

# **Transitioning from Implementation to Integration: An innovative team approach to support integration of technology into clinical practice**

by

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## **Abstract**

**The Resident Assessment Instrument-Home Care (RAI-HC) is an internationally researched assessment tool used by case managers to assess frail elderly and disabled individuals in the community. Benefit of the tool is maximized when used in an electronic format that generates outcome measures and assessment protocols to inform care planning and client outcome evaluation. In Vancouver Coastal Health Authority (VCH), mandated implementation of the RAI-HC tools and the supporting software was completed by 2006.**

**Implementation of this assessment tool was a significant change in practice. For most clinicians, this assessment was also the first introduction to an electronic client record and to charting at point of care. Numerous barriers exist which challenge the adoption of the tool into clinical practice. Capitalizing on our health authority's ability to extract assessment data, an opportunity was created to initiate site-specific sharing of aggregate RAI-HC data and open dialogue regarding use and meaning of RAI outputs in clinical practice. This team approach supports integration and promotes data quality by empowering clinicians to use RAI data in clinical decision-making. This paper will detail this innovative decision support strategy used to instill confidence in the tool by increasing relevance, utility and ownership of the information. Feedback received, lessons learned, processes developed, and next steps regarding ongoing support for integration will also be shared.**

## **INTRODUCTION**

There's no denying that technology, particularly the implementation of electronic health records, will dramatically change the future of health care in Canada. In British Columbia, the Ministry of Health mandated all health authorities to use the RAI-HC assessment tool for all case managed clients in the community. A comprehensive, standardized instrument used to evaluate the needs, strengths and needs of the client, the tool is best maximized when the information is inputted into an electronic format and outputs generated are used to plan care.

Outputs generated help provide "a common language for assessing the health status and care needs of frail elderly and disabled individuals living in the community" (interRAI, n.d.). At the same time, a repository of RAI information can be collected to increase knowledge of client populations and their characteristics, to evaluate outcomes and to help set national benchmarks.

Change is often seen as stressful and frightening even though the change is perceived as a positive one. This paper will explore the implementation of the RAI tool in VCH, present the challenges encountered at implementation and how the RAI team developed a process for integration of the tool in practice. The team approach as a success factor in integration and the role of education will be examined. Recommendations for future integration strategies will conclude the article.

## **IMPLEMENTATION OF THE RAI TOOL**

In 1998, a government report identified the need for a standardized assessment tool. One of the policy directions addressed for the future of health care in British Columbia include priorities for putting in place the tools needed to achieve an integrated and flexible system of care through the implementation of a provincial application and assessment system to collect, and make available to clients and health care providers, quality information on clients' needs, and the resources required to meet those needs.

Following a review of health assessment instruments in 2002, the British Columbia Ministry of Health selected the Resident Assessment Instrument – Home Care (RAI-HC) tool, an internationally researched tool to replace the existing assessment tool used for all case managed clients in the community. Each BC health authority was responsible for selecting their own software to support the tool in their region as well as to report data from the tool to the Ministry of Health (MofH) and the Canadian Institute for Health Information (CIHI). Implementation of the tool and supporting software was mandated for completion March 2005.

Across Vancouver Coastal Health (VCH), there are four geographic areas that contain thirteen community health service units across the region. A community within VCH was chosen by the Ministry of Health as an initial pilot site to implement and offer recommendations to other health authorities on success strategies used at implementation. The chosen software provided the capability for case managers to directly enter assessment data into the software application at point of care.

Clinicians expected to complete the tool were provided with comprehensive education to enhance awareness, knowledge and use of the RAI-HC tool. Interdisciplinary team members were also provided with education support services to help them understand the tool and learn the language to be incorporated to enhance communication. When the tool was implemented for the rest of VCH, though, a different application was chosen that provided the capability to support the *entire* electronic health record for the organization. However, the capability for the clinician to enter the assessment data at point of care was not available at the time of implementation.

