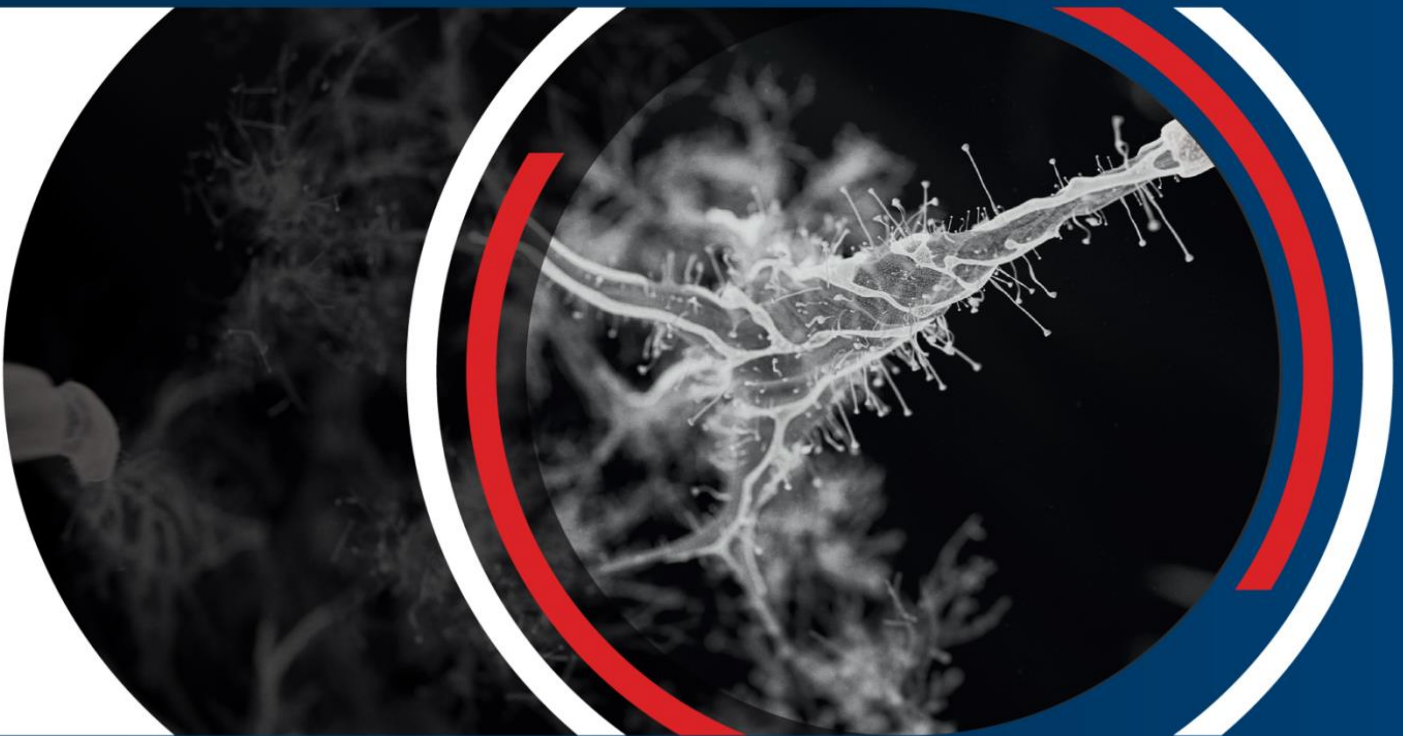


# Multiple Sclerosis Centers of Excellence

*Fiscal Year 2024 Annual Report*



**VA**



U.S. Department  
of Veterans Affairs

# Table of Contents

- MSCoE – Who We Are ..... 3**
  - MSCoE Mission, Vision, & Values .....4
  - MSCoE Milestones .....4
- Message from the National Director ..... 5**
- Executive Summary ..... 6**
- Scope of MScOE Program..... 7**
- National MScOE Program Goals ..... 8**
  - FY23-24 Strategic Goals & Accomplishments .....9
  - FY24-25 Future Goals ..... 13
- MSCoE Coordinating Centers ..... 16**
- Multiple Sclerosis Network of Care ..... 17**
  - MS Regional Specialty Programs (MS-RSPs)..... 17
  - MSCoE Organizational Structure ..... 19
  - MSCoE Team Structure..... 20
  - MSCoE Team..... 20
  - MSCoE Inventory of Services FY24 ..... 22
- Administrative Core..... 24**
  - MSCoE Administrative Core Objectives..... 24
  - Meetings..... 24
  - VHA Neurology Centers Advisory Subcommittee (NCAS) ..... 25
  - MSCoE Staff Memberships in Non-VA Advisory Committees ..... 25
  - MSCoE Internal & External Partnerships..... 25
- Clinical Care & Informatics Cores..... 31**
  - MSCoE Clinical Care & Informatics Core Objectives..... 31
  - MS Veteran Demographics, Outpatient & Specialty Care Utilization, & Disease Modifying Therapy Use... 31
  - MS Veteran Outpatient & Specialty Care Utilization ..... 35
  - MS Outpatient Care Visits ..... 36
  - MS Specialty Care Visits..... 38
  - Clinical Care Interfacility Virtual Consults ..... 39
  - Disease Modifying Therapy Use ..... 39
  - MSCoE Management of DMT ..... 42
  - Telehealth Utilization ..... 42
  - MS & COVID-19 Cases in the VA..... 43
- Research Core ..... 47**
  - MSCoE Research Core Objectives..... 47
  - About The MScOE Research Core..... 47
  - FY24 Highlighted Research Projects ..... 48

MSCoE-National MS Society Partnership: RESEARCH ..... 48

**Education & Training Core ..... 49**

    MSCoE Education & Training Core Objectives ..... 49

    About MSCoE Education & Training Core ..... 49

**Appendix..... 52**

## MSCoE – Who We Are

### The Need for MS Care for Veterans

Multiple sclerosis (MS) is the most common progressive neurological condition affecting young adults. The variable presentation of this dynamic, unpredictable, and aggressive disease makes MS diagnosis and management challenging.

*MSCoE was created to meet these challenges by providing Veterans with a dedicated, multidisciplinary care team specializing in MS to provide the essential care they need and optimize their health and quality of life.*

This is achieved through the selection and management of appropriate disease-modifying therapies (DMT), symptom management, social and emotional support, and rehabilitation - all with a Veteran-centric approach.

