

# Disability Research and Dissemination Center Cycle 2 Annual Evaluation Years 3 & 4

Jeremy French-Lawyer, MPH, CAS, CHES

Telisa Stewart, DrPH

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## Executive Summary

This report summarizes the work of the Disability Research and Dissemination Center (DRDC) in Cycle 2, Years 3 & 4 (April 2, 2020 to April 1, 2021) and includes the second half of Cycle 2, Year 3 and the first half of Cycle 2, Year 4.

The work of the DRDC was significantly impacted by the unprecedented Sars-COV-2 pandemic (COVID-19). The included Notable Events section summarizes the context in which the DRDC was operating and is referenced throughout the report to provide context for the work of the four cores in Years 3 & 4.

In Cycle 2, Years 3 & 4 the Administration Core has continued to provide administrative and technical support to DRDC funded projects, and to facilitate coordination with CDCs NCBDDD through the RFA process. The Research Advisory Council (RAC) members continued to further the work of the DRDC through dissemination.

The Research Core did not circulate any RFAs, as NCBDDD did not identify any potential new research projects for competition. The Research Core continued work on previously funded projects with some adjustments related to COVID-19.

The Research Translation Core continued the development of educational activities and research projects. This included the continuation of the Disability Integration Toolkit (DIT) and other research projects. The Research Translation Core conducted multiple research projects related to disability and continues to collaborate with the Research Core on a DRDC funded project. In addition, the Research Translation Core conducted research related to COVID-19 and disability.

The Dissemination Core continued to manage the DRDC website and disseminate information about DRDC funded projects. The website had 3,806 users between April 2, 2020 to April 1, 2021.

The Evaluation Core completed the Years 3 and 4 annual evaluation report, in collaboration with the other cores.

Cycle 2 of the DRDC is anticipated to continue to address the specific aims. The RFA process and potential for funded projects in Year 5 is not yet certain.

## Table of Content

Executive Summary .....	2
Table of Content .....	3
Table of Figure .....	4
Table of Appendix .....	5
Introduction.....	6
DRDC Description .....	6
Mission .....	6
Notable Events: SARS-COV2 Pandemic .....	6
SARS-COV2 (COVID-19) in the United States .....	6
Impact on Funding.....	9
Administration Core .....	9
Project Management and Reporting .....	9
Research Core .....	9
Requests for Applications (RFAs) .....	9
RFA Process.....	9
Additional Projects .....	9
Geographic Spread of Projects Funded in the United States.....	10
Geographic Spread.....	10
Proposals of Funded Projects .....	10
Research Impact .....	10
Research Translation Core.....	10
Training and Professional Development .....	10
Additional Projects .....	11
Dissemination Core .....	12
Outreach and Dissemination .....	12
Website Utilization .....	12
Social Media .....	13
Evaluation Core .....	13
Annual Evaluation Reports .....	13
Substantial Changes to DRDC Evaluation Process.....	13
Change to the Data Reporting and Evaluation Timeline .....	13
Conclusion and Future Action .....	14
References.....	15

## Table of Figure

Figure 1 Map of COVID-19 case rate per 100,000, United States (data as of April 2021).....	7
Figure 2 New COVID-19 cases and deaths, United States (data as of April 2021) .....	8
Figure 3 Vaccinations, United States (data as of July 2021) .....	8

## Table of Appendix

Appendix A. Disability Research and Dissemination Center Logic Model.....	17
Appendix B. List of Funded Projects, Primary Investigators and Academic Homes .....	17
Appendix C. List of DRDC Publications during Cycle 2, Years 3 & 4 to date .....	18
Appendix D. Scopus Metrics Data* .....	21
Links Out.....	21
Full Text Views.....	21
Abstract Views.....	21
Tweets .....	22
Shares, Likes & Comments.....	22
News.....	22
Field Weighted Citation Impact.....	23
Citation Indexes .....	23
Citations .....	23
Appendix E. Google Analytics Data .....	25
Percentage of New and Returning Visitors to the DRDC Website from April 2, 2020 to April 1, 2021.....	25
Visitors to DRDC Website from April 2, 2020 to April 1, 2021 .....	25
Percentage of Visitors to www.disabilityresearchcenter.org from April 2, 2020 to April 1, 2021 ....	25
Map Overlay DRDC Website Users from April 2, 2020 to April 1, 2021 .....	25

## Introduction

### DRDC Description

Cooperative Agreement #1U01DD001007 was initiated on September 30, 2012, with the University of South Carolina acting as the administrative home of the Disability Research and Dissemination Center (DRDC). Subcontracts were established at the American Association on Health and Disability (AAHD) and SUNY Upstate Medical University. This report presents information from Cycle 2, Years 3 & 4 of the DRDC (April 2, 2020 to April 1, 2021).

For more detailed information about the DRDC see Appendix A: Disability Research and Dissemination Center Logic Model. This logic model incorporates aims and activities agreed upon during post-award negotiation with the CDC's National Center for Birth Defects and Developmental Disabilities (NCBDDD).

### Mission

Establish a Disability Research and Dissemination Center (DRDC) that will expand NCBDDD's capacity to conduct research and to disseminate evidence-based practice related to birth defects and developmental and other disabilities.

## Notable Events: SARS-COV2 Pandemic

### SARS-COV2 (COVID-19) in the United States

SARS-COV2 is a novel coronavirus which causes mild to moderate respiratory disease which may be severe and/or lead to death in older adults, those with certain preexisting conditions and others. SARS-COV2 is the viral infection that has been the cause of the global COVID-19 pandemic beginning in 2019. The global COVID-19 pandemic had a large international and domestic impact in 2020.

Between January 2020 and April 2021 in the U.S., there were 31,350,861 confirmed cases of COVID-19 and 576,259 COVID-19 related deaths. (9878.7 cases per hundred thousand, 175.8 deaths per hundred thousand) (Figure 1).<sup>2</sup>

The US experienced several surges in cases throughout the year, with an initial increase in cases in July 2020, and a much larger increase in cases from November 2020 to January 2021. Vaccinations became available in the United States (to limited groups) beginning in December of 2020 (Figure 2).<sup>3</sup> As of April 1, 2021, 99,565,311 people (30.3%) in the U.S had received at least one dose of the COVID-19 vaccine, and 56,089,614 people (17.1%) in the U.S. were fully vaccinated (Figure 3).<sup>3</sup>

To date, COVID-19 continues to circulate throughout the U.S. and impacts hospitals infrastructure, economics, and society at large.<sup>1</sup> COVID-19 was and is still devastating communities across the US including the DRDC reporting period from April 2, 2020 to April 1, 2021.

