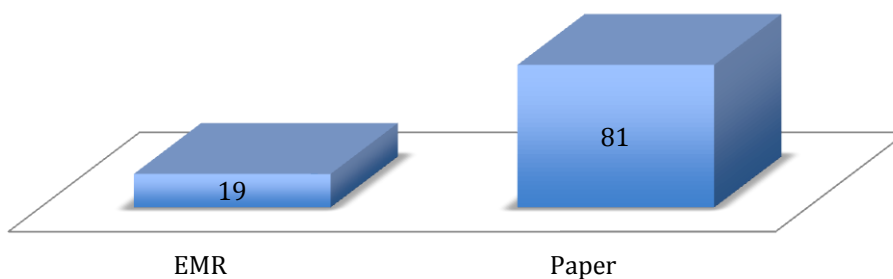
2015 PABC EMR Survey – Key Results

The PABC EMR Survey of 2015 was met with excellent response. 461 of approximately 2200 members took part in the survey (21%). We received many excellent comments from both private and public practice members, particularly those who have experienced EMR systems. The key findings of our sample are shown diagrammatically below.

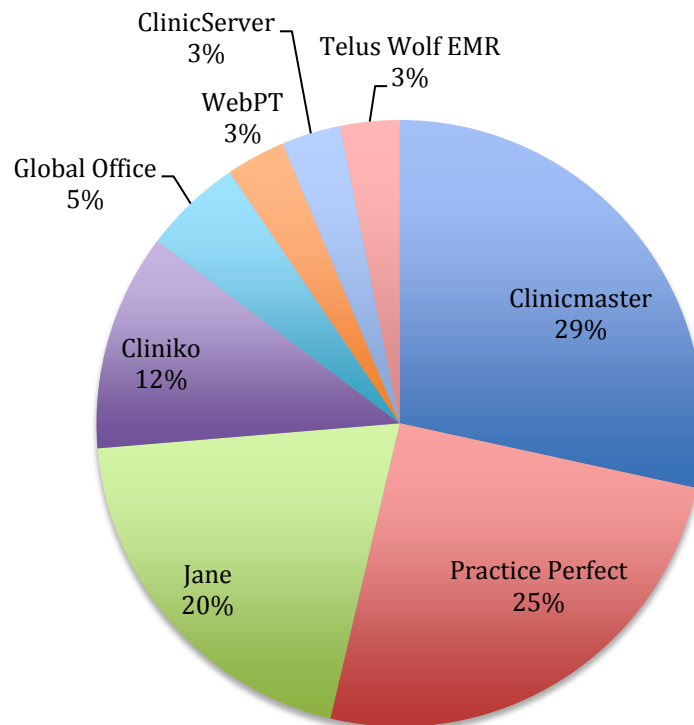
Percentage of Private Practice PTs who believe it is important to move to EMR within 5 years



Percentage of clinics using Electronic Medical Records in BC

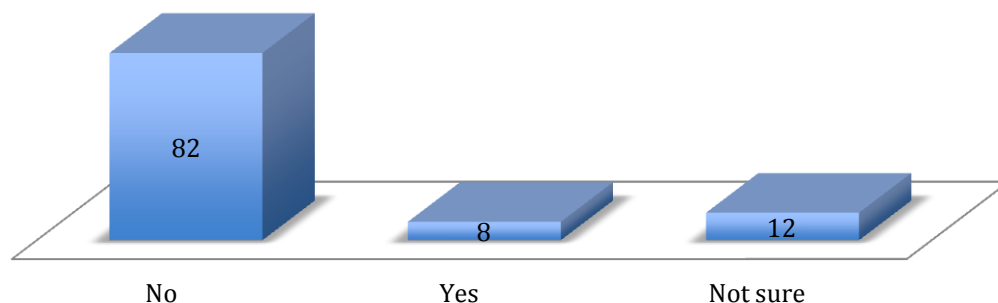


EMR Systems currently used in British Columbia by private practice PT clinics¹



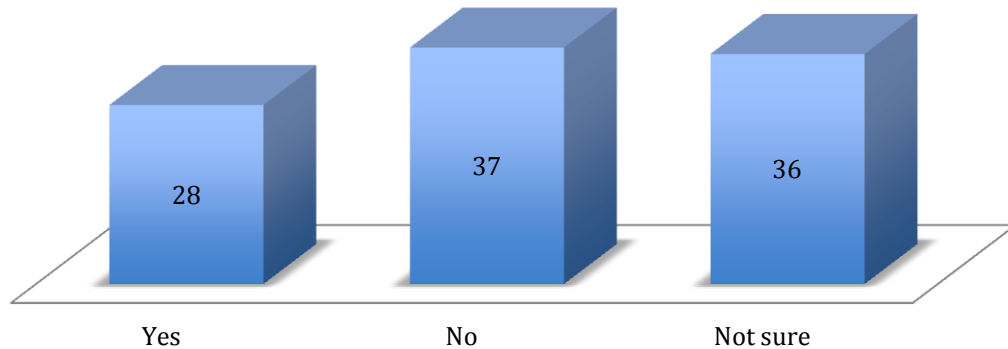
1) An EMR system is defined here as charting patient encounters electronically, not just scheduling and billing electronically.

Percentage of private practice physiotherapists who would resist a move to EMR in their clinic²

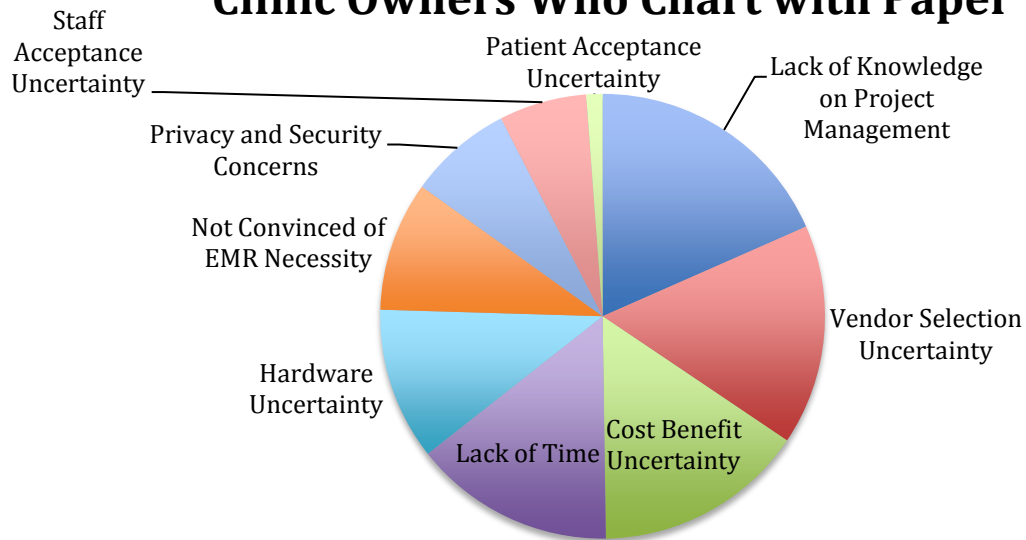


2) Question asked of private practice physiotherapists who did not own clinics.