### Congress Calls for MSCoE

In 2001, Congress recognized the unique challenges faced by Veterans with MS and directed the Veterans Health Administration (VHA) to create two MS Centers of Excellence and focus on three critical areas for Veterans with MS: **clinical care, education, and research**. [Conference report (H. Rept. 106-988), Senate Appropriations Committee Report (S. Rept. 106-410), House Appropriations Committee report (H. Rept. 106-674)] that accompanied the Department of Veterans Affairs' (VA) Fiscal Year 2001 Appropriation].

*The VA then convened a committee of MS experts who defined the requirements for the Centers and established national standards for the care of Veterans with MS, an essential step for ensuring the care provided would meet the complex and evolving needs of Veterans with MS across the nation.*

In 2002, the VA established two coordinating Centers of Excellence: MSCoE-East, serving Veterans in the Eastern U.S., and MSCoE-West, covering the Western U.S. MSCoE was made permanent in 2006 through the Veterans Benefits, Health Care, and Information Technology Act of 2006 (S.3421).

### Delivering Excellence in Care

MSCoE- East and MSCoE- West serve as models of ideal multidisciplinary MS care delivery, research, education, and informatics. Together they serve as coordinating centers for the delivery of MS care nationally via a hub and spoke network of affiliated programs that serve larger numbers of Veterans with MS, who in turn, support MS care to Veterans served at smaller VA locations. MSCoE is organized into four cores: **Administration, Clinical Care, Informatics, Education, and Research**.

### Oversight

MSCoE activities are supervised by the VA National Executive Director, Neurology Services, by annual assessments by the Government Accountability Office (GAO) and VHA Neurology Centers Advisory Subcommittee (NCAS), and by an independent review every five years. For more information about MSCoE, visit the MSCoE website at [www.va.gov/MS](http://www.va.gov/MS).

## MSCoE Mission, Vision, & Values

### Mission

To serve Veteran's living with Multiple Sclerosis and other neuroimmunological disorders — and their families and care partners — with timely access to exceptional clinical care, education, research, and advocacy through meaningful partnerships.

### Vision

To lead the nation in clinical care, research, and the discovery of risk factors, therapeutics, and rehabilitation for Veterans with MS.

### Values

To bring collaboration, innovation, and accessibility in all we do, demonstrating our commitment to Veteran-centric care. We uphold the highest standards of quality, compassion, and excellence in every aspect of MS care, from clinical services to research and education.

