



**Department of Health and Human Services  
National Institute on Disability,  
Independent Living, and  
Rehabilitation Research (NIDILRR)  
2022 Annual Report to Congress**

Prepared by  
**ADMINISTRATION FOR  
COMMUNITY LIVING**



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## Acronyms

<b>ACL</b>	Administration for Community Living
<b>ADA</b>	Americans with Disabilities Act
<b>APR</b>	Annual Performance Reporting System
<b>ARRT</b>	Advanced Rehabilitation Research Training Project
<b>DRRP</b>	Disability and Rehabilitation Research Project
<b>FIP</b>	Field-Initiated Project
<b>FY</b>	Fiscal Year
<b>HCBS</b>	Home- and Community-Based Services
<b>HHS</b>	U.S. Department of Health and Human Services
<b>ICDR</b>	Interagency Committee on Disability Research
<b>ICT</b>	Information and Communications Technology
<b>KT</b>	Knowledge Translation
<b>MSI</b>	Minority-Serving Institution
<b>MSKTC</b>	Model Systems Knowledge Translation Center
<b>NIDILRR</b>	National Institute on Disability, Independent Living, and Rehabilitation Research
<b>ntSCI</b>	Nontraumatic Spinal Cord Injury
<b>PDF</b>	Portable Document Format
<b>PI</b>	Principal Investigator
<b>RERC</b>	Rehabilitation Engineering Research Center
<b>RRTC</b>	Rehabilitation Research and Training Center
<b>SBIR</b>	Small Business Innovation Research
<b>SCI</b>	Spinal Cord Injury
<b>TBI</b>	Traumatic Brain Injury
<b>TBIMS</b>	Traumatic Brain Injury Model Systems
<b>WIOA</b>	Workforce Innovation and Opportunity Act

## Executive Summary

The Workforce Innovation and Opportunity Act of 2014 transferred the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) to the Administration for Community Living (ACL) from the U.S. Department of Education. With this move, NIDILRR's mission remained unchanged: to generate new knowledge and to promote its effective use to improve the abilities of individuals with disabilities to perform activities of their choice in the community, as well as to expand society's capacity to provide full opportunities and accommodations for individuals with disabilities. As the primary research enterprise within ACL, NIDILRR's mission is highly complementary to the overarching mission of ACL: to maximize the independence, well-being, and health of older adults and people with disabilities across the lifespan, and their families and caregivers.

ACL's NIDILRR programs address a wide range of disabilities and impairments across all age groups and promote health and function, community living and participation, and employment. To accomplish these goals, ACL invests in research, knowledge translation, and capacity-building activities through its discretionary grant-funding mechanisms.

### Funding and Grants Management

The allocation of ACL's NIDILRR grant funds for fiscal year (FY) 2022 totaled \$110,638,232. In addition, NIDILRR awarded \$5,768,061 in contracts and other support activities in FY 2022. These funds supported 245 grant awards in FY 2022 which enabled more than 1,500 discrete projects.

The peer review process for NIDILRR grant competitions is highly rigorous, with 21 percent of applicants receiving new grant funding during FY 2022 ([see Table 1](#)).

### Productivity and Accomplishments

ACL funds research toward the development of new knowledge and innovative technological devices, prototypes, measurement tools, interventions, and other informational products to enhance community living, health and function, and employment among people with disabilities. Grantees employ advanced methodologies to conduct research, including randomized controlled trials, longitudinal studies, and qualitative studies. These investments produce peer-reviewed publications, intervention protocols, software, databases, and a wide range of other outputs and outcomes. Following are selected examples of grantee accomplishments in FY 2022:

## **Reducing Costs for Families and States by Increasing Access to Home- and Community-Based Services**

The Senate Aging Committee held a hearing on March 23, 2022, on the importance of home- and community-based services (HCBS) called **“An Economy That Cares: The Importance of Home-Based Services.”** The Rehabilitation Research and Training Center (RRTC) on Community Living Policy at the Lurie Institute at Brandeis University developed a brief, **Reducing Costs for Families and States by Increasing Access to Home- and Community-Based Services.** This brief was distributed to staff and submitted in the Congressional Record for the hearing, and Senator Bob Casey (D-PA) highlighted the brief and the Community Living Policy Center in his closing remarks. Unmet needs and long waiting lists for Medicaid HCBS place significant strain and economic burden on individuals with disabilities and their families. Even among individuals receiving Medicaid HCBS there are high levels of unmet needs for services. When individuals do not have needed HCBS, their health and community living outcomes are worse. Moreover, the health and economic well-being of family caregivers erode, often resulting in undesirable placements in more costly nursing home and institutional settings. This brief describes ways in which increased access to HCBS reduces costs for families and states.

## **Setting the National Target for Recovery of People With TBI**

**Healthy People 2030**, the nation’s current 10-year plan for addressing the most critical public health priorities, has accepted an objective for the recovery of individuals with traumatic brain injury (TBI) that was proposed by a small work group led by NIDILRR’s **TBI Model Systems (TBIMS) National Data and Statistical Center.** This objective is to “increase the percentage of adults who can resume more than half of their preinjury activities (with or without supports) 5 years after receiving acute inpatient rehabilitation for traumatic brain injury.” The objective points to the critical importance of access to inpatient rehabilitation and to community-based services and supports for people with chronic brain injury. The **TBIMS National Database** is the approved data source for monitoring progress toward this objective over the coming decade. This database is the product of NIDILRR’s TBIMS Centers Program and is managed by the TBIMS National Data and Statistical Center.

## **Exploring Expansion of SCIMS Database to Include Nontraumatic SCI**

A new NIDILRR initiative brought forth in June 2022 was a challenge to the Spinal Cord Injury (SCI) Model Systems (SCIMS) to carefully, thoughtfully, and with intentionality consider expansion of both the research projects and the longitudinal database to include individuals with nontraumatic SCI (ntSCI). During FY 2022, with supplemental funding, the SCIMS data center worked to systematically identify the etiologic, neurological, and rehabilitation system-level variables associated with ntSCI with input from experts. Then, a landscape analysis was

completed across 18 SCIMS to assess how many and what types of ntSCI patients were being seen and to gain information about potential data collection modifications. Currently, pilot data are being collected across all 18 SCIMS to inform the design of a future ntSCI national database.

### **Telemedicine Barriers for Persons With Disabilities**

The Southwest Americans with Disabilities (ADA) Center addressed telemedicine barriers for persons with disabilities in a publication entitled **“Telemedicine Barriers and Challenges for Persons with Disabilities: COVID-19 and Beyond.”** The Southwest ADA National Network Regional Center provides training and technical assistance to benefit individuals and entities with rights and responsibilities under the ADA. In addition, this center conducts research into access barriers experienced by people with disabilities. This article describes key systematic challenges that need to be addressed to ensure that telemedicine is available and fully accessible to individuals with disabilities. During this reporting period, the publication has been cited by several researchers conducting studies in accessible telehealth, and it has implications for improving the health outcomes for persons with disabilities in a new era of healthcare delivery.