The goal of education at the time of implementation was to enhance awareness, knowledge and use of the RAI-HC tool with front line clinicians. A major support offered during the time of implementation was access to the RAI-HC team which consisted of the following:

- 1 Project manager
- 1 Administrative assistant
- 3 Clinical educators
- 1 Data entry clerk
- 1 Research evaluator
- 1 Application support technician
- 1 Senior systems analyst
- 1 Regional manager, community information systems

Strategies were designed to anticipate obstacles and to decrease anxiety. For example, to maximize the effectiveness of the training sessions, arrangements were made for coverage, the amount of information given at each session was limited in scope and limited to a prearranged, specified period and sufficient time was allotted for practice sessions.

An important aspect contributing to the success of the project is to ensure clinicians are knowledgeable about and use the resources available to them. This has been very useful in addressing all the challenges identified and is vital to maintaining enthusiasm during the integration process.

At the time of implementation, as a means to minimize workload pressures, the data entry clerk entered all coded assessment information on the electronic health record. With point of care capability to be implemented next, case managers were then provided with the training needed to input their own data on the software and increase their comfort level with using the electronic health record system. All case manager clinicians now enter their own assessment data.

Presently, the community that was chosen for the pilot site is continuing to use the software that offers the capability to assess and enter data at point of care while the rest of the region continues to implement the full electronic health record that includes the RAI-HC tool. Because of the advantages and disadvantages of both systems, there remains ongoing discussion on how to integrate all VCH clients into one entire electronic health record system.

## **CHALLENGES ENCOUNTERED**

Change is often frightening and stressful, even if the change is perceived to be positive. The transition from paper to an electronic health record system was a significant change in practice at all levels. Information technology (IT) challenges, clinical process impacts, workload pressures, the availability of resources, and decreasing enthusiasm all contribute to the challenges faced by VCH to date.

Due to the implementation of two software applications within the region, clinicians' experience and acceptance of the change and the support required to learn the software varies. Frustration was expressed regarding loss of productivity during training at each stage of learning how to use the new system. Furthermore, ongoing upgrades to the software continue to impact clinical practice process. When workload is increased related to use of technology, practice variation widens and creating gaps and delay integration. As workload pressures increase, use of the tool in practice created the perception as "one more thing to do" and completion was seen as an obstacle to work.

Staff turnover, unfilled positions and high caseloads further impact the clinician's ability to maximize use of the tool. "Users need to know that the system will expose short cuts and bad habits that have developed in order to cope with increasing workload" (Robinson, 2007).

The major challenge expressed by clinicians was the overwhelming amount of information and learning required to integrate the tool and electronic health record into current practice. There was little distinction between what were identified as clinical versus software issues. Lack of knowledge as to who to call, which resources to use and time pressures created a lack of confidence in their work but also in the value of the assessment tool and the clinical outputs generated.

## **THE RAI TEAM'S APPROACH TO INTEGRATION**

During the implementation phase, project managers for both the RAI-HC and the information management system building the entire electronic health record decided to house both projects in the same open plan office area. The layout allows the RAI team to collaborate on a daily basis with identified members of the software to address and solve issues, discuss potential problems and identify techniques that have worked.

This was tremendous foresight to enhance communication, access resources and optimize use of the tool in the software. The RAI team now works closely with the application team. Tremendous energy and collaboration has been expended to standardize practice. All changes in the software along with changes to clinical practice require ongoing discussion and careful mapping of workflow processes. In this environment of change, the need to relate RAI-HC to the process in which it lives is critical for successful integration.