**View:**  Cases  Deaths  
**Time period:**  Last 7 Days  Since Jan 21, 2020  
**Metric:**  Count  Rate per 100,000

This shows the number of cases since the pandemic started for every 100,000 people, allowing you to compare areas with different population sizes.

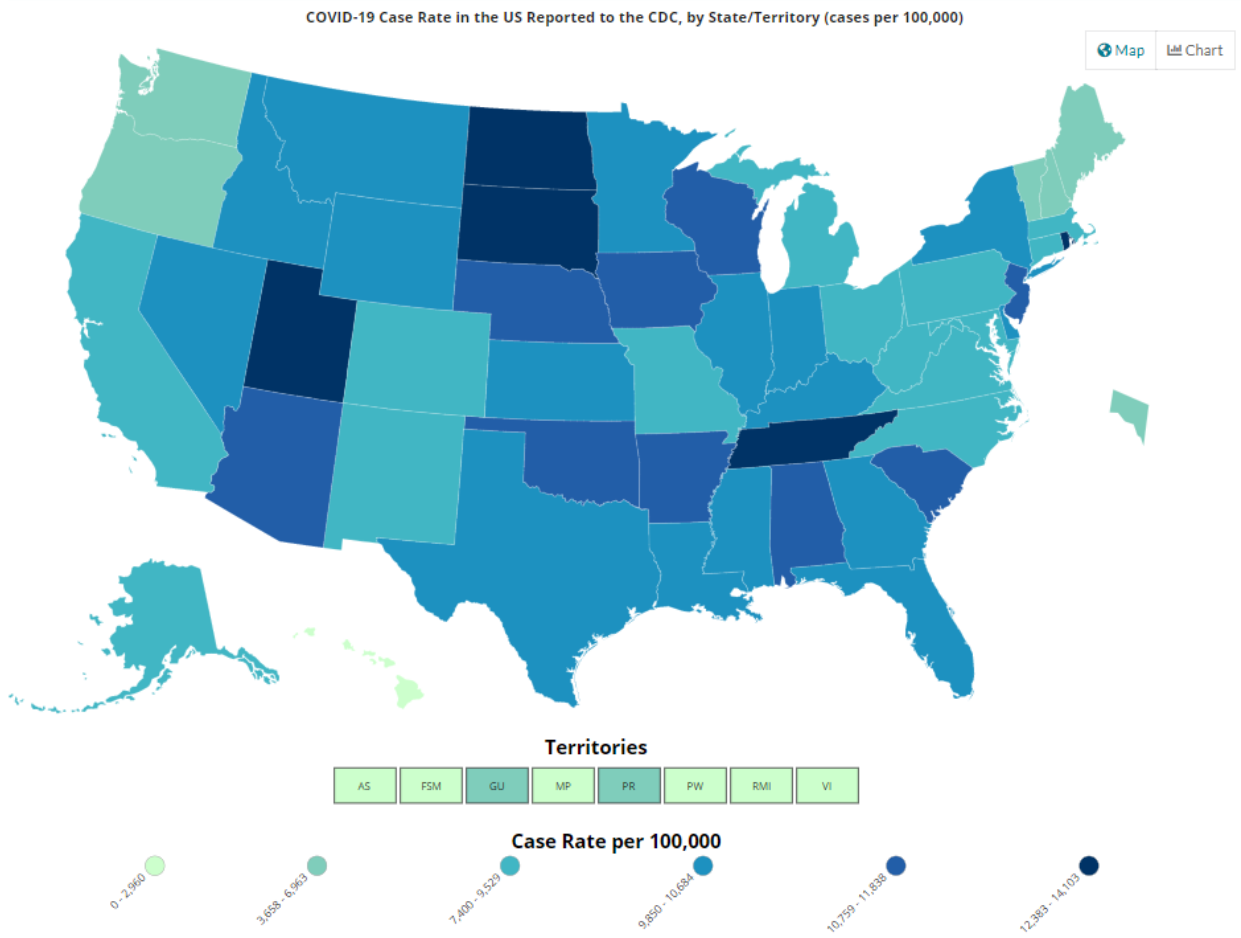
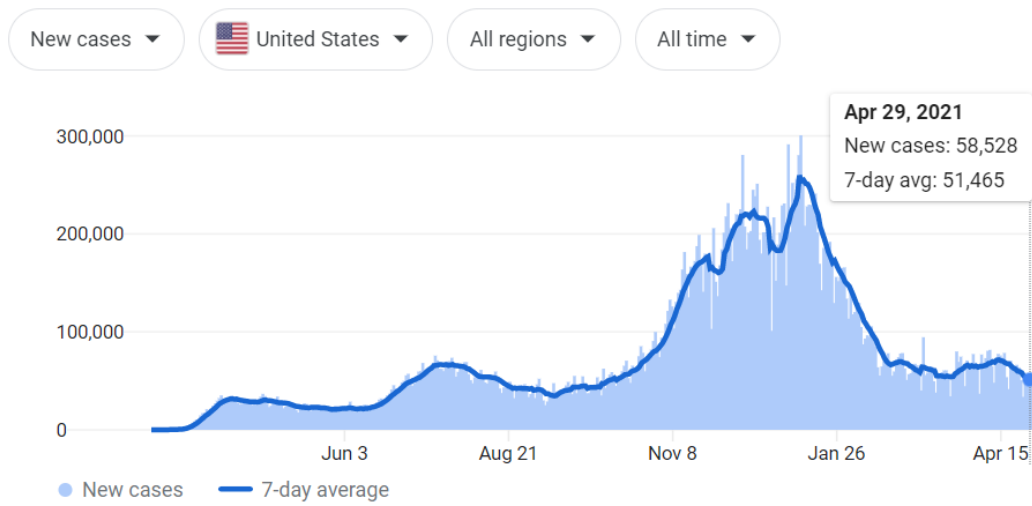