### **Research Capacity-Building**

Research capacity-building efforts under the Advanced Rehabilitation Research Training Projects, Switzer Fellowship Program, and NIDILRR’s center grant programs develop a diverse cadre of emerging disability and rehabilitation researchers. In addition, NIDILRR directs targeted resources to minority-serving institutions, such as historically Black colleges and universities and tribal colleges and universities, to develop and implement programs to build disability and rehabilitation research capacity.

### **Training and Technical Assistance on the Americans with Disabilities Act**

ACL sponsors the ADA National Network, which delivers training, technical assistance, and dissemination of materials for stakeholders with rights and responsibilities under the ADA. The ADA Participation Action Research Consortium complements the network’s activities through research on factors influencing the community living of individuals with disabilities at state, regional, and community levels.

### **Knowledge Translation**

ACL is committed to ensuring that the products of its sponsored research and development promote the independent living, health and function, employment, and community living outcomes of individuals with disabilities. Through its Knowledge Translation Centers, ACL ensures that new knowledge and products gained through research and development are

effectively communicated to stakeholders and used to improve the lives of individuals with disabilities.

## Ongoing Activities

ACL will focus on implementing and integrating the visions of the NIDILRR director and the mission of ACL into NIDILRR programs. In March 2019, ACL published NIDILRR's FY 2018–2023 Long-Range Plan. This document defines the programmatic vision and will frame NIDILRR's research agenda for the coming years. Additionally, the director has identified goals to bolster the ways in which NIDILRR involves people with disabilities across the entire research process and research enterprise. These goals include increasing the representation of researchers with disabilities within NIDILRR's funding mechanisms, increasing disabled researchers of color and from other underrepresented backgrounds, and deepening the rehabilitation training field trajectory.

Strategic partnerships with other agencies in the U.S. Department of Health and Human Services (HHS) and across the federal government have been instrumental in advancing NIDILRR's mission. ACL will continue to enhance its existing partnerships and seek out new collaborative opportunities within HHS and, more broadly, across the federal disability and rehabilitation research communities. NIDILRR's director serves as the chair of the Interagency Committee on Disability Research (ICDR). Under the ICDR chair's leadership, efforts will focus on building upon the ongoing work of the ICDR, contributing to the achievement of goals set forth in the government-wide disability and rehabilitation research strategic plan.

# 2022 Report to Congress

## Introduction

The Administration for Community Living's (ACL's) National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) is committed to improving independent living and community participation among people with disabilities by funding research and development in the areas of community living and participation, health and function, and employment. This Annual Report to Congress will describe NIDILRR's activities and accomplishments during fiscal year (FY) 2022. It begins with a summary of the organization's historical foundation, provides a description of its funding process and fiscal allocations, and follows with descriptions of programmatic outcomes impacting the community. This report concludes by describing ongoing initiatives and directions within the organization.

NIDILRR was established by Congress to conduct research that would lead to improved health and function, employment, and community living outcomes for individuals with disabilities.

First constituted as the National Institute on Handicapped Research by the Rehabilitation, Comprehensive Services, and Developmental Disabilities Amendments of 1978 (P.L. 95–602), amending the Rehabilitation Act of 1973, the organization was originally housed in the Department of Health, Education, and Welfare and later in the Department of Education. The 1986 amendments to the Rehabilitation Act changed the agency's name to the National Institute on Disability and Rehabilitation Research. On July 22, 2014, the agency was renamed the National Institute on Disability, Independent Living, and Rehabilitation Research and transferred from the Department of Education to ACL within the U.S. Department of Health and Human Services (HHS). This change occurred with the passage of P.L. 113–128, the Workforce Innovation and Opportunity Act (WIOA). NIDILRR personnel officially became ACL employees on February 8, 2015.

NIDILRR's 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 as well as to expand society's capacity to provide full opportunities and accommodations for individuals with disabilities. To accomplish this mission, NIDILRR

- supports research, development, training, technical assistance, and related activities to build new knowledge;
- promotes the transfer, use, and adoption of technology for individuals with disabilities to improve health and function, employment, and independent community living and participation outcomes;



- provides for research training to increase the number of qualified researchers, including researchers with disabilities and from minority backgrounds; and
- fosters widespread dissemination and use of scientific and technological information to advance policy, practice, and services that improve outcomes for people with disabilities.

NIDILRR programs address community living and participation, health and function, and employment outcomes of people with disabilities. ACL's investments in research, development, knowledge translation, and capacity-building activities are carried out through the following discretionary grant-funding mechanisms:

- **Rehabilitation Research and Training Centers (RRTC)** conduct advanced research and training on a wide variety of health, rehabilitation, employment, and community living topics.
- **Rehabilitation Engineering Research Centers (RERC)** conduct rehabilitation engineering research and development toward technological solutions to rehabilitation problems or environmental barriers.
- **Disability and Rehabilitation Research Projects (DRRP)** conduct research, development, technical assistance, training, and utilization activities on health, rehabilitation, employment, and community living topics.
- **Americans with Disabilities Act (ADA) National Network** projects conduct research and provide information, training, and technical assistance to ADA stakeholders.
- **Small Business Innovation Research (SBIR)** projects support small businesses' work to explore feasibility and develop or evaluate the commercialization potential of new technology products for people with disabilities.
- **Knowledge Translation (KT)** projects promote the use of research-based knowledge in NIDILRR's community of stakeholders.
- **Field-Initiated Projects (FIP)** conduct 3-year studies on topics proposed by applicants to address disability and rehabilitation issues in promising and innovative ways.
- **Model Systems** programs in spinal cord injury (SCI), traumatic brain injury (TBI), and burn injury conduct research on rehabilitation and long-term outcomes of individuals with these conditions. Research in these programs includes collaborative, multisite research and collection and analysis of longitudinal data.

- **Advanced Rehabilitation Research Training Projects (ARRT)** support the efforts of institutions of higher education to provide advanced interdisciplinary research training to postdoctoral fellows.
- **Research Fellowship Programs, or Mary E. Switzer Fellowships**, are awarded to qualified individuals to conduct 1-year independent research projects.
- **Section 21** projects focus on research capacity-building for minority-serving institutions (MSI), including historically Black colleges and universities and other institutions with significant racial/ethnic minority student populations. Section 21 of the Rehabilitation Act requires that 1% of NIDILRR appropriations be invested to address traditionally underserved populations.

# Grant Competitions – 2022 Year in Review

## Grant Competition and Peer Review Process

ACL's NIDILRR sponsors disability and rehabilitation research and development in the outcome domains of community living and participation, health and function, and employment. Funding is provided to the research community through its funding mechanisms, with priorities within these mechanisms determined by the agency. NIDILRR utilizes a rigorous peer review process, as required by federal regulation, and internal and external program evaluation to ensure the quality of its sponsored research and development activities. Subject matter experts with the appropriate credentials and content knowledge evaluate the scientific, technical, and management aspects of proposals submitted in response to NIDILRR funding opportunity announcements. This process generates an average score across reviewers, reducing bias and facilitating the ranking of projects by scientific merit. Only the highest-ranking proposals are recommended for ACL funding.

## Grant Competitions

**Table 1** describes NIDILRR's FY 2022 grant competitions. The numbers of eligible applicants, review panels, reviewers, and awards made and the percentage of applicants receiving funding are shown. A large percentage of applications receive high peer review scores that indicate strong technical merit and significant need. ACL's limited resources allow only a small percentage of these applicants to receive grants each year.