Percentage of clinic owners who plan on converting to EMR within the next year



Top Ranked Anticipated EMR Challenges of Clinic Owners Who Chart with Paper



Getting Started

At a Glance:

Adopting an EMR system in your clinic is no trivial undertaking. The lesson to be learned from the physician experiences is clear – better planning and consideration results in better EMR implementation and results. This section helps you with that planning. By considering your particular clinic needs, your technology readiness, and the “value proposition” (what will the clinic gain with an EMR system?), you will clarify for yourself the benefits an EMR might introduce to your practice and whether you are ready to proceed. To “get started” in this section you will:

1. **Analyze your needs.** Analyze your current state and workflows to identify areas in which an EMR might benefit your clinic.
2. **Assess your clinic’s readiness.** Decide if your current practice (considering your people and practices) is ready for the change required by an EMR system.
3. **Set goals and priorities:** The value of EMR systems tend to increase over time and it is difficult if not impossible to implement all EMR functionality at once. It will be best to consider what the priorities are, what to implement right away, and what to add over time.
4. **Estimate a budget.** At a high level, get an idea of what an EMR might cost and how different scenarios might look financially. Tools are also provided for larger clinics to do a more extensive cost/benefit analysis over a 5-year period.
5. **Improve technology readiness.** It is possible that after completing this chapter you decide you are not ready for an EMR system. In that case, you might consider bridging measures to improve your clinic’s ability to progress to EMR in the future.

Assess Your Needs

It is important to identify the reasons you feel an EMR will benefit the practice. A “needs analysis” will help determine how an EMR may affect the practice and whether the expense and time spent changing to an EMR are justified. A [Needs Analysis Worksheet](#) is provided in this toolkit. The worksheet suggests itemizing work activities within the practice under various work areas, identifying what works well, what doesn’t work well, identifying potential areas for improvement based on the analysis, and the impact changes in those areas may have on the practice (e.g. improved efficiency, improved patient health outcomes). A [Needs Analysis Sample](#) is also provided.

All physiotherapy practice processes (from patient registration, scheduling, and file/records management, to clinical encounter capture, recall, reporting, referrals and communicating with other providers) can be considered as potential areas that may benefit from the implementation of technology or a change in how any current technology is used. This exercise is best done with a team representative of the different functional units of your clinic (clinical staff, administrative staff, program staff, etc.). This not only ensures a complete picture of your clinic needs are analyzed, but creates buy-in as various members of the clinic see how EMR can make their jobs better.

Combined with the readiness assessment tools in the “Conducting a Readiness Assessment” section, the process of developing a needs assessment will help your clinic to determine the value, benefit, challenges, and opportunities associated with EMR implementation, for their specific practice setting.

Consider Workflow (optional for small clinics under 6 clinicians)

As part of your needs analysis, it may be helpful to process map primary activities in your clinic that you feel may be helped by EMR adoption. This is also called “workflow analysis”. Conducting a workflow analysis *before* selecting an EMR system is usually most beneficial because it helps:

- Identify current inefficiencies
- Initiate critical thinking about your future workflows
- Develop an understanding of how an EMR may be able to benefit the practice
- Develop a prioritized list of the processes and focus your efforts – what are the most important ways that the EMR is expected to help improve clinical and administrative practices?

Workflow analysis is often cited as key to successful EMR implementations. An example of workflow analysis is presented below.

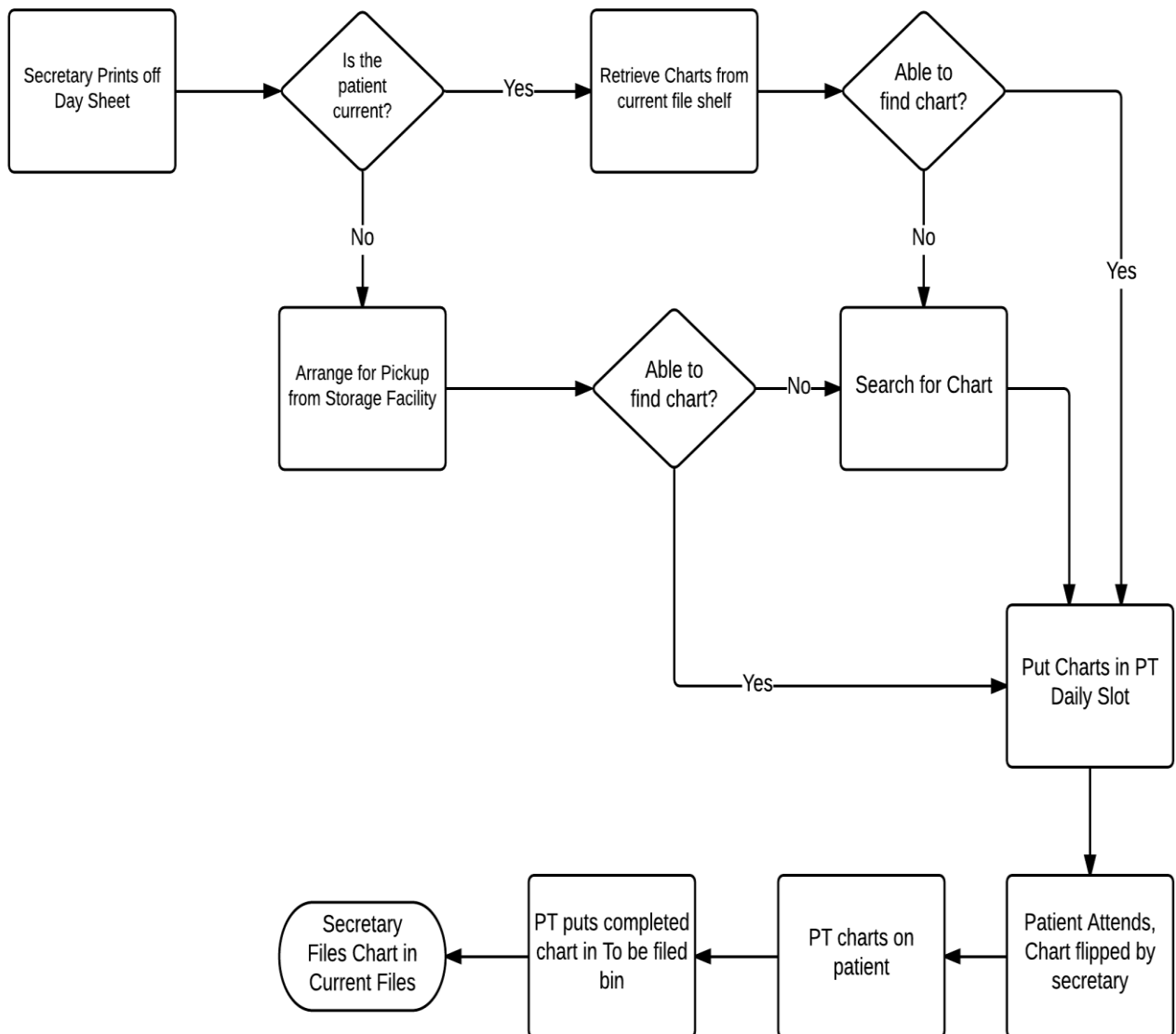
Problem:

Considerable time is required for administrative staff to pull and file the charts everyday. With electronic systems, it seems there should be efficiencies to be gained.

Process Map for Current State:

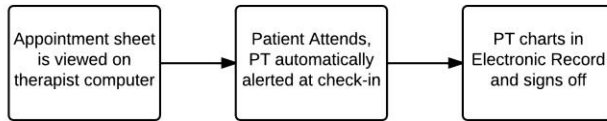
Note: Process mapping is simply diagrammatically linking activities and options that exist in work activities in order to more clearly conceptualize normal every day processes in a clinic. While formal process mapping applies meaning to different shapes, do not worry about that here. Simply link activities and options with arrows.

Paper Chart Pull and File Workflow



Process Map of Desired (Future EMR) State:

EMR Chart Workflow



The diagram makes it easy to see how EMR now makes the office more efficient. You can use process mapping to help clarify how your major clinic processes will be improved by an automated system. As you fill in your needs assessment, consider whether actually mapping the activity will help you to better understand how the process occurs and where it could be better.

