ADAMS Center

Projects Scorecards

Examples of activity at ADAMS Centers in the U.S., Canada and Israel

List of Projects

1. Heart Failure Medication – Protocol
2. PERT – Quality Improvement
3. Unplanned Dialysis
4. Automated Registries
5. Grant: Substance Abuse in Delivering Mothers
6. Centers for Medicare and Medicaid Services: Quality Incentive Program, Facility Compare, Treatment Choices
7. Advanced Lipid Clinic: Primary & Secondary Prevention
8. Diabetes Management Pilot
9. Heart Failure Analysis
10. Duration of Antibiotic Management in Uncomplicated Bacteremia
11. In-Hospital Observation of Anticoagulated Patients Following Minor Head Trauma
12. Suggamadex Use for Reverse Neuromuscular Block
13. Outcomes Measures in Diabetic Foot Clinic
14. Comparison of Treatment Outcomes with Steroids and/or IVIG in Children with ITP
15. Patient Flow at the Gastro Endoscopic Unit – Bottlenecks and the Effect of Sedation Protocol
16. Preventable ED/Hospitalizations
17. Colorectal Cancer

ADAMS Center

SCORE CARD

Heart Failure Medication – Protocol

Description:
Define provider performance in prescribing AHA best-practice medication set for patients diagnosed with Heart Failure. Patients not on the right mix of medications require new visits with new visit professional services to right set prescription list.

Objective:
Identify and train providers on compliance and find patients who would benefit from an updated visit and new medication set.

START	37 DAYS	8 DAYS	
ASK	DISCOVER	ACT	MEASURE
6/03/22	7/10/23	7/18/23	

PROJECT DETAILS

Domain:	Outpatient/Ambulatory
Location:	Enterprise
Service Line(s):	Cardiology
Department	Cardiology
Type:	Quality Improvement - Guidelines
Other:	

PROJECT OUTCOME (ROI)

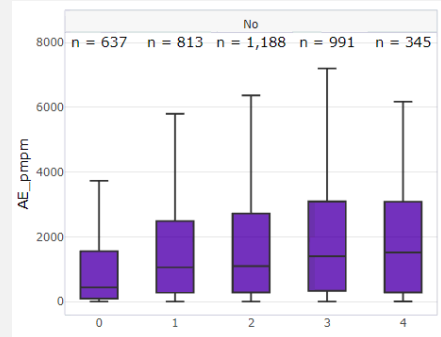|	
New Revenue ($ / Year)	**$1.5M**
Total Lives Impacted	**3600**
Days From stage 0-3	**45**

PROJECT TEAM

MD AVP Physician Associates, Cardiologist **CHAMPION**

PhD Cardiovascular Research **CLINICAL LEADER**

" Finding opportunities for better care starts with better data.

Jeff Goss | Intermountain Health

Comparing providers across health system

Intermountain Healthcare

Unplanned Dialysis

Description:
Build a risk stratification model to predict and reduce number of patients crashing into sub-optimal start for dialysis.

Objective:
Reduce volume of crash & unplanned dialysis for patients, initiate early intervention.

START	17 DAYS		
ASK	DISCOVER	ACT	MEASURE
10/20/22	1/20/2023		

PROJECT DETAILS

Domain:	Enterprise
Location:	Enterprise
Service Line(s):	Intermountain Kidney Services
Department	Nephrology
Type:	Risk stratification, upstream intervention
Other:	

PROJECT OUTCOME (ROI)

Saved ($ / Year)	**$1.6M**
Days from 0-3	**165**

PROJECT TEAM

Medical Directory, Kidney Services **CLINICAL LEADER**
AVP, Intermountain Kidney Services **CHAMPION**
Nurse Manager, Intermountain Kidney Services

"
We are data rich and information poor, and we've been able to dig deeper into our data to build an entire program for managing an at-risk and costly population of patients.

