

Accelerating Insights with Synthetic Data

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*Presentation to the Public Health Synthetic
Data Webinar, December 2, 2024*



The Ottawa
Hospital

L'Hôpital
d'Ottawa

Inspired by research. **Inspiré** par recherche.
Driven by compassion. **Guidé** par la compassion.

WE ARE

RESHAPING THE FUTURE OF HEALTHCARE

WE ARE

the people who care for you and are there for you, whenever you need us.

WE ARE

your neighbours, your family, your friends.

OUR VISION

is to provide each patient with the world-class care, exceptional service, and compassion we would want for our loved ones.

In the coming years, The Ottawa Hospital will help reshape the future of health care to reflect 21st century needs and innovations, looking beyond 'the patient in the hospital' to also support 'the person in the community.'

WE WILL



ENRICH

the Quality of Care for Patients

We will help grow a healthy system based on integrated care for patients across our network of health and social partners.



IGNITE

the Power of People

We will foster an environment that inspires people, so they are filled with pride, affinity, and accomplishment at work.



Data



NURTURE

Our Social Responsibility

Everything we do in health care is engrained in a profound social responsibility to our community. We will provide leadership in navigating a complex health system to improve the health of our diverse population and contribute to a healthier planet for all.

ACCELERATE

Discovery

Pursue impactful, cutting-edge research to pioneer new treatments and tools that benefit patients and elevate further our leadership role in research and education globally.

Learning Objectives



Synthetic data at TOH and its advantages



Risk framework and data sharing



Showcase internal and external projects

MDClone & Synthetic Data

- Point-and-click platform that sits on top of our patient data
- High quality synthetic data generated “on the fly”
- Deemed “non-PHI”
- No REB needed to explore



Comparison
of original vs
synthetic data



TOH study
using synthetic
data

No programming skills required!

Self-Serve Data Platform



Speed



**20+ years
of Data**



**Safe
Sandbox**

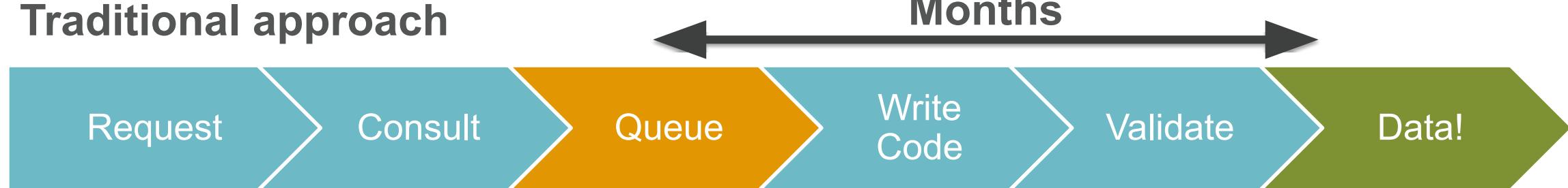


**Ask Any
Question**

The power of data at your fingertips

Request Process (non-research)