Figure 1 Map of COVID-19 case rate per 100,000, United States (data as of April 2021)<sup>4</sup>

## New cases and deaths

From [The New York Times](#) · Last updated: 21 hours ago

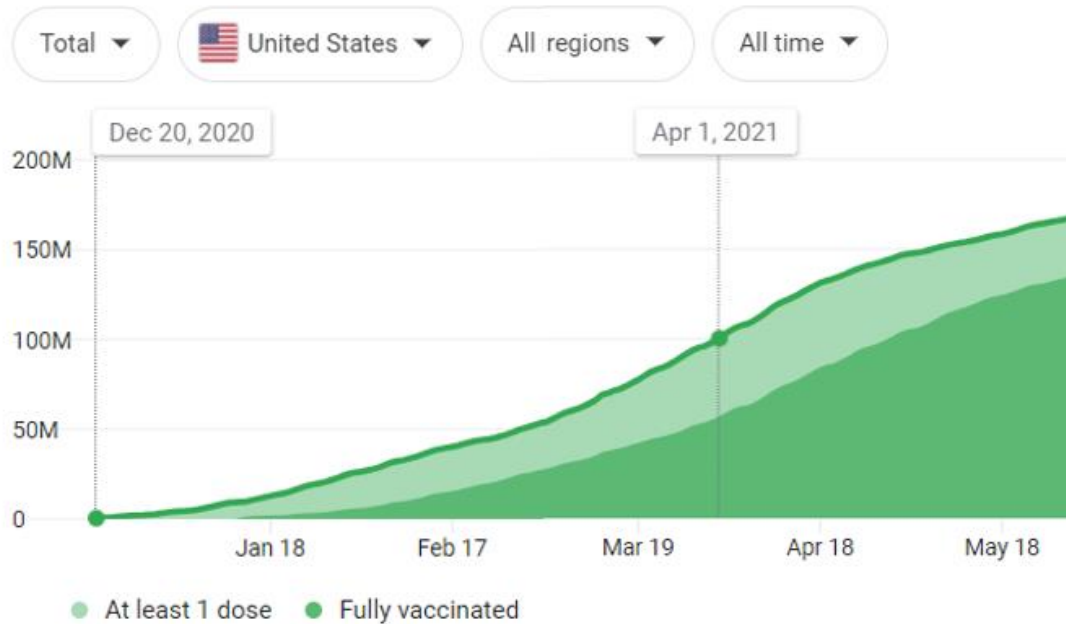


Each day shows new cases reported since the previous day · [About this data](#)

Figure 2 New COVID-19 cases and deaths, United States (data as of April 2021)<sup>5</sup>

## Vaccinations

From [Our World in Data](#) · Last updated: 2 days ago



This data shows how many people have received at least 1 dose of a vaccine. People who are fully vaccinated may have received more than 1 dose. · [About this data](#)

Figure 3 Vaccinations, United States (data as of July 2021)<sup>3</sup>



## Impact on Funding

The CDC and NCBDDD specifically reallocated resources to account for the COVID-19 pandemic.<sup>6</sup> This likely impacted the distribution of funding, including RFAs. CDC NCBDDD determined that it was best to add new funds to continuing projects rather than to solicit for new projects during the pandemic. To that end, though there were no new RFAs that were advertised in Year 4, the DRDC does expect to have additional funds for several projects that has previously been expected to end by the end of Year 4.

## Administration Core

### Project Management and Reporting

In Years 3 & 4, the DRDC Administration Core was primarily comprised of Suzanne McDermott, PhD, and Deborah Salzberg Clark MS, MAT, who work closely with the USC Office of Sponsored Awards. As per the report submitted in eRA commons “In summer of 2020, late in Year 3, the Co-PI for Research and Administration, Suzanne McDermott, PhD, moved her academic home from UofSC to City University of New York (CUNY). A subcontract was established with CUNY so that Dr. McDermott could continue to be an active member of the DRDC leadership team. That subcontract was also continued in Year 4.” Bo Cai, PhD, is the contact PI at UofSC. The project manager for the DRDC, Deborah Salzberg Clark, is responsible for day-to-day administrative oversight and management of DRDC funded projects in Cycle 2, Years 3 & 4. This has included attending calls between project PIs and CDC scientific advisors, issuing subcontracts for projects, and providing technical assistance to project PIs as needed. The Administration Core also completes required reports to the CDC, using the eRA Commons system. Revised budget requests were completed in August 2020 for Year 4, and a budget request for the change in PI in June 2020. Two continuing applications were also completed, and in March 2020 for Year 4 and in April 2021 for Year 5. These reports require that the Administration Core collects data and project information from all funded PIs, including the Co-Principal Investigators.

In Cycle 2, Years 3 & 4 the Research Advisory Council (RAC) was not required to disseminate the annual call for grant applications (RFAs) or triage applications to assist the DRDC in forwarding applications to CDC, as there were no unrestricted RFAs in Year 3 or Year 4. The eighteen members of the RAC have all remained on the RAC for Year 3 and Year 4.

## Research Core

### Requests for Applications (RFAs)

#### RFA Process

This section addresses the RFA review process, output of RFAs solicited, and funded projects. There were no projects funded in Cycle 2, Years 3 & 4. Please refer to the Notable Events section for more information about funding and RFAs.

### Additional Projects

The Research Core is working on a DRDC funded project beginning in Year 3, *Modeling Small Area Estimates of Indicators of Children’s Mental Health and Mental Disorders Using National*

*Survey Data* (McClain, PI with Eberth, Co-PI). The Research Core also requested funding for a new project to begin in Year 5 *Applying Statistical Measures to Improve Identification of Tics and Tic Disorders* (James Hardin, PhD, PI).

## Geographic Spread of Projects Funded in the United States

### Geographic Spread

There were no new projects funded in Cycle 2, Years 3 & 4. Thus, the geographic spread of funded projects is not applicable at this time. Please refer to the Notable Events section for more information about funding and RFAs.