**Table 1: NIDILRR Peer Review Process Overview, FY 2022**

<b>Grant Opportunity</b>	<b>Number of Eligible Applicants</b>	<b>Number of Panels</b>	<b>Number of Reviewers</b>	<b>Number of Awards Made</b>	<b>Percent of Applicants Receiving Funding</b>
<b>ARRT Health and Function</b>	10	1	5	1	10%
<b>ARRT Community Living and Participation<sup>1</sup></b>	2	1	5	1	50%
<b>ARRT Employment</b>	1	1	5	1	100%
<b>ARRT Minority Serving Institutions</b>	1	1	5	1	100%
<b>SBIR Phase 1</b>	38	4	20	10	26%
<b>SBIR Phase 2</b>	12	2	10	4	33%
<b>Switzer Research Fellowships</b>	35	4	16	8	23%
<b>FIP</b>	149	16	79	18	12%
<b>FIP Minority Serving Institutions</b>	12	2	9	3	25%
<b>DRRP ADA Collaborative</b>	1	1	5	1	100%

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<sup>1</sup>The ARRT Community Living and Participation grant opportunity (described in the second row of this table) had two eligible applicants so the same panel of 5 reviewers was also used to review the ARRT Employment Grant Opportunity in the third row which only had one eligible applicant.

<b>Grant Opportunity</b>	<b>Number of Eligible Applicants</b>	<b>Number of Panels</b>	<b>Number of Reviewers</b>	<b>Number of Awards Made</b>	<b>Percent of Applicants Receiving Funding</b>
<b>DRRP KT for Disability and Rehabilitation Research</b>	1	1	5	1	100%
<b>DRRP Community Living</b>	25	3	14	1	4%
<b>DRRP TBI Model Systems</b>	22	3	15	16	73%
<b>DRRP Burn Model Systems</b>	8	1	4	4	50%
<b>SCI Model Systems Collaborative</b>	7	1	5	1	14%
<b>RERC Low Vision/Blindness</b>	6	1	5	1	17%
<b>RERC Strategies, Techniques, Interventions</b>	11	2	10	1	9%
<b>RERC Accessible Recreation</b>	4	1	5	1	25%
<b>RRTC Equity, Community Living</b>	6	1	5	1	17%
<b>RRTC Equity, Employment</b>	4	1	5	1	25%
<b>RRTC Equity, Health and Function</b>	6	1	5	1	17%
<b>Total</b>	361	48	232	77	21%

Source: U.S. Department of Health and Human Services, Administration for Community Living, National Institute on Disability, Independent Living, and Rehabilitation Research. These figures do not include FY 2022 awards made from 2021 slates. Note: H&F = health and function; CL&P = community living and participation; EMP= employment; Burn = burn injury.

## Noteworthy Equity Grants

Many grants across NIDILRR's full portfolio of FY 2022 awards have a focus on equity or multiply marginalized people with disabilities. As an example, awards were made to three new equity-focused Rehabilitation Research and Training Centers (RRTCs), which conduct research and serve as national resource hubs to improve rehabilitation methodology and service delivery systems; improve health and functioning; and promote employment, independent living, family support, and economic and social self-sufficiency for people with disabilities. Each RRTC will be carrying out multiple research projects throughout the duration of the grant with equity as the focus. The three RRTCs have the following roles:

- Community Living Equity Center (**Grant #90RTCP0006**) will focus on reducing community living disparities for disabled people of color and other marginalized identities. Through activities including five research projects, the center will develop and share new knowledge about community living and participation disparities and will identify or develop promising systems change practices for reducing these disparities.
- Employment Equity Center (**Grant # 90RTEM0009**) will focus on reducing the additional barriers to employment that often are experienced by disabled people who also are marginalized due to other identities. The center will conduct five major studies and related activities guided by people with disabilities from underserved populations and establish a new researcher mentoring program to encourage underrepresented research to contribute to scientific workforce diversity efforts.
- Health Equity Center (**Grant # 90RTHF0005**) will identify and address healthcare disparities experienced by multiply marginalized people with disabilities. This center will conduct three studies based on existing data and two studies to support the development of interventions to change behaviors of healthcare providers and systems.

As another example, in FY 2022, NIDILRR had 12 active Section 21 grants across its portfolio which support projects focused on research capacity-building for MSI, including historically Black colleges and universities and other institutions with significant racial/ethnic minority student populations.

## Monitoring and Oversight

ACL's NIDILRR uses its Annual Performance Reporting (APR) system, formative review mechanisms, and close monitoring of grant activities by ACL staff to provide rigorous oversight of its funded initiatives. NIDILRR's APR is a web-based grants performance system that grantees use to provide data about goals and objectives, staffing, budget, research and development methods, progress, outputs, and accomplishments. Data are used to determine whether continuation funding should be provided to a grantee. For a new grantee, the first reporting period begins on the start date of the award and extends through May 31 of the following year.

Subsequent reporting periods begin June 1 and end May 31. Grantees submit their progress reports annually by July 1.

As part of the APR process, NIDILRR asks grantees to voluntarily disclose the number of staff on the funded project who have a disability, as well as the disability status of the principal investigator (PI). NIDILRR is committed to ensuring the research enterprise is inclusive of investigators and staff with disabilities. Investigators and other professional staff are the two categories that had the most staff with a disability during the period from 2010 to 2022. The number of staff with a disability across NIDILRR projects has a slight upward trend across the entire 12-year period. In FY 2022, 65 PIs self-identified as disabled, representing 19.8% of currently active PIs of NIDILRR grants, and 499 staff members working on NIDILRR grants identified as disabled, representing 14.5% of staff members. The number of grants with a PI with a disability nearly doubled between 2007 (n=35) and 2022 (n=65), as represented in **Exhibit 1 below**.

**Exhibit 1: Principal investigator Disability Status Over Time**



Source: U.S. Department of Health and Human Services, Administration for Community Living, National Institute on Disability, Independent Living, and Rehabilitation Research. *2007–2022 Annual Performance Reports*.

Note: A nonunique Principal Investigator means that a Principal Investigator's name repeats itself more than once in the cleaned data. This repetition can happen because the same Principal Investigator is listed on the same grant over multiple years; the same Principal Investigator gets assigned a new staff ID for each year. It can also happen when a Principal Investigator is listed as P I on two more different grants or when a grant has two or more P Is.

Formative evaluations of funded awards are used as supplemental oversight and technical assistance tools for grantees. Such reviews are conducted when program officers believe that a grantee could benefit from targeted technical assistance in addition to that available from the program officer. A panel of subject matter experts is chosen to provide the technical assistance and make recommendations for improvement if needed.

Staff, as experienced program administrators and researchers, are highly adept at maintaining ongoing, routine communication with and oversight of grantees to help inform their scientific programs and ensure they are meeting goals and objectives. Program officers use the HHS

Grants Policy Administration Manual to provide consistent oversight across projects. Risk assessments are conducted to locate poorly performing grantees, with additional oversight and technical support provided as needed. Though rare, findings of ongoing poor performance can lead to a discontinuation of funding to a grantee.