## MSCoE Milestones

2001-2002

- Congress requests creation of MSCoE
- MSCoE East and West selected as Coordinating Centers

2006

- MSCoE made permanent
- Center Cores established: Administration, Clinical, Informatics, Education, Research.

2007-2017

- Directives published every 5 years
- Growth of Cores, expansion of DMTs, National education, MS Surveillance Registry, Research and publications, External stakeholder partnerships

2023

- Multiple Sclerosis System of Care 1101.06 (published 2023) defines the criteria for Regional Specialty Programs (RSP)
- Integration with National Neurology Program

2024

- Strategic planning
- Coordination with other CoEs
- Certification and expansion of RSPs to reach every Veteran with MS

## Message from the National Director

Fiscal Year 2024 (FY24) has been transformative for the Multiple Sclerosis Centers of Excellence (MSCoE)! Our increased funding this year has allowed us to enhance and broaden our services for Veterans with MS and related conditions. We are excited to announce the addition of 35 funded MSCoE Regional Specialty Programs throughout the US which will improve access to specialized care. The MSCoE is dedicated to furthering the understanding of MS, its impact on Veterans, and providing effective treatments to help manage the disease.

Our clinical initiatives have evolved significantly, highlighted by the expansion of our Tele-MS program. This initiative enables Veterans without access to specialized MS clinics to connect with providers through telehealth, ensuring they receive timely and qualitative care. We are developing a robust network of hub and spoke sites, alongside partnerships with telehealth service providers, to enhance accessibility and care coordination for Veterans with MS. Our governance structure has been reorganized to ensure that we utilize our resources more efficiently and strategically.



Mitchell Wallin, MD, MPH  
National Director, MSCoE -  
Washington, DC

Research remains a cornerstone of our mission within the MSCoE. We have been actively engaged in both clinical and translational research. The enclosed annual report highlights several research grants, publications, and seminars produced by our dedicated team. Notable projects include two multi-site clinical trials: Lipoic acid in Progressive MS (LAP-MS) and the Confirmatory Trial for Alleviating Fatigue in MS (CAFEMS).

Education is another key focus for FY24. We have made strides in developing educational frameworks for a diverse audience, including physicians, medical students, advanced practice providers, caregivers, and patients. Our educational offerings include the MS Patient Education Series, Grand Rounds for Healthcare Professionals, and specialized training sessions for MS care providers, many of which provide continuing education credits. We are proud to collaborate with other VA Neurology Centers of Excellence, including Headache, Epilepsy and Parkinson's centers of excellence, to share knowledge and resources effectively.

I would like to extend my gratitude to Dr. Sharyl Martini, Executive Director for Neurology, and Dr. Glenn Graham, Deputy Executive Director for Neurology, for their ongoing support of the MSCoE and invaluable insights. It has been a privilege to serve as the National Interim Director, Multiple Sclerosis Centers of Excellence, and I look forward to our continued progress in enhancing the lives of Veterans with MS.

A handwritten signature in black ink that reads "Mitchell Wallin". The signature is fluid and cursive, with a period at the end.

Mitch Wallin, MD, MPH

## Executive Summary

The MS System of Care provides comprehensive care, conducts groundbreaking research, and educates VwMS, their families and healthcare providers. The program comprises a network of Regional Programs (RP) across the nation (Figure 1), each equipped with cutting-edge technology and staffed by MS-trained physicians and a multi-disciplinary team of nurses, therapists, psychologists, social workers, and other medical specialist to ensure VwMS in every VISN receive the best possible Veteran-focused care. Added fiscal support for RPs will increase Veteran access to VA MS care for better quality, integration, and cost-efficiency. Figure 1 demonstrates the geographical areas of VA MS expertise and identifies areas of need.

FY24 MSCoE program selected accomplishments:

**Administration:** Identified at least one specialized MS program per VISN that met criteria identified in VHA Directive, 1101.06 - MS System of Care. Obtained and summarized MS Veteran Experience Data.

**Clinical Core:** Created and published the Disease-modifying Therapies in MS National Clinical Recommendations document in partnership with VA Pharmacy Benefits Management. Created and published a CPRS clinical note template as a Quality Indicator. Initiated a TMS training site for RP best practices.