## Proposals of Funded Projects

There were no new RFAs, and therefore no new proposals for projects submitted in Years 3 & 4. Please refer to the Notable Events section for more information about funding and RFAs.

## Research Impact

The research impact of the DRDC is summarized here through publications generated from internal and external research projects. Research impact was assessed using Scopus Metrics, which provided data on the dissemination of scholarly publications. Both internal and external DRDC funded research projects have produced publication. Additional publications are anticipated. See Appendix C for the citations of the twenty-six publications to date.

Dissemination is being evaluated using Scopus which provides metrics for publication dissemination on several platforms (see Appendix D). Metrics are collected through internet data tracking.<sup>7</sup> These metrics can be used to understand how publications are accessed. For more information on the specific data collection used by Scopus Metrics visit the Scopus Metrics website.<sup>8</sup>

For this report, data was collected from Scopus including abstract views, full text views, and links out. Other included metrics were dissemination through other platforms, such as tweets; news mentions; and Facebook. Finally, there are measures of citation such as citation indexes, citations and field weighted citation impact. For further information about these metrics and dissemination of research refer to Appendix D, Scopus Metrics Data.

## Research Translation Core

### Training and Professional Development

The research translation core supported research, training, and professional development efforts through the Disability and Health Research team (DHRT) at Upstate Medical University (UMU) which is composed of Dr. Margaret A. Turk, two full time employees (previous DRDC Fellows Katherine D. Goss, MPH and Jeremy French-Lawyer, MPH, CAS, CHES) and two graduate assistants (GSA). The GSAs employed in Cycle 2, Years 3 & 4 included Caitlin Ward and John Angles, both Master of Public Health candidates at SUNY Upstate, who continued their work on the DRDC project funded in Year 2, *Systematic Review and Meta-analysis of Pain Interventions for People with Longstanding Disability*, including project development, research, and analysis. In addition, one research fellow, Lindsey White MPH Candidate at SUNY Upstate and PhD Candidate at SU, to assist on that project and related work. Finally, Margaret Lovier and Prince Yearwood, both MPH candidates at SUNY Upstate, were hired to assist with DRDC

projects including next steps for *Systematic Review and Meta-analysis of Pain Interventions for People with Longstanding Disability* and an updated assessment of DRDC publications for Research Translation.

In Years 3 & 4, as reported in eRA commons, members of the DHRT Katherine Goss and Jeremy French-Lawyer have accessed new research platforms available to Upstate researchers, attended and facilitated UMU faculty development seminars related to adult learning, and facilitated the PM&R resident Journal Club. Both have been first authors on publications. DHRT also provides mentoring and one-on-one instruction for UMU medical students, PMR residents, and other SUNY students. They've worked with medical students and PM&R residents to develop education modules and quality improvement projects. The students have been offered training on the methodology necessary to conduct a rigorous systematic search, professional mentoring, and opportunity for individual skill enhancement and interest exploration within the field of disability.

### Additional Projects

The Research Translation core continues to develop the Disability Integration Toolkit, with a particular focus on the translation of research into educational interventions. In addition, the Research Translation Core is collaborating with the Research Core on a DRDC funded project, *Utilization of Hospital Services for Opioid Users with Disabilities, using Population-based Nationally Representative Data*.

As reported in eRA commons, The Research Translation core continues to develop the Disability Integration Toolkit, with a particular focus on the translation of research into educational interventions. In addition, the Research Translation Core is collaborating with the Research Core on a DRDC funded project, *Utilization of Hospital Services for Opioid Users with Disabilities, using Population-based Nationally Representative Data*. In Year 2 and 3, the DHR has developed or begun development of three products for dissemination, using Xu X, Ozturk OD, Turk MA, & McDermott SW (2018). Physical activity and disability: an analysis on how activity might lower medical expenditures. *Journal of Physical Activity and Health*, 15(8), 564-571):

- i) A journal club activity focused on cost and physical activity (under revision)
- ii) An interactive module on physical activity (PA) for people with disability (under revision, planned peer review beginning Spring 2021 – originally planned for Spring 2020 but was delayed by the COVID-19 pandemic)
- iii) An interactive module about pre-participation physical examinations, directed at Special Olympics participation, was completed and posted to the DIT website. This module is titled *Preparticipation Physical Exam: An Inclusive Overview* and is now live (<https://www.upstate.edu/scripts/deptfiles/pmr/PPEexam/#/>).
- iv) Evaluation has been implemented for *the Physical Exam: An Inclusive Overview* module using a new method of embedding the voluntary survey into the module. This method is being tested to evaluate the tool more broadly, and to assess if a similar method could be used to evaluate other tools in the DIT
- v) The module *Preparticipation Physical Exam: An Inclusive Overview* was part of an initiative with Special Olympics and was developed in partnership with collaborators at Sidney Kimmel College of Medicine – Thomas Jefferson University and University of Maryland School of Medicine. The module is currently planned to be implemented at Thomas Jefferson University training

programs: Sports Medicine fellows, Family Medicine residents, special Olympics medical student selective, and in a toolkit for third year Family Medicine students. It has also been implemented in the SUNY Upstate Physical Medicine and Rehabilitation Summer Experience.

- vi) DIT tools were successfully implemented for remote learning during the COVID-19 pandemic in summer 2020 by the Association of Academic Physiatrists and as part of a summer externship program at SUNY Upstate.
- vii) Work is in progress at a national level with the Association of Academic Physiatrists to establish a DIT process and sustainability plan. Plans for future tools are underway incorporating input from experts in the field and from medical students.

Dissemination of these activities is planned in collaboration with partners at other institutions, including Thomas Jefferson University and University of Maryland School of Medicine, with eventual submission to American Association of Medical Colleges MedEdPortal and indexing in PubMed. Additional translation of research into educational activities is planned to continue in the second half of Year 3 and in Year 4 and 5.

## Dissemination Core

### Outreach and Dissemination

#### Website Utilization

The DRDC website,<sup>a</sup> acts as a platform for the RFAs, dissemination of research, publications, and information about the DRDC. The DRDC website was launched on January 17, 2013; and it is maintained by the Dissemination Core, which is led by Roberta S. Carlin, MS, JD. All data from Google analytics was extracted in May 2021.