Process mapping can be as simple as drawing diagrams similar to the above on a piece of paper. If you want to use software to help make the process map editable and readable, lucidchart.com is an easy-to-learn site that allows you to do simple process mapping without cost. If you have a large clinic and want to analyze your processes in depth, you may find [OntarioMD's Practice Workflow Tool](#) useful.

Conducting a Readiness Assessment

Also key to EMR adoption consideration is determining whether members of the practice have the necessary skills and level of dedication to the change to make the move to an EMR feasible. Conduct a “readiness assessment” to determine:

- Provider commitment.
- Staff commitment.
- Understanding of system management requirements.
- Need and willingness to acquire computer literacy skills.
- Impact of automation on job roles and workflow.

Smaller clinics may wish to consider the following checklist tools adapted from Manitoba eHealth to help them consider their clinic’s readiness for EMR.

[Change Readiness Assessment Checklist](#)

[Technology Readiness Checklist](#)

[Preliminary Privacy Readiness Checklist](#)

For larger clinics, the [Health IT Readiness Survey](#) produced by the American Medical Association for physician clinics can also be applied to a multidisciplinary physiotherapy facility. The assessment gives a score and recommendations in the categories of “probably ready, possibly ready, etc.”

Setting Goals and Priorities for EMR Implementation

Consider the results of your needs analysis and practice readiness assessments, and consult with other members of your practice team to identify the goals of the EMR implementation. Recognize that it is very likely that all of your needs cannot be fulfilled at once with an EMR, but set priorities as to which ones you would like to get going first.

You may find it difficult to set goals at this point in time if you are unfamiliar with what an EMR can do and how long it might take to get certain functions up and running. If so, perhaps leave this section for now and come back to it once you have discussed EMR functionality and realistic implementation of that functionality with your vendor.

Setting a budget

One of the most common themes from the PABC EMR Survey was the challenge of the uncertainty around costs of EMR implementation. The following tools help you to consider the costs of adopting EMR. In order to create a budget, you will need to have some idea of your vendor and hardware preferences. As such, you may consider using this section alongside the “Selecting a Vendor” section.

For many health care providers, budgeting for an EMR implementation is difficult in the early planning stages. This is largely due to lack of familiarity with IT project requirements and difficulty estimating the amount of time that will be required by practice staff to support the project. Many practices will find it helpful to shortlist a few potentially appropriate EMR products, and talk with vendors and users in similar clinic/practice settings, to obtain approximate cost estimates based on their experience. These high level estimates can be used to guide the budgeting process.

Costs can generally be considered in two categories: Initial Costs and Ongoing Costs.

Potential Initial Costs include:

- EMR software, hardware, and operating systems.
- Network infrastructure, including Internet access.
- Office productivity software such as Microsoft Word® and Excel, and e-mail applications.
- Training.
- Renovations – depending on how you choose to organize your hardware, some renovations might be required (rolling carts may need to be purchase, additional desk space built, etc.).
- Staff costs—for time dedicated to the EMR project and for lost productivity or “light” days scheduled to enable training and implementation. For some health care providers, this will mean lost revenue (e.g., fee-for-service physiotherapists participating in project planning meetings are not generating income by seeing patients).
- Project management costs—for large clinics in particular, it may be worthwhile to hire a project manager to deal with the day-to-day details of the EMR project. This investment may pay for itself by shortening the overall project time, and reducing the time investment of other providers and clinic staff, since the project manager will be dedicated to the EMR implementation project, rather than attempting to fit in the work “off the corner of his or her desk”.

Potential Ongoing Costs include:

- Product support – for the EMR software, hardware, and network.
- Maintenance—are upgrades included in the initial EMR costs? EMR software, office productivity software, hardware, operating system and network maintenance likely require annual subscription costs, and potentially also replacement costs every few years (e.g., 3-5 years).
- Product enhancements—some should be included in the up front price of the software and hardware, but many will require additional expense through “service agreements” or “service level agreements” with the vendor(s).
- Subscription costs – for services such as: ☐
 - Internet access
 - Other software components (Adobe or other that you may wish to use to make forms)
- Training—as new EMR software functionality is made available.
- Staff time – to learn new features and to participate in training.

Budget Tools for Small Clinics (Up to 6 clinicians)

Small clinics can identify costs and create a budget using the tools below.

[Cost Identification Worksheet for Small Clinics](#)

This tool provides clinics with a table summary of the costs to be expected and where to track down values for these costs. It also provides examples of typical costs and suggested hardware solutions.

[Basic EMR Budget Tool](#)

This tool divides small clinic costs into “implementation (one-time) costs” and “ongoing costs”. Totals are then given for what clinics can expect to pay on a “one time” basis and what they can expect on an annual basis. They can then consider the costs in light of the value they expect to gain from the EMR.

The tool is flexible enough to allow clinics to compare different scenarios to take advantage of their strengths. For example, one clinic may feel they are a highly computer proficient practice and can use Oscar as their vendor, which is an open source software billing and booking package that can be used for free. This would save the clinic considerable costs in their EMR conversion. Alternatively, another clinic may have nearly all the computers they need to begin charting and may only need to add a scanner. The budget will change to reflect this. One final example is that another clinic may offer their associates a hardware cost-sharing plan and only pay for half of the hardware. Again, this will be reflected in the budgeting process.

Budget Tools for Large Clinics (over 6 clinicians)

Larger clinics may wish to run a more extensive cost/benefit analysis. Several tools are provided to help this process (Small clinics can also use this tool if they wish). A more extensive framework of cost considerations is used.

[Cost Identification Worksheet for Large Clinics](#)

This tool helps the clinic to identify costs likely to occur with an EMR adoption under the headings of Work Practices, Technology, Participants, Information, and Technology. The categories of costs identified are based on the EMR literature and extrapolated to the physiotherapy context.

[Benefit Identification Worksheet for Large Clinics](#)

This tool helps the clinic to identify benefits likely to occur with an EMR adoption under the headings of Work Practices, Technology, Participants, Information, and Technology. The categories of costs identified are based on the EMR literature and extrapolated to the physiotherapy context.

[Cost / Benefit Analysis Estimator for a 5-year Period](#)

This is an Excel tool that will allow you to enter the costs and benefits identified above to establish the potential overall benefit (or costs) of an EMR adoption over a six year period. The user can input costs and benefits that apply to their situation under the categories presented, and even enter their own identified costs and benefits not in the template. Sample values are filled in already and you can replace them with your own. Note: You will have to transfer the values manually to the third page for 5-year comparison.

If you are interested in reading a sample Economic Viability Study for EMR implementation for a large clinic in British Columbia with conservative estimations, [click here](#).

A Note About Benefits

The benefits of EMR are more difficult to assess than the costs. While it is fairly straightforward to calculate the savings in materials, for example, these tend to be a small part of the value of the EMR system. Many of the financial benefits come from how workflows are optimized in the clinic. Additionally, it is important to keep in mind that some benefits, such as improved patient care, cannot be quantified. There is also value in being ready for future interoperability with physician and hospital systems as well as other developments in clinical decision support for EMR. The attractiveness of a modern, technology-enabled practice may also help draw new physiotherapists to your clinic. These intangible benefits and they are important factors to consider in the decision-making process.

Towards a Technology Enabled Practice

At this point, you should have a good sense of how and when you would like to implement an EMR. If you are ready to implement an EMR, you may prefer to proceed directly to Chapter 2, “Selecting an EMR”.

If you are still not sure about a full EMR implementation, you may want to consider some bridging strategies to introduce technology within the practice, and to move gradually toward full EMR implementation. There are a number of practical alternatives which will begin to ease you and your colleagues into the concept of a technology-enabled practice; many practical computer-based tools and resources are available that add clinical value, and that introduce users to the benefits of information technology in a primary health care practice setting.