**Education:** MSCoE coordinated a diverse educational portfolio for FY24, ensuring programing was appropriate for various disciplines and audiences. Programing included e-letters, webinars, face-to-face lectures, virtual conferences, podcasts, support groups, and articles.

**Research:** Achieved milestones toward launch of the multi-site Confirmatory Trial for Alleviating Fatigue in MS (CAFEMS). Completion of the Lipoic Acid for Treatment of Progressive MS (LAPMS) multi-site randomized controlled trial. The MS-MRI quality improvement project focused on establishing a standard national MRI protocol. Completed national mixed methods review of MS research priorities with manuscript submitted for peer review.

**Informatics:** Developed (ACTRIMS 2024 abstract) a case-finding algorithm for non-MS neuroimmunological disorders commonly diagnosed and managed by MSCoE. MS Surveillance Registry improvements and updates made in collaboration with VA OI&T contract team.

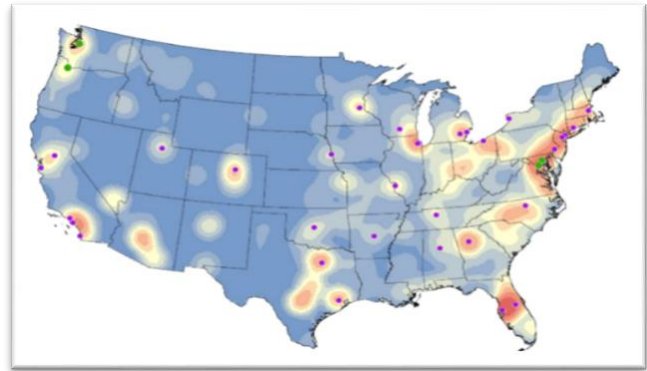


Figure 1: Population density of Veterans with MS (blue: low, orange: high) and locations of MSCoE Coordinating Centers (green) and Regional Specialty Programs (purple) as of Q3FY24.

FY23 VHA Veterans with MS and active care:  
26,26 Locations of MS Care:

- VA only: **15,492**
- VA and Community Care: **3,555**
- Community Care only: **750**  
(opportunity to address)
- No MS care paid by VA: **6,467**  
(opportunity address)



## Scope of MScOE Program

<b>Administration Core</b>	<p>Management of CoE budget, staffing, strategic planning, external partnerships, oversight of Cores, national communications, and policy oversight.</p>
<b>Clinical Core</b>	<p>Policy implementation and oversight, DMT access (with VA Pharmacy Benefits Management), MS care coordination, development and maintenance of clinical guidelines, clinical note documentation, clinical education.</p>
<b>Informatics Core</b>	<p>Supports all Cores with VA data including identifying Veterans with MS, access to MS care, use of DMTs, utilization of VA and community care services, support of MS Surveillance Registry.</p>
<b>Education Core</b>	<p>Patient-facing and provider-facing materials to support MS care including MScOE website, newsletters, podcasts, conferences, continuing medical education (CME), brochures, partnerships with Veteran Service Organizations and National MS Society. Support of VA-funded advanced fellowships for MS.</p>
<b>Research Core</b>	<p>VA-funded MS research includes epidemiology, health services research, clinical trials, and basic science. Promotion of research among VA junior faculty. Leadership and participation in multi-site VA MS studies.</p>

