

# The National Institute on Disability, Independent Living, and Rehabilitation Research



## FY 2015 Organization Highlights



# Letter from the Director



**Dr. Kristi Hill**  
**Interim Director**

This has been an exciting year at the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), as we further integrate into the Administration for Community Living (ACL) within the Department of Health and Human Services (HHS).

Here at ACL, NIDILRR's mission – to generate new knowledge and promote its effective use – has thrived, as you'll see in the following pages. Not only are we funding the development of new learning tools to assist blind students in STEM learning programs (see p.16) and research to understand the positive impact of community-based Medicaid benefits for kids with autism (see p.16), but we're also supporting the budding careers of tomorrow's leading researchers. Our capacity building grants, to both individuals and academic institutions, are ensuring that the research needs of Americans with disabilities of all ages are addressed well into the future.

And while we like to celebrate the successes of our grantees and the work they continue to advance even after their NIDILRR funding has ended (see pp.17–19), we're always looking to the future. What are the most pressing needs of people with disabilities? How can NIDILRR's limited research dollars assist in meeting those needs? The simple answer is that NIDILRR can't do it alone. That's why partnering with other federal agencies to coordinate our research and development efforts is so important. It's something NIDILRR has always valued, and in today's environment of fiscal austerity it's even more important. I want to share two initiatives with you that will help define our future. They will also require the help and intellectual horsepower of our public, academic, advocacy, and provider partners.

*Long-Range Plan (LRP):* Every five years, as directed by Congress, NIDILRR must create an LRP. This is a welcome opportunity to reflect on the progress made since the previous LRP was adopted. It also requires us to recognize that the world has changed a great deal in the past five years, and so have the everyday experiences of individuals with disabilities and the people and providers who support them. NIDILRR held listening sessions in all regions of the country to better understand the pressing needs of people living with disabilities. The sessions were hosted in conjunction with our ACL regional office partners, and with the support of local area agencies on aging, centers for independent living, aging and disability resource centers, and protection and advocacy organizations. All of these entities are supported financially by ACL. NIDILRR's new Disability, Independent Living, and Rehabilitation Research Advisory Committee will also be a key partner as we finalize the LRP. This group of experts, a majority of whom live with a disability, will serve as key advisors. They represent the diversity of our funded projects in the domains of community living, employment, and health and function.

*Government wide strategic plan:* The NIDILRR Director also serves as the Chair of the Interagency Committee on Disability Research (ICDR). The ICDR has been working for the past year to develop a disability, independent living, and rehabilitation research strategic plan that will include the creation of a federal inventory of all related research projects. That's a tall order given the number of federal partners involved in disability research. The plan also needs to recognize the collaborative efforts that are currently underway within and across government agencies, especially those at the National Institutes of Health, the Department of Defense, and Veterans Affairs. What's exciting is that key leaders in these agencies realize we can do a better job of coordinating and leveraging research dollars to advance the science with and on behalf of people with disabilities. It will also require the ongoing input of multiple stakeholder groups to get it right. NIDILRR is excited to be a part of this effort.

On behalf of my talented and committed colleagues at NIDILRR, thank you for your interest in our work. We welcome – and need – your feedback. It keeps our work grounded in the everyday experiences of individuals living with disabilities. I'm optimistic that together we'll continue to make a positive impact on the future of disability research.

## NIDILRR's Mission

The agency now known as the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) was established by the Rehabilitation, Comprehensive Services, and Developmental Disabilities Amendments of 1978 (P.L. 95-602), which amended the Rehabilitation Act of 1973. Its original goal was to carry out research on all aspects of disability and the socioeconomic implications of the difficulties encountered by individuals with disabilities, an agenda that aligned with the congressional finding that “disability is a natural part of the human experience and in no way diminishes the rights of individuals to ... live independently; enjoy self-determination; make choices; contribute to society; pursue meaningful careers; and enjoy full inclusion and integration in the economic, political, social, cultural and educational mainstream of American society” (Rehabilitation Act of 1973, as amended (29 U.S.C. § 701)). Originally housed within the Department of Education, the passage of the Workforce Innovation and Opportunity Act (WIOA) transferred NIDILRR to the Department of Health and Human Services’ (HHS) Administration for Community Living (ACL).



NIDILRR’s current mission is to generate new knowledge and promote its effective use to improve the abilities of individuals with disabilities to perform activities of their choice in the community, and to expand society’s capacity to provide full opportunities and accommodations for its citizens with disabilities.

NIDILRR achieves this mission by:

- Supporting research, demonstration, training, technical assistance, and related activities to maximize the full inclusion and integration of individuals with disabilities of all ages into society, employment, independent living, family support, and into economic and social self-sufficiency.
- Promoting the transfer of, use, and adoption of rehabilitation technology for individuals with disabilities in a timely manner.
- Ensuring the widespread distribution, in usable formats, of practical scientific and technological information to advance policy, practice, and services to improve outcomes for people with disabilities.

NIDILRR organizes its activities around three major outcome domains—community living and participation, health and function, and employment—and addresses a wide range of disabilities and impairments across populations of all ages.

WIOA has directed NIDILRR to strengthen its focus on independent living and health and wellness topics while continuing its role in technical assistance, knowledge translation, training new disability researchers, and advancing policy and practice that improve services authorized under the Rehabilitation Act. As the agency enters into the WIOA era, it is actively planning for its future and collaborating with federal agencies to promote research, technical assistance, and dissemination that will improve the lives of individuals with disabilities across the lifespan.

