



INTRODUCTION

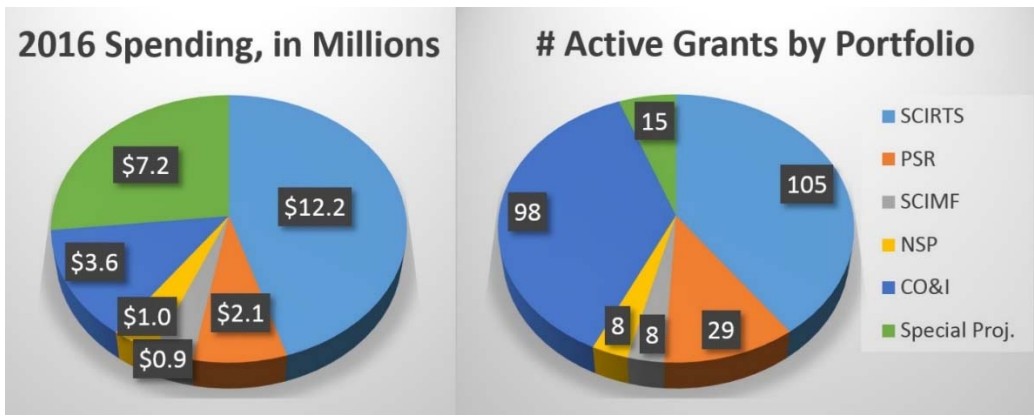
As we reflect on 2016, we see a time of continued programmatic and administrative refinement and stabilization that allows the Foundation to increase both its capacity and impact. Throughout the year, as we assessed the opportunities and goals for our work, we sought to balance potential for impact with pragmatism about what realistically could be undertaken.

An accomplishment of pride was the crafting of our Vision, Mission and Values statement. The Foundation's mission drives our activities and the values have created a focused lens with which to evaluate options and make decisions. Throughout the year, in staff discussions and review board meetings, the Foundation's values have been embraced as a clarifying inspiration for how the organization should make its choices. These statements provided the opportunity for the Foundation to reaffirm its commitment to the vision of Craig H. Neilsen – to provide all possible opportunities, for individuals who live with spinal cord injuries and those who care for them, to live full and productive lives as active participants in their communities.

Honing our ability to be proactive leaders in the field has been a guiding principle for 2016. We continue to look for the gaps and unmet needs, but filling those needs will require leveraging our position and knowledge to build consensus within the field and devise a plan of action. The Foundation can act alone but the broadest potential for real impact lies in influencing the direction other organizations might take along with us. By sharing information and partnering with other funders, we hope to enhance efficiency and clarity and to ensure alignment of each organization's investments with their respective missions, goals and practices.

A first step in assessing the impact of our work is to visualize the activities of the Foundation for a given time period and use that to initiate tracking of how these activities evolve. Illustrated below is a snapshot of the Foundation's grant funding and portfolio activities this year.¹ "2016 Spending" depicts the cash basis for all grants; "# Active Grants," depicts the distribution, by portfolio, of the 263 grants that were open on December 31, 2016. Most importantly, these two different ways of looking at our funding highlight the magnitude of the Foundation's activities.

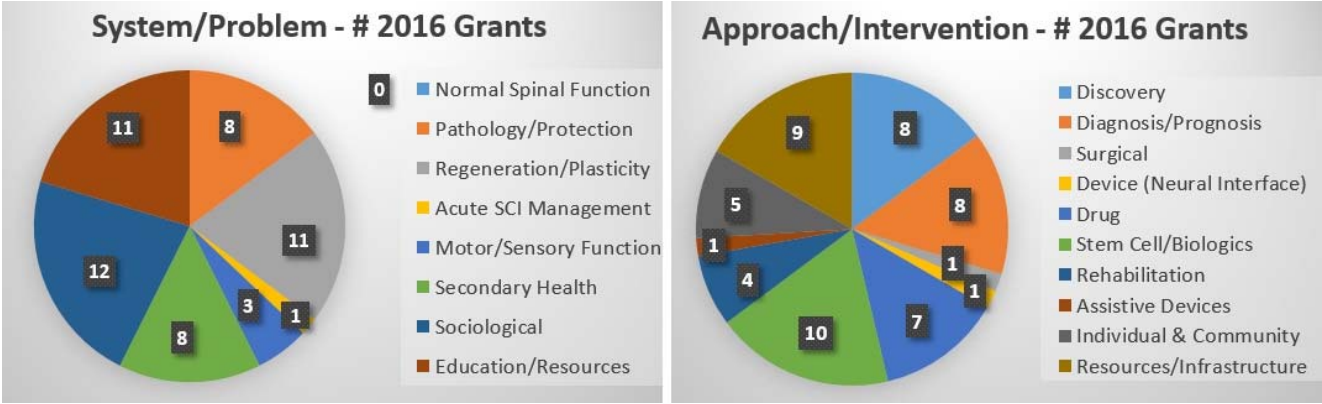
¹Portfolio abbreviations: SCIRTS=Spinal Cord Injury Research on the Translational Spectrum; PSR=Psychosocial Research; SCIMF=Spinal Cord Injury Medicine Fellowships; NSP=Neilsen Scholarship Program; CO&I=Creating Opportunity & Independence.