## Funding Overview

The allocation of FY 2022 grant funds for the 11 funding mechanisms discussed above is shown in Tables [2](#) and [3](#). [Table 3](#) includes the funding for only the NIDILRR-funded Model Systems grants for SCI, TBI and Burn. For each funding mechanism, the table includes the number of new and continuation awards. NIDILRR’s overall grant allocations across all 11 funding mechanisms totaled \$110,638,232 for FY 2022. NIDILRR awarded \$5,768,061 in contracts and other support activities for FY 2022.

**Table 2: NIDILRR Funding and Awards, FY 2022**

Funding Mechanism (NIDILRR-Funded Centers and Projects)	Award Type (NIDILRR-Funded Centers and Projects)	FY 2022 Number of Awards	Grant Amount in Thousands of Dollars
RRTC	Continuations	22	19,247
RRTC	New Awards	2	1,924
RERC	Continuations	14	12,947
RERC	New Awards	3	2,774
DRRP	Continuations	24	11,965
DRRP	New Awards	1	499
ADA Network	Continuations	10	10,924
ADA Network	New Awards	1	500
SBIR	Continuations	4	1,150
SBIR	New Awards	14	2,149
KT	Continuations	8	2,904
KT	New Awards	1	749
FIP	Continuations	33	6,596
FIP	New Awards	18	3,591
ARRT	Continuations	15	2,591



Funding Mechanism (NIDILRR-Funded Centers and Projects)	Award Type (NIDILRR-Funded Centers and Projects)	FY 2022 Number of Awards	Grant Amount in Thousands of Dollars
ARRT	New Awards	3	649
Switzer Fellowships	New Awards (1-year grants)	8	570
Section 21	Continuations	5	1,624
Section 21	New Awards	4	799
<b>Total</b>	All Award Types	190	84,152

Source: U.S. Department of Health and Human Services, Administration for Community Living, National Institute on Disability, Independent Living, and Rehabilitation Research.

**Table 3: NIDILRR Model Systems Funding and Awards, FY 2022**

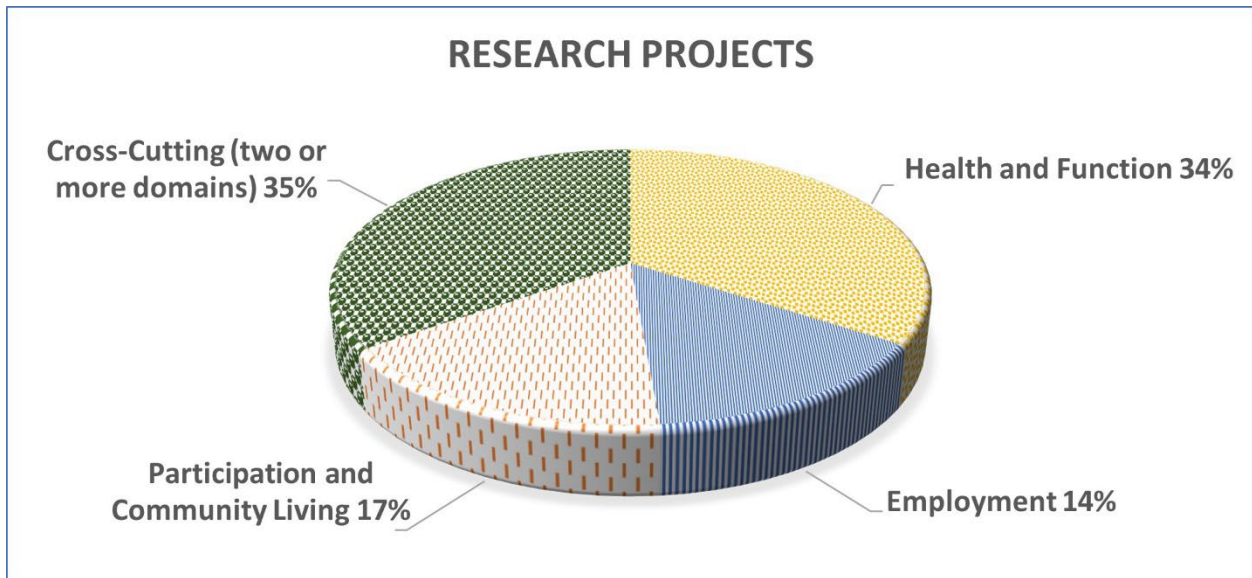
Funding Mechanism (NIDILRR-Funded Centers and Projects)	Award Type (NIDILRR-Funded Centers and Projects)	FY 2022 Number of Awards	Grant Amount In Thousands of Dollars
SCI	Continuations	15	7,192
SCI	New Awards	6	3,452
TBI	Continuations	2	1,292
TBI	New Awards	17	7,299
Burn	Continuations	11	5,440
Burn	New Awards	4	1,799
<b>Total</b>	All Award Types	55	26,474

Source: U.S. Department of Health and Human Services, Administration for Community Living, National Institute on Disability, Independent Living, and Rehabilitation Research.

Exhibits [2](#) and [3](#) illustrate the distribution of funded research and development grant projects in FY 2022 across NIDILRR’s three domains: health and function, community living and participation, and employment. “Cross-cutting” is a composite category used in the APR to describe projects that reflect two or more domains. Roughly 49% of development projects and about 35% of research projects were described as cross-cutting. A “research project” is defined by NIDILRR as “an intensive systematic study, based on a clear hypothesis or research question that is directed toward producing new scientific knowledge about the subject or problem being studied.” A “development project” is defined as “the use of knowledge and understanding gained from research to create materials, devices, systems, or methods beneficial to the target

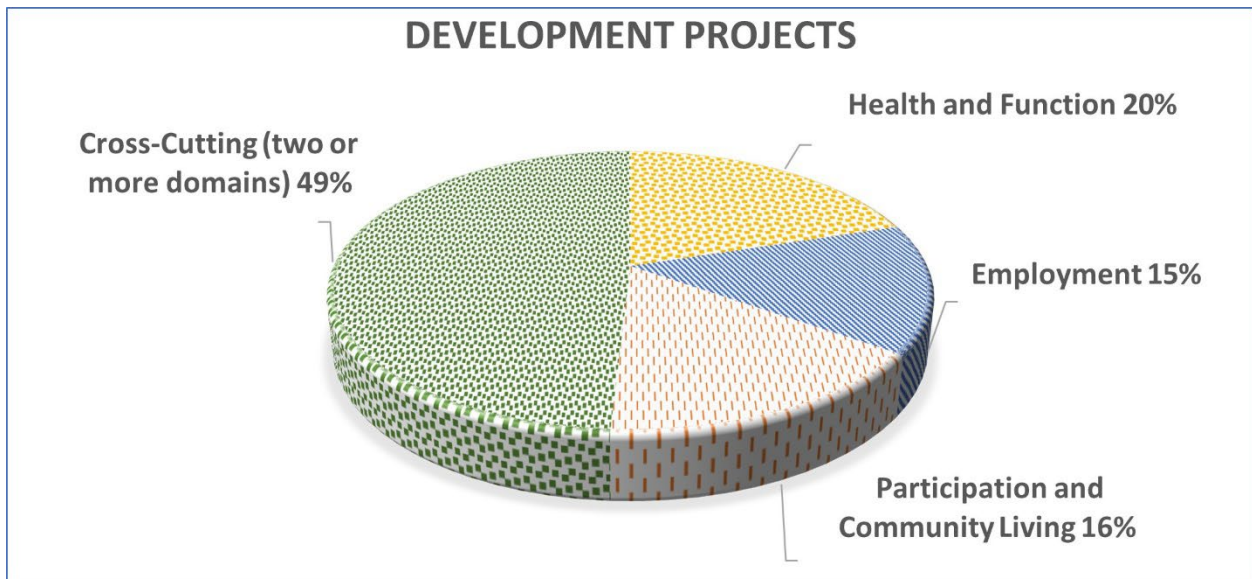
population, including design and development of prototypes and processes.”