Traditional approach



Now: No MDClone experience

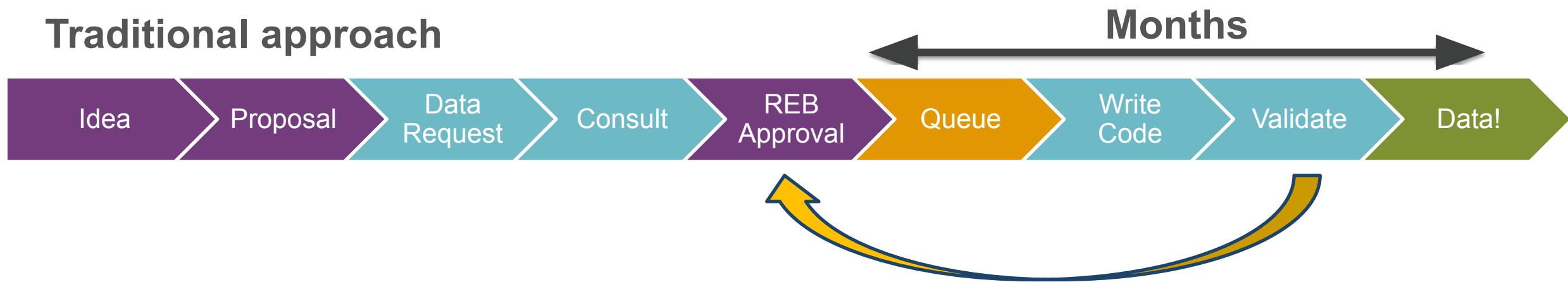


Now: Existing MDClone user



Research Data Request Process

Traditional approach



Now



Data Democratization

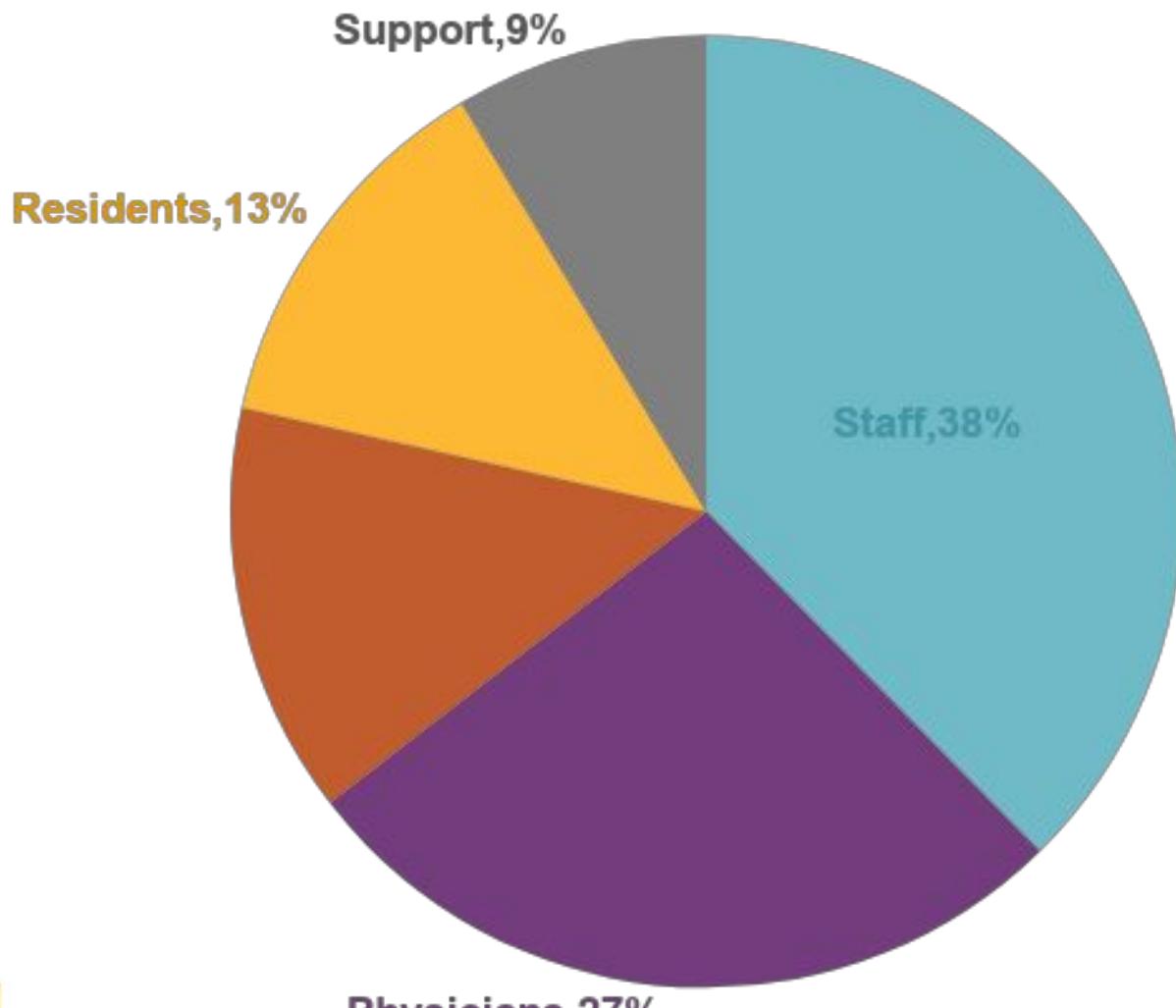
Speed to data

Empower our people

Improve data quality

Create value

Over 400 users trained



“Access to synthetic data has been a game changer in terms of data access... it allows me to test a potential idea on my own before engaging the data team and”REB