Google Analytics was used to collect data for Cycle 2, Years 3 & 4. This data includes information from April 2, 2020 to April 1, 2021, which represents the second half of Year 3 and the first half of Year 4. During this period, there were 3,806 users of the DRDC Website. There were 95% new visitors to the DRDC webpage, and 5% returning visitors (Appendix E, Google Analytics Data; Visitors to [www.disabilityresearchcenter.org](http://www.disabilityresearchcenter.org) Over Time April 2, 2020 to April 1, 2021).

The DRDC website was visited a total of 4,125 sessions, and there were 6,453 pageviews. The visitor bounce rate was 74.93%.<sup>b</sup> There were 1.08 sessions per user, and 1.56 pages per session. The average session duration was 33 seconds. The website had users from every continent except Antarctica. For a map overlay of the visitors to the DRDC webpage, refer to Appendix E, Google Analytics Data; Map Overlay of [www.disabilityresearchcenter.org](http://www.disabilityresearchcenter.org) Users from April 2, 2020 to April 1, 2021.

The majority of website users were from the United States (53.89%), China (8.51%), France (4.33%) and Canada (3.76%). In addition, Germany, the Philippines, Brazil, South Korea and others represented less than 1% of the users. For more information (see Appendix E).

The main peak in webpage visitation occurred in April 2021, with small peaks in April, June, September, and November 2020 (see Appendix E).

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<sup>a</sup> The DRDC website is [www.disabilityresearchcenter.org](http://www.disabilityresearchcenter.org)

<sup>b</sup> Bounce rate refers to the number of users that visit only one page before exiting the site

## Social Media

Social media strategies were implemented to target public health professionals to ensure current research and practices were widely disseminated. The Dissemination Core used a social media platform, Buffer, to schedule on-going social media posts via Twitter, Facebook and LinkedIn.

The twitter account for the DRDC was initiated in January 2014, in Cycle 1, Year 2 of the DRDC. Since then there have been a total of 2,602 tweets. The account has 1,465 followers and is following 834 other twitter accounts, both of which have decreased since the Years 2 & 3 Evaluation Report. The DRDC Twitter account has 275 likes (Twitter data extracted July, 2021). From February 1, 2020-January 31, 2021, the DRDC Twitter (@DisabilityRDC) posted 67 times, with a total reach of 9 thousand tweet impressions. The account has been used to disseminate information about RFAs, as well as information on research, disability facts, and news.

Facebook has also been employed for dissemination of information related to the DRDC. From February 1, 2020 - January 31, 2021, the AAHD Facebook posted 32 times relating to DRDC, which is higher than reported in the Years 2 & 3 Evaluation Report, and had a reach of 101.4 thousand.

## Evaluation Core

### Annual Evaluation Reports

The Evaluation Core of the DRDC completes annual evaluations. It is comprised of Telisa Stewart, MPH, DrPH, and Jeremy French-Lawyer, MPH, CAS, CHES. All of the previous evaluation reports are available on the DRDC website, as is the Cycle 1 Evaluation.<sup>9,10,11,12,13,14,15,16</sup>

### Substantial Changes to DRDC Evaluation Process

#### Change to the Data Reporting and Evaluation Timeline

The only substantial change to the Evaluation process in Years 3 and 4 was the addition of the Notable Events section to the evaluation report. A consistent method has been developed and successfully implemented in the first three years of Cycle 2. Data is collected from project PIs in the spring of each year by the Administration Core, and the report to CDC is made by the end of April. After this process is complete, the Evaluation Core completes the annual evaluation process, using the data that was collected by the Administration Core as well as data from other sources such as Scopus and Google Analytics. The evaluation process includes data analysis and additional data collection related to dissemination and other aspects of the DRDC. This process allows for efficient data collection from the PIs of each project and aligning the timeline of the annual evaluation report and the report through eRA Commons. The data represented in the Cycle 2, Years 3 & 4 report includes the second half of the Year 3 data, and the first half of Year 4. The next annual evaluation report will be produced in 2022 and will include data through the first half of Year 5.

## Conclusion and Future Action

Cycle 2 of the DRDC in the second half of Year 3 and the first half of Year 4 has continued progress in each of the five cores, although reduced funding has impacted RFAs. Despite changes in funding due to the COVID-19 pandemic, the DRDC continues to fulfill its mission to expand the capacity of the CDC's National Center on Birth Defects and Developmental Disability to conduct research, and to disseminate evidence-based practices related to birth defects and developmental and other disabilities.

Future actions for the DRDC will include adding to its research portfolio, completing the currently funded projects with dissemination of their results, and implementing strategies to accomplish the broader goal of conducting research translation. Activities will continue in the second half of Year 4 and into Year 5. The next annual evaluation report will cover the second half of Year 4 and the first half of Year 5 and will be made public in 2022.

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## Appendix A. Disability Research and Dissemination Center Logic Model

**Figure 4 - Logic Model for Inputs (Cores and Activities), Outputs, and Outcomes.**

Each program input (defined as the creation of cores with specific tasks, and the activities of those cores) leads to specific work products, which in turn lead to measurable outcomes. The outcomes are identified by "SMART" criteria, originally described by Doran as "Specific, Measurable, Attainable, Relevant, and Timely" variables that indicate whether a program has or has not had a desired effect, and to what extent. The Evaluation Core for this project will focus on immediate (proximal) outcomes, with distal outcomes measured as opportunities to measure SMART variables arise.