Mike Phillips | Intermountain Health

	Overall	Stage 1	Stage 2	Stage 3A	Stage 3B
N	**43,888**	**1,787**	**11,472**	**18,872**	**7,903**
race - primary (%)					
Asian	538 (1.2)	39 (2.2)	159 (1.4)	193 (1.0)	88 (1.1)
Black	471 (1.1)	24 (1.3)	113 (1.0)	175 (0.9)	79 (1.0)
Native American	303 (0.7)	30 (1.7)	74 (0.6)	65 (0.3)	51 (0.6)
Other	34 (0.1)	6 (0.3)	10 (0.1)	6 (0.0)	4 (0.1)
Pacific Islander	697 (1.6)	42 (2.4)	143 (1.2)	225 (1.2)	135 (1.7)
Unknown	4589 (10.5)	134 (7.5)	915 (8.0)	1962 (10.4)	983 (12.4)
White	37256 (84.9)	1512 (84.6)	10058 (87.7)	16246 (86.1)	6563 (83.0)
age at event (mean (SD))	70.00 (14.54)	42.52 (23.12)	69.60 (13.29)	71.63 (11.75)	73.65 (12.29)
hypertension = yes (%)	32600 (74.3)	1353 (75.7)	9129 (79.6)	13657 (72.4)	5658 (71.6)
Crash_12M = yes (%)	382 (0.9)	10 (0.6)	21 (0.2)	22 (0.1)	34 (0.4)
Death_12M = yes (%)	4337 (9.9)	161 (9.0)	1007 (8.8)	1222 (6.5)	1030 (13.0)

Identifying patients where intervention can have a meaningful impact

Intermountain Healthcare

SCORE CARD

Automated Registries

START	17 DAYS	110 DAYS	
ASK	DISCOVER	ACT	MEASURE
4/15/2022	5/1/2022	8/20/22	

Description:
Leverage new technology to automate registry population for. Intermountain maintains 70+ registries across the health system and each one costs $180,000/year to populate and maintain.

Objective:
Leverage MDClone NLP tools to automate chart element extraction and publishing for 10 Registries.

PROJECT DETAILS

Domain:	Enterprise
Location:	Enterprise
Service Line(s):	Enterprise
Department	Office of Patient Experience
Type:	Clinical Registries
Other:	

PROJECT OUTCOME (ROI)

Saved ($ / Year)	**$1.8M**
Days from 0-3	**110**

PROJECT TEAM

RN MS CPHQ **CHAMPION**
Systems Director - Clinical Data Management

MDClone NLP Studio automatically identifying elements for extraction

" "Caring for patients and organizing ourselves to help drive better outcomes starts with finding better pathways through data. Our registries at Intermountain act as data foundations and MDClone gets those registries filled, at scale, with the right kind of reliable technology"

Jan Orton | Intermountain Health

Intermountain Healthcare

SCORE CARD

Grant: Substance Abuse in Delivering Mothers

Description:
Complete data aggregation and analysis to submit for Helmsley Trust Grant for substance abuse in delivering mothers.

Objective:
Provide pregnant and postpartum women and their children with comprehensive substance use treatment and recovery support services.

START	56 DAYS	20 Days	
ASK	DISCOVER	ACT	MEASURE
9/20/22	11/15/2022	12/5/22	

PROJECT DETAILS

Domain:	Grants
Location:	Enterprise
Service Line(s):	Intermountain Connect Care
Department	Telehealth
Type:	Social Programming & Reporting for delivering mothers
Other:	

PROJECT OUTCOME (ROI)

New Revenue ($5M / Year x 3)	**$15M**
Days from 0-3	**76**

PROJECT TEAM

Intermountain Sr. Data Analyst, **CHAMPION**
Administrator, Intermountain Connect Care **LEADER**

" "Traditionally the Connect Care grants team has not had the analytics support to query the EDW to identify patients and submit for grants. With MDClone we have been able to increase the number of grant application submission with a high degree of quality, and since 2019, we have won $21M in grant funding leveraging MDClone "

Kayla Deru | Intermountain Health

Intermountain Healthcare

SCORE CARD

Centers for Medicare and Medicaid Services: Quality Incentive Program, Facility Compare, Treatment Choices

START	56 DAYS		
ASK	DISCOVER	ACT	MEASURE
12/15/22	~2/15/2023		

Description:
Leverage MDClone for public reporting to Centers for Medicare Medicaid Services

Objective:
Success in improving performance in all these programs revolves around access to accurate and timely data. The specific methodologies and technical requirements are publicly available from CMS.