# How Is NIDILRR Funding Used?

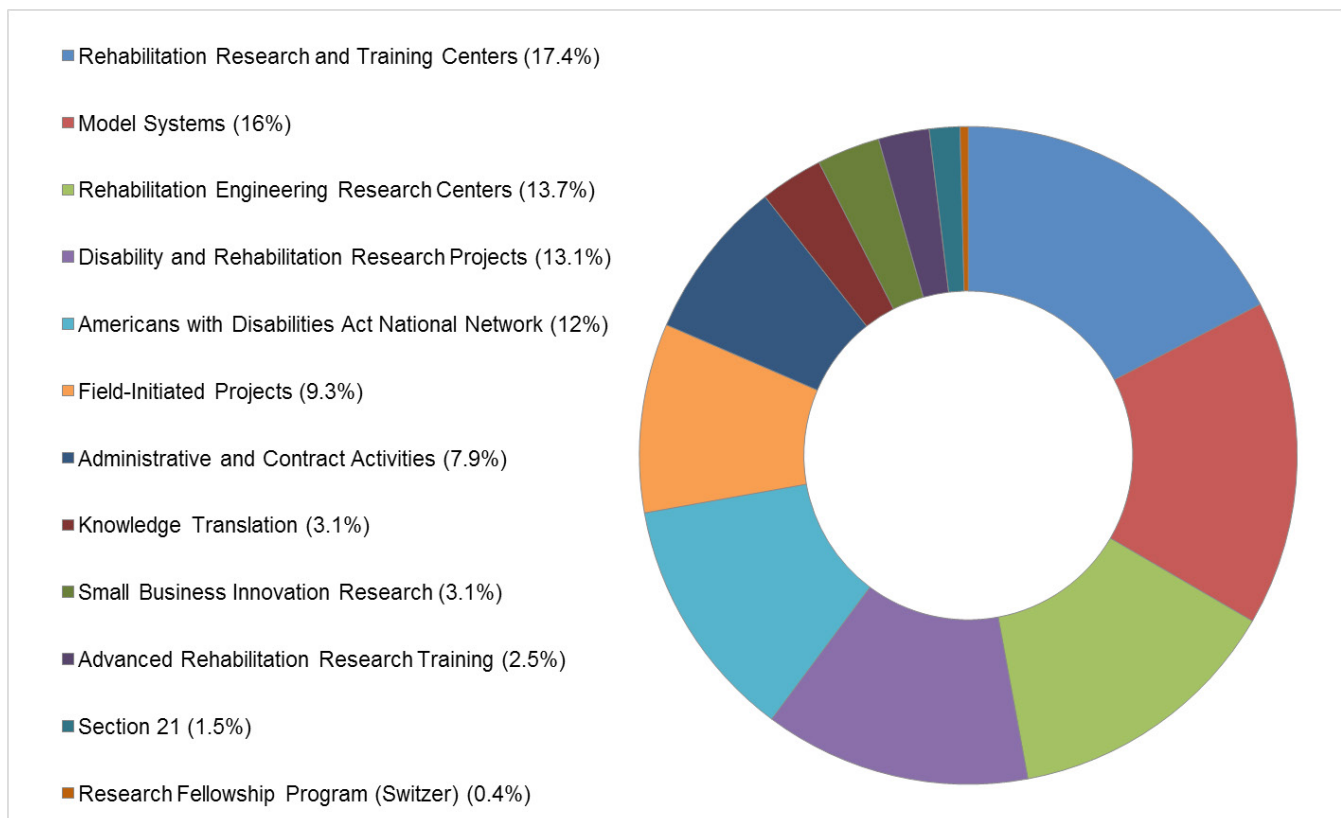


Through its diverse portfolio, NIDILRR addresses a broad scope of research, capacity building, and knowledge translation activities related to disability, rehabilitation, and independent living. The tables and statistics throughout provide an overview of the distribution of NIDILRR's funding and highlights of grantee activities and productivity in fiscal year (FY) 2015.

## Funding by Major Program Areas in FY 2015

NIDILRR supported 213 grantees during FY 2015, totaling \$95,397,253 across all program mechanisms. An additional 40 grantees received zero dollars as a no-cost extension. Together, these two groups reported 1,499 research, development, or training projects in process due to funding by NIDILRR. These projects reflect the breadth of disability research within the agency's topical domains of community living and participation, health and function, and employment. Figure 1 shows the distribution of NIDILRR's funds across the program mechanisms. The impact of NIDILRR's investments in the research and practitioner communities is most clearly illustrated by the far-reaching impact of grantees' successes and outcomes. The summaries that follow, organized by funding mechanism, provide examples of the achievements that resulted from NIDILRR's investment.

**Figure 1. Distribution of NIDILRR Funding by Program Area in FY 2015**





## Peer Review and Awards

In 2015, NIDILRR reviewed 213 proposals across 22 competitions using 156 peer reviewers. NIDILRR funded approximately one-quarter (26%) of the proposals, a reflection of the high degree of rigor within the agency's competitive review process.

NIDILRR funded 21 percent of the *Small Business Innovation Research (SBIR)* Phase I applications. Phase I SBIR grants support the initial feasibility testing and prototype development phase. Phase II projects, which are selected from a pool of successfully funded Phase I grants, were also highly competitive at a funding rate of 36 percent. NIDILRR's 2015 competitions for *Disability and Rehabilitation Research Projects (DRRP)* in the health and function and community living and participation domains each received more than 30 applications; only two applicants were awarded funds.

A hallmark of NIDILRR's peer review process is the inclusion of members of the disability community and other stakeholders on its advisory board and review panels.

**Table 1. A Brief Summary of NIDILRR Grants and Contracts in FY 2015**

Research and contract budget	\$103,970,000
Grants and contracts awarded	54
Grant competitions conducted in FY 2015	22
Panels	32
Peer reviewers participating in application reviews	156
Proposals evaluated	213
Success rates of applicants	26 %

## NIDILRR Programs in Brief

NIDILRR's grant programs vary in purpose, scope, duration, and size; each is designed to address at least one of the following outcome areas:

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- Community Living and Participation
- Employment
- Health and Function
- Technology for Access and Function
- Disability Demographics
- Knowledge Translation
- Capacity Building for Rehabilitation Research and Training

Table 2 shows the average grant award amounts for the NIDILRR grant programs. The Americans with Disabilities Act (ADA) National Network has the highest average funding per grant. The Research Fellowships (Switzer), which are awarded to individuals, receive the lowest average funding per grant.



**Table 2. Average Grant Award Amounts**

<b>GRANTS</b>	<b>FY 2015 AVG. AWARD AMOUNT</b>
Rehabilitation Research and Training Centers (RRTC)	\$644,114
Rehabilitation Engineering Research Centers (RERC)	\$939,073
Disability and Rehabilitation Research Projects (DRRP)	\$485,557
Americans with Disabilities Act (ADA) National Network	\$974,921
Small Business Innovation Research (SBIR)	\$192,850
Knowledge Translation (KT) Centers	\$806,542
Field-Initiated Projects (FIP)	\$180,636
Model Systems	\$427,557
Advanced Rehabilitation Research Training Projects (ARRT)	\$115,265
Research Fellowship Program (RFP), or Mary E. Switzer Fellowships	\$43,258
Section 21	\$320,000