Core component	Activities	Planning Outputs	Program Outcomes	Distal/ Outcomes
Infrastructure	→ Convene Research Advisory Committee (RAC); Establish partnerships; Manage & coordinate Core activities and programs; Conduct subcontracts and working arrangements; Establish	→ # of RAC activities convened; Management & administrative structures in place for internal reporting and budgeting; Informational meetings held; Collaborations maintained; # of scoring rubrics established.	→ Increase in RAC directed activities; Increase in internal monitoring for centralized management; Increase in reviews for priority areas of interest; Increase in networks; Increase in maintaining	→ Increase in flexible multi-disciplinary administrative systems; Increase in sustainable partnerships; increase extramural grant competition.
Research Core	→ Conduct intramural research; Develop RFAs for extramural research; Solicit research projects; Dissemination of research initiated.	→ # of Active research structures devised and maintained; Support services developed; Research projects solicited; Research projects disseminated.	→ Increase in completed studies related to NCBDDD priorities; Increase in acceptance of research manuscripts to conferences and published in scholarly journals.	→ Increase number of PIs managing their own prevention and disability studies; Increase in dissemination of best research in the field.
Research Translation Core	→ Identify and prioritize topics and areas for translation efforts; Develop translation products in formats for specific audiences; Disseminate products; Evaluate product usage; Evaluate individual	→ # of topic areas for translation prioritized including NCBDD participation; External stakeholder participations in development; Translation products formatted; Products disseminated for target audiences.	→ Research translation strategies completed and products developed; Increase evaluation for product effectiveness; Increase in disseminated products.	→ Increase knowledge and skills translated for health professionals working with people with disabilities; increase overall translation of individual projects.
Dissemination and Policy Core	→ Maintain web/social media implementation plan; Update core dissemination plan; Engage stakeholders in dissemination; Support NCBDDD RFA; Participate in NQF and other policy	→ # of web/social media plans developed; Core dissemination plans created; Stakeholders engaged in dissemination; NCBDDD supported RFAs; # and type of policy activities.	→ Increase usage of web/social media; Improved dissemination plans; Increase in network for dissemination of RFA's and research findings; Research translation products uploaded; Successful meetings.	→ Increase in dissemination about evidence-based practice /policies.
Evaluation Core	→ Organize and implement routine evaluations for all processes, research, training, dissemination strategies, and other activities related to the grant; Complete annual report.	→ # of evaluations that collect information on process, research, training, dissemination; Annual reports completed.	→ Increase indention of process implemented; Increase effectiveness of data collected, analyzed; Increase research & training programs monitored for effectiveness; Increase program database support; Increase annual report.	→ Increase the use of evaluations that ensure program fidelity and continual quality improvement; Increase external dissemination; Increase dissemination of results.
<b>Inputs</b>		<b>Immediate Outputs</b>	<b>Proximal and Distal Outcomes</b> <i>(Evaluation will focuson proximal outcomes)</i>	

## Appendix B. List of Funded Projects, Primary Investigators and Academic Homes

There were no new projects funded in Years 3 & 4, refer to Notable Events: SARS-COV2 Pandemic

## Appendix C. List of DRDC Publications during Cycle 2, Years 3 & 4 to date

1. Dollard SC, Dreon M, Hernandez-Alvarado N, Amin MM, Wong P, Lanzieri TM, Osterholm EA, Sidebottom A, Rosendahl S, McCann MT, Schleiss MR. (2021). Sensitivity of Dried Blood Spot Testing for Detection of Congenital Cytomegalovirus Infection. *JAMA Pediatr.* Mar 1;175(3):e205441. doi: 10.1001/jamapediatrics.2020.5441.
2. French-Lawyer J, Siano S, Ioerger M, Young V, Turk MA. (2021). Health information seeking and people with disability: A systematic search and scoping review. *Disabil Health J.* Jan;14(1):100983. doi: 10.1016/j.dhjo.2020.100983.
3. Schaefer MR, Holttum J, Olson M, Westenberg D, Rubin N, Schleiss MR, Nyholm J. (2020). Development and Assessment of a Prenatal Cytomegalovirus (CMV) Educational Survey: Implementation and Impact in a Metropolitan University-Based Clinic. *Int J Womens Health.* Dec 16;12:1205-1214. doi: 10.2147/IJWH.S276214.
4. Ozturk O, Hong Y, McDermott S, Turk M. (2020). Prescription Drug Monitoring Programs and Opioid Prescriptions for Disability Conditions. *Appl Health Econ Health Policy.* Nov 30. doi: 10.1007/s40258-020-00622-4.
5. Osterholm EA, Schleiss MR. (2020). Impact of breast milk-acquired cytomegalovirus infection in premature infants: Pathogenesis, prevention, and clinical consequences? *Rev Med Virol.* Nov;30(6):1-11. doi: 10.1002/rmv.2117.
6. Yoshinaga-Itano C, Sedey AL, Mason CA, Wiggin M, Chung W. (2020). Early Intervention, Parent Talk, and Pragmatic Language in Children With Hearing Loss. *Pediatrics.* Nov;146 (Suppl 3):S270-S277. doi: 10.1542/peds.2020-0242F.
7. Finkelstein JL, Fothergill A, Johnson CB, Guetterman HM, Bose B, Jabbar S, Zhang M, Pfeiffer CM, Qi YP, Rose CE, Krisher JT, Ruth CJ, Mehta R, Williams JL, Bonam W, Crider KS. (2020). Periconceptional surveillance for prevention of anaemia and birth defects in Southern India: protocol for a biomarker survey in women of reproductive age. *BMJ Open.* Oct 29;10(10):e038305. doi: 10.1136/bmjopen-2020-038305.
8. Meinzen-Derr J, Wiley S, Grove W, Altaye M, Gaffney M, Satterfield-Nash A, Folger AT, Peacock G, Boyle C. (2020). Kindergarten Readiness in Children Who Are Deaf or Hard of Hearing Who Received Early Intervention. *Pediatrics.* Oct;146(4):e20200557. doi: 10.1542/peds.2020-0557.
9. Yoshinaga-Itano, Christine. (2020). Challenges to EHDI Systems Amid the COVID-19 Crisis, *The Hearing Journal*: May 2020 – Volume 73 – Issue 5 – p 43,44,45.
10. Danielson ML, Bitsko RH, Holbrook JR, Charania SN, Claussen AH, McKeown RE, Cuffe SP, Owens JS, Evans SW, Kubicek L, Flory K. (2020) Community-Based Prevalence of Externalizing and Internalizing Disorders among School-Aged Children and Adolescents in Four Geographically Dispersed School Districts in the United States. *Child Psychiatry Hum Dev.* Jul 30.
11. Morley CP, Struwe S, Pratte MA, Clayton GH, Wilson PE, Dicianno BE, Formica MK, Schad LA, Thibadeau J, Turk MA. (2020) Survey of U.S. adults with spina bifida. *Disabil Health J.* 2020 Apr;13(2):100833.