PROJECT DETAILS

Domain:	Public Reporting
Location:	Enterprise
Service Line(s):	Intermountain Kidney Services
Department	Nephrology
Type:	Social Programming & Reporting for delivering mothers
Other:	

PROJECT OUTCOME (ROI)

New Revenue ($M / Year)	**$1M**
Days from 0-3	**62**

PROJECT TEAM

Area Vice President, Intermountain Kidney Services, **LEADER**
Nurse Manager, Intermountain Kidney Service **CLINICAL CHAMPION**
Data Analyst, Intermountain Healthcare

"IKS lacks the specialized kidney-related data and analytics capabilities to be an industry leader and remain differentiated as a model system of care for patients with kidney disease, MDClone easily provides solution for our analyst to combine claims and clinical data in order to respond to CMS Reporting requirements for our program.

Seth Southwick | Intermountain Health

SCORE CARD

Advanced Lipid Clinic: Primary & Secondary Prevention

START	83 DAYS	155 DAYS	
ASK	DISCOVER	ACT	MEASURE
11/19/20	2/10/2021	7/15/2022	

Description:
Identify patients at risk for primary or secondary adverse event in lipid management by building a risk profile for patients not adherent to guideline diagnostics and therapy.

Objective:
Transform lipid management practice by leveraging guideline and best practices, discover and act on patient opportunity for primary and secondary prevention

PROJECT DETAILS

Domain:	Enterprise
Location:	Enterprise
Service Line(s):	Intermountain Heart Institute
Department	Cardiology
Type:	Risk stratification
Other:	

PROJECT OUTCOME (ROI)

Saved ($ / Year)	**$1.1M**
Days from 0-3	**238**

PROJECT TEAM

Executive Director, Advanced Practice Practitioners, Intermountain Healthcare **LEADER**

Cardiovascular Research, Intermountain Healthcare **CLINICAL CHAMPION**

PMPM cost opportunity avoidance of adverse event, FY 2021

Lipid Management Class	Adverse Event	N	Min	Q1	Median	Q3
Class 1	FALSE	1809	8.84	139.02	315.24	1,152.00	232
Class 1	TRUE	90	35.74	291.11	1,339.00	7,329.85	145
Class 2	FALSE	3449	8.49	163.35	510.03	1,715.00	153
Class 2	TRUE	236	15.21	441.75	1,739.00	13,701.00	248
Class 3	FALSE	929	8.01	178.57	678.26	2,973.00	66
Class 3	TRUE	98	58.43	496.93	3,000.00	13,872.00	173

"MDClone has allowed me to better understand what opportunities are available to improve clinical care. One can look at one's own patient panel, patient's served by the clinic, the department, etc. asking whether or not a specific type of patient, disease/illness, or lab values are routinely being seen or not seen, whether clinical actions accompany findings"

Viet Le | Intermountain Healthcare

SCORE CARD

Diabetes Management Pilot

START	192 DAYS	135 DAYS	
ASK	DISCOVER	ACT	MEASURE
5/8/22	11/16/2022	3/31/2023	

Description:
Identify poor control, high cost, under served diabetes patients and design program for patients stratified for cost/utilization reduction with better management to target

Objective:
Value Based Care focus on 10% Reduction in targeted high per member per month cost by addressing gaps in adherence to diabetes care process model

PROJECT DETAILS

Domain:	Enterprise
Location:	Enterprise
Service Line(s):	Intermountain Heart Institute
Department	Cardiology
Type:	Risk stratification

PROJECT OUTCOME (ROI)

Saved ($ / Year)	**$2.6M**
Total Lives Impacted	**2000**
Days from 0-3	**327**

PROJECT TEAM

Medical Director, Internal Medicine, Intermountain Healthcare **LEADER** , **CLINICAL CHAMPION**

Operations Leader, Intermountain Healthcare **LEADER**

47,615 Patients
At Least 3 Outpatient Visits w/ Intermountain in the Past Two Years
VBC Insurance Plan | Not Deceased | Age >= 18

8,703 Patients
(In scope population)
Type 2 DM, and A1C >= 8 in 1 of last two results

