
EMPIRIC HEALTH
burst iQ
ProComp Demo
EUBlockchain
Observatory and Forum

burst iQ **revolutionizes the way organizations manage and connect data**

50 Billion
data points processed
clinical, claims, supply chain and more

100+ **organizations on the platform**

BurstIQ is

A blockchain **DATA EXCHANGE NETWORK** that builds multi-dimensional profiles of people, places, and things and enables **SECURE CONNECTIONS** between them

BurstIQ C-suite has
>200
years of cybersecurity and healthcare experience

founded 2015

identity networks | health information exchanges | enterprise data networks | data marketplaces | consumer data management

FROST & SULLIVAN BEST 2019 PRACTICES AWARD NORTH AMERICAN HEALTHCARE DATA MANAGEMENT TECHNOLOGY INNOVATION AWARD

GBA Government Blockchain Association Achievement Award

burst iQ WINNER INNOVATIVE ENTREPRENEURSHIP IN BLOCKCHAIN INDUSTRY SOLUTIONS

U.S. DEPARTMENT OF COMMERCE · INTERNATIONAL TRADE ADMINISTRATION

OECD OFFICIAL ADVISOR BLOCKCHAIN TASK FORCE

THE GLOBAL COMPACT WE SUPPORT

EY Entrepreneur Of The Year® 2019 Finalist

RED HERRING 100 WINNER N. AMERICA

THE 10 Enterprise Grade BLOCKCHAIN Leading Solutions, 2018 MR

MEDTECH BREAKTHROUGH AWARD 2020 BEST HEALTHCARE NETWORK SECURITY SOLUTION

EMPIRIC HEALTH

Tech-enabled service that improves patient outcomes and dramatically reduces cost in surgical services.

Intermountain® Healthcare

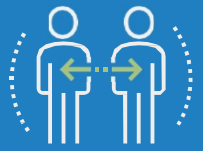
- 24 hospitals
- 160+ clinics
- 2400 physicians
- Located in Utah, Southern Idaho, and Southern Nevada

Goal to Reduce Clinical Variation in Surgical Services

Compare

like surgical patients to determine unnecessary procedural variation and waste

Engage



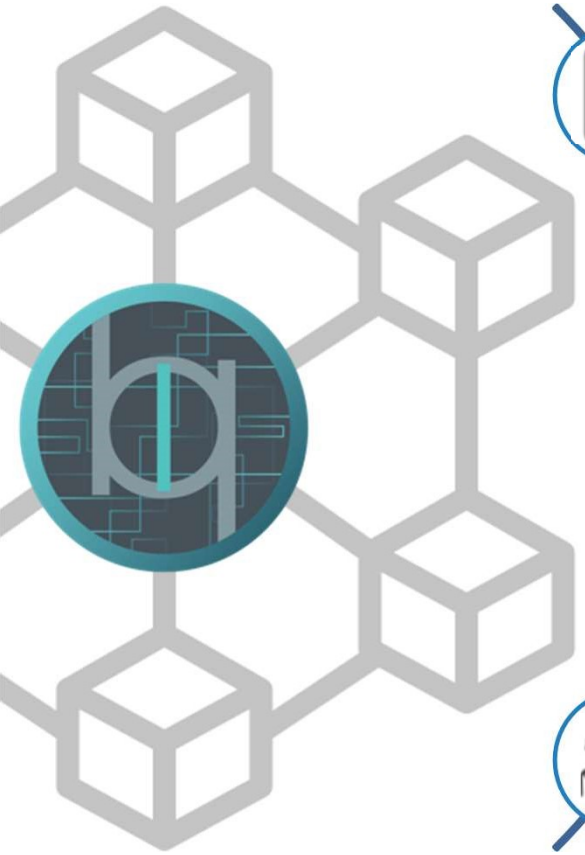
surgeons with personalized insight and reach consensus on best practice

Reduce

unnecessary variation and cost while creating a culture of evidence-based medicine to improve surgical outcomes

EMPIRIC HEALTH

Need to Aggregate Disparate Sources of Surgical Data



- Clinical Documentation
- Claims Data
- Surgical Supply Chain
- Quality Analytics
- Staffing Details

