

Efficacy of a High-Observation Protocol in decreasing length of ICU and hospital stay in head and neck cancer patients: a quality improvement study

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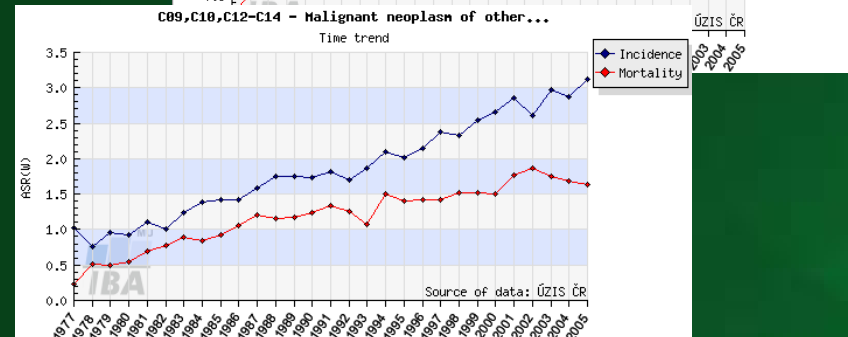
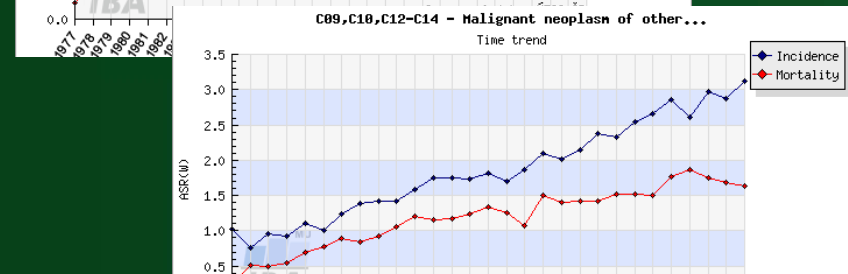
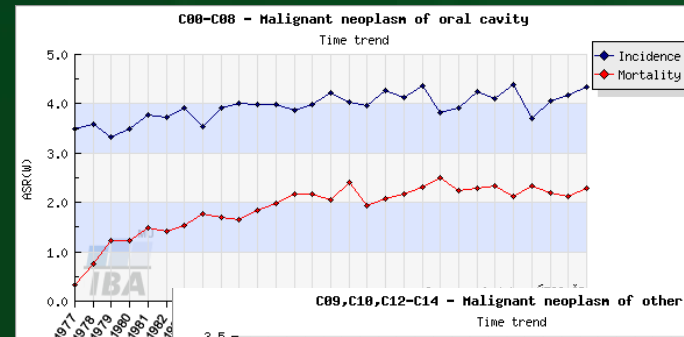
UNIVERSITY OF
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Introduction

- Incidence of head and neck cancer (HNC) increasing
- Traditional standard postoperative care:
 - Intensive care unit (ICU) admission
 - Mechanical ventilation (MV)
- Varied practices