Recently, the project transitioned to operational sustainability, and now at the integration stage, the team is composed of the following members:

- A **clinical nurse educator** to continue to enhance data quality of front line clinicians through ongoing refresher courses, advanced sessions, site visits and communication resources. Basic education and training is provided to new hires. Each year, inter-rater reliability is tested to determine any further educational needs and address issues related to the assessment tool.
- A **clinical nurse consultant** who was hired at the integration stage to ensure best practice and application of the RAI-HC across all health authorities in BC. To ensure integrity of the RAI process, her role also involves participation with various groups such as the RAI Provincial Working Group, Clinical Practice committees, the VCH Community Care Network and the Provincial Home and Community Care Planning Council. A critical role, the consultant also gathers pertinent RAI related information and translates that into information relevant for case management practice. This includes the development of workflows, working with other team members and management staff to assist in the transition process and minimize anxiety.
- The **decision support/systems analyst** offers the team the ability to analyze the information entered into the two data repositories by using statistical software and presenting the data as a report. An important team player, this role involves communicating with multiple stakeholders such as the Ministry of Health, community managers, directors, leads and the community researcher as they make ongoing requests for information pertaining to their area of interest.
- A second **systems analyst** was hired during the integration stage to be the change agent between the RAI tool and the entire electronic health record. With ongoing upgrades and developments with the assessment tool and the software, this role involves linking the two processes together to ensure minimal change impacts at the clinician level. Some examples include the revision of various reports based on clinician feedback and logging and tracking issues identified in the software that impact clinical process.

Having an awareness of the challenges encountered at implementation and identifying the strengths of the clinical and technological process, goals were identified to support ongoing integration of the RAI-HC tool in community practice. This includes enhancement of data quality and ongoing integration of the tool into clinical and management practice. To advance RAI-HC knowledge of front line clinicians and enhance awareness of the RAI-HC tool to interdisciplinary teams, managers and physicians is the education strategy to date.

Famous business leader, William Pollard stated, "Information is a source for learning, but unless it is organized, processed and available to the right people in a format for decision making, it is a burden not a benefit".

To minimize frustration with the clinical process impacts from software and workflow issues, the team arranged visits to each community health centre to present site-specific reports generated from the RAI-HC tool to front line clinicians,

interdisciplinary teams, educators, support practitioners and managers. "Site-specific evidence can have a greater effect in eliciting acceptance. If clinicians are aware of the quality issues where they work, they may be open to suggestions of how IT can help to affect those issues" (Robinson, 2007).

### ***Road Shows***

In an effort to be visible, and maintain communication during the implementation and integration of the RAI-HC tool, case managers were very comfortable expressing their frustrations, anxieties and successes with the RAI-HC team. The team recorded their concerns, and analyzed that behind the complaints and fears there was a strong desire to do things right. To celebrate and capitalize on this, a report was developed by the RAI-HC team that extracts, utilizes and analyzes home care data. And with case managers expressing interest in the tool, the timing was right for the team to conduct "road shows". The reports presented at the shows were used as a vehicle to spark discussion among the case managers about concepts, ideas, data elements that could be used to help support practice, care planning and clinical evaluation. The goal was to use feedback from each site to change this standardized report template to one that addressed and supported case management practice at the site level.

Sessions also provided the opportunity to discuss current practice—unrealized work-arounds, variations in practice from site to site, fears/misconceptions, introduction to role, acknowledgment of change, assistance with translation, and process support. Increased understanding of use of the tool led to increased interest in advanced education.

### ***Linking Initiatives***

The involvement of each RAI-HC team member in various initiative groups allows the opportunity to use RAI-HC data to inform, support and guide clinical practice. To date, RAI-HC data is being utilized to inform the following projects:

- The Falls Initiative
- Adult Day Programs
- Frail Elderly Collaborative
- Stroke Strategy
- Complex Rehab Group

## **MAINTAINING SUCCESSFUL INTEGRATION**

During the sustainability stage, it is paramount that the RAI-HC team lead and guide the organization in its integration of the RAI tool into clinical and management practice while ensuring process integrity is supported regionally. Clinicians undergoing overwhelming change need leadership in order for the system to be integrated successfully. Each RAI-HC team member has the clinical knowledge and technical skills to incorporate and have a clear understanding of the philosophy, goals and processes of the organization, as well as the knowledge necessary to manage and organize the change from a paper system to a computerized record system.