Data Stored On-Chain

Secure Data Exchange

CONSENT CONTRACTS

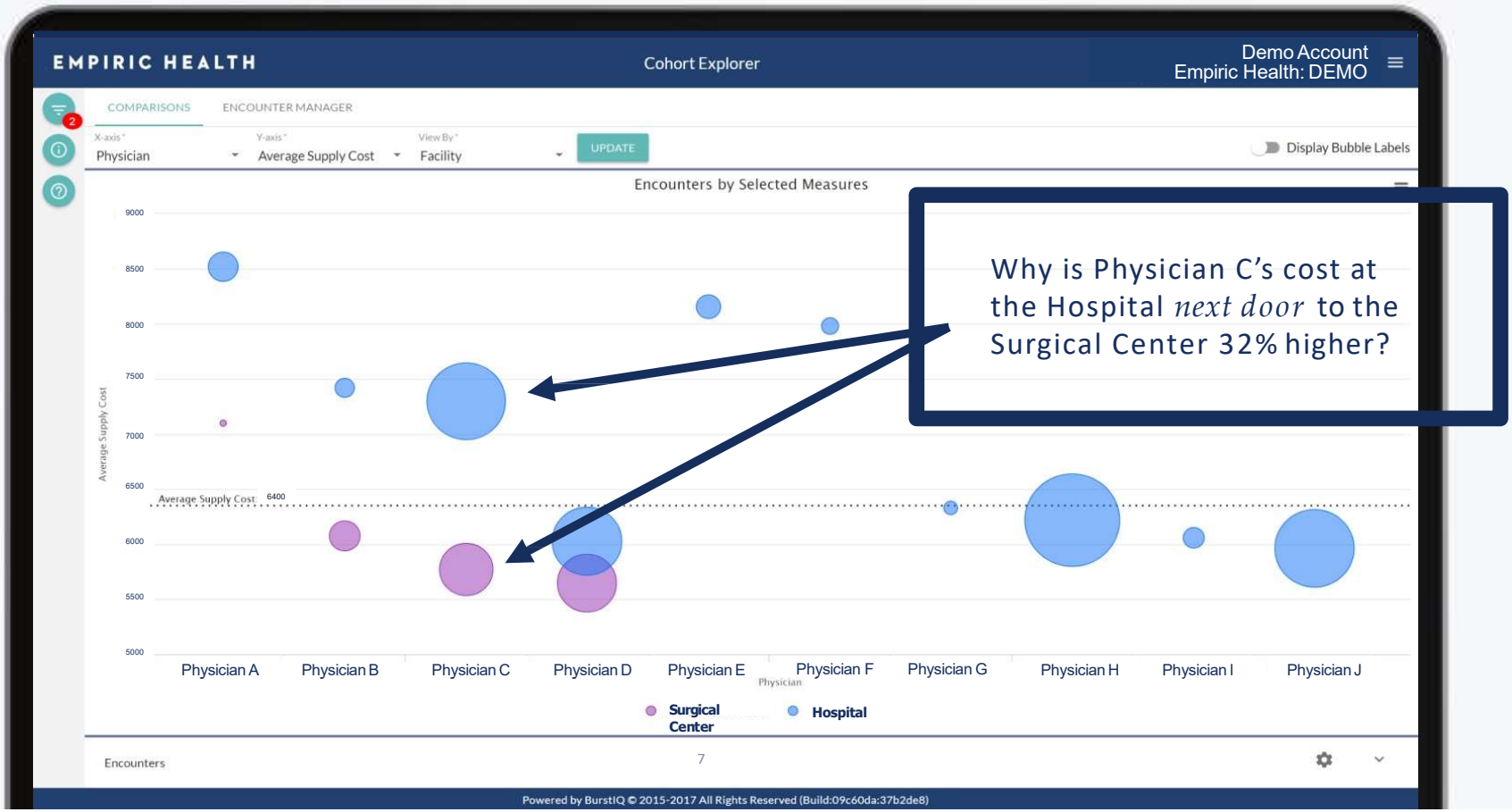
- Highly complex, granular data sharing
- Time-limited, conditional, trigger-based
- ”Any-to-any” data sharing and governance
- Automates multi-party contracts

ORCHESTRATOR

- Highly flexible rules engine
- Automates complex data-workflows and processes
- Coordinates events and data exchanges between systems, services, AI tools, etc.