199 Patients with High PMPM and High ADI
7% of Total In-scope Medical Expense

1,743 High PMPM

769 High ADI
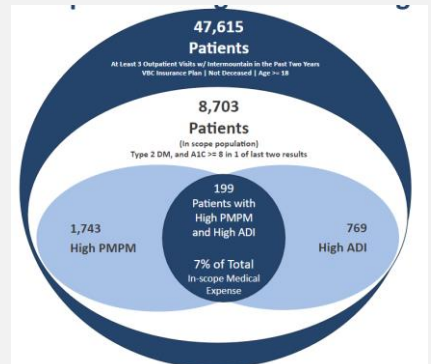
> "MDClone opens the path to new discoveries because the speed at which I get answers allows growth of my own thought process."
>
> Dr. Christopher Jones | Intermountain Healthcare

SCORE CARD

PERT – Quality Improvement

START	29 DAYS	8 DAYS	S
ASK	DISCOVER	ACT	MEASURE
1/15/22	1/28/22	2/27/22	3/4/22

Description:
Understand best practices in treatment options for patients who present in the ED with Pulmonary Embolism (blood clot). Review mortality rates and compare populations, clinical factors, and treatment choices to find opportunities to improve quality.

Objective:
Find best-practice to reduce 30 day mortality rates for patients who present with PERT in the ED.

PROJECT DETAILS

Domain:	Clinical Quality
Location:	McKay Dee Hospital
Service Line(s):	Interventional Radiology
Department	ED
Type:	Clinical Variation and Outcomes Analysis
Other:	

PROJECT OUTCOME (ROI)

New Revenue ($ / Year)	**$4.5M**
Total Lives Impacted - 2023	**750**
Days from 0-3	**42**

PROJECT TEAM

MD , IR Team Lead **CHAMPION**

MD, IR **CLINICAL LEADER**

MD, IR **CLINICAL LEADER**

Morbitity rates by treatment types, compared across facilities
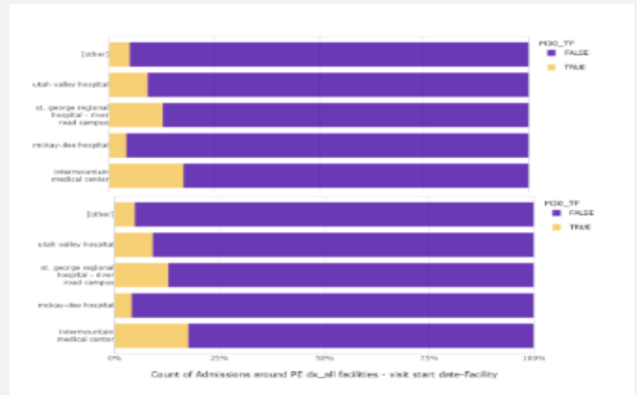
> "Our work informed how we approach care, and we were able to make data-informed decisions about treatment that impact patient lives in real time. All of our facilities will adopt this."

Dr. Travis McKenzie | Interventional Radiologist, Intermountain Health

SCORE CARD

Duration of antibiotic management in uncomplicated bacteremia

Objective:
Reduce redundant use of antibiotics out of the guidelines and improve patient care

Description:
Infection diseases department would like to check whether the clinicians following the guidelines that define that an antibiotics treatment can't be give for more than 7 days
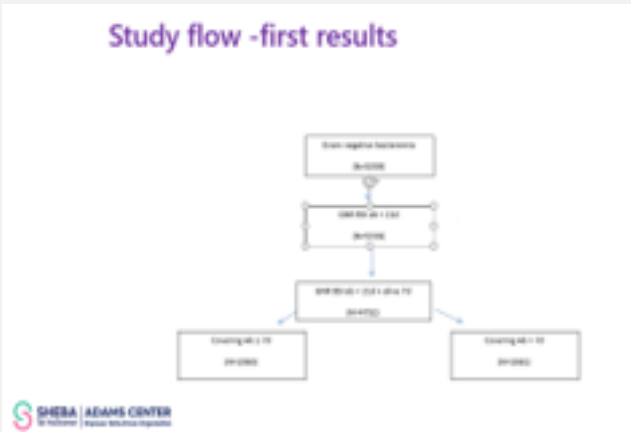
| ASK | DISCOVER | ACT | MEASURE |

PROJECT DETAILS

Domain:	Inpatient
Location:	Sheba
Service Line(s):	Infection Diseases
Type:	Quality of care

PROJECT OUTCOME (ROI)

Total Lives Impacted (#/Year)	**700**
Days from IDEA - ACT	**90**

Study flow -first results

> "The project contributes to reducing unnecessary treatment with antibiotics, thus reducing side effects, development of resistance, secondary infections and cost."