In order to ensure success, organizations must upgrade their systems periodically in order to keep pace with new technological changes and be able to tap into the benefits of ongoing updates. It is important to reassure clinicians that most software updates are usually subtle and meant to enhance the system. They must also be assured that clinical, educational and technical support will be available and provided as needed for any updates.

Site champions, clinicians who express an interest in integrating knowledge and skills at the local site, should be identified. In order to be able to quickly enhance the quality of data inputted at each assessment, a site champion can be used as a local resource to provide support to guide practice. This helps to ensure that clinical process impacts are identified quickly and site champions play an important role in communicating those impacts to the RAI team and other major stakeholders.

Through the utilization of aggregate data reports, information can be provided to clinicians and managers about the workload impacts due to the complexity of cases and high workload numbers. Although unfilled positions and high caseload numbers are unable to be addressed by the RAI-HC team, information based on assessments completed for these caseloads could be used to identify how best to handle workload pressures. The organization has to be able to visualize the benefits to their staff. "Clinicians would more readily accept new systems if they were convinced that newer technology will save them time or at least make their work easier." (Robinson, 2007).

## **THE ROLE OF EDUCATION**

"The foundation upon which any implementation effort is built is education. Without effective education of the staff who will actually do the MDS assessments, efforts to implement the instrument and to use its data for decision-making related to clinical practice, resource allocation or the needs of the persons being served can be at risk of failure." (Hirdes, Pearson, & Curtin-Telegd, 2003).

Learning the RAI tool, how to *do* the assessment and then how to *use* to the assessment, is complex and very overwhelming. The pressures on staff to become proficient in a short period of time are great. Clinicians are expected to learn an analytic, problem-solving approach to complete the assessment and use the findings to develop a plan of care. Oftentimes, clinicians have to take in multiple inputs of information that are often contradictory. Judgment must be exercised about the accuracy of alternative information sources before a response can be coded.

For every RAI-HC education session provided, whether it be to clinicians who conduct and complete assessments or to the interdisciplinary team members and program directors, adult learning principles and change management theory was applied to the development of each course outline, road show and presentation session.

Teaching methods applied during the implementation phase focused on enhancing the awareness, knowledge and skill to complete the RAI-HC tool with front line clinicians. Formal classroom instruction that included case study review and quizzes was used to allow for interaction. When clinicians can participate in their learning process along with face-to-face interaction, there is a greater probability of success to use the knowledge and skills gained in practice. The quality of education will have a direct impact on the quality of the data upon which decisions will be based.

The methods used now at integration focus on advancing the knowledge of the RAI-HC tool to front line clinicians as well as create awareness and knowledge of the tool to interdisciplinary teams, managers and physicians. Site visits that incorporate real life case scenarios are now used and bimonthly newsletters, instruction sheets and application guides are provided. All forms of education delivery are based on feedback provided at evaluation of the project.

## **DISCUSSION**

The electronic health record and the technologies that support it cannot be viewed as only a project. In order for the integration to be successful, the integration demands permanent change in the working environment and on-going attention and adaptation by clinicians. Although benefits can be widely recognized, technologies still have not been successfully implemented to accommodate clinical practice. Systems must be designed to reflect the actual workflow of the clinicians who will use them. If there is too much change, clinicians may end up altering their workflow to fit the technology. This approach to integration will result in resistance and likely, rejection of the process altogether.

The disadvantages of a poor implementation and integration strategy include: compromised data quality; inefficient completion of assessments; reduced impact on the quality of care; inaccurate information resulting in incorrect estimates of case mix and /or quality performance; low staff acceptance; failure to optimize clinical information systems; and treatment of the MDS data as administrative add-on rather than a source of insight into the client's needs and outcomes of care. (Hirdes, Pearson, & Curtin-Telegd, 2003).

