island health

10 YEARS OF

REDCap
Research **E**lectronic **D**ata **C**apture

REDCAP AT ISLAND HEALTH

Access to high-quality data is essential for effective health services, quality improvement initiatives, and research projects. REDCap (Research Electronic Data CAPture) provides a powerful and flexible suite of data management tools that enable improvement, innovation, and research at Island Health and across the province.

26 JUNE 2013: Manager Victor Espinosa begins at Island Health (on his birthday!)

28 JANUARY 2014: REDCap goes live!

22 MARCH 2023: 1000 projects created!

170 + **337** + **493**

Research projects **Quality Improvement Projects** **Health Services Management Projects**

REDCap is critical to my work. It is a powerful survey design, management, and analytics program for quantitative data, and a powerful tool for narrative data collection. REDCap's versatility, security, and the expertise in its leadership team enables unimagined accuracy and efficiency in turning raw data into usable, relevant, practical and reliable health services information. - Dr. Diane Sawchuck, RN, PhD | Lead, Evidence, Evaluation, and Knowledge Translation

INFRASTRUCTURE: TWO INSTANCES ARE BETTER THAN ONE

Island Health supports two completely separate instances of REDCap: one is internal to Island Health and runs only on the intranet; the other is external-facing and runs on the internet. This allows different levels of privacy and accessibility according to individual project and data needs. Both instances meet all provincial privacy and regulatory requirements, and all data is stored on Island Health servers.

400+ ONGOING PROJECTS

488 INTERNET PROJECTS

512 INTRANET PROJECTS

690 PROJECTS WITH SURVEYS

900 CURRENT USERS

The internal instance is used by Island Health staff for projects that contain confidential personal health information.

The external instance hosts collaborative projects with patients, clients, or partner organizations. It has stringent security protocols to protect stored data, which is de-identified or anonymous.

Implementing REDCap at Island Health was made possible through the efforts of many colleagues, in particular: Stephen Gage, Senior Privacy Specialist; Graham Payette, Executive Director, Innovation Analytics, IM/IT; John Eliopoulos, Enterprise Security Operations, IM/IT and Lloyd Pack, Manager, Service Coordination, IM/IT.

MADE FOR EACH OTHER: REDCAP AND RESEARCH

REDCap was designed to collect and manage data throughout the life cycle of a research project, and its features promote best practices, data quality, and confidentiality. It supports a variety of research studies, including: observational, prospective, and retrospective; one-time observation or longitudinal; randomized and even multi-arm clinical trials. It enables de-identification and randomization, supports data quality and longitudinal data collection, defines user roles, and allows data export to a range of statistical packages.

At Island Health, REDCap has supported investigators in a range of clinical areas, as well as researchers at the University of Victoria through a special collaborative agreement. To name just a few (while acknowledging that there are many more!)...
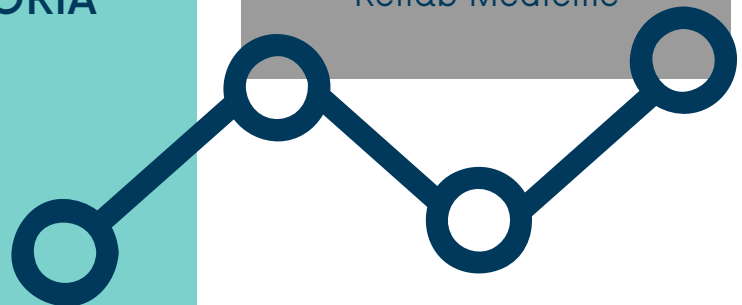
ISLAND HEALTH INVESTIGATORS

Dr. Andrew Penn
Dr. Alex Henri-Bhargava
Dr. Paul Winston
Dr. Sean Spina

UNIVERSITY OF VICTORIA RESEARCHERS

Dr. Laura Arbour
Dr. Bernie Pauly
Dr. Karen Urbanoski

CLINICAL AREAS

Pharmacy
Neurology
Spasticity
Lab Medicine
Nutrition
Rehab Medicine

UNEXPECTED BENEFITS

QUALITY IMPROVEMENT

Although REDCap was adopted to support research studies at Island Health, it has supported hundreds of Quality Improvement (QI) initiatives across the organization. REDCap's design flexibility allows users to adapt projects quickly to changing conditions, while its reports and graphs enable them to monitor responses and trends, making it ideal for continuous improvement and rapid learning. Around 150 departments use REDCap for QI across Island Health, mostly in clinical areas. The number of QI projects has increased annually, and peaked in 2021, likely due to the COVID-19 pandemic.

HEALTH SERVICES MANAGEMENT

Health Services management projects have also proliferated since the adoption of REDCap. To date, health services management initiatives make up almost 50% of all REDCap projects, including:

- Referrals and Clinic visits (Diabetes, MHSU, and Multiple Sclerosis clinics);
- Services/Goods control (used by Colonoscopy and the Home Oxygen Program, and to inventory Personal Protective Equipment);
- Feedback and Satisfaction surveys (for example, the Hospital Exit pool, Surgical Services, Heart Health, Pain Clinic, Volunteer Services, Malnutrition Awareness, and a long list of others).