**Exhibit 2: Research Grant Projects by Domain, FY 2022**



Source: U.S. Department of Health and Human Services, Administration for Community Living, National Institute on Disability, Independent Living, and Rehabilitation Research. *2022 Annual Performance Reports*. "Program Performance Report Table 9."

**Exhibit 3: Development Grant Projects by Domain, FY 2022**



Source: U.S. Department of Health and Human Services, Administration for Community Living, National Institute on Disability, Independent Living, and Rehabilitation Research. *2022 Annual Performance Reports*. "Program Performance Report Table 11."

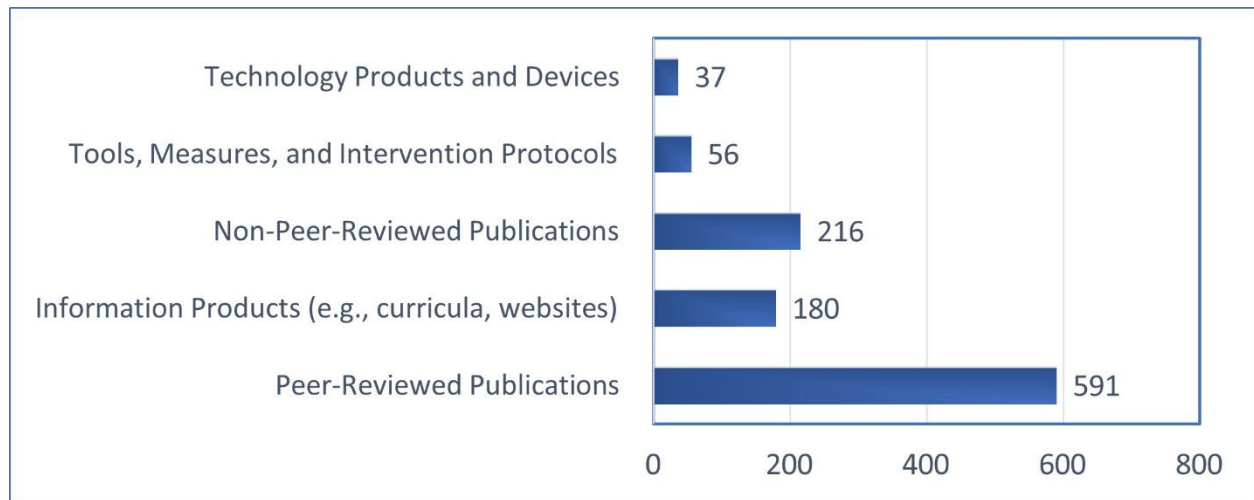
## Grantee Activities and Progress

ACL collects output data through the APR. Grantees are required to report each output from their funded activities in one of four categories: publications; tools, measures, and intervention protocols; technology products and devices; and informational products. The categories' outputs are as follows:

- **Publications** are documents directly funded by a grantee's current award. Publications include journal articles, periodicals, web journals, proceedings from meetings and symposia, books or book chapters, monographs, abstracts, technical or research reports, and reviews. Within this output category are peer-reviewed and non-peer-reviewed publications.
- **Tools, measures, and intervention protocols** include instruments or processes created to acquire quantitative or qualitative information, knowledge, or data on a specific disability or rehabilitation issue as well as research-based protocols for delivering interventions to specific target populations of people with disabilities.
- **Technology products and devices** are developed, modified, tested, or evaluated by the grantee. This category refers to any technology product or device developed under the award that the grantee disseminated or delivered to external audiences during the current reporting period.
- **Information products** refer to items such as training manuals/curricula, fact sheets, newsletters, audiovisual materials, marketing tools, educational aids, websites, presentations, and other forms of disseminated information.

**Exhibit 4** compares the number of output products produced by grantees within each category type in FY 2022. Additional detail has been provided for the category of publications, with peer-reviewed and non-peer-reviewed publications being reported separately.

**Exhibit 4: Total Outputs Produced by All Grantees Across All Program Mechanisms, by Product Type, FY 2022**



Source: U.S. Department of Health and Human Services, Administration for Community Living, National Institute on Disability, Independent Living, and Rehabilitation Research. *2022 Annual Performance Reports*. “Program Performance Report Tables 18–22.”

Data obtained through the 2022 APR show that NIDILRR awarded 245 grantees during FY 2022, totaling \$110,638,232, which supported 1,569 unique projects across all program mechanisms. These projects reflect the breadth of disability and rehabilitation research within the agency’s outcome domains of community living and participation, health and function, and employment. The knowledge and products that are generated by ACL-sponsored research and development grants have a wide variety of important impacts in the field. The summaries that follow provide examples of the outcomes and impacts that resulted from NIDILRR program investments.

Additional information concerning these projects is available through the National Rehabilitation Information Center website (<http://www.naric.com/>).

### **Sampling of Key Accomplishments by Funded Researchers**

ACL-funded researchers conduct a myriad of coordinated, integrated, and advanced programs of research, training, and information dissemination in content areas that are primarily specified by NIDILRR. Areas of focus include the improvement of rehabilitation methodology and service delivery systems; the improvement of health and functioning; and the promotion of employment, independent living, family support, and economic and social self-sufficiency for individuals with disabilities. ACL-funded training and capacity-building RRTCs provide training—including graduate, pre-service, and in-service training—to build capacity for disability and rehabilitation research. They also serve as centers of national excellence in rehabilitation research. Awards are normally made for a 5-year period.

The following are examples of accomplishments reported by grantees in FY 2022:

**An Interactive 3D Map for People With Visual Impairments (Grant # 90RE5024)**

The RERC on Blindness and Low Vision at the Smith Kettlewell Eye Research Institute developed technology in the Tactile Graphics Helper project, which has been combined with the CamIO project (which has received funding from both NIDILRR and National Eye Institute of the National Institutes of Health [NEI/NIH], and renewed funding from NEI/NIH in 2022), to be used as the foundation for a new interactive 3D map at the **Magical Bridge Playground in Palo Alto, California**, called the “Magic Map.” The **Magic Map** is a 1/100 scale 3D bronze representation of the playground, which includes over 70 play structures organized into multiple play zones and paths. In December 2022, the bronze map was installed at the playground, along with an iPad running CamIO mounted above the map and a pointing stylus tethered to the map. When the stylus tip is pointed at a specific feature on the map, the name of the feature and information about it is read aloud in audio, making the map fully accessible to people with visual impairments. The Magic Map increases the accessibility of the playground to visitors with visual impairments, allowing them to preview the layout of the playground and learn about the names and functions of the play structures. Additionally, this accessibility option requires no ability to read braille. Now that the system has been installed, adoption will begin when the Magical Bridge Playground in Palo Alto reopens in January 2023.

