



Alberta Health Services

HOW A PROVINCIAL APPROACH TO PATIENT FLOW IS REDUCING CONSERVABLE BED DAYS AND SAVING SIGNIFICANT COSTS



CASE STUDY

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Alberta Health Services

Alberta Health Services (AHS) was established in 2009 as the first provincial, fully integrated health system in Canada. AHS successfully integrated 12 Health Regions in Alberta into one system that now serves a population of approximately 4 million in the province.

ALBERTA HEALTH SERVICES PROFILE

AHS is considered one of the largest employers in the province, with over 104,000 dedicated employees in more than 450 facilities in Alberta. These facilities include hospitals, clinics, continuing care centers, mental health facilities and community care centers. AHS is continuously striving to ensure that they stand behind their mission:

To provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.

In order to support the corporate mission, AHS provides:

- ▶ **100** acute care hospitals,
- ▶ **5** stand-alone psychiatric facilities,
- ▶ **8,230** acute care beds,
- ▶ **22,533** continuing care beds/spaces,
- ▶ **202** community palliative and hospice beds,
- ▶ **2,327** addiction and mental health beds,
- ▶ equity partnership in **41** primary care networks.

INTRODUCTION

Patient Flow is the movement of the patient along the continuum of care within the hospital environment from the emergency department onto the inpatient unit and back home or into the community. Demand is outstripping capacity and hospital leaders know that improving efficiency through process redesign and use of IT decision support tools is the key to sustainability.

In recent years Alberta Health Services has been working diligently on addressing emergency department wait times, hospital access and inpatient Length of Stay (LOS). This includes LOS for Alternate Level of Care (ALC) patients (medical, surgical and mental health) who are impacting the system's ability to provide optimal care to Albertans. In order to successfully address these concerns, AHS is leveraging the Patient Flow Platform software, developed by Medworxx, as a tool for frontline staff that supports hospitals with streamlining patient flow and assessing the appropriateness of care and transitions of their patients.

The Medworxx Clinical Criteria module focuses on identifying and proactively reducing the barriers and delays in patient transitions by using evidence-based assessment criteria. Utilizing the decision support system results in appropriate hospital lengths of stay (LOS), improved patient flow in the hospital, and quantifiable system issues.

The implementation of Medworxx Clinical Criteria module into strategically chosen hospitals across Alberta has allowed for standardized data and reporting from within Medworxx, which is now allowing clinicians and administrators to make informed decisions about patient throughput.

PATIENT FLOW AND MEDWORXX CLINICAL CRITERIA

The ideal use of Medworxx Clinical Criteria allows front line staff, unit/site management and allied health care providers to standardize communication and make decisions based on accurate real-time data. This in turn



stimulates a reduction in the number of patients that occupy Inpatient (IP) beds but are not appropriate for that IP bed because they are ready for discharge or transition to an alternate level of care. This allows for a proactive and standardized approach to the patient care journey.

The Medworxx Clinical Criteria module is an application that:

- ▶ Monitors a patient’s stay.
- ▶ Highlights care delays.
- ▶ Assesses discharge readiness.
- ▶ Provides consistency in the care process.
- ▶ Provides an understanding of when the patient can be discharged.
- ▶ Stimulates communication among the interdisciplinary patient care team.

What is Medworxx?

- 1 Assesses Every Patient – Every Day**
 - ▶ Identify barrier and delay root causes to patient flow
 - ▶ Appropriateness for admission and each day of stay
 - ▶ Assessment of clinical stability RFD (Readiness for discharge/transition)
- 2 Empowers Users to Uphold Accountability**
 - ▶ Real-time identification of delays and action plans
 - ▶ Ensure safe and appropriate care and transition
- 3 Supports Decision-Making at All Levels**
 - ▶ From the patient bedside to the boardroom
 - ▶ Process improvement identification and management

“Working with the Medworxx project team was one of the most organized and enjoyable projects I have ever experienced. Seeing how different projects have been run I realized how efficient and effective the Medworxx team was.”