DAFNA YAHAV | SHEBA MEDICAL CENTER

SCORE CARD

In-Hospital Observation of Anticoagulated Patients Following Minor Head Trauma

Objective:
Reduce redundant hospitalization days, Avoid unnecessary hospitalizations and Reduce the waiting burden at the ER

Description:
Based on the current guidelines (define on 1999) each and every patient with minor head trauma who gets anticoagulation should stay for one night observation even in case the head CT is normal. The team in the ER think that some of these observations are not needed and decided to verify it based on organization real data

ASK	DISCOVER	ACT	MEASURE

PROJECT DETAILS

Domain:	Inpatient
Location:	Sheba
Service Line(s):	Emergency Room
Type:	Quality of care Operational

PROJECT OUTCOME (ROI)

Total Lives Impacted (#/Year)	**400**
Days from IDEA - ACT	**70**

Outcome Narrative:

400 patients a year were discharged, load in the ER was reduced
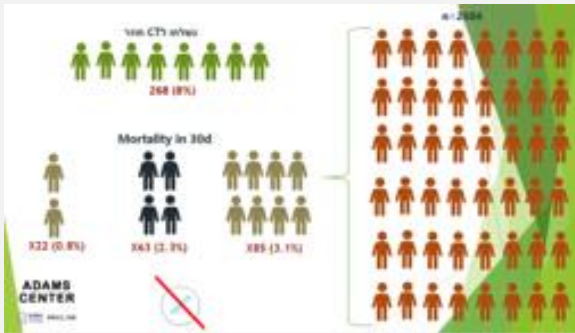
> " With the help of the ADAMS Center and the use of NLP's advanced capabilities, we were able to conduct a clinical study in a few months instead of over years, and changed a procedure that has been in place at ER for decades, which translates into shorter times at ER, reduced workload and efficient and fast treatment of patients."

GAL BEN-HAIM | SHEBA MEDICAL CENTER

SCORE CARD

Sugammadex use for reverse neuro-muscular block

Objective:
Reduce the use of non-indicated, unnecessary Sugammadex

Description:
Sugammdex got into the market 4 years ago as a new neuro-muscular blockade reversal, this type of medication is much more expensive than the current med in use.
Head of the Operations room wanted to explor what affects the anesthesiologist's choice to use neuro-muscular blockade reversal and understand the effect of neuro-muscular blockade reversal on short term post operative respiratory outcomes.

ASK	DISCOVER	ACT	MEASURE

SHARE	Assuta
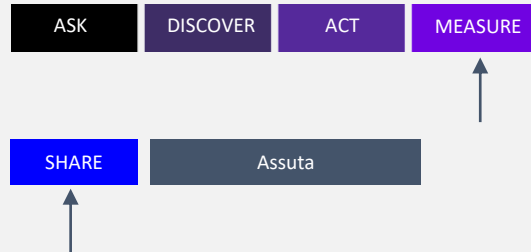
PROJECT DETAILS

Domain:	Inpatient
Location:	Sheba
Service Line(s):	Operations Room
Type:	Financial
	Quality of care

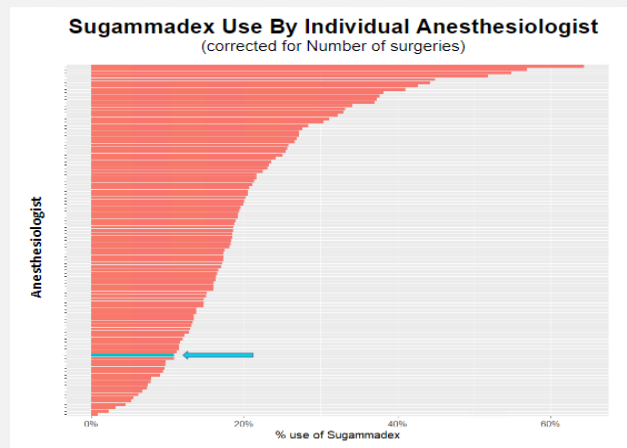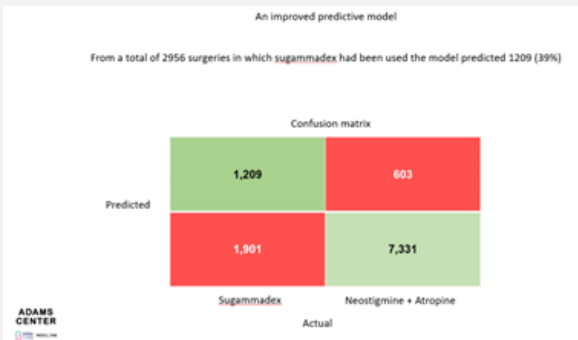## PROJECT OUTCOME (ROI)