Consider anything you can do to strengthen or enhance the use of technology in clinical practice can help improve your “readiness” for EMR implementation. This might include using tablets and anatomy apps to educate your patients, teaching patients about “fit-bits” and other exercise tracking tools, integration of stand-alone exercises software programs, etc. PABC has a list of resources that can be used to help increase the use of technology in your clinic on the member’s website. If you decide to undertake activities to “technology-enable” the practice, remember to re-evaluate your EMR readiness on a regular basis – you might be ready sooner than you think.

Choosing an EMR System

At a Glance:

Choosing the right EMR system for your clinic requires careful consideration. The PABC EMR Survey found that the most significant barrier to EMR adoption in BC was a lack of certainty about which system to choose.

It is important to note that there is no one perfect vendor – every clinic that has gone down the EMR path will tell you there have been times when they have been amazed at some aspects of a vendors production and service and frustrated at others. However, there will likely be certain vendors that meet the needs of your clinic and prepare you for the future better than others. This section of the toolkit takes you through several steps in order to systematically evaluate which vendor best suits your needs. In this section you will:

- **Compare vendors on the provided Vendor Profile Charts:** The Vendor comparison charts allow you to systematically compare the vendors under a number of categories to get a big picture sense of what each provides.
- **Create a vendor interview questionnaire:** This questionnaire is based on the questions you have after comparing the vendor systems and the unique requirements you will want based on your needs assessment. The questionnaire should be kept with you during interviews and other research to consistently compare vendors for the features that are important to your particular situation.
- **Evaluate the vendors and software:** With your vendor comparison and additional vendor interview questionnaire in front of you, schedule demonstrations and check references.
- **Develop contracts with the chosen vendors:** establish responsibilities and timelines; include initial and ongoing training and support requirements; identify data (chart) conversion requirements; and finalize acceptance criteria.

The History of Physiotherapy EMR in BC

A little history is probably helpful at this point. As electronic systems came to private practice physiotherapy in the last 20 years, these systems were primarily focused on the practice management aspects of the business. It was fairly easy for clinic owners to see how electronic systems could help them with booking, billing, and accounting and most have implemented electronic systems for these functions.

In the last five years, early-adopting physiotherapists have recognized that capturing clinical encounter notes may have many advantages over paper records and have moved to charting electronically with a vendor system that captures clinical data (approximately 10 – 15% in our sample). Again, the motivation here has been primarily from an efficiency of operations perspective. In the last two years, the confluence of various factors (increased record retention requirements, MD EMR adoption, etc.) has made EMR a hot topic.

Recognizing the increasing demand, vendors have been adapting their systems to include EMR functionality and have done this to varying degrees. The purpose of this section of the toolkit is to help you determine how each vendor's system and state of development satisfies your present and future needs.

Physiotherapy EMR Vendor Systems

Although a few clinics may choose to create an in-house EMR system, most will choose an existing vendor software package for their EMR. The most common systems in British Columbia include Clinicmaster, Practice Perfect, Jane, Cliniko and others. Many clinic owners find it confusing which vendor system to adopt. A main goal of this toolkit was to provide clinics with summary information in a centralized location so that vendors can be more easily compared. In preparing this toolkit, vendors used by physiotherapists in British Columbia were identified from the PABC EMR Survey. These vendors were interviewed. The vendors were asked to fill out a Vendor Profile Chart to summarize their software under multiple categories and the information was validated as much as possible.

By using the vendor comparison charts, you should be able to shortlist some of the vendors based on criteria that are important to you. For example, you may prefer the stability of a large, established vendor over the flexibility of a smaller, newer vendor. Or, if you are above average in your computer abilities, you may be willing to look at open source software to save costs. You may prefer a locally run vendor over an Eastern based company. Other criteria may jump out at you as you look at summary information. Compare the vendors using the Vendor Comparison Charts below.

One distinction will be drawn here. There are essentially two different types of Vendor that are being used for physiotherapy EMR right now in British Columbia. They are:

- (1) **Physiotherapy specific systems:** Due to the nature of the evolution of electronic systems for physiotherapy clinics, these software packages are typically developed as practice management systems first and EMR systems second. Therefore, they tend to be stronger in their ability to schedule, bill, and manage patients in and out of the clinic, but they are still gaining strength in the robustness of their EMR components. By choosing one of these systems, you should pay special attention to how advanced the EMR charting and clinical reporting is. Examples of these systems include Clinicmaster, Practice Perfect, Jane, and Cliniko. These systems make up the majority of systems used in British Columbia.
- (2) **Physician-first EMR Systems:** These systems are developed firstly for physicians. As such, much more time has been put into the development of the true EMR components of their systems and they tend to be stronger in this aspect. They also tend to have gone through stringent compliance testing. However, their billing and scheduling systems are not made specifically for physiotherapy practices and this may cause frustrations. Be sure to question these vendors as to how well they will manage your particular billing needs. Examples of these systems include Telus (Wolf EMR and MedAccess), Oscar, Osler, and QHR Accuro. A few physiotherapy practices use these systems.

Vendor Profile Charts

Click on each vendor name to link to an extensive profile sheet and compare one to the other. Note that these sheets are completed by the vendor's themselves and you should confirm the accuracy of the information provided with the vendor if you have any questions.

Physiotherapy Specific EMR Systems

- [Clinicmaster](#)
- [ClinicServer](#)
- [Cliniko](#)
- [Jane](#)
- [Practice Perfect](#)
- Global Office

Physician-specific EMR Systems: (To be added as the profiles are received)

- Oscar
- Telus Wolf EMR
- QHR Accuro

Note: Clinic Essentials, a practice management system that is used by some clinics in BC does not have an EMR module.

Develop a Vendor Analysis Questionnaire for yourself

As you read through the Vendor profiles, consider questions you might want to ask based on your needs analysis. Develop these questions on a separate Excel sheet or table. This questionnaire can then be kept in front of you to give you a standardized questionnaire to evaluate when viewing vendor demonstrations, checking references, etc. A template for Vendor Analysis is provided [here](#). This template is used for physician conversions, but can be adapted for your clinic's use.

Evaluating EMR Vendors and EMR Systems

Now that you have considered your needs, have an idea of what each system provides from comparing profiles, and have considered a budget, it is time to get in touch with vendors. Key steps when reviewing and comparing vendor responses and products are:

1. Schedule vendor demonstrations, and use your Vendor Analysis Template to determine if vendors meet your requirements.
2. Conduct site visits to other practices where the vendors' EMRs are in use.
3. Check references and assess the vendors' reputations.

Developing a Contract with your Vendor

Based on the practice's goals and priorities, negotiate the contracts with your vendor(s).

The two major stages of contract planning are:

- **Documenting the Scope of Work** – This stage determines exactly what is to be accomplished by the completion of the contract. Your vendor should provide you with a relatively clear explanation of what they are responsible for and what you are responsible for. If not, ask them if this can be provided. Key considerations are establishing systems management responsibilities such as maintenance, software and hardware enhancements i.e., who (you or the vendor) is responsible for what aspects of maintaining and upgrading the system.
- **Negotiating the contract** –Your contract with your vendor should be clear to you before you sign. [OntarioMD has a Contract Negotiations Tool](#) which can serve as a guideline to reviewing and modifying an effective contract with your vendor. Although not physiotherapy specific, many of the categories of negotiation are applicable.