HEAD AND NECK CANCER CLINICAL PATHWAY

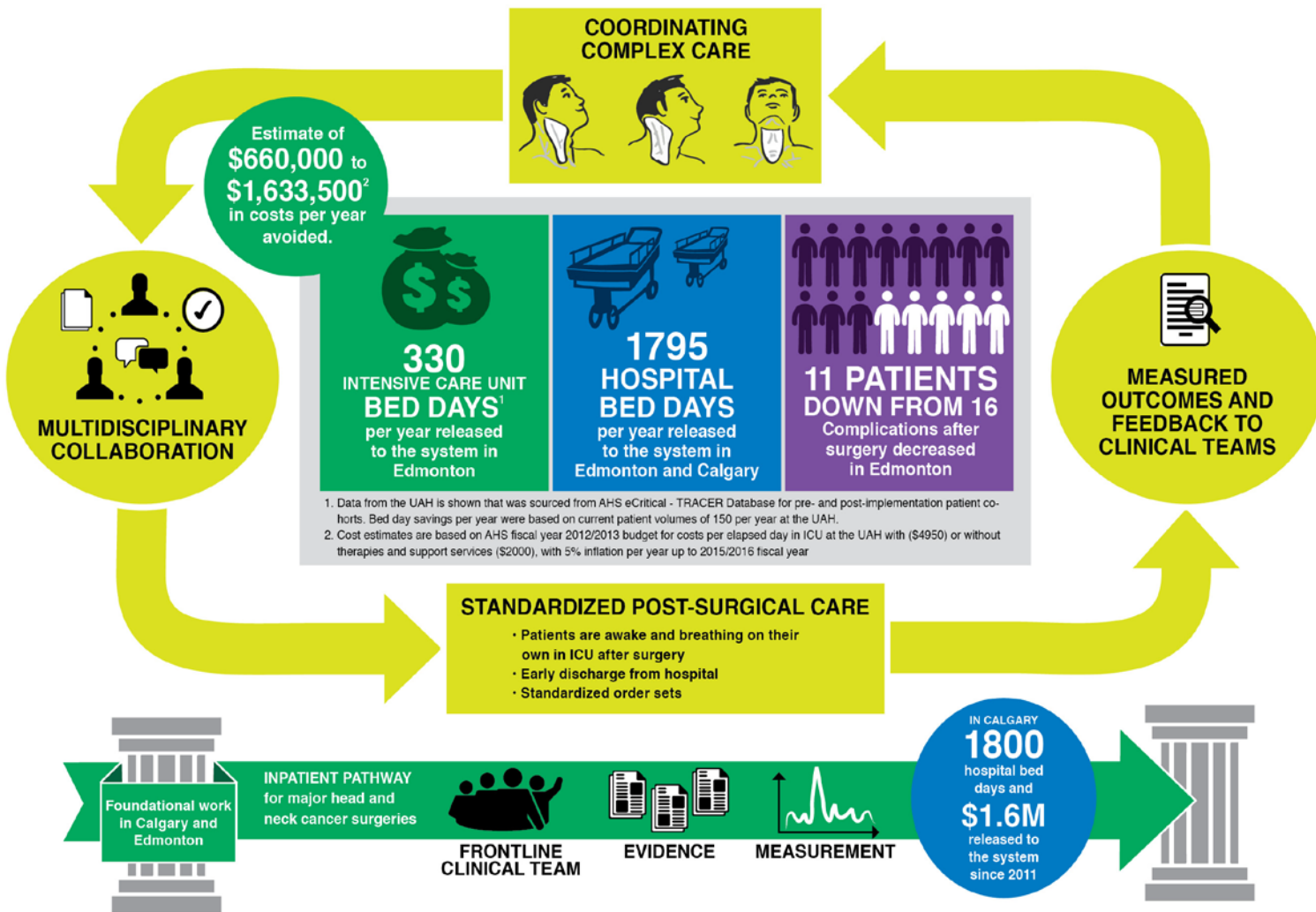
SUPPORTED BY THE CANCER, CRITICAL CARE AND SURGERY STRATEGIC CLINICAL NETWORKS

Keeping Alberta Moving

Strategic Clinical Networks (SCNs) are supporting frontline clinical teams to create improvements within focused areas of health care.

The Head and Neck Cancer Clinical Pathway is a key initiative to bring clinical teams together across the province to learn from each other. It is led by Zone-based surgical programs, with support from the Cancer, Critical Care and Surgery SCNs.

This initiative has led to better post-surgical care for over 200 head and neck cancer patients per year in Alberta. It has also generated substantial capacity at the University of Alberta Hospital (UAH) and the Foothills Medical Centre (FMC) without new resources.