Selected observations from this analysis include:

- Both the number of grants and turnover are high in the CO&I portfolio relative to the total spending for the portfolio. Most are one-year grants.
- Progress in SCIRTS grants, which make up the largest portfolio investment, and PSR grants is tracked across multiple years.
- The proportion of spending on PSR grants will more than double in 2017 (to \$5.1M), based on the grant structure changes enacted in the most recent cycle.

The Foundation is tracking several aspects of our research and educational grant portfolios, including: what system/problem is the main focus of each grant, and what type of approach/intervention is being tested. The figures below represent an analysis of 54 research and training grants initiated in 2016: 31 in SCIRTS, 11 in PSR, 8 in SCIMF and 4 Special Projects.



The Foundation’s staff remains committed to continuous learning through evaluation and reflection. Ongoing evaluation of the Foundation’s current portfolios will ensure that goals are being met and will guide decisions on how best to leverage resources for the

greatest impact. We will share our knowledge to strengthen the community and to open new dialogues about best practices.

In 2016, the Foundation took deliberate steps to enhance our external communications. Keeping the “human element” in the forefront was a top priority and is a key distinguishing factor when potential grantees engage with the Foundation. Staff has implemented changes in how we interact with our grantees in an effort to show our willingness to be available and collaborative, and to signal that their interaction with the Foundation matters to us. This style is a distinct difference from some of the larger funders but is a conscious decision that takes thoughtful implementation.

SCI RESEARCH ON THE TRANSLATIONAL SPECTRUM (SCIRTS)

By investing in people and inventive ideas, the Foundation has established itself in the SCI community as both a major funder and an organization that encourages creative thinking. The SCIRTS portfolio prioritizes research that balances risk with the potential for high returns in addition to bringing new talent into the field. SCIRTS accomplishes its goals through support of research across the translational spectrum, regular communication with grantees and ensuring that funding decisions are made in alignment with the Foundation’s values.

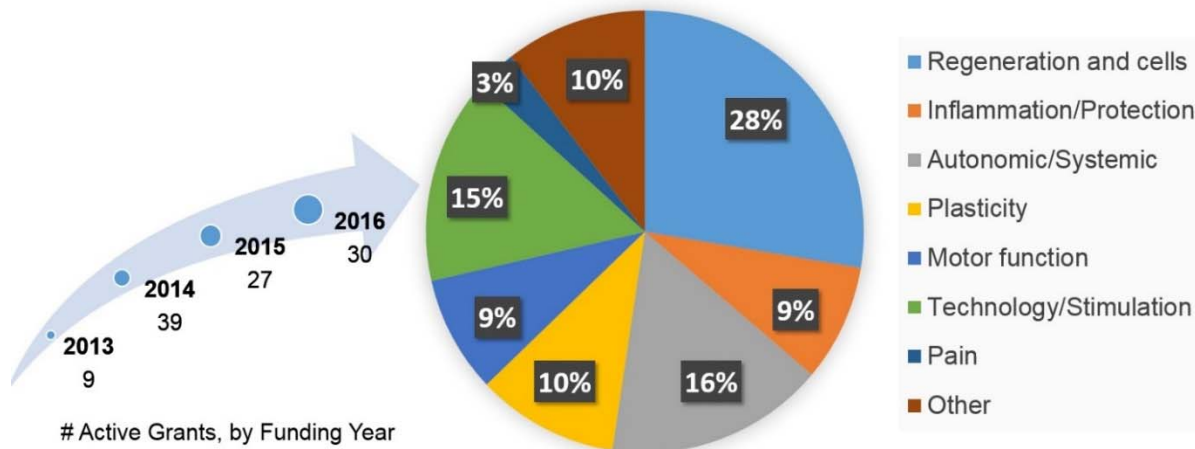
This portfolio has achieved a steady state with a single cycle per year and is in a period of refinement. Program Officers monitor trends and evaluate effectiveness of funded grants, placing a high priority on interactions with grantees that can improve the value of the Foundation’s investment. To that end, the SCIRTS application guide emphasizes the goals of its funding to applicants and reviewers, for instance, that Postdoctoral Fellowships should focus on training opportunities that advance the fellow’s career, and to emphasize our high standards for clinical trial design and management.