**Development and Evaluation of a Tool for Assisting Content Creators in Making PDF Files More Accessible (Grant # 90REGE0008)**

The Inclusive Information and Communications Technology (ICT) RERC at University of Maryland, College Park, is currently working with Adobe to improve software tools to create accessible Portable Document Format (PDF) documents. The collaboration involves both the research and the product divisions of the Adobe company on creating/improving tools for making PDF files accessible. Trillions of online documents are available in PDF, but only a very small fraction of them are accessible to people who use assistive technologies like screen readers, including those who are blind or have low vision. Documents in PDF format are harder to make accessible than documents in other formats because the tools available to assist content creators are complicated and difficult to use. To address these challenges, the Inclusive ICT RERC and Adobe jointly created Ally, a new tool to assist content creators in remediating their PDF files for accessibility. Ally was almost twice as fast and three times as accurate in remediating PDF files for accessibility, and portions of the Ally tool will be included in future Adobe products. The current work in this area focuses on the remediation process for PDF forms in government and education. Additionally, the Inclusive ICT RERC published a 2022 journal article about the development of Ally, **“Development and Evaluation of a Tool for Assisting Content Creators in Making PDF Files More Accessible.”** Making PDF documents

accessible to those with print disabilities is critical for removing barriers to government, education, science, commerce, and even voting.

**Fact Sheet on WIOA Services for Youth and Young Adults With Disabilities (Grant # 90RTEM0005)**

The WIOA, P.L. 113-128, 2014, mandates services for youth and young adults (ages 14–24) with disabilities, including those with psychiatric disabilities or mental health conditions, to help them prepare for and obtain jobs and pursue careers that offer competitive salaries and benefits. The Learning and Working During the Transition to Adulthood RRTC at the University of Massachusetts Chan Medical School developed a fact sheet, **WIOA: New Law Helps Youth & Young Adults Get Jobs: What Families Need to Know**, that provides information on who is eligible to receive WIOA youth services, where youth and young adults with disabilities can access services, and what services are available. Through state-of-the-science KT processes, this RRTC is facilitating capacity-building for service providers, moving findings into practice and policy, and preparing the future research workforce in this area. Currently, Kim Osmani, Ph.D., Extension Associate from the Yang-Tan Institute on Employment and Disability at Cornell University, is using the fact sheet in her New York State trainings with providers.

**Impact of State Long-Term Services and Supports on Levels of Community Participation and Life Satisfaction for People with TBI (Grant # 90DPTB0001)**

While a substantial amount of literature has examined the effects of individual and family-level factors on outcomes following TBI, minimal attention has been directed to the potential influence of the larger environmental context on outcomes. The **Ohio Regional TBI Model System Center at Ohio State University** conducted a study—**“Do State Supports for Persons With Brain Injury Affect Outcomes in the 5 Years Following Acute Rehabilitation?”**—that investigates the effects of state-level resources and supports as an environmental factor influencing long-term outcomes from TBI using data from the TBI Model Systems National Database funded by NIDILRR. The researchers examined the effects of state-level supports and resources on persons in their first 5 years after rehabilitation for moderate and severe TBI. The primary hypothesis was that community participation, global functioning, and life satisfaction will be higher on average among people with TBI living in states with more brain-injury-specific programs and resources and better long-term care services and supports (LTSS). The researchers found that state supports have a small but significant impact on community participation and life satisfaction. The most consistent finding indicated that states with better LTSS had higher levels of community participation and life satisfaction on average for people with TBI over and above individual-level differences and fluctuations in these outcomes over time. There was also indication that more brain-injury-specific supports, as reflected in per capita brain injury trust fund revenues, result in better participation in the community, an effect which was more pronounced as a person was further post-injury. In states that had been



long-term recipients of federal Health Resources and Services Administration/ACL TBI State Partnership funding, persons with more severe cognitive impairment did better over time than people in states that had not received this funding.

**Model System Knowledge Translation Center: Award-Winning, Trusted Source of Consumer Information in Burn Injury, Spinal Cord Injury, and Traumatic Brain Injury (Grant # 90DPKT0009)**

The Model Systems Knowledge Translation Center (MSKTC) is a KT project funded, in part, to produce consumer materials that are based on the best available research findings. In collaboration with the SCI, TBI, and Burn Model Systems Centers, the MSKTC produced research-based consumer fact sheets, educational videos, narrated slides, infocomics, and other informational materials on various topics directly relevant to the lives of people with these traumatic injuries. These resources are presented in language that all users can read and understand, in both English and Spanish, and hosted on the [MSKTC website](#) that has become the go-to source for consumers seeking trustworthy information over the years. During FY 2022, the MSKTC website received over 1,700,000 visitors, and the top 10 fact sheets alone were downloaded over 825,000 times. The MSKTC also received numerous awards over the years, recognizing the quality of the information materials they produced. Most recently, the MSKTC received a Silver Digital Health Award for their Respiratory Health and Spinal Cord Injury infocomic and a Bronze Digital Health Award for the Itchy Skin After Burn Injury infocomic.

**Nutrition and Exercise for Wellness and Recovery (NEW-R) Curriculum for People With Psychiatric Disabilities (Grant # 90RTHF0004)**

The University of Illinois at Chicago Practice, Policy, & Science Exchange for Health and Wellness, established through the RRTC on Health and Function of People with Psychiatric Disabilities, has developed a new curriculum, the Nutrition and Exercise for Wellness and Recovery (NEW-R), which helps people with mental illnesses gain new knowledge and skills for healthier eating and physical activity. During this reporting period, NEW-R has been adopted by two organizations. Australia's Queensland Government Metro North Health System has adopted this curriculum as [part of their series on Healthy Living](#). The agency is using this curriculum to educate clients about how diet, exercise, and adoption of healthier lifestyles can enhance their health and recovery. The second organization to adopt this curriculum is Clay Behavioral Health Center in Florida, where this curriculum is used in [virtual group sessions with outpatient clients](#) to improve overall wellness and nutrition to promote recovery.

**Reducing Costs for Families and States by Increasing Access to Home- and Community-Based Services (Grant # 90RTCP0004)**

The Senate Aging Committee held a hearing on March 23, 2022, on the importance of home- and community-based services (HCBS) called ["An Economy That Cares: The Importance of](#)



**Home-Based Services.**” The RRTC on Community Living Policy at the Lurie Institute at Brandeis University developed a brief, **Reducing Costs for Families and States by Increasing Access to Home- and Community-Based Services.** This brief was distributed to staff and submitted in the Congressional Record for the hearing, and Senator Bob Casey (D-PA) highlighted the brief and the Community Living Policy Center in his closing remarks. Unmet needs and long waiting lists for Medicaid HCBS place significant strain and economic burden on individuals with disabilities and their families. Even among individuals receiving Medicaid HCBS there are high levels of unmet needs for services. When individuals do not have needed HCBS, their health and community living outcomes are worse. Moreover, the health and economic well-being of family caregivers erode, often resulting in undesirable placements in more costly nursing home and institutional settings. This brief describes ways in which increased access to HCBS reduces costs for families and states.