Preparing Your Clinic

At a glance:

It is now time to get down to the detailed planning. Installing a new system may require significant changes to the way the practice operates, so making a smooth transition is dependent on careful planning. Before implementing these changes, you should:

1. **Finalize your hardware choices.** Use the resources provided to come to a final decision on the hardware you will use for your EMR.
2. **Update your policies.** Familiarize yourself with any requirements for policies and procedures related to the EMR implementation. Identify any legal ramifications of using an electronic records system. Discard old policies where appropriate, and develop new ones. Consider privacy, security and system management implications (e.g., software and hardware maintenance, disaster recovery planning, and record archiving requirements).
3. **Identify and understand** workflow impacts associated with the EMR – how will it change job roles and responsibilities for clinical and administrative staff? For patients? How can the EMR help to streamline workflow?
4. **Accommodate** the time and expense of training staff in the use of the EMR system. This may include some staff acquiring basic computer skills.
5. **Develop a plan and assign responsibilities for implementation.** Use the implementation plan template to plan all the details of implementing an EMR.

Finalize your hardware choices

The main decision here will be to choose your clinician interface (desktop? laptop? tablet? phone? (Yes, some PTs are using their phones!). There are various configurations that can be successfully used in a physiotherapy clinic setting. No one solution will work for all clinics. Physician offices have a simpler decision here – they tend to stay in one office and set up a desktop system that remains fixed. Physiotherapy will typically require more mobility and portable solutions such as a tablet, laptop, or hybrid that can move to various rooms may be necessary.

Clinics have tried many different solutions. Several resources are provided here to help you make your decision.

Your Vendor

This is certainly where to start. Your vendor will be aware of the options for their software. They will also be able to advise you of the trends with the clinics they service and what seems to be working well.

Your IT Provider

If you have an external IT provider, be sure to include them in hardware choice discussions. They may have particular requirements for the type of system they have set up for you or suggestions you have not thought of.

The Computer Comparison Tool

This is a comparison chart adapted from eHealth Manitoba that helps you consider the pros and cons of various hardware options for EMR. Link to it [here](#).

Best Practice Tips

Review the suggestions in the [University of Manitoba, Faculty of Medicine's EMR Best Practices Tips](#) and apply them as best as you can in your context and in the physiotherapy setting. These tips provide insight into how to introduce the EMR and associated computer equipment into the patient encounter to ensure clinicians continue to have good interaction with their patients.

Success stories

Link to the success stories at the end of this toolkit to see how other clinics have successfully used hardware technology for EMR. Look for situations that reflect your own.

Online Discussions from PTs in Private Practice

If you have a LinkedIn account, there are threads with PTs from all over North America discussing how they employ technology for EMR in their clinics. Find the conversations [here](#). Search “EMR devices” in the search box.

Update your policies and procedures

EMR implementation provides an excellent opportunity to review current policies and procedures in various areas of the practice. Some areas specifically affected by the introduction of an EMR are:

Privacy:

In the context of an EMR, “privacy” refers to the concept of “information privacy” – the right of an individual to have knowledge of and control over the information about them. Maintaining adequate privacy of sensitive patient information requires privacy, confidentiality and security measures in a practice.

Private practice health-care facilities and health professionals have legal responsibilities to protect the personal privacy of their patients. In British Columbia, the relevant legislation for Private Practice Physiotherapy Clinics is the Personal Information Protection Act (PIPA). The College of Physical Therapists of British Columbia reviews PIPA and explains the physiotherapy clinic’s responsibility on their website [here](#). Specifically, recommendations are given for electronic medical record-keeping and clinics adopting EMR should plan to implement these policies as part of their go-live process.

Security:

Security refers to the technical considerations (rather than the policy considerations) of maintaining privacy, confidentiality, and the integrity and accuracy of sensitive patient information. Review the following resources for samples of security policies, and guidelines for consideration when developing policies appropriate for the practice.

Confidentiality Agreements:

Confidentiality refers to the concept of restricted (authorized) access to information – only authorized individuals are permitted to access information, and they are allowed to access information only to the extent required to support their job.

Systems Management:

Systems management is about understanding how you are going to support and maintain your information technology operations on a daily basis. For instance, how will you deal with capacity planning (how much electronic storage do you need for all your records?), business continuity (what happens if your EMR crashes?), disaster recovery (what if there is a fire, flood, or other major damage to the practice?), service level agreements (who do you call when something breaks?), etc.. Ask your vendor to provide you with information on system management.

Medico-legal requirements:

All record-keeping requirements that apply to paper charting apply to EMR. Preparation for EMR should include a review of the [record keeping requirements outlined by the College of Physical Therapists of BC](#) and ensure that the EMR system will work alongside these regulations. Most common vendors are aware of these requirements and have structured their systems to be compliant with them.

You will need to ensure you adopt policies for appropriate archiving and deletion of records. Also keep in mind the long-term electronic storage implications of archived charts. For instance, the need for validity testing of archived material to ensure it is retrievable, how much storage capacity, its accessibility and durability, are required to meet immediate and longer-term needs.

Consider the EMR change the practice's workflow

As noted previously, implementing an EMR will have significant effects on how the practice functions, and on the roles and responsibilities of individual staff members. The final effect of the EMR will not always be evident until after it is implemented, but you can use the “process mapping” considered in the “Getting Started” chapter to try to identify potential changes in workflow. This has been demonstrated to be an effective way of presenting to your secretarial and clinical staff how their jobs will change and the processes they should now follow.

Process mapping of workflow allows you to consider how staff roles and responsibilities may be impacted as a result of the EMR, and how staff may need to assume, stop, or change roles or job functions. The initial output of a process mapping exercise is an overview of “how things are done today”. When a process map is accurately completed, with all members of the practice team contributing, the understanding of how the process occurs often differs significantly from the way individuals on the team assume or understand it to occur. The resulting map of the actual current state is ideal for identifying potential areas for improvement. Where current processes are complex, requiring many steps or interactions among different individuals, there are often opportunities to streamline the “what” and the “how” of each process step.

You may also want to consider the potential impact of a process on patients. Consider how the “patient experience” may change as a result of the EMR. Once the anticipated impact is understood, consider implementing a communications strategy to update patients on how the practice will change as a result of the EMR, and how their care will benefit (e.g. automated reminders for appointments, easier searchability of charts, better e-communication, potential patient portals, better communication between multi-site clinics, etc.).

Staff Training

Assess and include current and ongoing training requirements in a training plan. Some users may require training in basic computer skills and desktop software as well as in the specific EMR application.

Use the [Training Needs Analysis Tool](#) to guide you in determining what training your staff will need. Consider reviewing this tool with your vendor to determine if there are any training items you may have missed. From the User Skills template, develop a detailed training plan. Ensure the contract with your EMR vendor addresses, at a minimum:

- Initial EMR training to familiarize users with the administrative and clinical aspects of the EMR software.
- Additional post-implementation training to ensure all users are comfortable with using the software on a day-to-day basis. Initial training is often overwhelming for users and only a portion of the information shared in the training sessions is retained. Follow-up training should start within one to two weeks after implementation and continue until *all* users are fully trained and comfortable with the EMR.
- Advanced training, once users are familiar with the software, to allow them to utilize more advanced features.
- Training to help integrate the EMR with practice workflow, and to change practice workflow where necessary to make the most of the EMR.
- Training for updates and enhancements to the EMR software as they become available.

In addition to specific training in the EMR software, determine if the EMR vendor provides other training. For instance, they may offer basic computer skills training or training in other critical areas such as:

- Data backup and recovery, including validation of backups to ensure they are working correctly.
- Basic hardware and network maintenance and troubleshooting, including protocols for when and whom to call for help.
- Basic computer skills.