1. Data from the UAH is shown that was sourced from AHS eCritical - TRACER Database for pre- and post-implementation patient cohorts. Bed day savings per year were based on current patient volumes of 150 per year at the UAH.
 2. Cost estimates are based on AHS fiscal year 2012/2013 budget for costs per elapsed day in ICU at the UAH with (\$4950) or without therapies and support services (\$2000), with 5% inflation per year up to 2015/2016 fiscal year

Development of High Observation Protocol (HOP)

- HOP development – July 2014
- Consultations
 - Anesthesiology
 - Critical Care
 - OR/ICU Nursing staff
- HOP:
 - **Spontaneous breathing trials initiated prior to conclusion of surgery**
 - **No routine MV**
 - **Limited sedation**
 - **Mobilization within 8 hours**
 - **Ward transfer within 4 hours of order**

Parameter	Target Value
ABG pH	7.35-7.45
PaCO ₂	35-45mmHg
PaO ₂	>65mmHg
SaO ₂	>90%
Arterial Bp	Within 20% of baseline levels
FiO ₂	<50%
Respiratory rate	>10



HOP Compliance

Aug 1, 2014

May 31, 2015

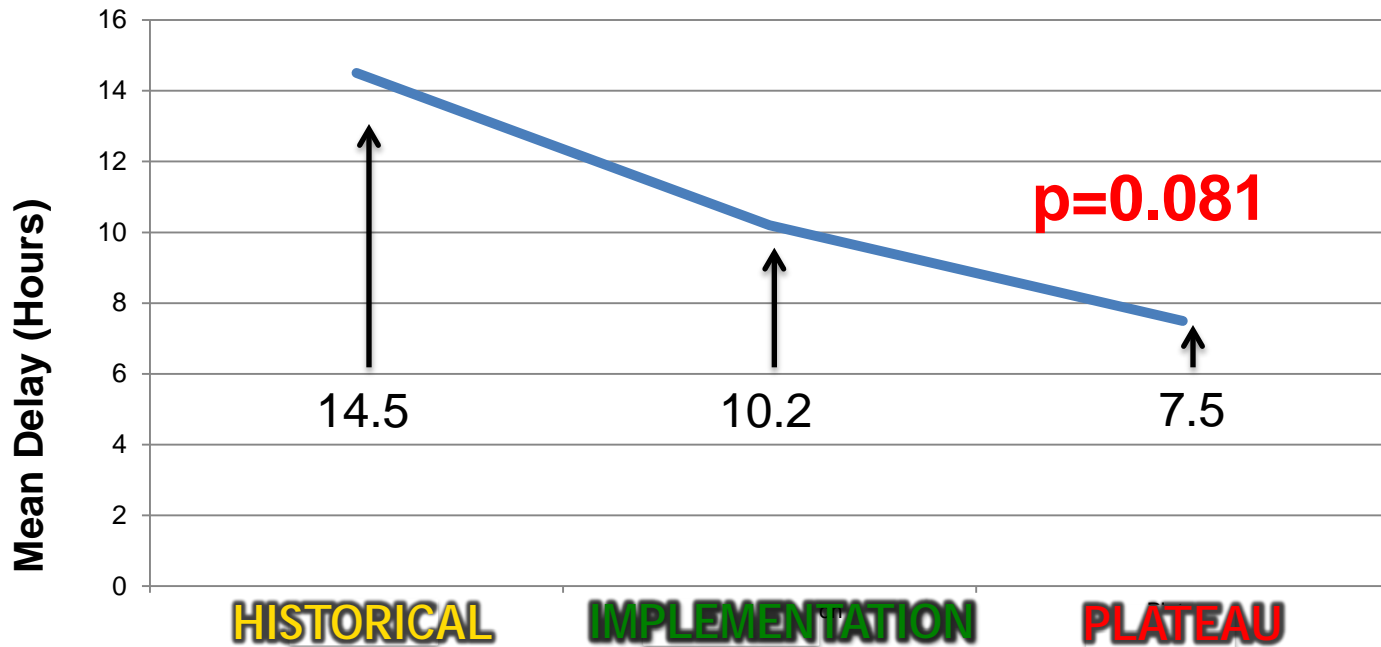


	Aug 1 – April 30, 2013 HISTORICAL	Aug 1 – Dec 31, 2014 IMPLEMENTATION	Jan 1 – May 31, 2015 PLATEAU
N	96	59	52
Spontaneous Breathing Trials (SBTs)	12 (12.5%)	27 (45.8%)	47 (90.3%)
Mechanical Ventilation (Binary)	85 (88.5%)	32 (54.2%)	4 (7.7%)
Mean duration of ventilation (min)	1232.4	529.5	155.4