Fortunately, the team approach at implementation offered many opportunities to identify some lessons learned during the process, formulate next steps to move forward into integration and provide recommendations for others who face challenges with integrating technology into clinical practice.

It is important on all levels, to respect chaos during the change process. Leaders of this process did not overwhelm staff with too much change at once. Throughout the entire process, there must be a commitment from the top down and bottom up in order to create positive change and maintain support for the system as integration takes place.

Lack of adequate training contributes to a lack of support for a clinical electronic system. Concerns should be always be documented, addressed, resolved and

communicated in order to maintain confidence in a system undergoing constant upgrades. Educators and team members must not only be proficient in use of the RAI instruments and their applications, but they must also prepare or acquire appropriate educational materials; anticipate questions from users and be able to respond to those questions accurately and effectively.

Committees and task groups offer forums for ongoing communication between clinicians and leaders when transitioning from implementation to integration. Ongoing commitment to gathering feedback and working to incorporate clinician suggestions in order to maintain clinician support of the tool is required. The RAI-HC team plays an important role in identifying common trouble spots; managing complex interactions in groups of learners with varying levels of enthusiasm; and problem solving for unanticipated complications arising within a given site or population. Site champions are another important key player. Not only should they be technically savvy but also leaders who have the respect of their peers. They must be influential and able to champion the cause/vision in order to gain buy-in from their peers and maintain enthusiasm during ongoing change.

The future direction of RAI integration requires the involvement of professional practice resources. To date, there is no health sciences program in Canada that has incorporated MDS based assessment tools into the standard curriculum (Hirdes, Pearson, & Curtin-Telegd, 2003). Some clinicians do not understand that they are as accountable for assigned codes and computerized notations as they are for their written documentation. As well, not all clinicians to date routinely use the outputs from the assessment to plan their care, nor do they always use the outcomes to monitor the effectiveness of interventions. A whole new set of policies, procedures and expectations are needed to encompass automated electronic clinical documentation.

To conclude, successful transition from implementation to integration of technology into clinical practice can be successful when using a team approach and applying the same five principles used in medication administration:

1. **Identify the right client.** By identifying each stakeholder, education and information can be tailored to meet their needs.
2. **Give information at the right time.** When the individual is ready to learn, information can be better retained and used in practice.
3. **Support with the right dose.** By considering other changes affecting stakeholders, education can be tailored to provide information that is better absorbed and purposeful.
4. **Use the right drug.** Content applicability is important. By demonstrating how information can be used in practice, the content becomes more meaningful.
5. **Right site.** Communication, education and integration must be provided in all formats to reach all stakeholders with different learning capabilities and needs in order to gain acceptance and achieve success.

## **AUTHORS:**

**Mary Ann Masesar, RN, BN** is the clinical educator for the Vancouver Coastal Health InterRAI/MDS - Home Care Team. The RAI/MDS-HC tool offers a means to collect and report on individual as well as aggregate data when assessment information is entered into an electronic health care record by a qualified clinician. In her role, Mary Ann supports community clinicians by providing education on how to code and enter assessment data and then interpret the outputs presented. The transition to an electronic health record system is not an easy one. Through ongoing education, Mary Ann's goal is to continue to demonstrate to clinicians, managers and major stakeholders how an electronic health care record with high quality data can promote evidence based clinical practice and policy decision making within a health care authority.

**Teresa Coles, RN, BSN** has worked in the United States and Canada in Acute, Ambulatory, and Community Settings. Her experience with process improvements, choosing and transitioning to an electronic health record system, staff education, and policy development are consistent with RAI-HC needs. As part of the interdisciplinary RAI-HC team her clinical consultant role is to promote best practice in the use of RAI-HC tools across Vancouver Coastal Health. She liaises with the Provincial RAI Working Group, directors, managers, clinical educators, case managers, and leaders of community initiatives in order to develop clinically sound process changes with appropriate managerial support. This includes analysis of current workflow to assist in transitions to identify gaps, create plans, and identify necessary resources for success.

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