Dr. Innie Chen

Risk Framework



Re-identification Risk



Organizational Risk

Data Sharing Framework

Identification Risk	Description	Requires
High risk	Contains patient identifiers, or no identifiers by high risk of re-identification	Signed DSA
Medium risk	No identifiers or high-risk quasi-identifiers but reasonable risk of re-identification	Signed DSA
Low risk	De-identified with low risk of re-identification, or aggregate data with small cell sizes	Signed Terms of Use
No risk	Aggregate data with no small cell sizes, or synthetic data from MDClone	Terms of Use (not signed)



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Internal QI or Research Projects



Antiseizure Meds in
Pregnant Patients



Inappropriate use of
restraints



Cancer-associated PE
in Outpatient



Launch Renal Stone
Clinic in Ottawa



Hemoglobin & Blood
Transfusion Use



Virtual Limb
Preservation Clinic



Quality & Equity for
Sickle Cell Patients



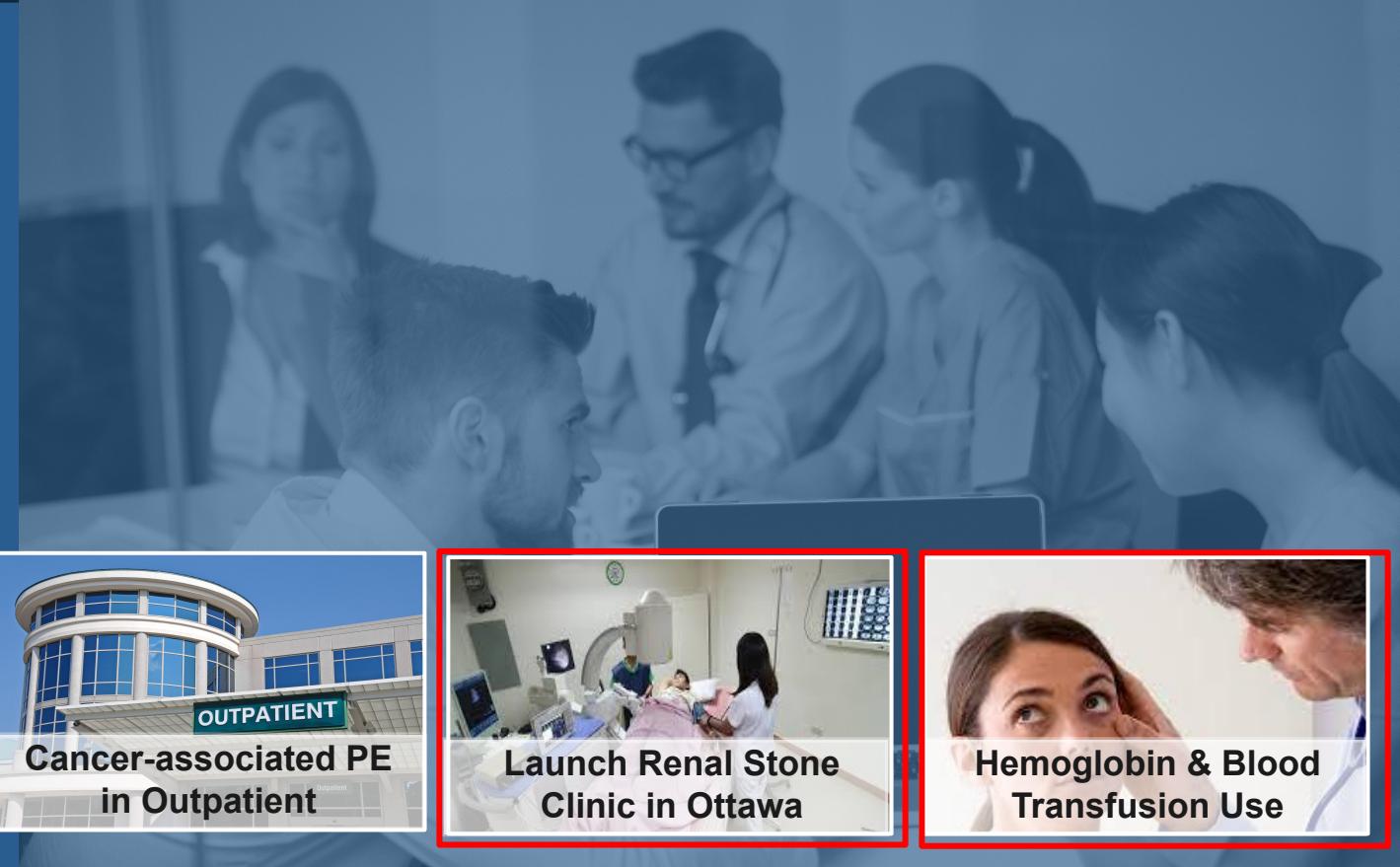
Periop Risk Score for
Cirrhosis



Covid-19 related Death
at Ottawa Hospital



Infections after elective
Spinal Surgery





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Collaborations with Others



**Identifying Risk groups
based on Frailty**



**Drivers of Cost for
Ottawa Public Health**



**Head CT for
Anticoagulated Patients**



**Cirrhosis Patterns in
TOH vs WashU**



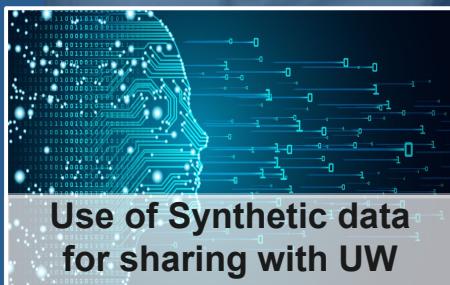
**Pilot Project with Life
Sciences**



**Predicting Postpartum
Hemorrhage**



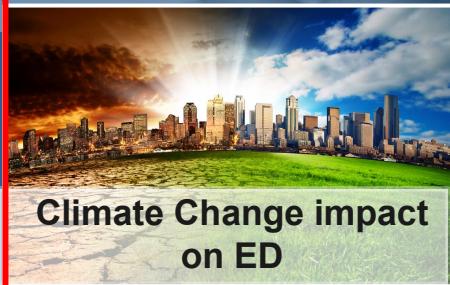
**Mental Health
Admissions**



**Use of Synthetic data
for sharing with UW**



**Learning Futures Grant
for Psych Residents**



**Climate Change impact
on ED**



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CANADA WORLD BUSINESS INVESTING WATCHLIST PERSONAL FINANCE OPINION POLITICS

Synthetic data puts privacy at the heart of AI projects

MARJO JOHNE
SPECIAL TO THE GLOBE AND MAIL
PUBLISHED FEBRUARY 21, 2023
UPDATED FEBRUARY 22, 2023

This article was published more than 6 months ago. Some information may no longer be current.



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OCTOBER 25, 2023

WATERLOO NEWS

Setting standards and unlocking the potential of synthetic data in health research

Waterloo researchers collaborate with The Ottawa Hospital and other Canadian institutions on initiatives for public health, privacy and security

By Jordan Flemming

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COMMUNITY