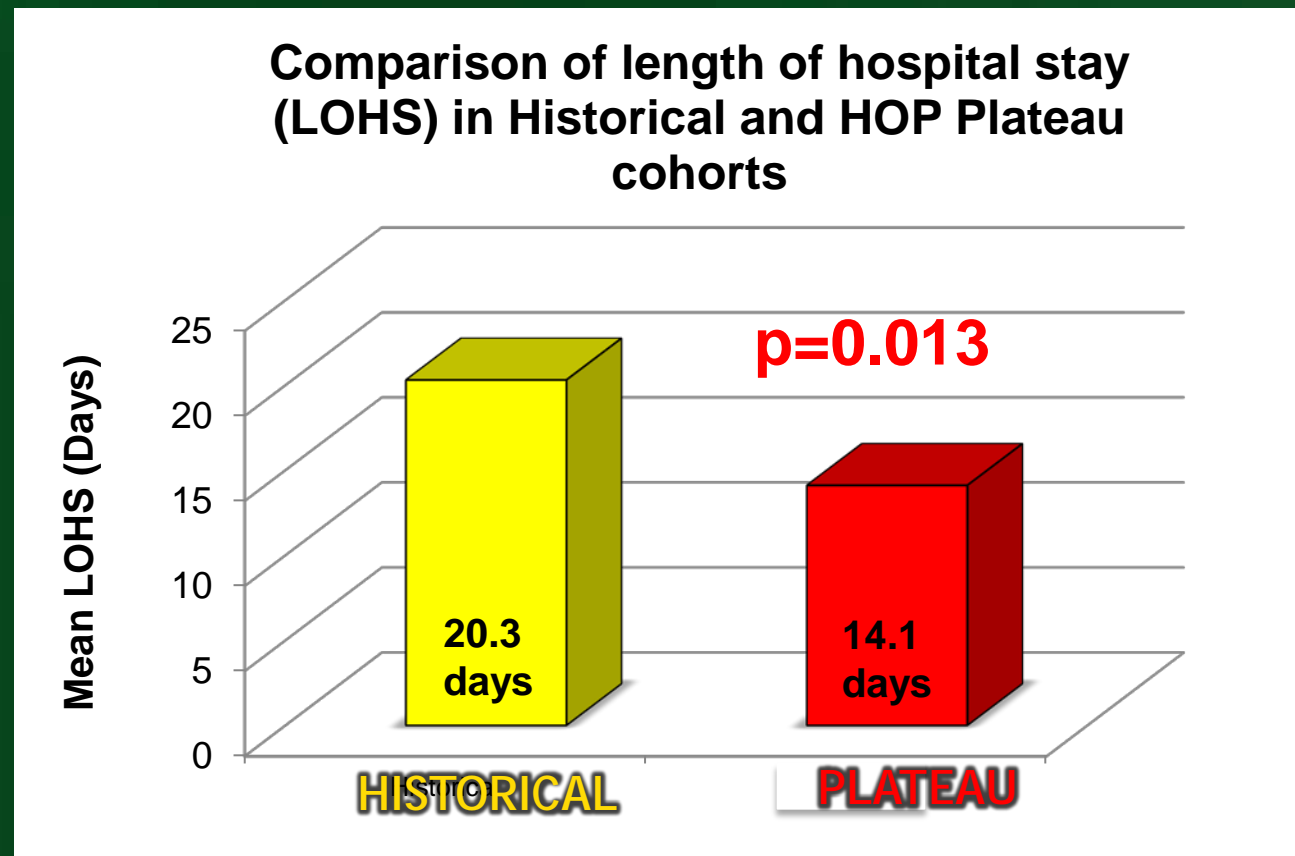
Avoidable ICU transfer delays

Avoidable delays in transfer from ICU to ward after major HNC surgery



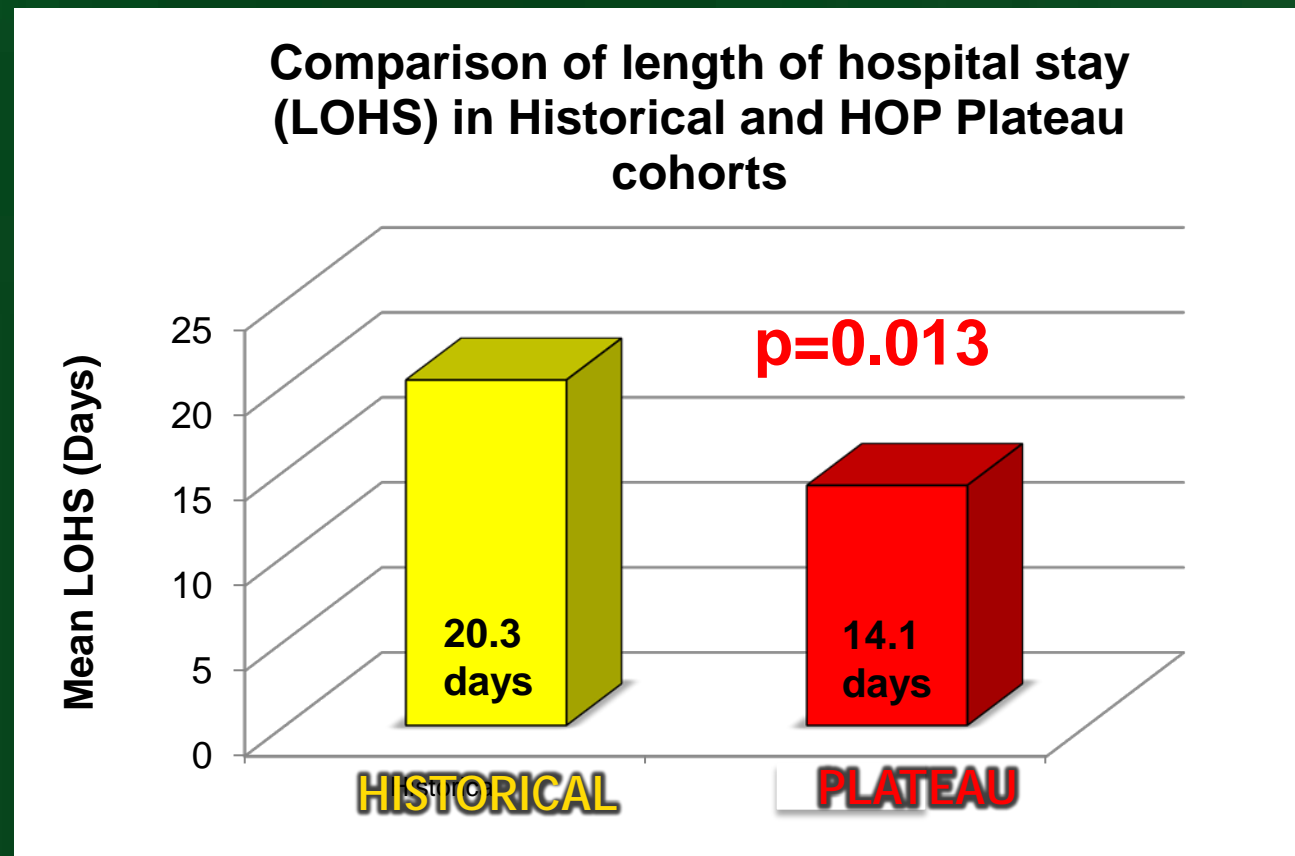
Primary Outcome

- **LOHS**



Primary Outcome

- **LOHS**



EBI-2015-003.02D - Head and Neck Pathway Key Performance Indicators

2015-Oct-01 to 2016-Sep-30

Calgary

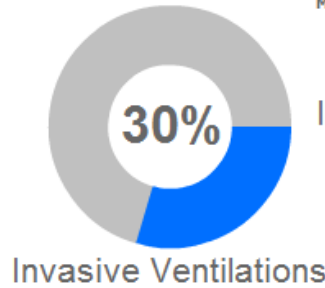
Edmonton

KPIs

Additional Information

69%
Meeting Days in ICU Target (1 day)