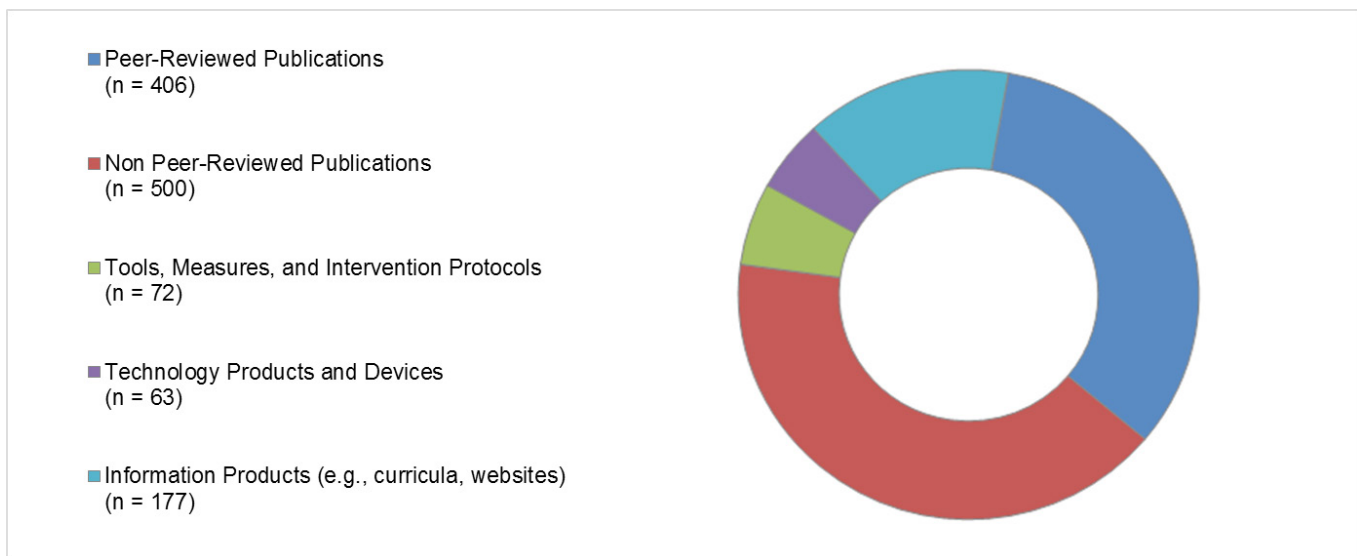
### Products of NIDILRR Grants

Grantees employ an assortment of methodologies to conduct research and develop new products and technologies, including randomized controlled trials, longitudinal studies, qualitative studies, and intervention studies. These approaches and investments generated more than 1,200 products during FY 2015.

As shown in Figure 2, NIDILRR grantees produce an assortment of output types, from the more traditional category of peer-reviewed publications, to such outputs as technological devices, prototypes, special software, and new physiologic measurement tools, as well as audiovisual materials and intervention curricula. The most common types of outputs are non-peer-reviewed publications, followed by peer-reviewed publications and information products.

The wide range of product types illustrates the immense diversity in the scope of development and research projects funded by NIDILRR.

**Figure 2. Numbers and Types of Products Generated by NIDILRR Grants in FY 2015**



# NIDILRR's Resource Centers



NIDILRR supports three national resource centers to help the public find and use current information about disability policy, assistive technology, and disability research.



## ADA National Network

NIDILRR oversees the ADA National Network, which provides technical assistance, training, and information resources related to the ADA. The ADA is a comprehensive civil rights law designed to guarantee people with disabilities equal opportunity in employment, public accommodations, state and local government services, transportation, and telecommunications. The ADA Network includes 10 regional centers and the ADA Knowledge Translation Center that together serve local, regional, and national stakeholders to foster ADA implementation. Website: [www.adata.org](http://www.adata.org).

The Network lends guidance to the public and employers in the private and public sectors around the country through its 10 regional centers. In FY 2015, the Network responded to almost 60,000 inquiries by phone, email, or in person. The ADA Participatory Action Research Consortium complements the Network's activities through research on factors influencing the community living of citizens with disabilities and health disparities, and through assessments of promising practices at state, regional, and community levels.

## ADA Anniversary Tool Kit

In celebration of the 25th anniversary of the ADA, the Southeast ADA Center at Syracuse University developed an ADA Anniversary Tool Kit, a website dedicated to publications, resources, training, events, and news on the ADA for use in planning events to celebrate the 25th anniversary of the ADA. The ADA Legacy Project adopted the ADA Anniversary Tool Kit to promote "ADA25." The ADA Legacy Project's adoption of the Tool Kit has led to increased awareness of the ADA and the ADA National Network knowledge resources. The ADA National Network website experienced a 378 percent increase in page views and a 228 percent increase in users since 2014. To date, the website has collected more than 9,000 signatures from individuals, organizations, government entities, and faith communities that pledge to celebrate and recommit to the ADA. Website: [www.adaanniversary.org](http://www.adaanniversary.org).

## AbleData

NIDILRR supports AbleData, an information center hosting an extensive database of assistive technology products and resources to increase awareness of and access to assistive devices. More than 60 percent of patrons are people with disabilities, family, and friends. In FY 2015, AbleData responded to 1,681 information requests and launched a new, more robust website with a user-driven design based on an analysis of their activities on the previous site, focus groups, and emerging best practices in web design and functionality. Website: [www.abledata.com](http://www.abledata.com).



## NARIC

NIDILRR supports the National Rehabilitation Information Center (NARIC), a research library and information center that promotes access to disability and rehabilitation research information. In FY 2015, NARIC responded to more than 1,100 direct requests for information referral and document delivery by phone, email, chat-based reference, social media, and at national conferences. More than half of NARIC's patrons were people with disabilities, families, friends, and advocates seeking services and supports for independence and community living. NARIC connected hundreds of disability and rehabilitation professionals to research and interventions produced by the NIDILRR community and elsewhere, including downloads of more than 3,300 documents from the NARIC collection. Nearly 180,000 visitors read more than 3.5 million pages and conducted more than 99,000 searches of NARIC's databases. NARIC's social media reached more than 5,000 followers, with significant growth in outreach to Spanish-speaking audiences in the U.S. and internationally. NARIC's Spanish social media growth almost doubled in this time period. Website [www.naric.com](http://www.naric.com).

## Knowledge Translation

Knowledge Translation (KT) is an active process of ensuring that new knowledge and products from research and development are used to improve the lives of individuals with disabilities. NIDILRR KT centers support NIDILRR grantees in producing and promoting the use of new knowledge and products among disability stakeholders in a variety of important disability issue areas. As such, NIDILRR requires its grantees to involve stakeholders in the research and development process, translate findings into usable formats, and disseminate information to the community or identify plans to transfer products into the market. NIDILRR funds specialized KT projects in different content areas to assist grantees in their KT efforts. NIDILRR invested more than \$4.1 million across several specialized KT projects, as shown in Table 3.

**Table 3. NIDILRR's KT Grants in FY 2015**

<b>CENTER</b>	<b>TOTAL</b>
Center on Knowledge Translation for Technology Transfer	\$924,511
ADA Network Knowledge Translation Center	\$850,000
Model Systems Knowledge Translation Center	\$536,315
Center on Knowledge Translation for Disability and Rehabilitation Research	\$797,204
Center on Knowledge Translation for Employment Research	\$500,000
Translating Transfer Training and Wheelchair Maintenance into Practice	\$150,000
Translating Evidence about Traumatic Brain Injury to Practice within Washington State Department of Corrections	\$150,000
TEST - Translating Evidence to Support Transitions: Improving Outcomes of Youth in Transition with Psychiatric Disabilities by Use and Adoption of Best Practice Transition Planning	\$149,707
<b>TOTAL</b>	<b>\$4,057,737</b>





A sampling of valuable KT products generated in FY 2015 follow:

- **The Model Systems KT Center** gathered members of the Spinal Cord Injury (SCI), Traumatic Brain Injury (TBI), and Burn Model System Centers to identify strategies for engaging a broad audience, including individuals with injuries, clinicians, and policymakers, in research activities. These recommendations are compiled into a report that can be accessed at [www.msktc.org/lib/docs/Webinars/Engaging\\_with\\_Audiences\\_Compodium.pdf](http://www.msktc.org/lib/docs/Webinars/Engaging_with_Audiences_Compodium.pdf). The Center also released a toolkit, *Presenting Data Using Infographics*, that offers tips and advice for effectively using infographics as visual tools to present complex data and information ([www.msktc.org/lib/docs/KT\\_Toolkit/MSKTC\\_KT\\_Tool\\_Infographics\\_508.pdf](http://www.msktc.org/lib/docs/KT_Toolkit/MSKTC_KT_Tool_Infographics_508.pdf)).
- **The Center on KT for Employment** had a systematic review approved by the Campbell Collaboration, an international research network that promotes and produces systematic reviews in the areas of crime, education, and social welfare to help the public evaluate the quality and strength of evidence presented from large volumes of research studies. The systematic review addressed nonmedical interventions that facilitate the employment of cancer survivors ([www.campbellcollaboration.org/lib/project/225](http://www.campbellcollaboration.org/lib/project/225)).
- **The ADA KT Center**, in partnership with ADA National Network regional centers, released an updated and redesigned 58-page events planning guide, *A Planning Guide for Making Temporary Events Accessible to People with Disabilities* ([www.adata.org/publication/temporary-events-guide](http://www.adata.org/publication/temporary-events-guide)). The valuable guide provides information from industry experts to assist planners, managers, operators, and building owners in making temporary events, such as festivals, concerts, and sporting events, accessible to people with disabilities.



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**KTER** KNOWLEDGE TRANSLATION FOR EMPLOYMENT RESEARCH **CENTER**

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# Research Capacity Building Support in FY 2015

To increase research capacity in the disability and rehabilitation field, NIDILRR supports three research training mechanisms.

The *Mary E. Switzer Fellowship Program*, or *Research Fellowship Program*, gives qualified individual researchers, including individuals with disabilities, the opportunity to develop new ideas and concentrate on specific lines of research experience. Fellows work for one year on an independent research project of their own design.

The *Advanced Rehabilitation Research Training Projects (ARRT)* provide funding to institutions of higher education to recruit and provide advanced interdisciplinary research training to qualified postdoctoral Fellows.

In addition, research training is a requirement for *Rehabilitation Research and Training Centers (RRTC)* and *Rehabilitation Engineering Research Centers (RERC)*. Other grants, such as the *Model Systems*, also support significant research training.

*Section 21—Traditionally Underserved Populations* focuses on research capacity building for minority-serving institutions, such as Historically Black Colleges and Universities and other institutions with significant racial/ethnic minority student populations. Section 21 of the Rehabilitation Act requires that 1 percent of NIDILRR appropriations be set aside to address traditionally underserved populations

NIDILRR's goal is to increase capacity to conduct disability and rehabilitation research and development activities that make positive contributions to the lives of individuals with disabilities. In 2015, NIDILRR devoted \$4.6 million to capacity building programs, as shown in Table 4.

**Table 4. Research and Capacity Building Program Expenditures**

PROGRAM	# OF GRANTEES	EXPENDITURES
AART	18	\$2,627,265
Switzer	6	\$420,000
Section 21	5	\$1,625,000
<b>TOTAL</b>	<b>29</b>	<b>\$4,672,265</b>

## Switzer Fellows

A total of 15 Switzer Fellows submitted an annual or final performance report in FY 2015. Switzer Fellows were actively engaged in independent and partnership research, resulting in seven peer-reviewed articles, four measurement tools or technology products, and three information products. Switzer Fellows have gone on to hold prominent positions, primarily on the tenure track in academic research institutions, but also in hospital centers or in the private sector for biotechnology companies.

### SWITZER FELLOW FEATURE

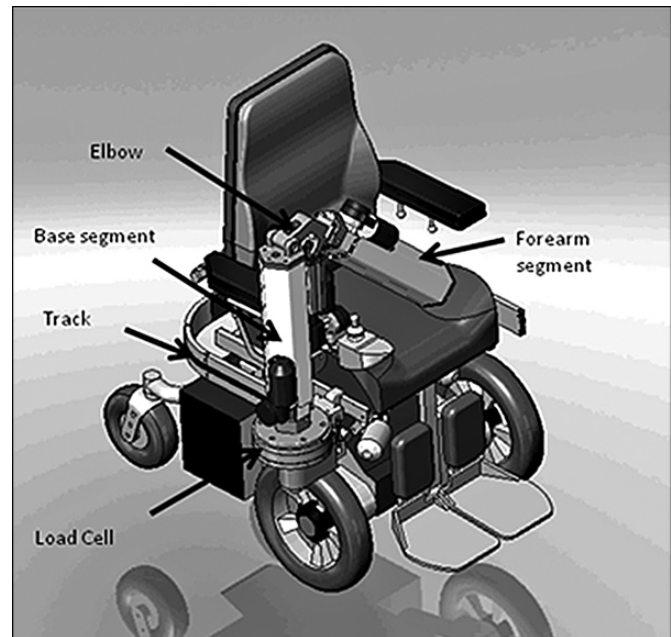
Dr. Kacey Maestas holds academic appointments at both the Baylor College of Medicine and the TIRR Memorial Hermann's Brain Injury Research Center. Her research focuses on participation/community integration, emotional functioning, and cognitive rehabilitation of civilians and veterans with traumatic brain injury (TBI). During Dr. Maestas' 2014 Switzer Fellowship, she conducted a qualitative study entitled, *Parenting for Adults with TBI*. Findings describe common individual and environmental barriers associated with parenting with TBI, as well as the negative emotional outcomes that may accompany these barriers. Findings from the study were used in the development of practitioner- and consumer-focused materials on the topic. These materials are available in both English: ([www.tbicomunity.org/resources/publications/Parenting\\_for\\_Adults\\_with\\_TBI\\_Manual.pdf](http://www.tbicomunity.org/resources/publications/Parenting_for_Adults_with_TBI_Manual.pdf)) and Spanish: ([www.tbicomunity.org/resources/publications/Parenting\\_for\\_Adults\\_with\\_TBI\\_Manual\\_Spanish.pdf](http://www.tbicomunity.org/resources/publications/Parenting_for_Adults_with_TBI_Manual_Spanish.pdf))

# ARRT Fellows' Achievements



There were 87 Fellows enrolled in the ARRT program under 23 active awards. Twenty-six of these Fellows were completing their programs during FY 2015. ARRT Fellows authored 31 publications and contributed to another 13 during this period. The program supports a diverse cadre of young research professionals. An estimated 47 percent of Fellows in the ARRT funding program identify themselves as Latino, African American, American Indian, Asian, or Native Hawaiian. ARRT Fellows have been integral to several key research developments alongside mentors and senior researchers. Examples of their work include:

- **Guidance Issued for the Reliable Assessment of Depression in People with Multiple Sclerosis.** Investigators from the University of Washington demonstrated the reliability and validity of the Patient Health Questionnaire-9, the Center for Epidemiological Studies Depression Scale-10, and the eight-item Patient-Reported Outcomes Measurement Information System Depression Short Form (PROMIS-D-8) for use with individuals living with multiple sclerosis. Findings suggest that practitioners can use these instruments interchangeably and with confidence, providing further evidence to support the tools' compatibility with PROMIS measures in the U.S. and abroad. The full citation is: Amtmann, D., Kim, J., Chung, H., Bamer, A. M., Askew, R. L., Wu, S., Cook, K. F., & Johnson, K. L. (2014). Comparing CESD-10, PHQ-9, and PROMIS depression instruments in individuals with multiple sclerosis. *Rehabilitation Psychology*, 59(2), 220–229.
- **Robotic Arm Minimizes the Weight Load for Caregivers of Individuals with Disabilities.** Investigators at the University of Pittsburgh examined the stability of “Strong Arm,” a new robotic arm that is integrated with an electrical-powered wheelchair to assist with transfers, such as from the chair to a bed. The Strong Arm strengthens the ability of caretakers, family caregivers, or other assistants to more easily lift and transfer individuals with disabilities without risking injury. Recent experiments applied different weight loads and system configurations to analyze system stability. The modeling accurately predicted its stability, providing evidence of its strengths and safety. The device was patented and recently licensed to a robotic company for commercialization. A detailed review of this research is published in: Wang, H., Tsai, C.-Y., Jeannis, H., Chung, C.-S., Kelleher, A., Grindle, G. G., & Cooper, R. A. (2014). Stability analysis of electrical powered wheelchair-mounted robotic-assisted transfer device. *Journal of Rehabilitation Research and Development*, 51(5), 761–774.



**Strong Arm**



## Promoting Diversity in Disability Research

Under *Section 21—Traditionally Underserved Populations of the Rehabilitation Act*, NIDILRR supports minority institutions to promote participation of diverse populations in rehabilitation research.

National Investigation of Factors that Contribute to Minority Disability and Rehabilitation Research Leaders' Career Development and Success: The RRTC on Research and Capacity Building for Minority Entities at Langston University conducted telephone interviews with 15 minority disability, health, and rehabilitation research leaders to document factors associated with their career development and success. Interviewees identified cultural, language, and family life issues and the lack of collaboration as critical career development challenges. At the institutional level, they found additional obstacles—bureaucracies, alienation, heavy teaching loads, insufficient research funds, racial and ethnic discrimination, limited research mentorship opportunities, unhealthy competition, and the lack of a critical mass of researchers of color. Leaders noted that an inadequate supply of minority research leaders and lack of equal opportunity in access to funding and resources further hamper career success.

Advanced Research Training Provided to Researchers Focusing on TBI and Sports-Related Concussion: The Health and Function: ARRT at University of Texas – El Paso (UTEP) is providing a multidisciplinary training for postdoctoral research Fellows to develop advanced scientific methodological skills in a community-based research setting. Training Fellows have engaged in projects focusing on motor speech disorders, the bilingual impact on baseline testing, developing an inexpensive procedure for assessing balance, investigating a simple word recall procedure for identification of concussion, and more. One research Fellow designed and initiated a research project in a partnering district investigating the academic and social performance impact of sports-related concussion among high school student-athletes. Of the six postdoctoral Fellows expected to be recruited for UTEP's training program, two have accepted faculty positions after a year of supported training.





## How is NIDILRR Research Making a Difference?



NIDILRR research is designed to generate new knowledge and technologies and stimulate change in programs, practices, and public policies to the benefit of Americans with disabilities and their families. Selected grantee accomplishments from FY 2015 are presented below to illustrate the variety of NIDILRR grantee activities that are improving the lives of people with disabilities.

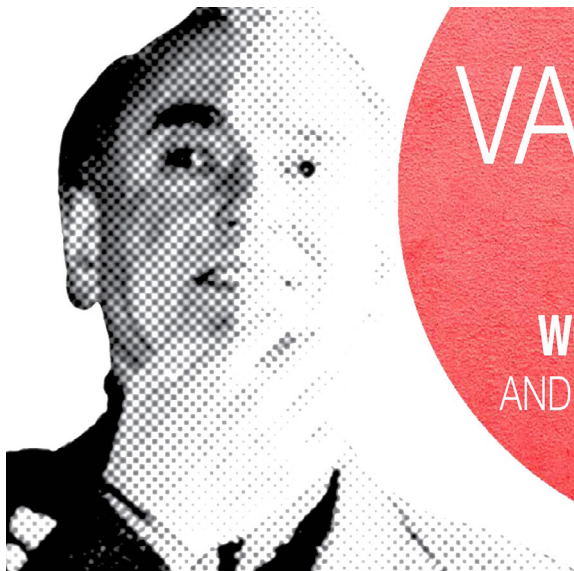
### Diabetes Education Toolkit Helps People with Mental Health Disorders Manage Both Conditions

The RRTC on Psychiatric Disability and Co-Occurring Medical Conditions developed an online toolkit supporting people with psychiatric disabilities who also have diabetes or prediabetes. The toolkit provides valuable information on understanding and managing diabetes or prediabetes. The toolkit is unique because it addresses the issues that can happen with the co-occurrence of mental health disorders and diabetic conditions. The toolkit includes an extensive library of materials and podcasts covering many critical topics, plus a chart of American Diabetes Association standards of care with related educational material. Materials from the toolkit have been downloaded more than 48,000 times, and the Canadian Mental Health Association included it in their Diabetes and Mental Health Peer Support Project. The toolkit can be found at [www.cmhsrp.uic.edu/health/diabetes-library-home.asp](http://www.cmhsrp.uic.edu/health/diabetes-library-home.asp).



### Challenging the Assumptions of People with Intellectual Disabilities

The NIDILRR-funded RRTC on Community Living for People with Intellectual Disabilities has released a film, *Valuing Lives: Wolf Wolfensberger and the Principle of Normalization*. The film explores the revolutionary principle of normalization and the importance of valuing people. It also features the professor himself, whose intense, multiday workshops trained thousands of human services professionals in the theory and practice of normalization. The video may be rented or purchased from the RRTC and is a key way of learning more about normality for people with intellectual disabilities. Extended interviews may be viewed free of charge here: [www.rtc.umn.edu/valuinglives](http://www.rtc.umn.edu/valuinglives).



VALUING  
LIVES

WOLF WOLFENSBERGER  
AND THE PRINCIPLE  
OF NORMALIZATION



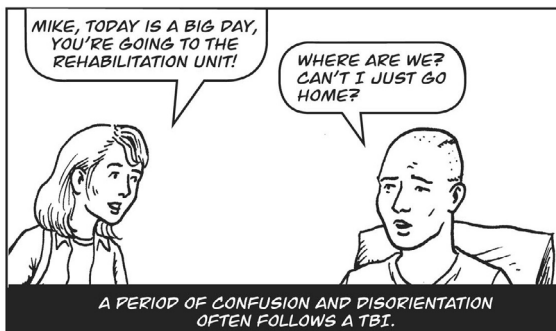


## Inventors and Small Business Partner to Develop Revolutionary Walker that Helps Individuals Come to Standing Position

The RERC for Wheeled Mobility in Everyday Life at the Georgia Institute of Technology designed and developed the Stand-Up Walker as part of the inventor-driven design competition organized by the RERC involving inventors and small businesses. The device helps individuals with mobility issues rise from a seated position. Inventors presented their ideas to RERC staff consisting of engineers, scientists, and clinicians and were provided with feedback addressing technical, clinical, and policy issues related to the design. The winning inventor, Mr. Howard Liles, fabricated the prototype walker in his senior year at the Massachusetts Institute of Technology while the RERC organized meetings with physical therapists to get feedback on the device. This led to the identification of design revisions that were later incorporated into several prototype iterations. URise Products was the start-up that licensed the walker, completed the production design, and launched the product. Learn more about the walker at [www.uriseproducts.com/pages/inventors-story-1](http://www.uriseproducts.com/pages/inventors-story-1) and [www.uriseproducts.com](http://www.uriseproducts.com).