#### **Research Capacity Building for Minority-Serving Institutions (Grant # 90RTST0001)**

The Langston University RRTC on Research and Capacity Building for Minority Entities engages MSIs in generating new knowledge leading to improved outcomes for persons with disabilities from traditionally underserved racial and ethnic populations and enhancing research capacity and infrastructure. The RRTC works with various MSIs to strengthen their faculty scholars’ and students’ research skills and address research infrastructure challenges. This grantee is conducting research that leads to strategies for enhancing research capacity of investigators from MSIs. Their work involves a longitudinal study on the Institutional Research Capacity Building & Infrastructure Model (IRCBIM). North Carolina Agricultural and Technical State University is one of five MSIs participating in the study. Participants receive technical assistance to enhance faculty Fellows’ research skills and enhance the institutions’ research infrastructure and culture. As a result of the capacity building received through the study, North Carolina Agricultural and Technical State University received a grant award under the Section 21 FIP–MSI competition. The IRCBIM intervention has promising implications for enhancing MSI participation in disability and rehabilitation research.

#### **Setting the National Target for Recovery of People with TBI (Grant # 90DPTB0018)**

**Healthy People 2030**, the nation’s current 10-year plan for addressing the most critical public health priorities, has accepted an objective for the recovery of individuals with TBI that was proposed by a small work group led by NIDILRR’s **TBI Model Systems (TBIMS) National Data and Statistical Center**. This objective is to “Increase the percentage of adults who can resume more than half of their preinjury activities (with or without supports) 5 years after receiving acute inpatient rehabilitation for traumatic brain injury.” The objective points to the critical importance of access to inpatient rehabilitation and to community-based services and supports for people with chronic brain injury. The **TBIMS National Database** is the approved data source

for monitoring progress toward this objective over the coming decade. This database is the product of NIDILRR's [TBIMS Centers Program](#) and is managed by the TBIMS National Data and Statistical Center.

#### **Tables, Maps, and Narrative of Statistics for Rural Areas ([Grant # 90RTCP0002](#))**

People with disabilities living in rural areas experience a variety of different disparities in relation to their urban counterparts. However, understanding the experiences of people with disabilities living in rural areas has been limited, especially due to the difficulty of accessing rural data. The RRTC on Disability in Rural Communities at the University of Montana developed rural tables, maps, and narrative of statistics for rural areas. These statistics were included in the [Annual Disability Statistics Compendium](#) released by the RRTC on Disability Statistics and Demographics (StatsRRTC) at the University of New Hampshire. Additionally, this center provided updated maps for all 50 states via the [Disability Data Lookup Tool](#) on the center's website that uses current American Community Survey data.

#### **Telemedicine Barriers for Persons With Disabilities ([Grant # 90DP0092](#))**

The Southwest ADA Center addressed telemedicine barriers for persons with disabilities in a publication entitled ["Telemedicine Barriers and Challenges for Persons with Disabilities: COVID- 19 and Beyond."](#) The Southwest ADA National Network Regional Center provides training and technical assistance to benefit individuals and entities with rights and responsibilities under the ADA. In addition, this center conducts research into access barriers experienced by people with disabilities. This article describes key systematic challenges that need to be addressed to ensure that telemedicine is available and fully accessible to individuals with disabilities. During this reporting period, the publication has been cited by several researchers conducting studies in accessible telehealth, and it has implications for improving the health outcomes for persons with disabilities in a new era of healthcare delivery.

#### **Uptake of the AAC Learning Center and AAC Learning Center Moodle ([Grant # 90REGE0014](#))**

To address the lack of rehabilitation and education professionals with competencies in evidence-based augmentative and alternative communication (AAC) services, the [RERC on AAC](#) at the Pennsylvania State University developed, evaluated, and made freely available online educational resources to increase AAC capacity: the AAC Learning Center and the AAC Learning Center Moodle.

The [AAC Learning Center](#) is freely available to all stakeholders, including preservice students, in-service professionals, families, etc. It includes webcasts on the experiences and perspectives of individuals who rely on AAC and their families as well as webcasts by leading AAC researchers and practitioners to support the translation of research to evidence-based practice to improve outcomes for individuals with complex communication needs. Overall, the webcasts at the AAC

Learning Center have achieved substantial uptake and adoption in the field with more than 72,000 views during the reporting period.

The [AAC Learning Center Moodle](#) is designed specifically to support preservice instruction and continuing education in AAC for education and rehabilitation professionals (e.g., speech language pathologists, occupational therapists, special education teachers, rehabilitation engineers). The instructional resources include webcasts, related readings, learning activities, and quizzes. The AAC Learning Center Moodle currently has over 8,700 registered users from 81 different colleges and universities in over 21 countries, including the United States, Australia, Canada, the Philippines, and the United Kingdom. Moreover, the participants have demonstrated increased knowledge and competencies in AAC as a result of their completion of the instructional modules. Registered users have earned more than 17,000 certificates of completion, some learners having completed certificates for more than one module. As a result, individuals with complex communication needs have increased access to evidence-based AAC services and improved access to the communication tools they require to participate successfully in education, employment, healthcare, and community living.

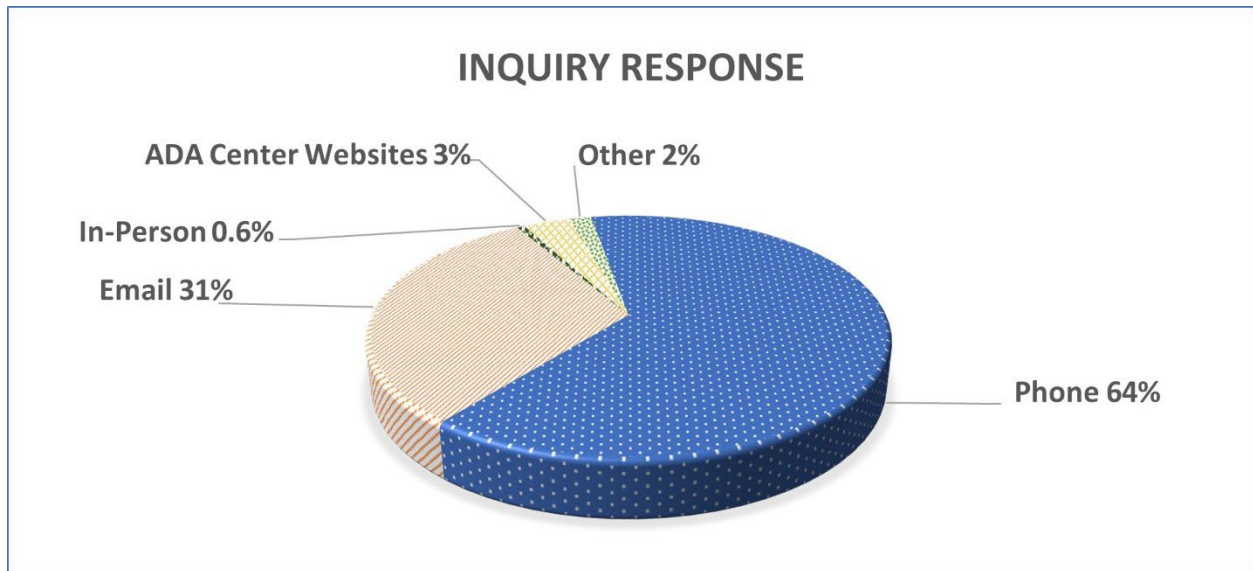
## **ADA National Network**

One of ACL's largest investments is in the ADA National Network, which consists of 10 regional centers that provide information, training, and technical assistance to individuals, businesses, and agencies with rights and responsibilities under the ADA. The network also includes research and KT components, which are carried out by two network grantees: the [ADA National Network Collaborative Research Project](#) and the [ADA National Network KT Center](#), respectively.