Saved ($ / Year)	**120k**
Days from IDEA - ACT	**90**

Outcome Narrative:

Weekly report is being sent to the director of the Anesthesiology with the name of the clinical teams.

Prediction model to understand use of medications and deviation from protocol

An improved predictive model

From a total of 2956 surgeries in which sugammadex had been used the model predicted 1209 (39%)

Confusion matrix

	Sugammadex	Neostigmine + Atropine
Predicted	1,209	603
	1,901	7,331

Actual

Sugammadex Use By Individual Anesthesiologist
(corrected for Number of surgeries)

Anesthesiologist

% use of Sugammadex

> " Access to data and rapid exploration brought us unique capability to find insights and in this case, save money
> Dr. Ronen Loebstein, Director of Pharmacology Sheba Medical Center

SCORE CARD

Outcomes measures in diabetic foot clinic

Objective:
Reduce amputations 10%, reduce the ratio between minor/major amputation to 0.9, improve patients' satisfaction, reduce time to wound closer

Description:
Israel is in the 1st place in % of amputations for diabetic patients in the OECD countries. The goal od this proeject is to analyze the treatment these patients get in Sheba and find the way to reduce this number.

ASK	DISCOVER	ACT	MEASURE

1/20/23

PROJECT DETAILS

Domain:	Inpatient
Location:	Sheba
Service Line(s):	Diabetic Foot Clinic
Type:	Financial Quality of care

PROJECT OUTCOME (ROI)

Total Lives Impacted (#/Year)	**90**
Days from IDEA - ACT	**120**

Patient Journey

> Data The ability to analyze a huge number of variables of each patient in relation to himself and in relation to others is the key to producing flow charts for correct and advanced work, producing red lights, and even developing warning signs even before the deterioration that ends in the loss of a limb"

CHEN SPETER | SHEBA MEDICAL CENTER

SCORE CARD

Comparison of treatment outcomes with steroids and/or IVIG in children with ITP

| ASK | DISCOVER | ACT | MEASURE |

Description:
IVIG treatment is preferred over steroid treatment, especially when the clinical assessment of the risk of bleeding is higher and when there is a differential diagnosis of hemato-oncological disease.
There is no direct evidence that the administration of drugs reduces the risk of intracranial bleeding in light of the rarity of these events.
IVIG shortage expected in 2023.

Objective:
Compare treatment outcomes between steroids and IVIG to reduce the use of IVIG for required situations only
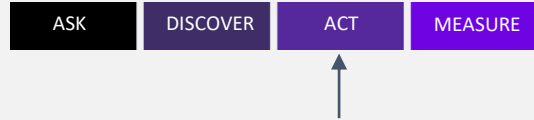
PROJECT DETAILS

Domain:	Inpatient
Location:	Sheba
Service Line(s):	Pediatric
Type:	Financial
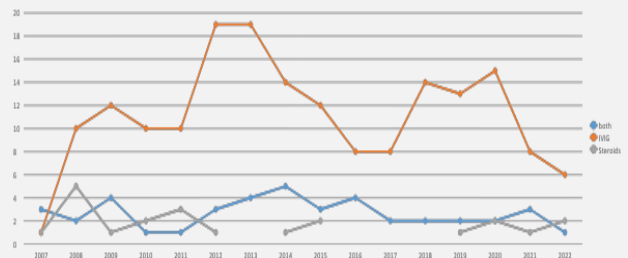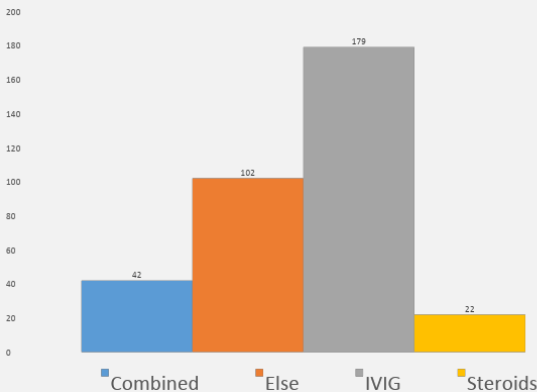Quality of care