## National MSCoE Program Goals

<b>Provide Comprehensive Care</b>	<ul style="list-style-type: none"> <li>• Deliver high-quality, multidisciplinary care tailored to the unique needs of Veterans with MS.</li> <li>• Optimize health outcomes and quality of life through disease-modifying therapies, symptomatic care, and rehabilitation.</li> </ul>
<b>Coordinate Clinical Services</b>	<ul style="list-style-type: none"> <li>• Establish and maintain a national network of MS care providers within the VA Health Care System.</li> <li>• Ensure consistent, standardized care across all VA facilities.</li> </ul>
<b>Advance Research</b>	<ul style="list-style-type: none"> <li>• Conduct cutting-edge research to improve the understanding, diagnosis, and treatment of MS.</li> <li>• Promote collaboration between research institutions and the VA to drive innovation in MS care.</li> </ul>
<b>Enhance Education and Training</b>	<ul style="list-style-type: none"> <li>• Provide ongoing education and training for healthcare professionals on the latest MS treatments and care strategies.</li> <li>• Offer educational resources and support to Veterans and their families to help them manage MS effectively.</li> </ul>
<b>Develop and Implement National Standards</b>	<ul style="list-style-type: none"> <li>• Create and uphold national standards for the diagnosis, treatment, and management of MS within the VA system.</li> <li>• Monitor and evaluate the quality of MS care to ensure adherence to these standards.</li> </ul>
<b>Support Veteran-Centric Care</b>	<ul style="list-style-type: none"> <li>• Focus on the specific needs of Veterans with MS, considering their military service and unique health challenges.</li> <li>• Provide social and emotional support services tailored to the Veteran population.</li> </ul>
<b>Promote Collaboration and Coordination</b>	<ul style="list-style-type: none"> <li>• Foster collaboration between MSCoE-East, MSCoE-West, and other VA facilities.</li> <li>• Work closely with national and international MS organizations to share knowledge and best practices.</li> </ul>
<b>Utilize Advanced Technology and Informatics</b>	<ul style="list-style-type: none"> <li>• Implement state-of-the-art technology to enhance MS care and streamline clinical processes.</li> <li>• Leverage informatics to track patient outcomes and improve care delivery.</li> </ul>
<b>Ensure Continuous Improvement</b>	<ul style="list-style-type: none"> <li>• Regularly assess and refine MSCoE programs and services based on feedback and new research.</li> <li>• Conduct annual reviews and independent evaluations to maintain high standards of care.</li> </ul>
<b>Increase Awareness and Advocacy</b>	<ul style="list-style-type: none"> <li>• Raise awareness about MS within the Veteran community and the general public.</li> <li>• Advocate for policies and resources that support Veterans with MS.</li> </ul>

## FY23-24 Strategic Goals & Accomplishments

Core	Goals	Status	MSCoE Actions	Next Steps
Administrative	1. Disseminate MS System of Care Directive 1101.06 with three national listening sessions.	Accomplished Q2	Three national listening sessions completed, reaching ~75 attendees.	Review feedback and identify improvement areas.
	2. Develop care models to improve access to quality care through efficient and effective consultation between MS Regional Programs and other VAMCs in a VISN and implement one model	Accomplished Q4	Created, revised, and published ( <a href="#">MSCoE website</a> ) a Remote Consult process document detailing how smaller facilities consult with VISN-level Regional Specialty Programs via Inter-Facility Consults, with MSCoE serving as a coordinator of the process and backup when needed.	Survey the existing IFCs in VISNs 5 and 20, evaluate the numbers of IFCs within those VISNs, and the appropriate coding to the 344 clinics.
	3. Initiate the MSCoE Baseline Program Evaluation in order to better understand the characteristics, healthcare utilization and quality metrics of Veterans with MS with utilization in VHA.	Accomplished Q4	Created MSCoE Baseline data for the following groups: a) VwMS using VHA; b) VwMS using Community Care; c) VwMS using both VHA & Community Care. Informatics group & Salient Project group (Salt Lake VAMC)	Create a regular data pull and reporting format each fiscal year for MSCoE. Note changes in populations over time and limit Community Care referrals IV infusions.
Clinical Core	1. Optimize CPRS for MS care by creating and publishing CPRS note templates that include quality improvement measures.	Accomplished Q4	Created and published on Sharepoint a CPRS clinical note template. Presented at national PVA meeting, and publicizing on monthly provider e-letter	Investigate national publication of the template through CPRS.
	2. Increase the number of sites using standard VA MS-MRI protocol (Bagnato, Federal Practitioner 2022).	In Progress	Facilitate training and awareness of protocol utility.	Expand training and site integration across all VISNs in FY25- 26.

Core	Goals	Status	MSCoE Actions	Next Steps
	3. Expand national MS interfacility consults between MS Regional Specialty Programs and other VAMC in a given VISN.	Accomplished Q4	Included establishing IFC relationships as part of formal Regional Specialty Program criteria. Presented at RSP site meeting.	Coordinate with NTNP, other telehealth networks in different VISNS to unify efforts. Develop educational material around establishing IFCs.
Research Core	1. Submit at least two research grants within MSCoE-East and West networks.	Accomplished Q1-Q4	Including but not limited to: A walking aid fit optimization program (ADFit) to prevent falls in people with multiple sclerosis. National MS Society Testing the antioxidant Centella asiatica for biological signatures of activity and cognitive improvement in multiple sclerosis. VA CSR&D	Continue with new applications and re-submissions. Support trainees to submit mentored awards
	2. Participate in a minimum of two collaborative multi-site research projects.	Accomplished Q1-Q4	Lipoic acid for Treatment of Progressive MS: completed Q1, presented as poster Q4 at ECTRIMS CAFE-MS study funded by DoD. Subawards with VA sites completed, central IRB approval completed	LAPMS: Primary manuscript publication; secondary publication planning/published. CAFE-MS: Local R&D approval, initiate recruitment
	3. Publish a minimum of 25 manuscripts in peer-reviewed journals. Present at least four posters and/or presentations at national and international meetings concerning a topic relevant to the research mission of the CoE during the reporting year.	Accomplished Q1-Q4	35 manuscripts 24 posters 12 talks	