— **LORILEE SCOTT**

RN, BN, Director, Cancer Surgery
Alberta (former North Zone,
Medworxx Informatics Specialist)
Alberta Health Services

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Medworxx supports the nurse, the unit, and the facility to:

- ▶ Contribute to informed decision making around patient flow and capacity management.
- ▶ Pull information into one place that highlights communication issues with the entire integrated care team and the organization.

When Medworxx is used in an ideal manner, the benefits include:

- ▶ Improved knowledge of care delays and patient flow barriers and delays.
- ▶ Standardized evidence-based processes across the province.
- ▶ Provide decision support for OCP, Discharge Planning, Bullet Rounds, and Rapid Rounds.
- ▶ Justify appropriate use of acute care beds.
- ▶ Ensure safe, timely patient care.
- ▶ Work with other information systems to identify patients who meet standard Readiness for Discharge criteria in an effort to reduce inpatient length of stay.

PROJECT SUMMARY

The Provincial Medworxx Clinical Criteria Project was first initiated as a long term project with the mandate to implement and optimize Medworxx Clinical Criteria at 16 sites across Alberta over 5 years. With the introduction of the Health Quality Council of Alberta (HQCA) Directive in early 2012, the project scope was modified.

The scope was changed to implementing and optimizing Medworxx Clinical Criteria at the Top 15 sites (derived by ED numbers) in 18 months; with the Top 7 being completed by October 31, 2012.

Provincially, there are currently a total of 8230 Acute Care Beds. With the completion of the Medworxx implementations and upgrades, Medworxx Clinical Criteria is now active in approximately 63% of the 8230 Acute Care Beds in Alberta.

In addition to the implementations, the project also included the following:

- ▶ Design and implementation of a pilot project for an integrated electronic medicine nursing care plan (e-kardex).
- ▶ Post-implementation optimization of some sites to increase the operational usage and improve the effectiveness of the Medworxx Clinical Criteria decision support tool.

“Medworxx is being used as a communication tool; staff are able to see at a quick glance if they are able to prioritize their care differently in order to help their patients get care in the right place, at the right time. Staff are also able to see where there are gaps in communication between areas such as discharge planning and front line; the front line may not realize what is and isn’t being done by the discharge coordinator and the Medworxx status facilitates those discussions.”

— **LORILEE SCOTT**

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- ▶ Consolidation of the IT technical environment in order to maximize the use of Medworxx Patient Flow software at all existing sites and support provincial-level standardized reporting as well as enhance AHS'

ability to actively maintain Medworxx Patient Flow software for the application's end users.

- ▶ Benefits Realization analysis to identify actionable opportunities for improvement and savings.

BENEFITS REALIZATION OUTCOMES

The Benefits Realization analysis indicated that the hospitals have the potential of recognizing significant cost savings by reducing conservable bed days. As part of the work, criteria sets developed by Medworxx were closely reviewed. By reviewing the 6 out of 16 "RFD-Not-Met" criteria, the number of actionable by hospital reasons could be identified and resolved resulting in significant reductions of conservable bed days. The 6 actionable reasons are as follows:

6 ACTIONABLE REASONS	BENEFITS TO WORKING ON THEM
PHYSICIAN > PENDING	Actionable by setting rules for conditional discharges and improving care team communication if incorrectly chosen
PHYSICIAN > CONSULTATION	Actionable because consultation requested could be potentially done as an out-patient if this is the only barrier to discharge
PHYSICIAN > INVESTIGATION	Actionable because it identifies diagnostic tests or therapeutic assessment requested on that day and should move to service delay on subsequent days if still not completed
PHYSICIAN > OTHER	Actionable because barrier to discharge is attributed to physician but does not fit into other categories (example: Leave of Absence)
HOSPITAL > SERVICE DELAY	Actionable by hospital to identify system bottlenecks such as delays in medical imaging and other departments
HOSPITAL > HOSPITAL: OTHER	Actionable because barrier to discharge is attributed to hospital but does not fit into other categories (example: unit outbreaks)

The Conservable Bed Days were calculated based on the annual baseline data collected and analyzed during the Benefits Realization analysis. It was adjusted to account for a 25% margin of error and was considered to be a conservative estimate. These conservable