PROJECT OUTCOME (ROI)

Saved ($ / Year)	**40k**
Days from IDEA - ACT	**120**

Outcome Narrative:

Decision to stop using IVIG for patients with ITP

Treatment usage within hospital over time

Combined: 42, Else: 102, IVIG: 179, Steroids: 22

" Data The ability to analyze a huge number of variables of each patient in relation to himself and in relation to others is the key to producing flow charts for correct and advanced work, prod"

SHEBA | ADAMS CENTER
Tel HaShomer | Empower Data-Driven Organization

SHEBA
Tel HaShomer

SCORE CARD

Patient flow at the Gastro endoscopic unit – bottlenecks and the effect of sedation protocol

Description:
The purpose was to find out what is the length of time between operations when the room is empty, has the combination of specific doctors and nurses led to a longer operation time, in order to improve efficiency.

Objective:
Improve patient experience and satisfaction
Gastro department process efficiency improvement

ASK	DISCOVER	ACT	MEASURE

PROJECT DETAILS

Domain:	Inpatient
Location:	Sheba
Service Line(s):	Gastro
Type:	Operational, Patient satisfaction

PROJECT OUTCOME (ROI)

Expected Total Lives Impacted (#/Year)	**270**

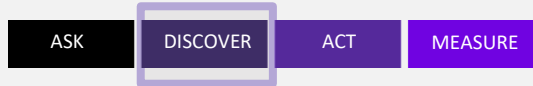## Recovery times based on sedation medication use
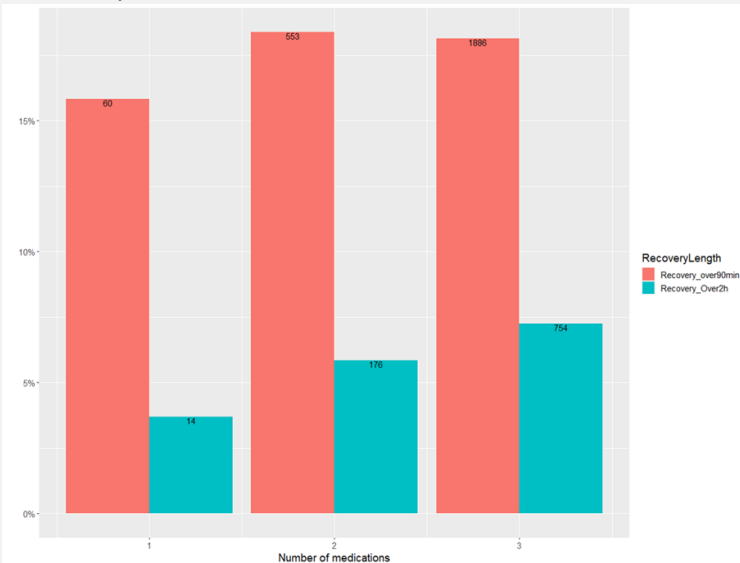
" Thanks to the ADAMS Center, we are able to analyze thousands of patient records hopefully leading to increased operational efficiency and improved patient satisfaction

ASAF LEVARTOVSKY | SHEBA MEDICAL CENTER

Preventable ED/Hospitalizations

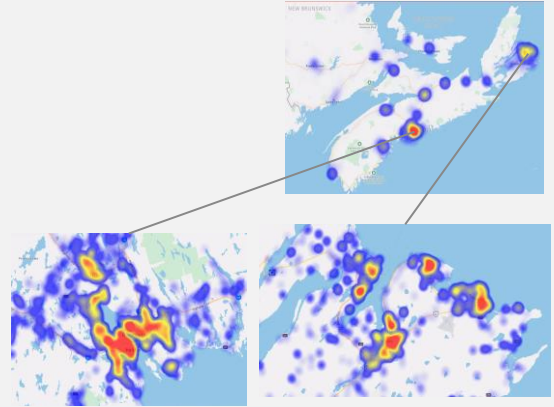| ASK | DISCOVER | ACT | MEASURE |

Description:
Collaboration with the Public Health authority to address public health concerns, and utilization drivers for the province. Addressing chronic disease inpatient utilization, mental behavioral health, community centers.