## InfoComics Tackles Understanding of Traumatic Brain Injury



The University of Washington TBI Model System published a new series of TBI InfoComics on understanding TBI. The TBI InfoComics present research findings from the TBI Model Systems in an engaging format, using text and images to share vital and up-to-date information about physical, cognitive, and emotional issues people with TBI may be facing. The new three-part series introduces readers to TBI by following Mike and his family as he goes through rehabilitation, returns home, and adjusts to new routines and situations. It can be viewed at [www.comics.tbi.washington.edu](http://www.comics.tbi.washington.edu).

## Convenient Checklist Keeps Wheelchairs at Top Performance

Poor wheelchair maintenance can lead to serious injuries. About half of individuals with SCI require at least one wheelchair repair in a six-month period, and one-third of those report missing appointments, school, or work as a result of their wheelchair malfunction. To help wheelchair users quickly identify trouble areas that need repair, researchers at the University of Pittsburgh developed the W-MAT, a wheelchair inspection checklist to assess the condition of a wheelchair and its parts. The checklist identifies problems related to component failure in power and manual wheelchairs and serves as a useful risk assessment for the prevention of wheelchair-related injuries.





The W-MAT was presented at the 2015 International Seating Symposium Workshop. Toro M. L., & Pearlman J. (2015). Proceedings of the Rehabilitation Engineering and Assistive Technology Society of North America Conference: *Development of a manual wheelchair and power wheelchair maintenance program*. Denver, CO.

## Photovoice-Based Social Media and e-Mental Health Program Hastens Community Participation and Recovery



In the absence of accessible and affordable mental health services, persons with mental illness may initially turn to online support, particularly to avoid stigma. To create an online safe haven and educational hub, Boston University developed an innovative photovoice-based social media program, “Recovery 4 US,” to enhance community participation of individuals with mental health disorders and facilitate their recovery. The program integrates web and mobile technologies and is designed to be a self-sustaining virtual community for individuals living with a disabling mental illness. The program is built on the principles of photovoice—a public health community-

based research method. Recovery 4 US has three main components: (1) daily hope-inspiring messages and images; (2) creation and viewing of recovery-oriented photovoice works; and (3) attendance at community events. Researchers successfully developed a bank of more than 300 hope-inspiring messages, which are sent on a daily basis to the members of the Recovery 4 US community. Messages from the Hope Bank can be easily used for other disability groups as part of various wellness interventions. Such online programs offer individuals with mental health disorders multiple options for ongoing support. More information about how photovoice is being used can be found by visiting the Center for Psychiatric Rehabilitation at [www.cpr.bu.edu/resources/photovoice](http://www.cpr.bu.edu/resources/photovoice).

## Internet Program Makes It Easier for Men with Disabilities to Identify and Report Interpersonal Violence

Very little attention has been given to creating effective methods for helping men with disabilities prevent, reduce, and eliminate interpersonal violence from their lives. Portland State University conducted a pilot study of a gender-customized, Internet-based Safer and Stronger Program (SSP) for men that was first developed for women. Three Centers for Independent Living (CIL) Project partners conducted the pilot with 30 men who experienced a variety of disability types. This was followed by a full study of 250 men with disabilities in three CIL Project partner implementation sites; testing measured changes in awareness, abuse types, prevention strategies, participant-initiated safety-planning actions, and participant sense of self-efficacy in dealing with abuse-related issues. Successful field-testing of the men’s and women’s SSPs has produced two gender-specific programs. Positive findings indicate the programs’ ability to increase awareness about what constitutes abuse, self-efficacy for addressing abuse, and use of safety-promoting behaviors that ultimately improve the safety and well-being of men with disabilities and deaf men. The program has the potential to be implemented by health and social service providers beyond these test sites. To learn more about SSP, visit [www.search.naric.com/research/pd/redesign\\_record.cfm?search=2&rec=124421&international=0](http://www.search.naric.com/research/pd/redesign_record.cfm?search=2&rec=124421&international=0).



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## Research Highlights Implementation of Medicaid Home and Community-Based Services (HCBS) for Children with Autism



Autism spectrum disorders (ASD) are often marked by impaired social interactions and deficits in communication skills that result in poor peer interactions, behavioral challenges, and academic performance issues. Specialized services are often administered by states through 1915(c) Medicaid HCBS waiver programs to provide lifelong services and supports specifically to lessen the stress and burden on families. Researchers at Towson University investigated the role of waivers on families' well-being. Services covered may include intensive one-on-one intervention with the child, therapy, residential rehabilitation, respite care, family training, and more. They found that families receiving the

waivers showed an improvement in family quality of life and increased perceived child improvement in independent living skills compared to those who did not. More intensive individual support services and frequent therapeutic integration predicted improved academic performance and independent living skills. Findings suggest that these Medicaid waivers provide access to services that help child and family functioning at home without having to resort to more costly residential care. Two peer-reviewed publications emerged from this study: Eskow, K. G., Chasson, G. S., & Summers, J. A. (2015). A cross-sectional cohort study of a large, statewide Medicaid home and community-based services autism waiver program. *Journal of Autism and Developmental Disorders*, 45(3), 626–635 and Merryman, M. B., Miller, N. A., Shockley, E., Eskow, K. G., & Chasson, G. S. (2015). State adoption of Medicaid 1915(c) waivers for children and youth with Autism Spectrum Disorder. *Disability and Health Journal*, 8(3), 443–451.

## Online Braille Math Tutorial Opens Learning Opportunities in the Science, Technology, Engineering, and Math (STEM) Fields for Individuals with Visual Impairment

Fluency in reading and writing mathematical symbols is essential for the study of advanced mathematics. A special version of braille, the Nemeth Code, exists in which all of the symbols comprising mathematics are depicted in braille. Unfortunately, many individuals who are responsible for teaching blind students are not sufficiently competent in the delivery of braille math. To solve this vexing problem, the staff of the Research and Development Institute at Northern Illinois University collaborated with the American Printing House for the Blind in the development of an online braille math tutorial.

The tutorial improves the ability of persons who are blind or visually impaired to read and write the symbols comprising the Nemeth Code, which may help to widen their opportunities in STEM fields. The tutorial can be found at [www.tech.aph.org/nemeth](http://www.tech.aph.org/nemeth).