burst IQ

Dashboard Visualizations allow Deep Review

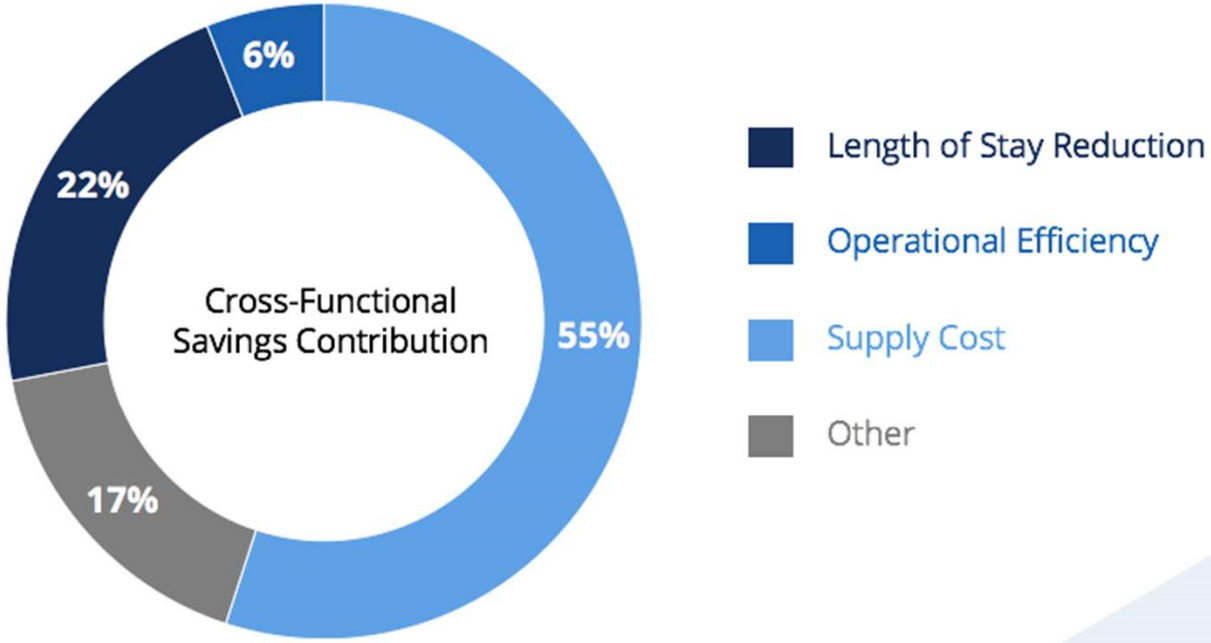


Direct Cost Savings

To-date, ProComp has saved Intermountain Healthcare

$90M+

in direct cost, through supply savings, length of stay reduction, and other operational efficiencies



EMPIRIC HEALTH

Research

Laparoscopic Common Bile Duct Exploration for Choledocholithiasis: Analysis of Practice Patterns of Intermountain HealthCare

Daniel Gilsdorf, MD, Jake Henrichsen, BS, Katie Liljestrand, RN, Allison Staheli, RN, Griffin C
Prem Narayanan, BS, MS, Mark Ott, MD, FACS, David S Morris, MD, FACS, Raymond Price, M

BACKGROUND: The ideal management of common bile duct (CBD) stones remains controversial, wh
with single-stage management using laparoscopic CBD exploration (LCBDE) during
roscopic cholecystectomy, or with 2-stage management using preoperative or postoper
ERCP. We wished to elucidate the practice patterns within our health system, which incl
both large urban referral centers and small rural critical access hospitals.

STUDY DESIGN: We conducted a retrospective data analysis from our 22-hospital, not-for-profit, integ
healthcare system. All patients with a diagnosis of choledocholithiasis who underwent
roscopic cholecystectomy (LC) and either ERCP or LCBDE for duct clearance between
and 2013 were included. Demographic data, along with disease-specific characteristics
outcomes, were collected and compared.

RESULTS: During the study period, 37,301 patients underwent LC. Of these, 1,961 (5.3%) met incl
criteria. Single-stage management with LC+LCBDE was performed in 28% of patients,
the remaining 72% underwent 2-stage management with ERCP (73% postoperative EF
27% preoperative). Mean total number of procedures was lowest in the LC+LCBDE gro
the post-cholecystectomy ERCP group vs the preoperative ERCP group (mean 1.4 vs 2.1 v
$p < 0.05$). Hospital charges were also lower in the LC+LCBDE group vs post-cholecystect
ERCP vs preoperative ERCP groups ($9,000 vs $10,800 vs $14,200; $p < 0.05$). Single-sta
two-stage management varied greatly between hospitals (from 0% to 93%).

CONCLUSIONS: Single-stage management of CBD stones resulted in the fewest procedures and lower hos
charges without an increase in complications. Single-stage management (LC+LCBDI
CBD stones is underused and can offer better value in today's cost-constra
environment. (J Am Coll Surg 2018;226:1160–1165. © 2018 by the American Co
of Surgeons. Published by Elsevier Inc. All rights reserved.)

Gallstones are endemic in the US, with estimates of incidence at 15% and 20% of the population, resulting in 650,000 to 700,000 cholecystectomies performed per year and an estimated total annual expenditu billion dollars.[1] Choledocholithiasis occurs in of patients with a diagnosis of cholelithi more than 26,000 patients with choled admitted to hospitals in the US annually.[2] M with choledocholithiasis are managed with invasive surgical and endoscopic techniques. be 2-stage procedures, performed using ERC after laparoscopic cholecystectomy (LC), or procedures, which typically use LC and in laparoscopic common bile duct exploration Laparoscopic cholecystectomy with intraoperative is also described, although it is much less common. Studies comparing minimally invasive single-stage to