Objective(s):
ASK: Define population characteristics
DISCOVER: Validate geographic and clinical areas of opportunity
ACT: Design programmatic intervention
MEASURE: Report on initiative success

PROJECT OUTCOME (ROI)

PROJECT DETAILS

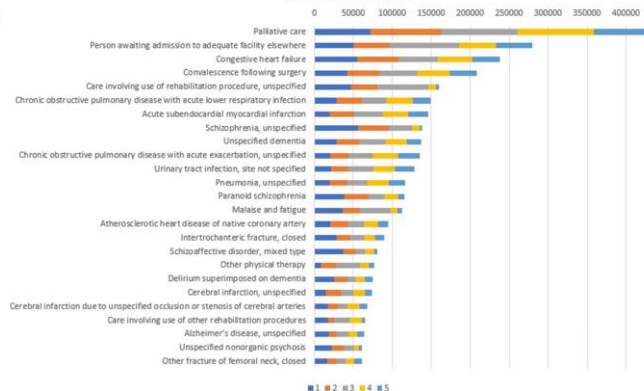|	
Domain:	Province
Location:	Enterprise
Service Line(s):	Nova Scotia Health Authority
Department:	Health & Wellness / Population Health
Type:	Location & patient profile analytics, public health program development
Other:	

(EARLY) INSIGHTS

Charts Details:
1. **Heat map of provincial volumes and areas of opportunity**
2. **Top 25 diagnoses requiring hospitalization**
3. **Top 25 diagnoses with longest length of stay (proxy for cost)**

IN PARTNERSHIP WITH:

MDCLONE

Colorectal Cancer

| ASK | DISCOVER | ACT | MEASURE |

Description:

Analyze current 3-year survival rate for patients by tumor stage and lymph node stratification in gastrointestinal excisions. Use literature to benchmark prognosis and analyze standard of care and outcomes.

Objective(s):

NLP to ASK: Define population characteristics

DISCOVER: Risk stratification of baseline patient characteristics, identify predictors and tumor stage + lymph node

ACT: Consider aggressive intervention, discuss with oncology

MEASURE: Patient survival rate

PROJECT OUTCOME (ROI)
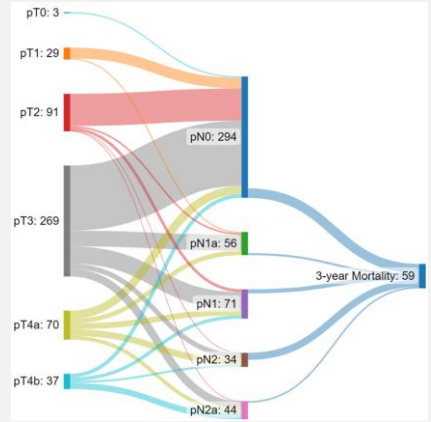
PROJECT DETAILS

Domain:	Province
Location:	Enterprise
Service Line(s):	Oncology
Department:	
Type:	Standard of care, risk stratification, and survival rate
Other:	

INITIAL INSIGHTS

Primary Tumor Grade	(n)	Lymph Node Spread	(n)	3-year Mortality (n)
pT0	3	pN0	3	0
pT1	29	pN0	26	1
		pN1	3	1
pT2	91	pN0	78	2
		pN1	11	0
		pN2	2	0
pT3	269	pN0	158	13
		pN1	80	6
		pN2	31	6
pT4a	70	pN0	20	5
		pN1	25	6
		pN2	25	11
pT4b	37	pN0	9	2
		pN1	8	2
		pN2	11	4

Charts Details:

1. **Sankey diagram of survival rate**
2. **NLP rules to extract tumor stage and lymph node spread**
3. **Counts by 3 year mortality post-excision**