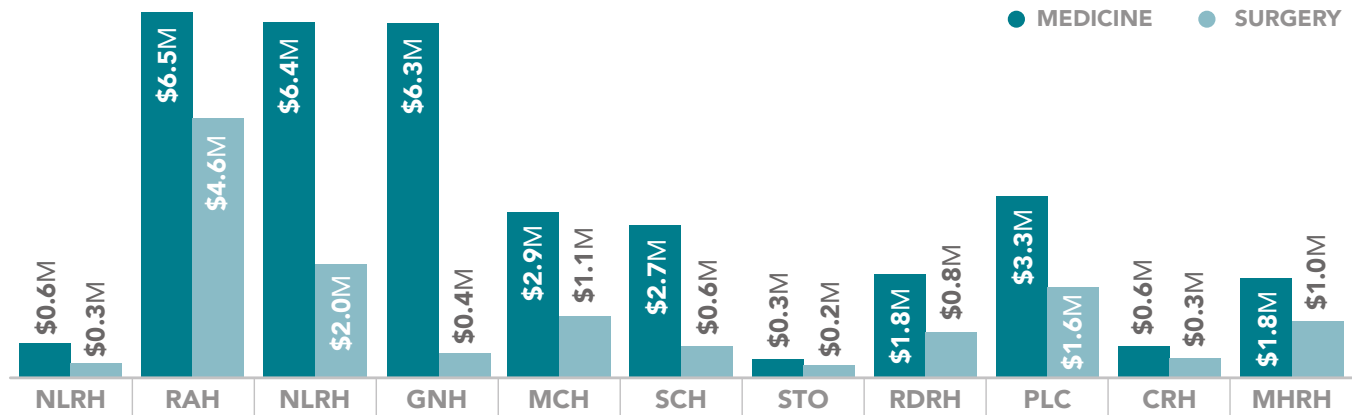
bed days led to a potential cost saving per site as shown below and can result in an estimated provincial savings of:

\$46,506,627 IN YEAR 1.

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POTENTIAL COST SAVINGS (in millions)



TEAMWORK CONTRIBUTES TO PROJECT SUCCESS

There are many factors that contribute to the success of any project; however one of the key factors in any large endeavor is the teamwork and relationships between vendor resources and client/sponsor leadership. AHS and Medworxx had already established a strong relationship through some early implementation projects, but, the relationship was further strengthened with the introduction of the Leidos team that was assisting with the Medworxx Clinical Criteria project. The AHS, Leidos and Medworxx teams worked closely

to ensure the project was a success by delivering it on time and on budget, and by ensuring that all Provincial and Health Quality Council of Alberta goals were met.

The success of this project is highlighted by the fact that Medworxx now has 5,000+ Acute Care and Mental Health Beds licensed in the province of Alberta, and over 4,500 clinicians trained by the project team on the appropriate use of Medworxx to support patient care on a daily basis.

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TOTAL NUMBER OF SITES IN ALBERTA

173

TOTAL NUMBER OF UNITS IN ALBERTA

5,179

TOTAL NUMBER OF "MEDWORXX" BEDS IN ALBERTA (63% OF THE TOTAL ACUTE CARE BEDS)

4,722

TOTAL NUMBER OF USERS (TRAINED BY PROJECT TEAM)



In addition, the team has left AHS with a solid, transition plan and business case that will allow them to continue to benefit from the investment it has made in Medworxx.

ABOUT MEDWORXX

Medworxx provides solutions for Patient Flow as well as Compliance and Education. Medworxx Patient Flow enables appropriate care transitions and fewer readmissions across the continuum of care. With 33% of the acute care beds in Canada, as well as a growing international presence, Medworxx bridges the clinical and operational patient flow perspectives with an increased focus on the appropriateness of care. Medworxx delivers health information technology solutions to over 350 hospitals internationally.

ABOUT LEIDOS

With expertise in National Security, Health, and Engineering, Leidos will continue SAIC's proud legacy of securing the future of our families, our communities, and our world. Our diverse knowledge base and involvement in multiple disciplines and industries make us unique. We use our insights in new ways and expand our capabilities to evolve the industries we serve.

For more information, visit leidoshealth.com.

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