70%
Meeting Minutes of Invasive Ventilation Target (0 min)



Median | % Meeting Target

122
ICU Admissions

126
Surgeries



42%
Meeting Avoidable Hours Target (0 hr)

50%
Meeting Days in Hospital Target (14 days)

Overview

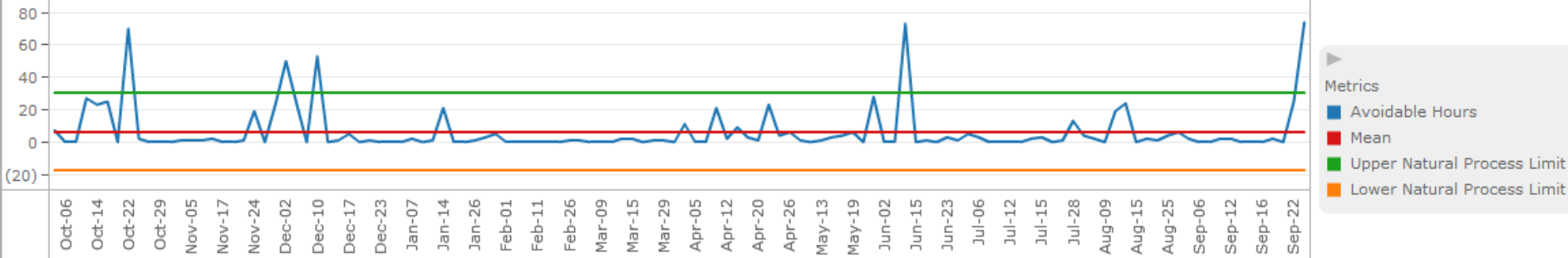
Days Spent in ICU

Duration of Invasive Ventilation

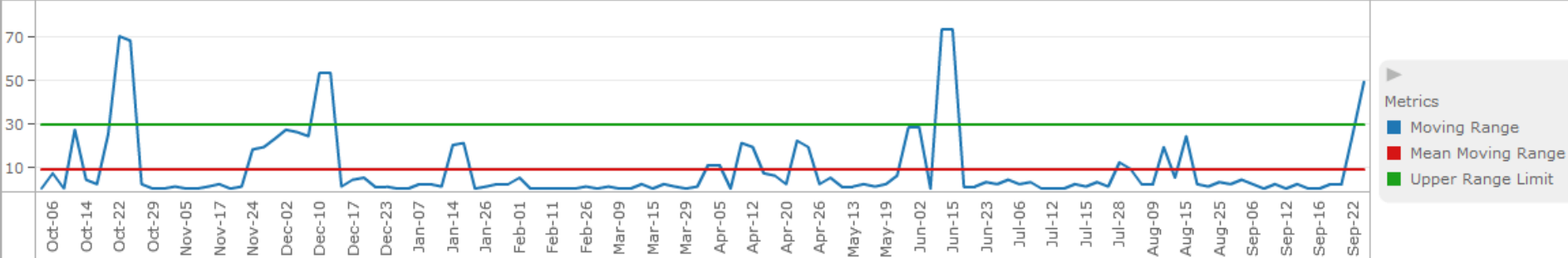
Avoidable Hours

Days Spent in Hospital

Avoidable Hours by Encounter



Avoidable Hours - Range



Thank you

- Dr. Jeffrey Harris
- Dr. Hadi Seikaly
- Dr. Joseph Dort
- Dr. Vince Biron
- Dr. Daniel O'Connell
- Cameron Shillington

