Enabling Open Research

Heather Joseph
Executive Director, SPARC
University of Vermont
March 5, 2018
SPARC is a global coalition committed to making open the default in research and education.
We focus on opening access to journal articles, research data, and educational materials.
What is **Open** Research?
“Open research is the process of conducting and sharing research where proposals, work process documents, literature reviews, methodologies, research instruments, analytical frameworks, findings and/or data are intentionally shared on publically-accessible platforms in order for others to freely access, use, modify, and share them subject to measures that preserve ethical practice and legal provenance.”

- (Hodgkinson-Williams & King, 2015)
The Research Cycle

Image by Cameron Neylon, https://commons.wikimedia.org/wiki/File:Research_cycle.png
So: what’s **not** to love about how we communicate research **now**?
Access to more information, opportunities to do more with it.
Theoretically.
Despite the promise of the Internet, the materials we most need the freedom to work with remain laden with restrictive access, pricing and reuse barriers.
Diabetes Alert Dogs (DADs): An assessment of accuracy and implications

by LA Gonder-Frederick - 2017 - Related articles

Diabetes Alert Dogs (DADs): An assessment of accuracy and implications. Gonder-Frederick LA(1), Grabman JH(2), Shepard J A(2). Author information: (1)Behavioral Medicine Center, University of Virginia, ...
Diabetes Alert Dogs (DADs): An assessment of accuracy and implications.

Gonder-Frederick LA¹, Grabman JH², Shepard JA².

Author information

Abstract

AIMS: To test the accuracy of Diabetes Alert Dogs (DADs) by comparing recorded alerts to continuous glucose monitoring (CGM) device readings during waking and sleeping hours.

METHODS: 14 individuals (7 adults with type 1 diabetes and 7 youth with type 1 diabetes/parents) who owned DADs for ≥6mos wore masked CGM devices over a several-week period while recording DAD alerts electronically and in paper diaries.

RESULTS: During waking hours, sensitivity scores across participants were 35.9% for low BG events and 26.2% for high BG events. DAD accuracy was highly variable with 3/14 individual dogs performing statistically higher than chance. Sensitivity scores were lower during sleep hours of the person with diabetes (22.2% for low BG events and 8.4% for high BG events). DAD accuracy during sleeping hours was also highly variable, with 1/11 individual dogs performing statistically better than chance. Rate of change analyses indicated that DADs were responding to absolute BG level, rather than rapid shifts in glucose levels.

CONCLUSIONS: In this study the majority of DADs did not demonstrate accurate detection of low and high BG events. However, performance varied greatly across DADs and additional studies are needed to examine factors contributing to this variability. Additionally, more research is needed to investigate the significant gap between the positive experiences and clinical outcomes reported by DAD owners and the mixed research findings on DAD accuracy.

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KEYWORDS: Blood glucose monitoring; CGM; Dogs; Observational study; Severe hypoglycemia; Type 1
Diabetes Dogs (DADs): An assessment of accuracy and implications

Linda A. Gunder-Fredericks, Jesse H. Grabman, Jaclyn A. Shepard

Behavioral Medicine Center, University of Virginia, Charlottesville, VA 22908, USA

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### ISI Indexes 2016 Cost By Discipline

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**Average:** $1,788

Source: Library Journal 2016 Periodicals Pricing Survey

In 2015, the annual revenues generated by STM journal publishing were estimated at US $10 billion.

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Text and Data Mining
Researchers incur much larger costs in terms of searching for, printing and reading journal articles... The biggest scope for cost savings is by increasing researchers' efficiency in searching for, browsing, downloading, copying and reading journal articles... [160]

Figure 4: Overview of the resource costs (cash and non-cash) in the global communications system

The balance of the resource costs within the communications system is also shown in Figure 4.
Need to optimize the system of communicating research to better suit the needs of scholars, students, researchers – everyone.
“By "open access" to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers.”
Open Access =
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Not “open” simply because open is better than closed, and not “open” for open’s sake...
...But “open” as an enabling strategy in order to make progress.
Opening access to research data in order to...prevent a Zika pandemic.
Opening access to research data in order to... improve transparency and reproducibility.
OPEN IN ORDER TO

- INCREASE ACCESS TO KNOWLEDGE
- FACILITATE COLLABORATION
- RAISE YOUR RESEARCH VISIBILITY
- OTHER: [ ]
Compelling concept; growing adoption by research funders.
Open science: a hot issue for OECD and non-OECD countries

Number of countries reporting that the situation has recently substantially changed in the policy area, compared with other STI policy areas or instruments.

Note: Simple counts do not account for the magnitude and impact of policy changes.

Source: Country responses to the STI Outlook policy questionnaire 2014.
OPEN RESEARCH FUNDERS GROUP

Promoting the open sharing of research outputs.

Accelerating the pace of discovery.

LEARN MORE
What is driving this trend?

- Accelerated progress towards core goals
- Increased return on research investment
- Increased transparency
- Enhanced validation/reproducibility of results
- Enhanced discovery through data integration and re-use
- Greater public benefits through application of research outputs
What can OPEN ACCESS do for you?

