

From Data to Insights

*Accelerating Research, Quality
and Innovation with Synthetic
Data*

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Director, Analytics
Digital Solutions



The Ottawa
Hospital

L'Hôpital
d'Ottawa

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



The Ottawa
Hospital | L'Hôpital
d'Ottawa

1,420 Beds
1.2 M Catchment area
4th in Research funding
Ontario's only regionalized EMR
One of the largest academic hospitals

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



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.



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.

IGNITE

the Power of People

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



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 and its advantages



Data democratization strategy



Showcasing the culture-shift

What is synthetic data?



© Yuval Ofek



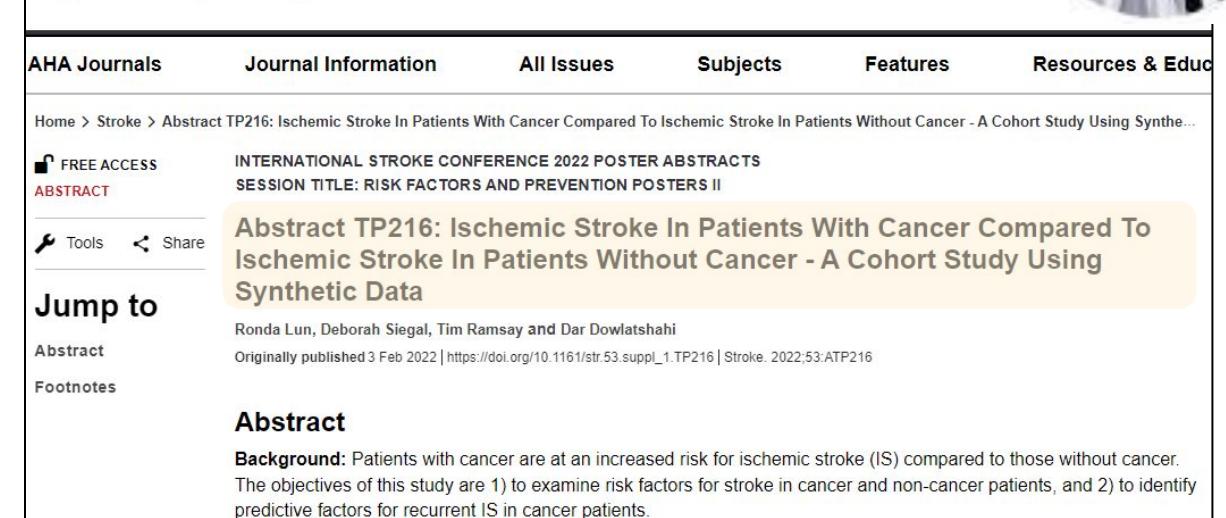
MDCLONE

What is synthetic data?

- Generated using AI
 - Not de-identification
 - Not reversible
- Maintain the patterns of the original data

Not PHI

Stroke



The screenshot shows a journal article from the Stroke journal. The article is titled "Abstract TP216: Ischemic Stroke In Patients With Cancer Compared To Ischemic Stroke In Patients Without Cancer - A Cohort Study Using Synthetic Data". It is categorized under "INTERNATIONAL STROKE CONFERENCE 2022 POSTER ABSTRACTS" and "SESSION TITLE: RISK FACTORS AND PREVENTION POSTERS II". The abstract is authored by Ronda Lun, Deborah Siegal, Tim Ramsay, and Dar Dowlatshahi, and was originally published on 3 Feb 2022. The background of the page is white, and the abstract title is highlighted with a yellow box.