If your EMR vendor does not provide these training services you will need to go to other sources. For the EMR application, focus on building “super-users” among your practice team. Clinical and administrative users who have a good basic understanding of computers should be considered as potential super-users and as candidates to receive additional training in the EMR software so they can provide technical support to other users. It will save time, and potentially money, if problems can be resolved in-house, without needing to call the vendor’s help desk for every issue. Plan for each user’s training time. Schedule dedicated training time and light workloads for all members of the practice team during the training period and during system implementation.

Decide on a Go-Live Strategy

“Go-Live” refers to the day (or time period) in which you actually begin using your EMR. As part of your implementation planning, you will have made certain decisions on the go-live process. You need to decide, for example, whether you will go paperless overnight, or opt for a more staged approach where perhaps you continue to use the paper files for historical records but you add no new paper. Whatever your plan may be, the transition to EMR takes sometime. Make sure that your goals are realistic.

Most practices have opted for a phased approach for the changeover. For example, they may start with clinical encounter assessments and SOAP notes and then slowly add in patient education and information sheets. This type of phased approach is less risky for the practice and less stressful for the staff. Due to the “newness” of the EMR, some formerly simple tasks may take a little longer until new work habits get ingrained. It takes time to absorb the training and to apply it to the more complex tasks. Therefore, expect some loss of productivity in the early phases of implementation. Be patient and give yourself and others time to adjust to the EMR and to the changes in workflow.

Develop the plan

Using all of the decisions you have made earlier in this section, you are now ready to make the implementation plan. The implementation plan (also known as a project plan, or work plan) is a key tool in managing team expectations about the project. It is designed to document all project steps (tasks), their order, timelines, any dependencies between tasks, and the key individual who will be responsible for ensuring the task is completed, i.e., who will do what and when. Writing up the plan, with the help of the whole team, will help ensure no implementation details are missed.

Along with the practice's clinical and administrative staff, the EMR vendor is a core member of the planning team. In most cases the vendor will be responsible for the majority of the implementation and training, and can offer recommendations about approaches to "going-live", chart conversion, data coding and quality standards and policies, and numerous other topics.

The plan also serves as a useful communication tool to ensure all members of the team are informed about project steps and timelines, and have common expectations about the results and implications of each project stage. For instance, be sure that all members of the team are aware of the implications to their day-to-day workflow at each project stage – renovations, for instance, may be very disruptive, and may require the clinic to close or reduce hours for a limited time.

The planning process will help to identify and schedule any site and staff preparations necessary for the project's success. For example:

- Are renovations necessary? – Is there space in each patient exam room for a computer and monitor? Do you need to lay network cable or are different hardware and network options desirable (e.g., wireless tablets)?
- What staff training is required? – Basic computer skills, or just specific training in the selected EMR system?
- How will your "go live" implementation proceed? – How will you install, test, and begin using the EMR?

[Smartsheet.com](https://www.smartsheet.com) provides excellent project planning software tools that can be used quite easily and inexpensively to help plan and keep your EMR project on track. It allows you to share timelines, discussions, attachments, etc. with a project team. An account will be required if you wish to use Smartsheet. There is a free trial and after that there is a monthly fee.

A sample EMR implementation plan outline made from Smartsheet is provided [here](#). If you do not wish to use Smartsheet, a modifiable Excel version is provided [here](#).

Implementation

At a glance:

The Implementation phase is where you finally see all your planning begin to come together. Implementing the EMR involves:

1. **Installing** any necessary hardware and software. This may include renovations to your offices to install network cables etc.
2. **Completing user training** to ensure all clinical and administrative users have the necessary skills to start managing patient charts electronically.
3. **Converting existing patient chart data** (as little as necessary) to the new system's format and establishing a timeline for all staff to have completed their conversions.
4. **Acceptance Testing** to “sign off” on the installation – to be sure all aspects of the EMR software, hardware and network meet the requirements outlined in the Scope of Work (in the vendor contract).
5. **Obtaining and maintaining** all hardware and software documentation (electronically or on paper), and ensuring there is a means to keep the documentation current.
6. **Establishing software/hardware support procedures** for obtaining assistance with the system, i.e., do you have an “in-house” expert available and at what point do you contact the vendor for help?
7. **Establishing best practices for data coding and data entry**, for consistent, high quality data to support clinical decision-making. Practical analysis of the data in the EMR can improve the derived value of the EMR, by improving patient care processes (which can lead to better patient safety and health outcomes) and practice efficiency.
8. **Establishing and testing procedures** for system backup, data recovery, and system maintenance.
9. **GOING LIVE.** Finally “flicking the switch” on your new EMR system.

Introduction

The vendor shoulders the primary load for the implementation, but responsibility for several tasks remains with the practice itself. These tasks always seem to take longer than anticipated. So, too, does the training. In order to free up the necessary time, many practices cut back on the number of patient visits during some or all of the implementation period. Some practices schedule the implementation to occur during seasonally slow periods of the year.

EMR System Installation and Training

With the increasing use of mobile devices, installing hardware is less disruptive than it used to be for an EMR system. Still, renovations and some installation may be necessary and may be disruptive to clinic operations. Try to schedule this work so it occurs outside regular office hours.

Initial training for all clinical and administrative users is normally undertaken as soon as installation is complete. All clinical and administrative users should have the necessary skills to start using the EMR. Further training is undertaken as documented in the training plan (see “Preparing for Implementation”).

Data Conversion

Data from the existing practice environment may need to be moved to the new EMR. **The key question is “how much (or how little) data do you need?”; the key principle is “don’t convert any more than necessary.”** A good heuristic on which to base data conversion requirements is to consider the new EMR as “volume 2” of a patient’s paper chart – once volume 2 is started with any essential information copied from volume 1, how often do you (really) go back to look at volume 1? Talk with your vendor about how much data they recommend converting from your paper or previous electronic system.

Your approach to conversion will depend on whether you are coming from a paper or electronic system. Several points are worth noting about each situation

1. Paper to Electronic:

Option One: Mass Conversion

Decide with your vendor how many charts you want to scan into your system, and how many you just want to continue storing. Most clinics that have converted to paper records will have their administrative staff convert at least their current charts. Many will also scan one to two years prior. This process is labor intensive and is likely best done by lower paid staff or students with proper supervision, ensuring confidentiality policies are followed.

Option Two: Gradual Conversion

Enter data for patients only as they come into the office. This approach has the advantage of avoiding unnecessary work associated with entering data for patients who never return to the practice but tends to prolong the conversion process and thus possibly delay achieving the maximum usefulness of the EMR.

2. Electronic to Electronic.

This can be difficult depending on the system you are transferring from. Some vendors will be easier to transfer from than others. Your previous systems (e.g., billing and scheduling software, or another EMR) may allow patient demographic data and clinical data to be extracted in a format suitable for import to your new EMR.

Providers in the practice may find that a different model works best for each of them. Whichever model is chosen, come to agreement with your practice team on a definite time limit for all providers to have completed their chart migrations.

Acceptance Testing

Acceptance testing is about ensuring the system functions in the practice setting as defined in the Scope of Work. It requires a formal, binding agreement by both the vendor and the practice that the criteria outlined in the Scope of Work have been met. Once completed, the project passes from the implementation phase to the operational. The EMR vendor's role then evolves to providing post-implementation operational support and the service level agreement for support and maintenance comes into effect.

As part of your training, and as part of the “go live” process, test each and every new procedure related to the EMR hardware, software, and networking in your own practice environment. For instance, test components such as the following (this is a sample list which would be developed in more detail in your actual Test Criteria):

- Logging in, changing passwords, locking workstations, adding and removing new users from the system
- All aspects of EMR functionality including, referral letters, intra-office messaging, reporting and recall functions, etc.
- Billing and accounting functions
- Internet access and e-mail from every workstation and every user account
- Printing from every workstation and every user account
- Access to office productivity tools, e.g., word processing and spreadsheet programs, clinical reference tools, etc. for all users who need them
- Backup and recovery - verify that the process works as it should and that data restored from a backup is useable
- Archiving of patient charts when a patient leaves the practice
- Remote Access - if remote access is provided to permit users to access the EMR system from off-site (e.g., at home or in another clinic location), ensure that it works as planned and that all security protocols are installed and activated
- Wireless network security - If a wireless network is used, ensure security is properly enabled and that unauthorized devices cannot view or access the network

GO LIVE!