Summary of funding

# Postdoctoral Fellowships	# Pilot Research Grants	# Senior Research Grants	# Awards/ # LOIs Received	2016 Funding
7	16	7	30/181	\$9.9M

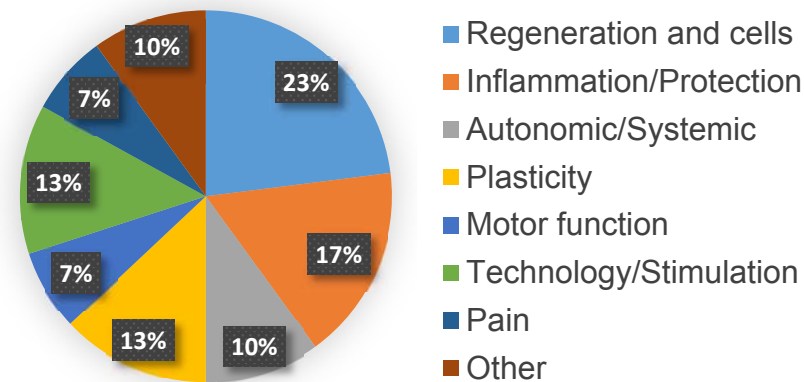
As of December 2016, there were 105 active grants in the portfolio, a combination of new, progressing and closing grants. To evaluate our impact and portfolio alignment, SCIRTS grants were categorized, as reflected in the figure below. Categorical tracking helps us balance SCIRTS funding and reveal gaps.

105 Active SCIRTS Grants



The 30 SCIRTS grants that opened in 2016 are categorized by topic in the figure below. Regeneration and cell therapies continue to be our largest SCIRTS investment. Grants relating to inflammation, plasticity, and technology categories continue to expand as SCI researchers incorporate techniques and insights from other research fields. Similar to previous cycles, 23% of all 2016 awards were clinical.

SCIRTS Grants Opened in 2016



Portfolio highlights

As an indirect measure of impact and in fulfillment of the strategic plan, Program Officers examined grants that were closed-out in 2016 for the number of publications and presentations, whether hypotheses were supported, and whether the goals of the

effort were met. For Pilot Grants, which allow researchers to embark on pioneering, high risk lines of work, approximately two thirds of all grantees successfully achieved their initial objectives. Others identified technical barriers and had to make changes to their methods or conclude that their results did not support their hypothesis. Nevertheless, these studies yielded important knowledge and/or new collaborations that will give direction to these investigators' research going forward.

Of the 38 grants that ended in 2016, several relatively high risk investments in technological approaches exceeded expectations. For example, the Foundation's early support allowed two Pilot grantees the opportunity to obtain striking results that show how stimulation of nerve firing can enhance SCI recovery.

SCIRTS grants also supported validation of two measures of arm and hand function, as well as the development and validation of a pediatric neuromuscular recovery measure. Developing new measures is seen as innovative and is therefore attractive to other funders, but the necessary step of validating these new research tools is not. These Foundation investments fill this gap and will broadly influence the SCI community's conduct of rigorous clinical trials.

In addition, three grants that closed in 2016 examined the biomechanics of shoulder dysfunction. Many people with SCI rely heavily on their upper extremities to propel and transfer to and from their wheelchairs. Over time, shoulder pain can develop and become a barrier to independence. Research on new strategies to transfer show that stress on the shoulder can be prevented by training newly injured patients improved transfer skills, which will directly inform clinical care.

PSYCHOSOCIAL RESEARCH (PSR)

Significant progress was made in 2016 to meet objectives set for PSR under the Foundation's strategic plan, with a special emphasis on efforts that strengthen the grantmaking infrastructure to increase the quality of PSR research projects.