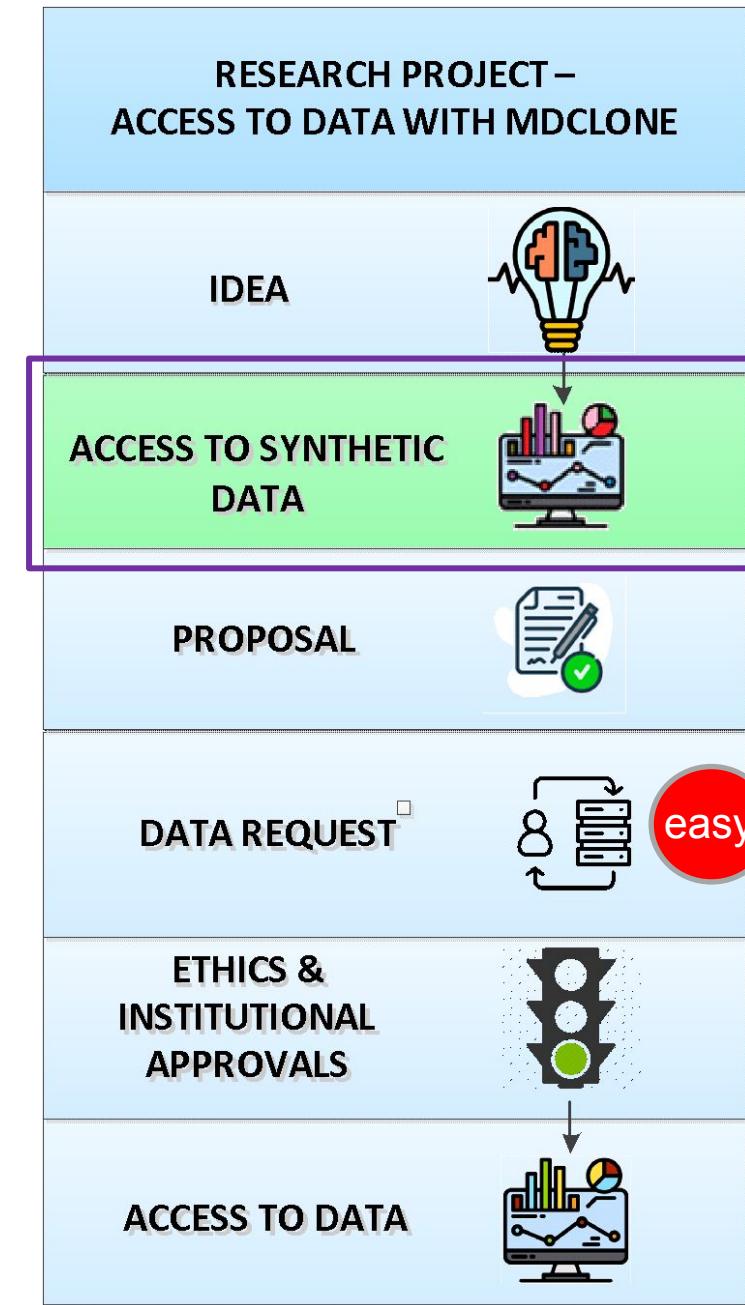
Protects patients



Faster access to data



Data Request Process



“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

Self-Serve Data Platform

No programming skills required!