12. Goss, K. D., Ioerger, M., Young, V., Flanders, R. M., Turk, M. A. (2020). A systematic search and technical review of online information pertaining to medical care for patients with disability. *Disabil Health J.* Apr;13(2):100877. doi: 10.1016/j.dhjo.2019.100877.
13. VanDam M, Yoshinaga-Itano C. Use of the LENA Autism Screen with Children who are Deaf or Hard of Hearing. *Medicina (Kaunas, Lithuania)*. 2019 August 16;55(8). PubMed PMID: 31426435; PubMed Central PMCID: PMC6723169; DOI:
14. Gale, E., Berke, M., Benedict, B., Olson, S., Putz, K., & Yoshinaga-Itano, C. (2019). Deaf adults in early intervention programs. *Deafness & Education International*, 10:1-22. doi: 10.1080/14643154.2019.1664795
15. Bennett KJ, Mann J, Ouyang L. (2019) Summary of Selected Healthcare Encounters among a Selection of Patients with Myotonic Muscular Dystrophy. *South Med J.* Jun;112(6):349-354.
16. Ioerger, M., Machia, L. V., & Turk, M. A. (2019). Self-other overlap: A unique predictor of willingness to work with people with disability as part of one's career. *PloS one*, 14(8).
17. Cyrus AC, Royer J, Carroll DD, Courtney-Long EA, McDermott S, Turk MA. (2019). Anti-hypertensive medication use and factors related to adherence among adults with intellectual disability in South Carolina. *Am J Intellect Dev Disabil.* May;124(3):248-262.
18. Ioerger M, Flanders RM, French-Lawyer JR, Turk MA. Interventions to Teach Medical Students about Disability: A Systematic Search and Review. *American journal of physical medicine & rehabilitation*. 2019 February 5. PubMed PMID: 30730327. +
19. Ioerger M, Flanders RM, Goss KD, Turk MA. Developing a systematic search strategy related to people with disability: A brief report testing the utility of proposed disability search terms in a search about opioid use. *Disability and health journal*. 2019 Apr 1;12(2):318-22.
20. Bennett KJ, Mann J, Ouyang L. (2019). 30-day All-Cause Readmission Rates among a Cohort of Individuals with Rare Conditions. *Disabil. Health J.* Apr;12(2):203-208.
21. De Diego-Lazaro B, Restrepo MA, Sedey AL, Yoshinaga-Itano, C. (2019). Predictors of Vocabulary Outcomes in Children Who Are Deaf or Hard of Hearing from Spanish Speaking Families. *Language, Speech, Hearing Services in Schools*.
22. Barger, B., Rice, C., Wolf, B., & Roach, A. (2018). Better together: Developmental screening and monitoring best predict Part C early intervention receipt. *Disability and Health Journal* 11(3) 420-426.
23. Yoshinaga-Itano C, Sedey AL, Wiggin M, Mason CA. Language Outcomes Improved Through Early Hearing Detection and Earlier Cochlear Implantation. *Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology*. 2018 December;39(10):1256-1263. PubMed PMID: 30444842; DOI: 10.1097/MAO.0000000000001976.
24. Thomson V, Yoshinaga-Itano C. Audiologists Key to EHDI Programs. *The Hearing journal*. 2018 November;71(11):8-9. DOI: 10.1097/01.HJ.0000549522.71507.8c.

25. Barger, B, Rice C, Simmons C & Wolf R. (2018). A Systematic Review of Part C Early Identification Studies. *Topics Early Child Spec Educ.* 2018 May; 38(1):4-16.
26. Betts AC, Froehlich-Grobe K, Driver S, Carlton D, Kramer MK. (2018). Reducing barriers to healthy weight: Planned and responsive adaptations to a lifestyle intervention to serve people with impaired mobility. *Disabil Health J.* Apr;11(2):315-323.

## Appendix D. Scopus Metrics Data\*

Included in this Appendix is a summary of the data collected via Scopus metrics for the two publications indexed in Scopus produced by projects funded through the DRDC in Cycle 2, Year 3 & 4 of that organizations funding. The final data from Scopus was extracted collected in April, 2021.

Eight articles reported Links Out, which are defined as “The number of times an outbound link has been clicked to a library catalog or link resolver.”<sup>8</sup> Three articles reported Full Text Views, which are defined as “The number of times the full text of an article has been viewed”<sup>8</sup> Nine article had reported Abstract Views, which are “The number of times the abstract of an article has been viewed.”<sup>8</sup>

### Links Out

Articles		Links Out
16.	Ioerger, 2019	2
17.	Cyrus, 2019	18
20.	Bennet, 2019	1
21.	De Diego, 2019	7
23.	Yoshinaga-Itano, 2018	7
24.	Thomson, 2018	1
25.	Barger, 2018	124
26.	Betts, 2018	34

### Full Text Views

Articles		Full Text Views
16.	Ioerger, 2019	295
17.	Cyrus, 2019	115
21.	De Diego, 2019	71

### Abstract Views

Articles		
16.	Ioerger, 2019	158
17.	Cyrus, 2019	64
20.	Bennet, 2019	10
21.	De Diego, 2019	112
22.	Barger, 2018	198
23.	Yoshinaga-Itano, 2018	15
24.	Thomson, 2018	2
25.	Barger, 2018	198?
26.	Betts, 2018	69

Fourteen articles reported Tweets, which are defined as “The number of tweets and retweets that mention the artifact.”<sup>18</sup> Nine articles also reported Shares, Likes & Comments, which is defined as “The number of times a link was shared, liked or commented,” on Facebook. Three reported News which is defined as “The number of news articles written about the artifact”<sup>19</sup>

### Tweets

Articles		Tweets
1.	Dollard, 2021	15
2.	French-Lawyer, 2021	6
3.	Schaefer, 2020	4
6.	Yoshinaga-Itano, 2020	5
8.	Meinzen-Derr, 2020	182
9.	Yoshinaga-Itano, 2020	33
11.	Morley, 2020	9
14.	Gale, 2019	42
18.	Ioerger, 2019	1
20.	Bennet, 2019	1
21.	De Diego, 2019	6
22.	Barger, 2018	9
24.	Thomson, 2018	9
25.	Barger, 2018	9