Summary of funding

The table below provides a snapshot of 2016 activities, showing both PSR grants that opened in 2016 and applications reviewed in 2016 and approved for funding in 2017. PSR Grant Cycle designates the year the grants are funded. The table also denotes changes incorporated into the structure of the portfolio between these two competitions:

PSR Grant Cycle	# Postdoctoral Fellowships (2-year)	# Pilot Grants	# Proof of Concept/ Studies & Demonstration Projects	# Awards/ # LOIs Received	Funding
2016	2	(1-year)	(2-year)	11/48	\$2.4M
		3	6		
2017	1	(2-year)	(3-year)	17/64	\$5.1M
		7	9		

The Foundation’s PSR grants continue to fill a unique and much needed funding niche in the SCI funding landscape. A major goal has been to clearly define this program’s direct impact, as that there are few other sources of funding for PSR research in SCI. Program Officers across both research portfolios will continue to collaborate on strategies to foster the recruitment and training of postdoctoral research fellows, and to further support the successful completion of impactful research projects.

Portfolio highlights

Objectives in the strategic plan drove key activities in 2016, which included refinement of PSR grant structures and expansion of the PSR Review Board. Pilot grants were extended to two years with a maximum budget of \$200,000 to allow grantees appropriate time and resources to bring their projects to successful completion. The larger grant category Studies and Demonstration Projects (formerly Proof of Concept grants), was extended to up to a three-year term and \$400,000 grant amount. The effects of these enhancements were reflected in the record number of LOIs received and grants awarded: 64 LOIs and 17 grants approved for funding, both new highs for this portfolio.

Some of the topics recently addressed by grantees in the PSR portfolio include the following. All funded grants can be searched on the Foundation website, <http://chnfoundation.org>.

- Smoking cessation – The health risks of smoking are well-known: reducing blood flow and wound healing, damaging the lungs and causing respiratory problems, which are particularly dangerous for people with SCI. Even with these increased health risks, rates of smoking are just as high, or higher, in people with SCI as in the general population.
- Caring for caregivers – Several PSR projects are underway examining the critical topic of caregiver relationships. One addresses the particular issues of parents who care for children with SCI.

- Pain after SCI – Chronic pain, which is common after SCI, can cause or worsen psychosocial problems such as depression, anxiety, stress and withdrawal from community participation. It has been shown that people can learn to use psychological techniques to help them manage their pain, including a low cost, low risk pain management intervention called “pain acceptance” currently being tested in SCI for the first time.
- PSR Postdoctoral Fellowships are meant to engage and mentor promising early-career investigators entering the field. In 2016, the first two PSR Postdoctoral Fellows successfully completed their training.

CREATING OPPORTUNITY & INDEPENDENCE (CO&I)

With the refinement of our mission in 2016, which now includes the concept of the quality of life in everything the Foundation does, this portfolio was renamed as Creating Opportunity & Independence (CO&I), but the goal of the portfolio has not changed. In addition, the former Sports and Recreation category has been expanded to emphasize the arts, as visual and performing arts are potential pathways to employment as well as opportunities for individuals with SCI to reengage in the community.

Summary of funding

The CO&I portfolio continued to evolve during 2016 with streamlining of grantmaking, realignment and tracking of the six areas of emphasis and of the number of grants funded. The Foundation solicited applications in 2016 for Project Grants through an open competition and Sustainable Impact Projects (SIP) by invitation.

CO&I Grant Category	# Awards/#Applications Received	Funding
Project Grants	53/73 (125 LOIs)	\$2.97M
Sustainable Impact Projects	5/7	\$1.31M ¹
Network Programs	4/--	\$0.5M

¹ Sustainable Impact Projects reviewed in the 2016 cycle will be accrued in 2017

Compared to 2015, we saw an increase of over 40% in Project Grant LOIs, and funded 10% more awards. SIP applications were invited based on our staff’s rigorous review of the outcomes of previous grants and identification of programs with the greatest potential for expansion. Prior Network Programs were similarly evaluated, and though this category of funding has been discontinued, four programs were funded in 2016.

Among the six areas of emphasis, two key areas remain underrepresented; only two Project Grants focused on Education and one on Employment were awarded in 2016. Efforts are still needed to fill these gaps. Categorically, SIP grants were approved in Education, Independent Living, Rehabilitation, and Arts, Sports and Recreation. Arts, Sports and Recreation remains the largest sector of CO&I, with the arts representing a growing component (three of 16 new grants) of this category.

The Assistive Technology category also was refined in 2016, to more clearly draw a distinction between equipment, devices and apps used by individuals, versus devices associated with rehabilitation services, which are now classified under Rehabilitation.

Portfolio highlights

This year, at the Academy of Spinal Cord Injury Professionals (ASCIP) conference, eight of 11 current SIP grantees from 2014-2016 CO&I grant cycles reported on their projects. The presentations reflected some of the key focus areas of the portfolio, including Education, Employment and Assistive Technology.