Speed



20+ years
of Data



Safe
Sandbox

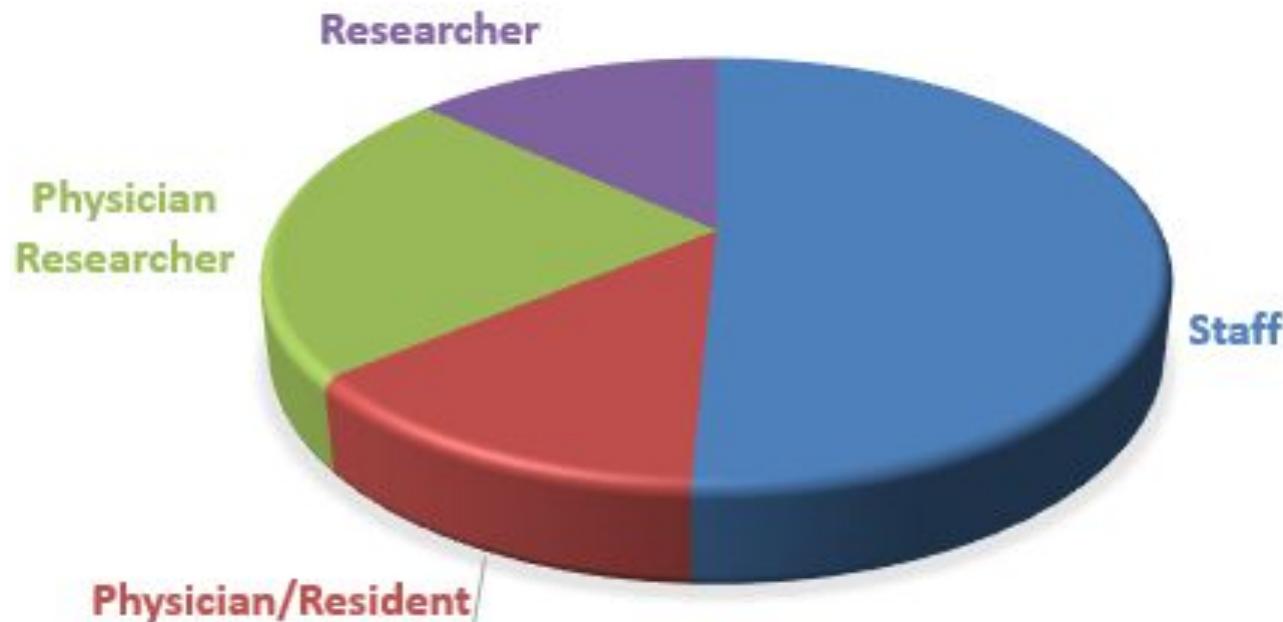


Ask Any
Question

The power of data at your fingertips

Data Democratization

Education and consulting (no more data wrangling!)



Over 400 users trained

Access data with independence and speed!

Healthcare Data and the MDClone Platform

Contact us to join an upcoming live session!

What You Will Learn

This course provides training in the fundamentals of healthcare data, and an opportunity to apply new skills using the [MDClone Platform](#), a self-serve data access tool with over 20 years of patient data.

This course features a combination of self-serve online learning modules and a live virtual event. The timing allows participants to complete most of the modules at their own pace. The estimated time commitment is 7 hours and participants who complete the course will be recognized as certified users of the MDClone Platform.

After this course, you will:

- ✓ Understand the fundamentals of healthcare data and be able to describe the pros and cons of administrative data
- ✓ Be able to formulate a problem statement or research question and translate it into data requirements
- ✓ Be able to summarize the benefits of using synthetic data
- ✓ Know how to use the MDClone platform to investigate and answer a question relevant to you



Need more information, or would like to be put on a waitlist for future sessions of this course? Contact mdclone@toh.ca and we'd be happy to help.

Data Availability

The MDClone platform contains more than 20 years of high-quality patient data from The Ottawa Hospital. The [MDClone Data Availability](#) document details what data is available in the platform and how frequently this data is updated.

Eligibility

The course is designed for individuals who regularly use data for program planning, decision-making, quality improvement or research. This could include staff, leaders, physicians, residents, researchers, and research coordinators.

Accredited Education

This continuing education program is accredited for 6.5 hours (Online Format - Section 1 Accreditation) by the Office of Continuing Professional Development at the University of Ottawa.

Cost

Free for TOH employees, physicians, residents and researchers.

Scan to register!



Kidney Stone Prevention Clinic



The screenshot shows the MDClone software interface for defining a patient cohort. The left sidebar lists various clinical events and their percentages: Cohort Reference Event (100%), Admissions (28%), Surgical Intervention at or after ED (31%), Percutaneous Nephrolithotomy (2%), Visits to Urology (56%), Visits to Nephrology (4%), and Re-occurring ED Visits (16%). The main panel is titled 'COHORT DEFINITION' and shows steps 1 through 5: Reference Event, Additional Inclusion, Time-Related Events, Demographics, and Finalize Cohort & Output. Step 3 is currently active, showing a 'Timing Definition' section where the user can set the timing relative to an 'ED visits' reference event. A timeline slider allows setting the start time to 'Admission datetime' (0 to 90 hours). Below the timeline are buttons for Hours, Days, Months, and Years.