### Shares, Likes & Comments

Articles		Shares, Likes & Comments
2.	French-Lawyer, 2021	1
3.	Schaefer, 2020	2
8.	Meinzen-Derr, 2020	1
11.	Morley, 2020	109
14.	Gale, 2019	22
16.	Ioerger, 2019	34
22.	Barger, 2018	34
24.	Thomson, 2018	9
25.	Barger, 2018	34

### News

Articles		
1.	Dollard, 2021	1
8.	Meinzen-Derr, 2020	1
10.	Danielson, 2020	1

Scopus Metrics also report the indexes in which an article has been archived or referenced. Ten article had reported Citation Indexes, which are defined as the number of articles that cite the artifact in, Scopus, and SSRN.<sup>20</sup> Seventeen articles reported citations. Seventeen articles reported a Field Weighted Citation Impact which “shows how well this document is cited when compared to similar documents. A value greater than 1.00 means the document is more cited than expected.”<sup>21</sup>

### Field Weighted Citation Impact

Articles		Field Weighted Citation Impact
6.	Yoshinaga-Itano, 2020	1.77
8.	Meinzen-Derr, 2020	0.0
9.	Yoshinaga-Itano, 2020	8.62
11.	Morley, 2020	2.55
12.	Goss, 2020	0.64
13.	VanDam, 2019	0.17
14.	Gale, 2019	0.0
16.	Ioerger, 2019	0.18
17.	Cyrus, 2019	0.3
18.	Ioerger, 2019	0.91
19.	Ioerger, 2019	0.68
20.	Bennet, 2019	0.34
21.	De Diego, 2019	2.46
23.	Yoshinaga-Itano, 2018	3.69
24.	Thomson, 2018	0.0
25.	Barger, 2018	2.98
26.	Betts, 2018	1.31

### Citation Indexes

Articles		Citation Indexes
1.	Dollard, 2021	6.21
2.	French-Lawyer, 2021	0.0
7.	Finkelstein, 2020	0.0
14.	Gale, 2019	1
18.	Ioerger, 2019	5
21.	De Diego, 2019	3
22.	Barger, 2018	1
23.	Yoshinaga-Itano, 2018	23
25.	Barger, 2018	1
26.	Betts, 2018	7

### Citations

Abstract		Citations
1.	Dollard, 2021	1
5.	Osterholm, 2020	1
6.	Yoshinaga-Itano, 2020	2
9.	Yoshinaga-Itano, 2020	1
10.	Danielson, 2020	2
11.	Morley, 2020	4
12.	Goss, 2020	1
14.	Gale, 2019	1
17.	Cyrus, 2019	1

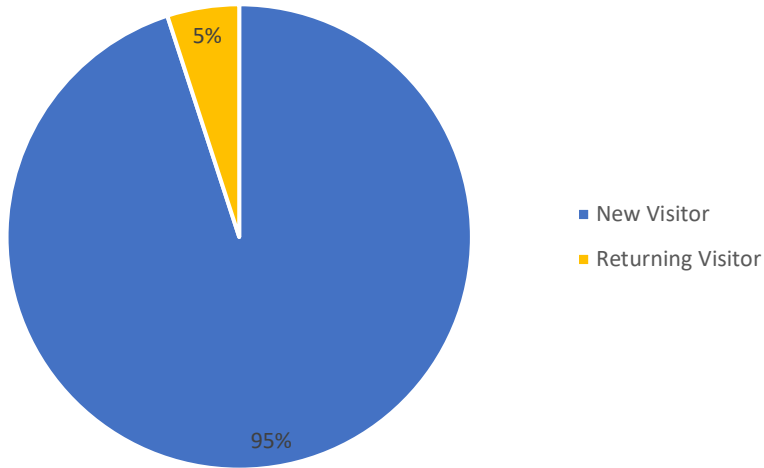
18.	Ioerger, 2019	5
19.	Ioerger, 2019	2
20.	Bennet, 2019	1
21.	De Diego, 2019	4
22.	Barger, 2018	16
23.	Yoshinaga-Itano, 2018	21
25.	Barger, 2018	12
26.	Betts, 2018	7

\* Includes both publications resulting from internal (not funded through RFA process) and external projects.

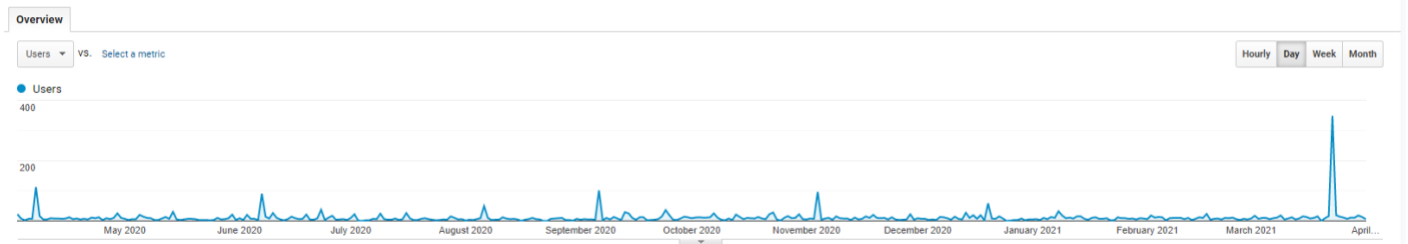


## Appendix E. Google Analytics Data

Percentage of New and Returning Visitors to the DRDC Website from April 2, 2020 to April 1, 2021



Visitors to DRDC Website from April 2, 2020 to April 1, 2021



Percentage of Visitors to www.disabilityresearchcenter.org from April 2, 2020 to April 1, 2021

County	Users	% Users
United States	2,052	53.89%
China	324	8.51%
France	165	4.33%
Canada	143	3.76%
(not set)	134	3.52%
Argentina	131	3.44%
India	85	2.23%
United Kingdom	50	1.31%
Japan	46	1.21%
United Arab Emirates	43	1.13%
South Korea	43	1.10%

Map Overlay DRDC Website Users from April 2, 2020 to April 1, 2021