Knowledge translation efforts in the ADA National Network are led by the ADA KT Center. This center has three primary goals: increase efficiency and impact by serving as a central resource to support the development, coordination, and deployment of ADA information, training, technical assistance, and capacity-building activities across the ADA National Network; increase awareness and use of ADA research findings to inform practice; and improve understanding of stakeholders' needs for and receipt of ADA services.

ADA National Network grantees are highly responsive to the community, providing advice, information, technical assistance, and training through multiple modalities. In FY 2022, the centers received 15,752 technical assistance inquiries from the public. [Exhibit 5](#) presents the modalities used to provide technical assistance in response to these questions.

**Exhibit 5: Inquiry Response**



The 10 ADA National Network Centers conducted 1,342 training activities, including customized training presentations, training courses, and conferences, impacting 94,210 individuals during the 2022 APR reporting period (June 1, 2021, through May 31, 2022). Audiences included service providers, individuals with disabilities and their families, business groups, state and local government agencies, architects and design professionals, and other professional groups.

Worth noting, the ADA National Network Centers added a tag to their database to capture and categorize data calls related to COVID and long COVID. From January 1, 2020, to December 14, 2022, there were 3,898 COVID-related calls received by the ADA centers, and of those calls, 88 (2.26%) were related to long COVID. The most frequent aspect of ADA asked about in relation to long COVID was Title I (Employment)—more specifically, reasonable accommodations (53% of TA interactions), and enforcement (20% of TA interactions).

In addition to training and technical assistance, the ADA National Network and its regional centers produce numerous products to aid in disseminating information to the public, employers, and individuals with disabilities about their rights and responsibilities. **Table 4** shows the types and number of times a product was disseminated.

**Table 4:Product Dissemination**

Type	Number Disseminated
Journal Articles	23
Project Publications	131,055
Video and Audio Tapes	61,351
CDs and DVDs	176
Books or Book Chapters	968
Bulletins, Newsletters, or Fact Sheets	815,049
Research Reports and Conference Proceedings	136
Courses	323,901
Webinars, Web Series, or Social Media Posts	1,472,415
Training Materials	7,831

### **Research Fellowship Program (Mary E. Switzer Fellowship Program)**

The Mary E. Switzer Fellowship Program seeks to increase capacity in rehabilitation research by giving qualified individual researchers, including individuals with disabilities, the opportunity to develop new ideas and further their research expertise. Awards go directly to individuals, not their institutions, enabling fellows to pursue independent research and training activities.

Distinguished fellows are seasoned in their careers, must hold a doctorate or comparable academic status, and have had 7 or more years of experience relevant to rehabilitation research. Merit fellowships are given to persons with rehabilitation research experience who do not meet the qualifications for distinguished fellowships, usually because they are in earlier stages of their careers. Fellows work for 1 year on an independent research project of their design. Individuals with disabilities are encouraged to apply for each of these fellowships.

Seven Switzer Fellowships were awarded in fall 2021, with a total of 12 fellows submitting annual or final performance reports in 2021. Current Switzer Fellows (with fellowships awarded in 2022, plus older grants that are in an extension period) are displayed in **Table 5**.

**Table 5: Current Switzer Fellows and Project Titles**

<b>Name</b>	<b>Project Title</b>
<b>Hao Su (2022)</b>	Biomechanical Benefits of Lightweight Wearable Robots for Community-Based Mobility Assistance of Children With Crouch Gait From Cerebral Palsy
<b>Michelle S Ballan (2022)</b>	Advancing Evidence-Informed Responses to Intimate Partner Violence Among Women With Disabilities
<b>Emre Umucu (2022)</b>	Evaluating an Online Character Strengths Intervention to Improve Well-Being and Adjustment to College in Veterans With Disabilities in Higher Education
<b>Ayse G Zengul (2022)</b>	Personalized Nutrition Recommendation Expert System (PNRES) for People with Physical Disabilities
<b>Hannah G Ginn (2022)</b>	Securing Intimate Citizenship: The Effect of Capacity to Sexual Consent Policies and Practices on the Right of Women With Intellectual Disability to Sexual Relationships
<b>Hussaini Zandam (2022)</b>	Racial and Ethnic Healthcare Disparities Associated With Multiple Chronic Conditions Among People With Intellectual and Developmental Disabilities in the United States
<b>Jessica P Conklin (2022)</b>	Sociocultural Determinants of Recovery, Health, and Community Participation in Underserved Asian American Rehabilitation Populations
<b>Shijun Yan (2022)</b>	Increasing the Error of Trunk Movements During Walking Facilitates Motor Learning in Trunk Postural Control in Children With Cerebral Palsy
<b>Yina M Quique (2022)</b>	Using Open-Source Software to Improve Communication for Daily Life Participation in Spanish Speakers With Aphasia
<b>Nazanin Heydarian (Extension)</b>	Characterizing Diabetes Education and Self-Management Practices of Blind Adults
<b>Jia Rung Wu (Extension)</b>	Evaluation of an Extended and Refined Health Action Process Approach as a Model of Health Promotion for People With Chronic Health Conditions and Disabilities During and After the COVID-19 Pandemic
<b>Brielle C Stark (Extension)</b>	Characterizing Inner Speech in Aphasia

## Ongoing Activities

The accomplishments presented are a small sample of the accomplishments realized as a result of the research and development sponsored by ACL. The accomplishments were chosen to emphasize NIDILRR programs' broad impact on individuals with disabilities, the families and care communities that support them, and society as a whole. Moving forward, ACL will continue to sponsor rigorous research that is relevant to the needs and experiences of individuals with sensory, mental, physical, and developmental/intellectual disabilities.

ACL will also focus on implementing and integrating the visions of the appointed NIDILRR director and the ACL administrator to NIDILRR programs. ACL published NIDILRR's FY 2018–2023 Long-Range Plan in March 2019. Work is currently underway to draft NIDILRR's new long-range plan, which will describe NIDILRR's programmatic framework, priorities and research agenda for FYs 2024–2028.

Strategic partnerships with other agencies in HHS and across the federal government have been instrumental in advancing ACL's and NIDILRR's missions. ACL will build on its historical collaborations to identify best practices, conduct cosponsored research, and address shared goals. NIDILRR's director will continue to serve as the chair of the Interagency Committee on Disability Research, a federal partnership charged 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. ACL intends to continue to lead and contribute to the advancement of the goals and objectives set forth in the government-wide disability and rehabilitation research strategic plan and focus initiatives around three key target areas: disability data and statistics, Long COVID, and equity and inclusion.