A sample of ongoing projects in these categories includes: 1) An educational program on management of infertility in men with SCI. CO&I funds were used to produce educational videos and manuals, as well as train practitioners to disseminate evidence-based procedures. 2) The translation of proven employment service strategies into practice and development of a toolkit to assist people with SCI in finding and maintaining competitive employment, and accessing needed job accommodations. 3) Assistive technology applications to telemedicine, such as mobile access to healthcare providers that help avoid costly long-distance trips for routine care.

SCI MEDICINE FELLOWSHIPS (SCIMF) & RELATED CLINICAL TRAINING

Foundation support for clinical training has evolved into several types of funding to help ensure that a sufficient number of physicians are attracted to the field of SCI medicine. In addition to funding ACGME-accredited resident fellowships, complementary efforts are supported to enhance medical student and junior faculty exposure to SCI.

Summary of funding

# Institution Applicants/ # Fellowships Requested	# 2016 Fellowships/ # Invited at 8 sites	Accrual
9 sites/12 fellows	10/11	\$0.87M

SCIMF activities in 2016 at approved sites included some fellowships ending, and others just beginning.

1. Five fellows at four institutions completed subspecialty training in June 2016. Initial follow-up with these alumni show they are all practicing in SCI and Physical Medicine & Rehabilitation (PM&R).
2. In July, Fellowships for the 2016-2017 academic year were funded at eight institutions: Kessler; University of Texas; Craig Hospital; Icahn School of Medicine at Mount Sinai; MetroHealth; Rehabilitation Institute of Chicago; University of Pittsburgh; and University of Washington.

Portfolio highlights

The SCIMF portfolio objectives outlined in the strategic plan fueled growth for the program through the year. SCIMF grant cycle solicitations were refined and timelines adjusted to better integrate with the new academic match calendar. Staff reached out to both site program directors and identified program coordinators at all 19 accredited sites. While the eligibility pool is relatively small, these targeted and streamlined processes have contributed to the steady increase in the quality and quantity of submissions. Ten Neilsen Fellows, a record-setting cohort, are currently funded at eight accredited sites, double the number of awarded sites and fellowships reported just a year ago.

With the maturation of the SCIMF portfolio, it has become a priority to establish interactions with trainees that promote the option of SCI medicine early in their career pathway. In partnership with the Association of Academic Physiatrists (AAP), the Foundation supported two types of medical student learning opportunities (externships) and a conference opportunity:

1. Medical Student Summer Clinical Experience (MSSCE)
 - This support introduced SCI clinical rotations to over 40 medical students, of which 15 prepared SCI-specific case studies.
2. Rehabilitation Research Experience for Medical Students (RREMS)
 - At least 10 students participated in an SCI-focused research externship and presented their research at the AAP Annual Conference.
3. Travel scholarships to the AAP Conference were funded to allow junior SCI faculty/researchers to attend a grantsmanship course for the Rehabilitation Medicine Scientist Training Program (RMSTP).

NEILSEN SCHOLARSHIP PROGRAM (NSP)

2016 marked the third year of the Neilsen Scholarship Program. In all, the Foundation has supported 71 students with SCI at eight institutions. This year, 19 new grants were funded for a total of \$1.1 million in scholarship support, with an additional \$360,000 in Supplemental Support Funds. The Foundation's investment in the NSP as a means to empower individuals with SCI has significant potential for long-term impact for those receiving support and the schools they attend.

Of these 71 students, nine (11%) have graduated and are entering the work force or pursuing advanced degrees. Their chosen professions include social work, business and marketing, medicine, engineering, pharmacology, aerospace engineering and scientific research. A true high point in 2016 was the participation of two NSP students, from the University of Illinois at Urbana-Champaign, on the U.S. Women's Basketball Team at the Paralympics Games in Rio. The U.S. team won the gold!

Staff devoted significant time and effort to looking back at the first three years of the program to address the strategic objective to evolve this program. Priorities for NSP evolution include coordinating schedules to accommodate both academic and Foundation calendars as well as developing generalized procedures to facilitate sustainability and expansion to new academic institutions.

SPECIAL PROJECTS

In addition to grants funded through our standing portfolios, the Foundation is privileged to have the flexibility to consider Special Projects that push the boundaries beyond the scope of its standing portfolios. The Foundation staff survey the field for important gaps and emerging ideas. They share these concepts with the Board of Directors to solicit input as these ideas evolve, and with Directors' support, develop solicitations and grants to seize valuable opportunities.