At the intersection of data privacy, open science and public health, the University of Waterloo has initiated a collaborative effort with several Canadian government agencies to explore the use of synthetic data for research and analysis.

Dr. Helen Chen, a professor in the Faculty of Health and director of the Professional Practice Centre in Health Systems is leading the initiative.

"This collaboration primarily aims to utilize synthetic data's capabilities in addressing privacy concerns while maintaining the integrity of the data and analytical balance," says. "It's about finding that balance."

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Global Edition Analytics

How synthetic data can boost efficiency for clinical researchers and IT leaders

Washington University and Ottawa Hospital used synthetic data to review a sepsis prediction model used in both institutions over the course of two phone calls – and avoided months of conventional research arrangements.

By Bill Siwicki | February 23, 2023 | 10:49 AM



CANADA WORLD BUSINESS INVESTING WATCHLIST PERSONAL FINANCE OPINION POLITICS SPORTS LIFE ARTS DRIVE REAL ESTATE PODCASTS EVENTS

'Data at their fingertips': The Ottawa Hospital pioneers advanced big-data analytics to improve patient care

After two decades of building expertise, hospital ahead of the game in health-care data management and deployment

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By joining forces with the local tech ecosystem, The Ottawa Hospital is transforming the future patient care

Sponsored by The Ottawa Hospital Foundation

September 6, 2022

The command centre

The new hospital's command centre will provide unmatched situational awareness of the state of patients and the health system in Ottawa, particularly the city's hospitals.

The command centre will draw on several different data sources – from electronic medical records to cardiac monitors in hospital rooms to wearable technology to track outpatients' health signals remotely.

It will work in tandem with The Ottawa Hospital's big data analytics platform to provide predictive analytics around various health signals, allowing administrators to distribute resources more efficiently and appropriately in real-time. The system, which will be one of the most advanced in Canada, if not the world, will also provide self-serve analytics for business users through the MDClone platform, which combines an accessible interface and data model with synthetic data.

Questions?

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