I LOVE My REDCap project! With confidence and in literally minutes, I can now pull information and data that accurately reflects the variety of patients we support in the Diabetes Clinic. My favorite feature is the Call back report. I use it every day to easily keep track of who needs follow up support. The ability to pull reports and create the graphs is also very valuable to managers. - Donna McColl, Clerk, Diabetes Clinic

INNOVATION WITH HEART

In 2020, Island Health's Open Heart Surgery Surgical Site Infection program won two prestigious awards for their innovative approach to quality improvement with REDCap: the BC Health Care Awards 2020 Golden Apple for Top Innovation and the national 3M Health Care Quality Team Award (Within an Organization). Get all the details in this presentation!

REDCAP HALL OF FAME

Since January 2014

FIRST RESEARCH PROJECT: Medication titration program in atrial fibrillation (Dr. Sean Spina & Stacy So)

OLDEST HEALTH SERVICES MANAGEMENT PROJECT: Standard Operating Procedures Management (Terri Fleming)

LONGEST-RUNNING ACTIVE PROJECT: Permission to Contact for Research Patient Registry (Rebecca Barnes; Tara McMillan)

LONGEST QUALITY IMPROVEMENT PROJECT: Resuscitation QA – Code Blue (Claire Mackelson)

PROJECT WITH THE MOST RECORDS: Colonoscopy Patient Access: 40,953 referrals

PROJECT WITH THE MOST USERS: SETS MHSU Project: 175 users

BEYOND ISLAND HEALTH

Island Health's REDCap team also supports a province-wide version of REDCap under Health Research BC. This version hosts 64 projects for health researchers and institutions across the province. In addition to meeting all security and privacy principles, this version of REDCap is validated and tested every time a new version is installed (around every 6 months). This takes the team of two about two weeks to complete, but it's a crucial guarantee of data quality for clinical trials that use REDCap.

PROVINCIAL COLLABORATORS
BC Cancer
BC Centre for Disease Control
Providence Health
BC Children's Hospital
University of British Columbia
Simon Fraser University
Centre for Health Evaluation and Outcome Sciences
Fraser Health
Interior Health
BC Women's Hospital
University of Victoria Vancouver Island University

A GLOBAL CONSORTIUM

Globally, 2.5 million people use REDCap at almost 6400 institutions to host more than 1.7 million projects. The platform is lead by the REDCap Consortium at the University of Vanderbilt. This global network continuously advances REDCap's capabilities, testing new iterations, providing ideas and solutions, developing additional software and modules, and offering training and education. Island Health's REDCap team has contributed by:

- Developing a customizable Advanced Graphs tool to visualize data without any coding needed.
- Sharing free training materials with users and administrators.
- Co-hosted the 2019 international REDCap conference in Vancouver with BC Children's Research Institute, where our own Victor Espinosa was recognized as one of only six all-star REDCap administrators out of more than six thousand Institutions.

TESTIMONIALS

REDCap has allowed us to capture patient experience in our innovative Hospital at Home program. It's a very powerful tool that enables Island Health administrators, clinical staff, and patients to contribute to the database simultaneously, capturing meaningful data to inform quality improvement initiatives. - Dr. Sean P. Spina, ACPR, PharmD, FCSHP | Regional Clinical Pharmacy Manager

Timely access to data through REDCap has been critical to achieving and maintaining standards of care for patients experiencing a life-threatening heart attack. We focus on the full patient journey, from their living room, into the ambulance, through acute care, to discharge. Collaboration with all care providers along the way has inspired ongoing quality improvement and staff satisfaction, and fostered multidisciplinary teamwork. Due to its success, we have shared this innovative REDCap project with other cardiac centers across BC. - Laura Shaw and Claire Mackelson, Quality Management Coordinators, Heart Health

REDCap has changed so much of what we do, and how we do it, for the better. The tool is so helpful in so many ways and has even transformed how we think about data collection and developing learning modules in our team; REDCap is often our first thought when brainstorming solutions or discussing new projects. - Sarah Porter, Information Consultant, Medical Staff

THE FUTURE

Beyond the 1,000 project mark, REDCap has lots of room to grow at Island Health, supporting more clinics, departments, and teams as they collect and manage data to apply innovative solutions and build a responsive learning health system. And REDCap is poised to evolve with innovative new ways of collecting and sharing data - for example, using mobile devices not only for text but images, videos, and more. These new ways of collecting and sharing data would always remain secure and confidential. Finally, REDCap may ultimately be linked to other Island Health data systems, connecting patients to services and to their data to provide new and better services and experiences.

Contact

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Thank you to all our users for your continued support as we celebrate our achievements.