“I was able to get resources from the hospital to support the lab and HR needs for a Kidney Stone Clinic in Ottawa. We will be launching the clinic in January”

Dr. Brendan McCormick

Project Idea:

Full Metabolic Investigation + Aggressive Medication & Diet can decrease risk of Kidney Stones by **60% - 85%**

1350 visits per year

Opportunity #1

Prevent
60%
of recurrent ED visits

\$250K

Est. Savings over 5 yrs

\$304 per ED Visit over 5 Years

Opportunity #2

Prevent
28%
of patients admitted for surgery

\$1.5 M

Est. Savings over 5 yrs

\$7096 per Admission over 5 Years minus
Clinic Costs + Ontario Health Funding



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SELF-SERVE DATA PROJECTS IN MDCLONE



Quality & Operations Projects



Antiseizure Meds in
Pregnant Patients



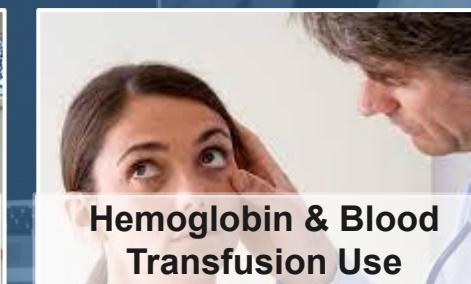
Inappropriate use of
restraints



Cancer-associated PE
in Outpatient



Launch Renal Stone
Clinic in Ottawa



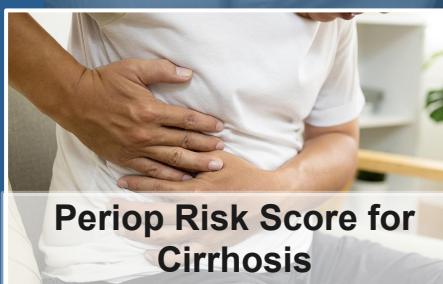
Hemoglobin & Blood
Transfusion Use



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



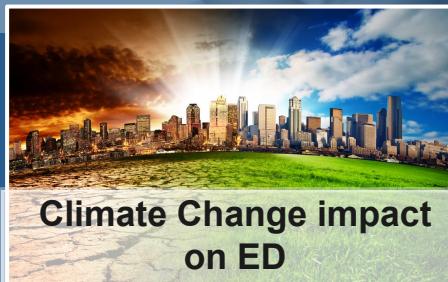
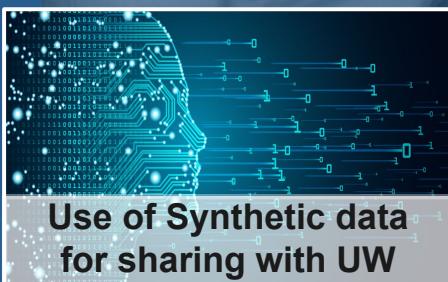
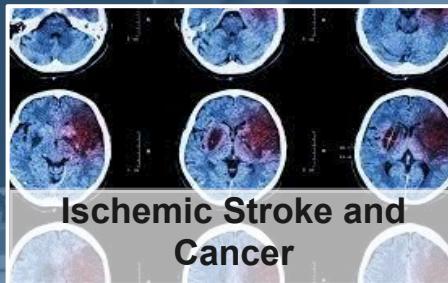
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SELF-SERVE DATA PROJECTS



Research & 3rd Party Collaborations



3rd Party Projects

Academic



uOttawa



UNIVERSITY OF
CALGARY



Washington
University in St. Louis
SCHOOL OF MEDICINE



Stanford
University

Government & Grants

Public
Health
Ontario



The Ottawa Hospital
Academic Medical Organization



National Institutes
of Health

MDClone Partners



Hôpital général juif
Jewish General Hospital



What's next?



External
partnerships



Unstructured data



Life sciences



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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.



ADMISSIONS ABOUT WATERLOO FACULTIES & ACADEMICS OFFICES & SERVICES SUPPORT WATERLOO

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

University Relations

CAMPUS

HEALTH

MATH

CO-OP AND EXPERIENTIAL EDUCATION

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."

Healthcare IT News

TOPICS

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Health IT's biggest event is on the horizon.
Join us March 11-15 in sunny Orlando.

Register today

HIMSS 24

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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Unveiling a new era of care at Canada's most technologically advanced hospital

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 ?

