

CASE STUDY

Intermountain Healthcare

On a Mission with MDClone

MDCLONE



Intermountain Healthcare:

On a Mission with MDClone



LOCATIONS

Utah & Idaho

HEADQUARTERS

Salt Lake City

SIZE

24 Hospitals
 2,745 licensed beds
 37,000 employees
 2,400 physicians
 Largest private employer
 in Utah

SPECIALTIES

Brain and Spine Care
 Dialysis
 Emergency and Critical Care Services
 Hearing and Audiology
 Hyperbaric Oxygen Therapy
 Internal Medicine
 Pulmonology

WEBSITE

intermountainhealthcare.org

Intermountain Healthcare is a not-for-profit healthcare system and the largest provider in the Intermountain West region with 24 hospitals, including a “virtual” hospital, 215 clinics, a medical group of more than 2,400 physicians and a health insurance company, SelectHealth.

Intermountain is a recognized leader in transforming healthcare through innovation and a patient-centric approach. Helping people live the healthiest lives possible, Intermountain is widely recognized as a leader in clinical quality improvement and efficient healthcare delivery.

Intermountain Healthcare is heavily focused on quality, population health, and value-based care (more than 40% of their patients are at full-risk). Realizing that innovation is critical to success, Intermountain Ventures was formed to invest in new technologies and partnerships to improve the quality, safety, and accessibility of healthcare.

The need for insights from data has grown dramatically in the healthcare industry, making it difficult to scale analyst teams to meet the demand. Intermountain Ventures realized that placing data exploration directly into the hands of researchers and clinicians could radically transform both patient care and financial performance.

This led to a partnership with MDClone, the only vendor that could deliver all of the requisite capabilities.

Challenges

Intermountain Healthcare knew that gathering and reorganizing patient data was only the first step to treating and preventing chronic and acute care conditions. In order to navigate and fully utilize their rich healthcare data, they needed a solution that could help them overcome four distinct challenges they were facing:

01

Over-Mediated: Analysts and clinicians were unable to guide and complete their own queries and relied heavily on IT database experts.

02

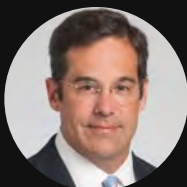
Time-Intensive: The cycle of time to insights was too long and discouraged optimal engagement from clinicians: both at the back end of processing (after a long wait for results) and at the front end (re-engagement with the same time-intensive process).

03

Unstructured Data: Finding meaningful patterns in their data was more difficult as the datasets grew, both in size, type, and source.

04

Privacy Regulations: Discovering and sharing insights with collaborators was restricted and often not possible due to patient privacy regulations.



“In order to take care of patients, you need to know two things: what to do next and understand the total risk associated with that patient.”

DR. MIKE PHILLIPS
PARTNER AND MANAGING DIRECTOR
INTERMOUNTAIN VENTURES

Solution

During an innovation exploration trip to Israel with the Governor of Utah, Dr. Mike Phillips heard MDClone's CEO, Ziv Ofek, discuss the power of self-service analytics and privacy-protecting synthetic data. The concept of any user, any question, in rapid cycles and with full patient privacy immediately interested Dr. Phillips. The full suite of capabilities MDClone provided were uniquely suited to Intermountain's project (and corporate) mission – including these distinctive strengths: self-service, speed to results, data breadth and open structure, and synthetic data.

“In an environment where you have to wait and get help to structure your queries, then wait months for answers, doctors just don't engage. But this is completely different because we can ask any question—specific or exploratory—and get answers within a matter of days or hours.”

– Dr. Mike Phillips, Intermountain Ventures

SELF-SERVICE

MDClone dis-intermediates the data query process, which enables clinicians to ask very specific questions, and get rich, actionable answers very quickly and without mediators.

SPEED TO RESULTS

The unique ability to quickly see outcomes and associations across long spans of time and within large datasets/patient populations helps the team establish clear trends and discern new, authoritative insights. Fast generation of data-driven insights combined with a user's clinical knowledge results in more insightful queries and a more accessible and repeatable research process.

DATA BREADTH AND OPEN STRUCTURE

In just three months, MDClone organized over 15 years of fragmented patient data from Cerner's EMR platform, SelectHealth claims, external labs, and three legacy platforms to compose more than seven million patient histories. This breadth of data greatly enriched Intermountain's ability to surface insights and guide decision making.

SYNTHETIC DATA AND SHARING

The ability to share and collaborate through synthetic data allows Intermountain to share and collectively analyze data both internally and globally without fear of compromising any personal identifiable patient information.

“What MDClone gave us was the ability to look longitudinally at outcomes and associations across a very large and disparate set of patient-related data.”

– Dr. Mike Phillips
Intermountain Ventures

Outcomes

Intermountain Healthcare has seen a 25% reduction of hospitalizations of chronic kidney disease patients, leading to an estimated \$6M+ in annual cost savings. The early success of Intermountain's CKD program has led to other initiatives targeting coronary artery disease, diabetes, hyperlipidemia, and opioids in surgery, all of which are paying significant dividends. Intermountain has closed gaps in cardiovascular care resulting in reductions of cardiac events, creating savings in excess of \$7M annually, seen a 10% increase in newly diagnosed diabetes patients transitioning to more physically active lifestyles, saving another estimated \$21.6M annually.

"If I wanted to look at the costs around total-knee surgeries...and I had a whole set of data to work with in the space of an afternoon. That kind of speed is game-changing."

— Dr. Mike Phillips, Intermountain Ventures

Specifically related to Chronic Kidney Disease, some of the notable results achieved over the course of the partnership to-date include:

- Identification and early engagement of CKD patients enabled early intervention and 86% avoidance in unplanned admissions for our risk population, well surpassing our target of 50% in range of \$6 million in savings.
- Among the patients who presented with stage G3A or G3B, none progressed to dialysis.
- From a research perspective, Intermountain Healthcare has revealed probabilistic measures in comorbidity management upstream of kidney care as predictors for adverse events and stage progression.

Partnering with MDClone, Intermountain has transformed its existing data-rich sources into more meaningful information. It has enabled caregivers, for the first time, the ability to query data on their own and identify ways to improve patient care and reduce costs.



"As a provider, I can ask the questions I want and I don't need intermediate IT assistance to be able to do that work for me."

— Viet Le, PA, Intermountain Cardiology

Conclusion

The MDClone platform enables authorized users across the healthcare ecosystem to work directly with the software and ask questions of their data.

“Gathering good patient data is essential to our mission, but the key is unlocking it to pull out the most meaningful information and applying it in ways that bring value to the caregiver, the health system and most importantly, the patient.”

— Dr. Mike Phillips, Intermountain Ventures

With multiple projects underway, this is just the beginning for MDClone and Intermountain Healthcare. The pace of learning and the speed of insight is accelerating rapidly across the organization, exactly as Intermountain Healthcare had planned. “We’re just getting started with this tool and one thing we know for sure: we aren’t going to run out of data any time soon.”

“When we can generate data that has no correspondence to an actual person, we can share it without the usual IRB considerations. Now, we can take an algorithm we have put together at Intermountain Healthcare and simply port it to someone else’s data.

The applications for this process are endless, and the fit with our mission is truly perfect.”

— Dr. Mike Phillips, Intermountain Ventures

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