GLOBAL PARTICIPATION IN RESEARCH
FREE ACCESS FOR THE PUBLIC
WORK TOGETHER WITH OTHERS
RAISE MY RESEARCH VISIBILITY

OPEN in order to...

www.openaccessweek.org | October 23 - 29
Are We There Yet?
Publisher pushback, to be sure...
But also researcher pushback...
Potential, possible, or probable predatory scholarly open-access publishers

This is a list of questionable, scholarly open-access publishers. We recommend that scholars read the available reviews, assessments and descriptions provided here, and then decide for themselves whether they want to submit articles, serve as editors or on editorial boards. In a few cases, non-open access publishers whose practices match those of predatory publishers have been added to the list as well. The criteria for determining predatory publishers are here.

We hope that tenure and promotion committees can also decide for themselves how importantly or not to rate articles published in these journals in the context of their own institutional standards and/or geocultural locus. We emphasize that journal publishers and journals change in their business and editorial practices over time. This list is kept up-to-date to the best extent possible but may not reflect sudden, unreported, or unknown enhancements.

- 1088 Email Press
- 2425 Publishers
- The 5th Publisher
Data Management Planning Tool
Create, review, and share data management plans that meet institutional and funder requirements.

PUBLIC DMPS
List of sample data management plans provided by DMPTool users.
- UNDERSTANDING THE ROLE OF PHYSICIAN INTEGRATION WITHIN NURSING HOMES IN POST-ACUTE CARE OUTCOMES
- “A Microgravity-Themed Collaborative Intervention Promoting Student Selection of a STEM Career Pathway”
- 123

DMPTOOL NEWS
Latest information about data management and the DMPTool.
- NSF EAGER Grant for Actionable DMPs
- DMPRoadmap summer camp news
- On the right track(s) – DCC release drama
- RDA-DMP moving and shaking
- Active, actionable DMPs

DMPTOOL HELP
Overview of how to use the tool, plus resources and guidance on data management.
- Frequently Asked Questions
- Create a DMP
- Administer the DMPTool
- Data management guidance
- Community resources
All important, but tractable with solutions in progress...
promotion and tenure
Impact
Factor
Policies moving towards open research are proliferating...
...but institutional incentives still largely do not reward the creation and use of open materials or open research practices.
Very tough to address these deeply embedded cultural practices.
President’s Welcome

As President and Vice Chancellor of the University of British Columbia, I would like to extend a warm welcome.

Whether you are part of our UBC community, or in the process of joining us — through work, study or partnership — I am proud to welcome you to one of the most vibrant and inspirational places of learning and research in the world.

One hundred years after opening its doors for the first time, UBC is proud to be ranked among the best universities around the globe. Our faculty, staff, and students have demonstrated that our pursuit of excellence in learning, teaching, and research is making a lasting and positive difference, and I believe that we can collectively build on our accomplishments to move UBC to the next level of excellence.
OPEN IN ORDER TO

- INCREASE ACCESS TO KNOWLEDGE
- FACILITATE COLLABORATION
- RAISE YOUR RESEARCH VISIBILITY
- OTHER:
What is driving this trend?

• Accelerated progress towards core goals
• Increased return on research investment
• Increased transparency
• Enhanced validation/reproducibility of results
• Enhanced discovery through data integration and re-use
• Greater public benefits through application of research outputs
Mission.
Vision, Mission, and Goals

The Vision of the University of Vermont:

To be among the nation’s premier small research universities, preeminent in our comprehensive commitment to liberal education, environment, health, and public service.

The Mission of the University of Vermont:

To create, evaluate, share, and apply knowledge and to prepare students to be accountable leaders who will bring to their work dedication to the global community, a grasp of complexity, effective problem-solving and communication skills, and an enduring commitment to learning and ethical conduct.

The Goals of the University of Vermont:

Therefore, to realize our vision to be among the nation’s premier small research universities, we must take these actions.

- “Access to Success”: Promoting Affordability, Financial Access, and Academic Support
- Promoting a culture of advancing academic excellence and cultivating talent
- Identifying necessary investments to ensure a bright future
- Instilling an institutional commitment to efficiency and effectiveness that optimizes the use of facilities, technology, assets, and shared services
Realigning incentives to reward Research communication practices that directly contribute toward achieving institution’s core mission.
What **could/should** incentives look like in your discipline?
OVERVIEW

Increasingly, universities are addressing the complex issues we face here in Canada and around the world by engaging with key stakeholders outside of the academy. This engagement often takes the form of mutually beneficial partnerships that produce and apply knowledge. For the faculty involved, this means applying their expertise to real-world problems and collaborating with peers in other sectors who also bring their knowledge and wisdom to the table — a practice known as community-engaged scholarship (CES). For most universities, however, the incentives and supports needed for faculty to engage in this way are not in place across the campus. In particular, the system in place at most universities for faculty career advancement (promotion, tenure and faculty development) has not kept pace with changing faculty roles. For example, the system often rewards faculty more for publishing a paper in an academic journal than for contributing to meaningful change such as improving public education, revitalizing rural economies or expanding access to affordable housing.

Our partnership is comprised of eight universities and an international organization that have pledged to work together to change university culture, policies and practices in order to better support faculty who engage in community work.
Not a silver bullet – but a potential starting point for meaningful, community-led change.
Thank You.

Special thanks to Kathleen Shearer, Cameron Neylon, Beck Pitt, Martin Weller, Rob Farrow and Bea de los Arcos for images used in some of these slides – making your presentations “open” enabled me to build a much better one myself!

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