## Inventors Enhance Communication Options by Converting Digital Data into Audiovisual Form

Charmtech Labs, LLC developed the Capti Narrator, a universally accessible technology that helps people listen to content in an audiovisual form. Capti Narrator was developed as assistive technology for people with visual impairments and is useful for people with illiteracy as well as disabilities such as dyslexia. Public schools and universities are adopting the technology, and this collaboration has helped to further develop additional functionalities needed in educational settings. Charmtech Labs is now exploring how English language learners can acquire the language faster with Capti. The content can be imported to the Capti Playlist in a variety of formats and from multiple sources (e.g., the web, OneDrive, and Dropbox) and can be narrated by high-quality synthetic voices speaking in different languages and accents. It can also be used as an application in most web browsers, installed on PCs (and soon Macs), and installed as an app on mobile devices. It has been downloaded hundreds of thousands of times. Its remarkable functionalities and demand earned the Capti Narrator a Federal Communications Commission (FCC) Chairman's Award for Advancing Accessibility and the Delegates' Award in the W4A Accessibility Challenge. Its principal investigator, Dr. Yevgen Borodin, was recognized as a MIT Technology Review Innovator under 35 for his work on Capti Narrator and other accessibility research. Capti Narrator can be accessed via [www.captivoice.com](http://www.captivoice.com).

## A Comparative Analysis of Adult Siblings' Perceptions Toward Caregiving

Siblings of individuals with intellectual and developmental disabilities are likely to become caregivers for their brothers and sisters. Their expectations of and experiences with caregiving, however, may be different from parents and others. Fellows from the University of Illinois used focus groups to compare the perspectives of siblings who were current caregivers to siblings who anticipated becoming caregivers. Responses were compared and contrasted across four areas: caregiving responsibilities, rewards, challenges, and opinions toward being paid as a caregiver. Both groups were knowledgeable about and invested in their siblings and reported that they enjoyed bonding with them. For current caregivers, challenges were related to understanding and navigating the service system. In contrast, anticipated caregivers were concerned about planning for the future. Mixed viewpoints were expressed about receiving pay for providing care although a greater number of current caregivers were receptive to it. This study provided valuable information for developing responsive interventions and support for the growing number of individuals caring for siblings. The full citation is: Burke, M. M., Fish, T., & Lawton, K. (2015). A comparative analysis of adult siblings' perceptions toward caregiving. *Intellectual and Developmental Disabilities*, 53(2), 143–157.





## Where Are They Now?

NIDILRR-funded grantee research has had meaningful impacts on individuals with disabilities by improving their ability to live independently and remain active members of their communities. Many grantees have been able to expand or build upon their research conducted under NIDILRR funding. The selected examples describe notable accomplishments reported by grantees following the completion of their NIDILRR-funded projects.

### **IDRT Expands Online Sign Language Translation Software by Establishing a Platform to Improve Education for Deaf Children in Morocco**

With funding from NIDILRR, the National Science Foundation (NSF), the Institute of Education Sciences, and the Institute for Disability, Research, and Training (IDRT) have created numerous software products, including [myASLTech.com](http://myASLTech.com), an online one-stop-hub where people can access multiple software tools to build their own American Sign Language (ASL) enhanced products. During the past several years, through the U.S. Agency for International Development (USAID) and NSF funding, IDRT has collaborated with a research team in Morocco to develop software that utilizes IDRT intellectual property, including product design, software code, and graphic assets, and repurpose it with Standard Arabic text and Moroccan Sign Language (MSL) images. In October 2015, IDRT was awarded an All Children Reading: A Grand Challenge for Development grant through USAID, World Vision, and Australia AID. This grant focuses on building technology essentially modeled after an IDRT product completed with NIDILRR funding and teacher training to support improved reading instruction for deaf children in Morocco. IDRT is packaging the teacher training for purposes of replication and will conduct four regional trainings on the basics of language development, MSL, and the use of the software in schools. The software is expected to be completed in summer 2016. Reading and sign language vocabulary assessment tools are being developed or modified and will be piloted in eight schools in fall 2016. The new software has the potential to be replicated, distributed across Morocco, and further adapted to other Arabic-speaking countries. IDRT is looking to expand their efforts to repurpose their software for the benefit of other deaf children worldwide.



### **Training Assistive Technology in the Environment (TATE) Toolkit**

The Center on Brain Injury Research and Training (CBIRT) at the University of Oregon developed the TATE Toolkit, which is designed for trainers, instructors, and coaches, including family caregivers, speech pathologists, and occupational therapists, who are in a position to help someone with a brain injury learn to use assistive technology. The TATE Toolkit has been used to guide the assessment and training of assistive technology for cognition for participants, including civilians and veterans with TBI, seeking academic, prevocational, and vocational support. The toolkit website continues to see increases in site visits. Between October 2013 and July 2016, the online toolkit received 2,870 unique page views. Since completing the project, the TATE Toolkit fills a void in the field of assistive technology for individuals with acquired cognitive disabilities with its emphasis on systematic needs assessment and instruction. The toolkit has been included in graduate coursework on cognitive rehabilitation (e.g., Dr. Gina Griffiths—University of Oregon) and been featured as part of a series of articles published by the American Speech and Hearing Association offering continuing education credit to speech-language pathologists. The toolkit can be accessed free of charge from the CBIRT at [www.cbirt.org/products/training-assistive-technology-environment-tate](http://www.cbirt.org/products/training-assistive-technology-environment-tate).





## The Deaf off Drugs and Alcohol Project

A *Field-Initiated Project (FIP)*, the Deaf off Drugs and Alcohol (DODA) Project at Wright State University, resulted in online portals for deaf individuals with substance abuse challenges, permitting them access to recovery support (Alcoholics Anonymous (AA), Narcotics Anonymous (NA), 12-Step model) and individual counseling approaches in virtual meeting spaces. AA motivational statements in English and ASL, updated daily, and online recovery meetings in ASL are available through the DODA web portal, with additional support strands being planned. Participation in these meetings is available to deaf individuals with substance abuse challenges from around the country, with attendees from 31 states being on record. Currently, 12–18 individuals participate in weekly virtual support meetings. Virtual meeting spaces are made available for participants to meet with their support sponsors (treatment mentors), as well as to meet for individual counseling. Seven individuals currently receive individual counseling through the website, though this service is limited to individuals from Ohio with Medicaid. The validity of assessments translated to ASL during the project is currently being assessed using NIDILRR DRRP funding. More information is available at [www.medicine.wright.edu/citar/sardi/deaf-off-drugs-and-alcohol](http://www.medicine.wright.edu/citar/sardi/deaf-off-drugs-and-alcohol).

## Community Living and Employment

The RRTC on Community Living and Employment, in partnership with the Center's Direct Support Workforce, continues to grow in influence. Through a contract with the Minnesota Department of Human Services, they provided training in workforce development and community living to more than 3,000 direct support personnel on person-centered planning and approaches over the past four years. Utilization of the online course has been the most popular: between 2013 and 2018, 53,719 participants completed the course online. In an environment where organizations are cautious about change and the process of becoming person-centered, the training has been very welcome. Working closely with the National Direct Service Support Workforce Research Center, they developed core competencies for the workforce. The toolkit has a companion guide with a person-centered design. The RRTC also developed a two-day training for organizations on how to build an institution, identify the appropriate tools, evaluate the evidence, and understand the many changes regarding the HCBS rule. The training helps managers and frontline staff learn how to stay in compliance, or articulate they are in compliance. They have also partnered with the No Wrong Door program directors to implement the training. To learn more, visit [www.rtc.umn.edu/rtc](http://www.rtc.umn.edu/rtc).