Once everything is finally in place, you are ready to Go Live. This is where you take your first patient in your EMR environment. A [Go Live checklist](#) is provided to help you make sure you are not missing any important details.

User Guides and Help Systems

Ensure that the vendors supply good user guides for both the hardware and software, in either printed or electronic form.

Accessing Support Services

Ensure that all staff members are aware of what to do when they have technical problems. For instance, under what circumstances should a user call the vendor's help line or customer support centre? The practice should consider developing a simple policy for users on a day-to-day basis, such as the following:

“If you have trouble with your EMR, follow these three steps in order:

1. Use the help file: examine the user guides to try to resolve the issue on your own.

2. Consult the on-site “super user” or other IT support, if available.
3. Contact the vendor’s support desk.”

More detailed support policies and procedures should be documented as part of the service level agreement with your vendors.

Data Entry, Quality and Reporting – Implementing Best Practices

By this point, your head may be swimming and you may wish to come back to this section another time after you are familiar with your EMR. It is important to recognize, however, that perhaps the greatest value in using an EMR is not in the data you enter, but in the information you can retrieve to help improve patient care and practice efficiency. Effective EMR use relies on a sound understanding of a few quality principles and core concepts about data:

- Data types and management – The data collected may be in either or both plain text or structured formats.
- Data analysis and reports – Data collected is useful only if it can be retrieved in an efficient manner. Similarly, meaningful reports can be generated only if the data is accurate and complete. Understanding data mining and reporting principles helps set the stage for continuous improvement in the practice. Implementing effective clinical decision support at the point of care and managing patient populations is not possible without good quality data.
- Data quality – The GIGO principle: If you put “garbage in”, you will get “garbage out”. In health informatics, definitions of quality data generally refer to data with the following characteristics: it is accurate, complete, relevant, up to date, and accessible when and where it is needed. Consistent data entry and coding practices help to generate quality data, and to ensure that the data in the EMR will be useful. Without quality data, your ability to use your EMR data to self-audit is impaired and the GIGO principle rules. Self-auditing is particularly useful in ensuring best practices are followed for patient populations with specific health risks, chronic conditions, or comorbidities. For instance, analyzing your treatment duration with low back pain or rotator cuff tendinopathy care is easier if you can consistently identify all patients in the practice with the conditions. If inconsistent coding practices are applied, or the data is incomplete, you may miss portions of your patient population when attempting to improve your practice.

For now, that is all we will touch on in regards to data mining, except to say that this is where the future of health care is headed, even in physiotherapy - being able to analyze your data and create meaningful information with it to improve the quality and efficiency treatment.

Maintenance and Optimization

At a glance:

EMR systems are increasingly valuable as you tailor them to your needs. Maintaining and optimizing your EMR requires:

1. **Staying current** with user training, system maintenance and upgrades
2. **Continuous improvement** of your workflow and processes to continually increase the quality and efficiency of care you can provide with your EMR

Maintaining Your EMR

Staying current with user training, system maintenance, and upgrades ensures that the EMR will be more likely to continue to meet your needs. These items should be addressed as part of your service level agreements with vendors.

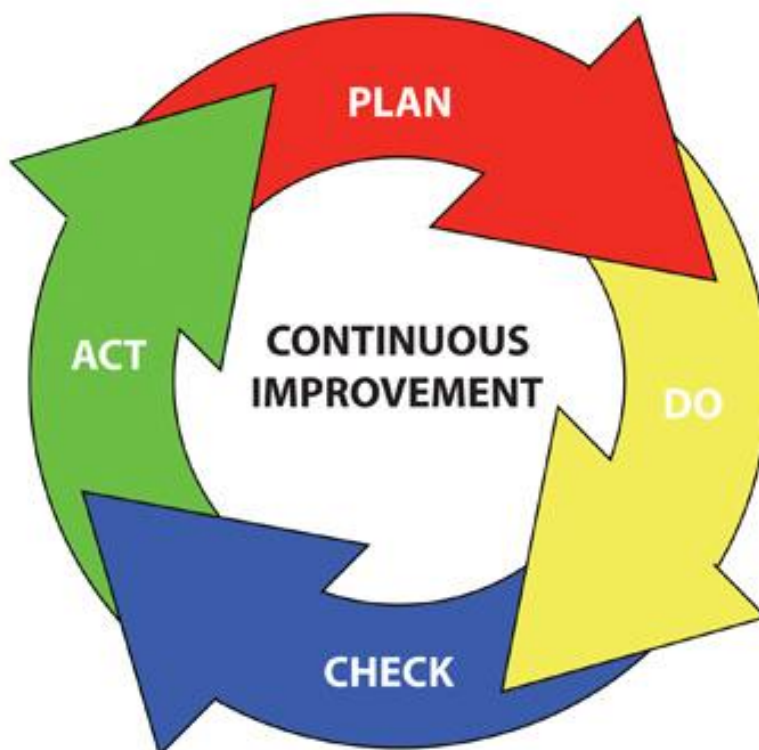
Optimization - making a car, not just an engine

EMR implementations have been compared to race cars. Installing the software and training your staff on the system only gives you a powerful engine. To have a race car, you need to rest that engine in a frame, install the wheels, the steering wheel, etc. – all the parts that transform that engine into a functioning race car.

You will need to do some “construction” around your powerful EMR engine in order for you to experience the promise of an automated system. For example, the better you make usable and efficient forms, streamline your booking and billing procedures, make wise hardware choices, etc., the faster your car will go.

Continuous Improvement

After you have worked with your EMR system for a while, you will certainly see workflows and processes that can be improved. The framework of an automated system gives you the ability to do that. Consider building an “optimization team” that meets periodically to review administrative and clinical practices. Optimizing your EMR will be an iterative process. It can be helpful to use the PDCA concept which is commonly used in continuous improvement process of businesses. This process suggests accepting the fact that your EMR will need continual improvement over time. To work through the cycle, “Plan” the improvement you think you can make, “Do” what you had planned, “Check” how it is working, and “Act” to get the benefit from the changes you applied (standardization) or schedule further planning to begin the cycle again.



Managing Change

At a glance:

This chapter is a bit of an aside from the technical and business aspects of the rest of the toolkit, but its importance cannot be overemphasized. If people in your practice understand the reason for the change and begin to see the value of the change, they will begin to build desire for the change to occur. Failure in EMR implementation is not typically due to a failure of the hardware or software systems, but a failure to manage people and change appropriately. Some tried and true principles will help your EMR transition go more smoothly:

1. **Build a team.** Foster ownership of the EMR project with all members of the practice setting – each member should “own the change” and understand why and how the EMR initiative will be an improvement.
2. **Recruit “Champions”**
3. **Have a leader.** Every team needs a leader, including EMR transition teams. They will be required to ensure the project progresses, communication is clear, and timelines are met.
4. **Introduce and Communicate Change**
5. **Aim for “Quick Wins”**
6. **Manage Resistance**

Build and Maintain a “Team”

When it comes to EMR, using a team approach is much more effective than a “top-down” dictate. Each team member must “own the change” and understand why the change will be an improvement. All affected stakeholders must feel part of the project and agree to the project process and goals. Transitions to EMR tend to be unsuccessful not because the technology does not work, but because people have rejected the process used to implement that technology.