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LEAD FEATURE

Strategies to address the U.S. opioid crisis in th perioperative setting

Lisa Croke, Managing Editor

In 2017, more than 47,000 deaths caused by overdoses in the United States involved opioids, with more than 35 percent of these attributed to prescription opioids.[1] Surgical patients are commonly exposed to opioids,[2] which can be administered immediately before surgery (i.e., preemptively), intraoperatively, or postoperatively, and prescribed for managing chronic pain in the long term.[3] Although opioids often are the most effective option for managing acute moderate to severe pain for many surgical patients,[3] overprescribing in this patient population is a common problem.[2] For example, recent studies have identified that more than 80 percent of patients are prescribed more than the suggested maximum amount of opioids as defined by their state guidelines[4] and that surgical patients took only 27 percent of the opioids prescribed to them.[5] This overprescribing can result in the misuse of opioids and is a contributing factor to the current national opioid crisis.

According to Jeannette L. Prochazka, MSN, RN, ACNS-BC, clinical operations director, Intermountain Healthcare in Salt Lake City, despite the call to combat the opioid crisis, there is a lot of pressure for surgeons and perioperative nurses to manage patients' pain after surgery. "Patients trust us with their care, including managing their pain," she said. "Surgery is a place where patients are either exposed to opioids for the first time or are 'allowed' to take more than their chronic pain prescriptions to control acute pain, both of which can leave patients at risk for unintentional overdose, misuse, or abuse." It is important that perioperative teams assess and address the ways their practices contribute to the current crisis, including evaluating their opioid prescribing practices, with the objectives of appropriately managing surgical pain while reducing the risk of opioid dependence and diversion to the community.[6]

Prochazka explained that one of the main strategies to reduce opioid prescriptions at her facilities included using data obtained from a patient-reported surv of how many opioids they consume versus how many were prescribed. "The survey showed that patients consistently took less than 40 percent of what was prescribed to them," she said. "The sur were shown these data throughout the year and, 2018, we were able to reduce the amount of opic prescribed to surgical patients at our facilities by 1,692,587 pills." She also suggested that perioper nurse leaders should take the initiative to talk wit anesthesia professionals about standardizing pain medication regimens and with surgeons about a to reduce the amount of opioids they are prescri

Risks of opioids

The risks associated with opioids can be signific including dependence, unintentional overdose, a diversion. According to Prochazka, undergoing surgery alone is a risk factor for instigating long-t opioid use. "Patients who have not received opioi previously are often being exposed to them for th time during surgery and their tolerance is unkno leaving them at risk for addiction," she said. "Th who have been previously exposed to opioids typ require higher doses perioperatively to combat ac pain in addition to their chronic pain, which also leaves them at risk for addiction."

Approximately 6 percent of patients undergoing surgery have been shown to be persistent opioid users postoperatively,[4] with evidence indicating t larger quantity prescriptions were associated with greater consumption.[3,7] Patients were shown to take an additional 5.3 pills for every 10 extra pill prescribed,[3] and approximately 20 percent of pat who received an initial 10-day opioid prescriptio and approximately 35 percent of those who recei 30-day prescription were still taking opioids one later.[7] In addition, although it is a relatively small increasing, percentage of postoperative complicat Prochazka said that patients also are at risk for accidental overdose because of the potential prok

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Implementation of a Quality Improvement Initiative to Decrease Opioid Prescribing in General Surgery

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ABSTRACT

Background: There is increasing need to avoid excess opioid prescribing after surgery. We prospectively assessed overprescription in our hospital system and used these data to design a quality improvement intervention to reduce overprescription.
Materials and methods: Beginning in January 2017, an e-mail-based survey to assess the quantity of opioids used postoperatively as well as patient-reported pain control was sent to all surgical patients in a 23-hospital system. In January 2018, as a quality improvement initiative, guidelines were given to surgeons based on patient consumption data. Prescription and consumption were then tracked prospectively. Wilcoxon signed-rank, analysis of variance, and Cuzick trend tests were used to assess for overprescription and changes over time in opioid prescribing and consumption.
Results: We included 2239 patients in our cohort. The amount prescribed (median [IQR]: 30 [24-45] versus 18 [12-30], $P < 0.001$) and consumed (median [IQR]: 12 [7-20] versus 8 [3-15], $P < 0.001$) each decreased between the first and last quarter studied. Academic hospitals prescribed fewer opioids than nonacademic hospitals (median [IQR]: 24[15-40] versus median [IQR]: 30 [20-45], $P < 0.001$). There was no difference in the quantity of opioids consumed between patients treated at academic and nonacademic facilities (median [IQR]: 10[3-19] versus 10.5 [4-20], $P = 0.08$). Patients consumed a median of 42% of the opioids prescribed, and there was no significant trend in the percent consumed over time ($P = 0.8$).
Conclusions: Patients used far fewer opioids than prescribed after common adult general surgery procedures. When surgeons were provided with patient consumption data, the number of opioids prescribed decreased significantly.

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