## The ACCESS Main Street: Universal Design Information Tool

Researchers at the University of Wisconsin – Milwaukee's Rehabilitation Research Design and Disability Center have developed a suite of building accessibility evaluation apps called Access Ratings for Buildings. AccessTools is designed to efficiently lead an evaluator through a comprehensive building assessment. Several "mini-apps" providing additional functionality to AccessTools software suite are at the beta stage and expected to be released to the public in late summer 2016 (AccessSound, AccessSlope, and AccessRuler). These enhance the ability to measure the incline of a ramp, the level of ambient sound, and import measurements from Bluetooth-enabled laser rulers. These particular capabilities are of primary interest to the accessibility professional. AccessPlace is a web app, also to be released in summer 2016, designed for people with disabilities to read and leave comments and reviews of the accessibility of buildings in the community. An important feature of AccessPlace is its ability to customize information for an individual based on their user profile. To learn more, visit [www.r2d2.uwm.edu/access-ratings-for-buildings](http://www.r2d2.uwm.edu/access-ratings-for-buildings).



## Access to Success

Investigators from the University of Kansas developed the Access to Success training program, the first training tutorial designed to provide postsecondary students with disabilities with the knowledge and skills to advocate for accommodations needed to succeed in their coursework, as well as to learn skills that may help gain more independence. Researchers are expected to overhaul the program by building on data collected under a newly funded NIDILRR FIP, *Access to Success: Replication and Impact of a Training Program Supporting Post-Secondary Students in Requesting Disability Accommodations*. For more information, please see [www2.ku.edu/~lsi/research/projects/Summers\\_J/access-to-success.shtml](http://www2.ku.edu/~lsi/research/projects/Summers_J/access-to-success.shtml).

## How Does NIDILRR Collaborate?

NIDILRR has an extensive history of collaborating across federal institutions to identify best practices, conduct cosponsored research, and address shared goals. Well-established partnerships exist both within HHS and across the federal government. For example, NIDILRR has working partnerships with the Department of Veterans Affairs (VA), the Centers for Disease Control and Prevention (CDC), the Substance Abuse and Mental Health Services Administration (SAMHSA), the National Institute of Standards and Technology (NIST), the Department of Transportation (DOT), the U.S. Access Board, and the Federal Communications Commission (FCC).

### Examples of Collaboration

#### Mental Health

Four RRTCs that focus on mental health receive funds from both NIDILRR and SAMHSA. These include the RRTC on Transition to Employment for Youth and Young Adults with Serious Mental Health Conditions at the University of Massachusetts Medical School, the RRTC on Community Living and Participation Among Youth and Young Adults with Serious Mental Health Conditions at Portland State University, the RRTC on Improving Employment Outcomes for Individuals with Psychiatric Disabilities at Boston University, and the RRTC on Self-Directed Recovery and Integrated Health Care at the University of Illinois at Chicago.

#### Transportation

NIDILRR partly funds the Accessible Transportation Technologies Research Initiative (ATTRI), which seeks to enhance the mobility of travelers with disabilities by providing the capability to reliably, safely, and independently plan and execute their travel through integrated solutions and technologies. The initiative is led by the Federal Highway and Federal Transit Administrations and is funded by NIDILRR and DOT. ATTRI has made significant headway in documenting travelers' needs and applying multimodal technology, and it is broadening its reach nationally and internationally. ATTRI is currently in the second phase of the project: designing prototypes and standards that build upon user research from the initial phase.

#### Cloud Computing

NIDILRR, in collaboration with the Rehabilitation Services Administration (RSA) and the Institute for the Study of Knowledge Management in Education (ISKME), is developing cloud computing technologies for the personalization of assistive technology user preferences. Activities have included the development of a NIST white paper examining accessibility issues, assistive technology taxonomies, researching opportunities available through cloud computing, and an examination of how personal preferences can be captured quickly and effectively.



## Military and Veteran Health

In response to the 2012 Executive Order 13625, *Improving Access to Mental Health Services for Veterans, Service Members, and Military Families*, NIDILRR collaborated with the Department of Defense (DoD), VA, and the National Institutes of Health (NIH) to create a National Research Action Plan, a 10-year blueprint released in 2013 for interagency research to enhance the diagnosis, prevention, and treatment of post-traumatic stress disorder (PTSD) and TBI and to improve suicide prevention. Additional research collaborations include work with VA and DoD to support our nation's service members and veterans with TBI including, for example, the establishment and expansion of the VA TBI Veterans Health Registry and the VA TBI Model Systems (TBIMS) Database. The former includes military personnel with symptoms of TBI who served in Operation Enduring Freedom or Operation Iraqi Freedom and who apply for services or file a disability claim. The latter is the VA equivalent of the NIDILRR TBIMS National Database and includes service members and veterans who are admitted to any of the five VA Polytrauma Rehabilitation Center facilities nationwide and who have sustained a TBI of any severity. The sharing of data, resources, and expertise is helping to track outcomes of civilian and military individuals with TBI and conduct both descriptive and comparative studies.

## Interagency Committee on Disability Research (ICDR)

The ICDR, a NIDILRR-led federal partnership, was originally authorized under the Rehabilitation Act of 1973, as amended, and its mission is to promote a cohesive, strategic federal program of disability, rehabilitation, and independent living research; broker partnerships; and facilitate coordination and collaboration among federal departments and agencies conducting such research. NIDILRR's Director serves as the Chair of the ICDR. NIDILRR plans to build upon this leadership role, enhancing its stature as a leading sponsor of disability and rehabilitation research through new and expanding collaborations with federal partners, researchers, and developers, as well as the disability community.

In FY 2015, the ICDR spearheaded numerous interactive symposia, forums, and webinars led by its subcommittees. During these forums, experts shared state-of-the-art, current research and best practices on each subject, and participants were encouraged to learn, share, and collaborate in lively discussions. Symposia coordinated by the subcommittees included:

- Disability and Employment Symposium: Research Informing Practice and Policy
- Accessibility and Usability in Health Information Technology: A Research and Action Conference to Empower People with Disabilities, Older Adults, and Caregivers
- Accessible Transportation Technologies Research Roundtable

In addition, the ICDR has held numerous webinars on subjects ranging from health disparities, participation in clinical trials, multicultural caregiving, and health disparities in the environment. The ICDR is also developing its own strategic plan, which will serve as a framework for coordinating research activities among its member organizations.



INTERAGENCY COMMITTEE ON  
DISABILITY RESEARCH

## About NIDILRR



The National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), a component of the Administration for Community Living in the Department of Health and Human Services (HHS), is the main federal agency that supports applied research, training, and development to improve the lives of individuals with disabilities. NIDILRR staff and its grantees are committed to:

- Generating new knowledge and promoting its effective use in improving the ability of persons with disabilities to perform activities of their choice in the community; and
- Expanding society's capacity to provide full opportunities and accommodations for its citizens with disabilities.

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