Establishing an environment of mutual trust and respect is the foundational principle for building and maintaining a successful team. This relies on effective communication among all team members, including clinicians, administrators, practice support staff, vendors, and regional support staff. It requires a mutual understanding that everyone’s opinions and ideas are valued.

The process of owning the change begins in the planning stages and continues through the implementation stages. If administrative staff and clinicians are allowed to give their input each step of the way, they become part of a successful project and are much more likely to bring others along the path with them.

Recruit Champions

A champion can be defined as a peer with special interest in, or skills related to the EMR implementation. Ideally, champions are opinion leaders within the practice, who have the respect of their peers and who can communicate with and influence the practice staff and clinicians to reach consensus on decisions related to the EMR rollout.

The champions will be instrumental in coordinating and ensuring ongoing progress through all the EMR project’s phases. In small clinics, you could also assign them the role of “project manager” to coordinate the details of the EMR implementation project. A [Proposed Activities for Champions Tool](#) from Manitoba eHealth is included in the toolkit.

Have a Leader

Although a team approach is recommended, the transition to EMR must still have a leader. Whether a clinic owner, champion, or professional project manager is identified as the “project lead”, the lead’s key role is to ensure that the necessary project tasks and activities are identified, assigned, and completed in a timely manner. A large component of this role is communication with other members of the practice team, to ensure that the goals for the EMR project, and the practice’s specific EMR requirements are communicated, and that the team has reached consensus on priorities, objectives and expectations for the EMR implementation project.

Introduce and Communicate the Change

The change must be communicated both to those involved in the planning team and those who are not. Communicating the reasons for implementing an EMR system is important to begin building awareness in the practice. Clinics would be wise to:

- Clearly document and communicate the key reasons that describe why it is important for your practice to implement an EMR at this time. Be prepared to reinforce this message as the change progresses. Use the [communications plan template](#) to help you think through what you can tell your staff.
- Establish a mechanism through which employees (e.g. clinicians and clinic staff) can ask and get answers to the questions that arise as they contemplate what this change will mean to them.
- Consider referring your clinicians to the PABC Toolkit website to view success stories in order to demonstrate how EMR can be valuable to them.

Aim for “Quick Wins”

People will change when see what is in it for them. Consider making some of your first EMR priorities those items that will make your clinical and administration staff easier. For example, if your clinicians currently have to write in all of the demographic details by hand on a WorkSafe report, spend some time with your vendor making sure your forms pre-populate and are easier to fill out. If your staff seems to value the ability to chart at home, make sure your mobile functionality is ready to go right away. Consider other ways in which you can help your staff “buy-in” to the change right away. There will certainly be frustrations with an EMR implementation, but your staff will be more willing to put up with those if what the system can do for them is more forefront in their minds.

Manage Resistance to Change

Even in the most technologically savvy clinics, it is not uncommon to find pockets of resistance to the change required by an EMR adoption. The [Managing Resistance To Change Tool](#) produced by Manitoba eHealth provides tips on managing this challenge.

Beware: Pitfalls to Avoid

Vendor Lock-in and Data Traps

Vendor lock-in refers to the fact that once you have invested data in a proprietary system you are stuck. It makes business sense for vendors of proprietary EMR systems to lock you into their format and themselves into your cash. The vendor can name their price for additional features because no one else can write for the product. New features are often slow to arrive because the vendor has to wait until there is a significant demand for that feature before investing money into developing it. The vendor has little interest in creating customized features for one user because it is more difficult to maintain support.

The vendors interviewed for the PABC EMR Toolkit were largely aware that vendor lock-in was a trap physiotherapy clinics need to avoid. Before purchasing a proprietary EMR solution, ask your vendor what happens if you decide to change systems. How easy is it to transfer your data? Will there be any costs? How long will it take? Vendors should be able to give you solid answers to these questions. Consider asking other clinics that have changed systems what their experience was and what tips they would have.

Not Managing Change Well

As mentioned in the managing change chapter, failure in EMR implementation is not typically due to a failure of the hardware or software systems, but a failure to manage people and change appropriately. Be sure to at least consider carefully some of the strategies you can implement in the “Managing Change” section.

Unrealistic Expectations

EMR is not a panacea to all your clinic’s inefficiencies. You will have to re-engineer your workflow to allow the engine of the EMR to do its job well. Be sure to spend adequate time planning how your EMR will change your workflow in order to maximize the value of the EMR.

Not thinking of the Future

Be sure to ask vendors how they are prepared for the future world of “interoperability” – communicating with systems and health professionals outside of your physiotherapy clinic. These systems are being worked on now in BC and it is the goal of PABC to have a seat at the eHealth table in planning electronic access to eHealth diagnostic imaging viewers, eReferrals, eReporting, etc. If your system is built on a framework that is prepared for these developments, you may be better able to leverage your EMR to the advantage of your clinic and the profession as a whole.

Success Stories

Pioneering Open Source Software for Physiotherapy: Eddy Betinol at The Joint Physiotherapy in Courtenay

Most physiotherapy clinics will acquire one of the common systems made specifically made for physiotherapy when starting out with Electronic Medical Records. However, Eddy Betinol and the staff at The Joint Physiotherapy have taken a road less travelled using Oscar open source EMR Software. Oscar is a package that was developed by physicians at McGill University and has a strong medical records component. With abounding energy and an above average technological abilities, Eddy and his staff have custom configured Oscar to meet their needs. Although Oscar has its challenges in the physiotherapy context, Eddy and his staff find it serves them well. Eddy has written on his experiences with Oscar [here](#). Eddy also took time to discuss his thoughts on EMR and the experiences of his clinic in the following interview.

Audio interview with Eddy Betinol [here](#) (note – you must be logged in as a member to bcphysio.org to access. If the link doesn't load, login to bcphysio.org and enter <http://bcphysio.org/resource/emr-success-story-eddy-betinol> into your browser's address bar.)

The Benefits of EMR for Mobile Physiotherapy: Kim Hall of Physio2U

When Kim Hall started Physio2U, she knew packing around paper charts to home visits was going to be a challenge. Kim researched EMR packages extensively and settled on an WebPT, a package produced by a company in the United States. While she found WebPT a good program, she has recently decided to switch to Jane Clinic Management Software. Kim discusses her experience with EMR in her business with us in the interview below.

Audio interview with Kim Hall [here](#) (note – you must be logged in as a member to bcphysio.org to access. If the link doesn't load, login to bcphysio.org and enter <http://bcphysio.org/resource/emr-success-story-kim-hall/> into your browser's address bar.)

Being an Early Adopter of EMR in a Traditional Physiotherapy Clinic Setting: Steve Wong of Treloar Physiotherapy – Kerrisdale

Steve Wong manages and works at Treloar Physiotherapy's Kerrisdale location. When Steve opened this location in 2008, he knew he wanted an efficient office and was willing to take some risks by using an early version of Clinicmaster's EMR. Now 7 years into his EMR journey, Steve has an abundance of excellent advice to offer physiotherapy clinics in regards to their own EMR projects.

Audio interview with Steve Wong [here](#) (note – you must be logged in as a member to bcphysio.org to access. If the link doesn't load, login to bcphysio.org and enter <http://bcphysio.org/resource/emr-success-story-steve-wong> into your browser's address bar.)

Appendix: References and Acknowledgements

References

1. Skolnik NS, SpringerLink ebooks - Medicine. *Electronic Medical Records: A Practical Guide for Primary Care*. New York: Humana Press; 2011.
2. Boonstra A, Broekhuis M. Barriers to the acceptance of electronic medical records by physicians from systematic review to taxonomy and interventions. *BMC health services research*. 2010;10:231-231.

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