Core	Goals	Status	MSCoE Actions	Next Steps
Education	1. Explore national programming for VA caregivers of Veterans with MS.	Accomplished in Q2 FY24	A 1.5-hour national, virtual caregiver webinar occurred on March 25 <sup>th</sup> during MS Awareness Month. Ms. Sloan and Ferguson, the two national MScOE social workers, spoke at the program.	Attendance was good for the first national, virtual webinar for caregivers. A brief survey was distributed, and feedback was positive. There are plans to do an annual caregiver webinar in March, with exploration into doing a caregiver webinar bi-annually. There is also discussion on doing an annual or bi-annual MS webinar on VA resources and benefits for Veterans new to VA care.
	2. Develop platforms for creation and distribution of MS handouts for VA clinics.	Accomplished in Q2 FY24	A webpage was created on the MScOE website to store flyers available to print for use in clinic. This page was promoted in the provider e-letter. <a href="#">Clinical Handouts for Veterans with Multiple Sclerosis and Their Care Partners - Multiple Sclerosis Centers of Excellence (va.gov)</a> MSCoE collaborated with the Veterans Health Library for the creation of a webpage that directs visitors to the MScOE website as well as outlines resources and flyers. <a href="#">Multiple Sclerosis Resources for Veterans   Veterans Affairs (va.gov)</a>	Update content of flyers as needed. Continue promotion of webpage in provider e-letter. Add to library of flyers as needed. Update MS Overview booklet content and layout. Collaborate with Patient Centered Learning to make booklet available for facility ordering through VA educational warehouse.

Core	Goals	Status	MSCoE Actions	Next Steps
Informatics	1. Create and track (CDW Database) outpatient, inpatient, telehealth, and community care utilization per SCS coding guidelines in VISN 5, and 20.	Completing in quarter 1 of FY25	This data will be a sub-report of our annual informatics encounter tracking within 2 VISNs. We will assess use and gaps in encounters for core clinics: outpatient, VVC, phone, e-consults, and IFC	Establish a baseline for tracking core encounters within MSCoE for all VISNs in FY25.
	2. Enter official stop codes for clinics, VVC, e-consults in VISN 5, 6 and 20 and track in CDW	Completing in quarter 1 of FY25	Stop code accuracy and position are assessed in this report within 3 VISNs.	Establish a baseline for tracking core encounters within MSCoE for all VISNs in FY25.
	3. Identify a representative sample from the national VHA network and develop a plan to enter this cohort into the MS Surveillance Registry annually.	Completed in Q4 of FY25	Proposed core longitudinal MSSR cohort to be taken from the following locations: VISN 5, & 20, Tampa VAMC, Dallas VAMC, and Chicago VAMC. These locations will provide a population-based sample (N=2,000-2500) of VwMS that can be tracked annually.	Establish a lead registrar to organize and assess resources to track this longitudinal cohort in FY25.

## FY24-25 Future Goals

Core	Strategic Goals	MSCoE Action Plan	Next Steps
Administrative	1. MS Regional Specialty Program Building and Funding Allocation	Allocate funding to build and expand regional specialty programs, ensuring necessary resources, staff, and infrastructure are in place	Regularly assess regional needs and adjust funding and other resources to optimize and expand specialty programs. Monitor outcomes and performance to ensure alignment with emerging needs.
	2. Expand access to quality care via updated consultation models across additional VISNs.	Review effectiveness of IFC processes and consult numbers	Survey IFC usage across additional VISNs, ensure accurate coding to MS 344 clinics.
	3. Launch MScOE Baseline Program Evaluation to track quality metrics and healthcare utilization.	Establish routine annual data pulls and reporting format.	To minimize costs, we will limit Community Care referrals for MS care and focus on increasing proportion of VA-paid care to VHA facilities for veterans with MS by at least 5%/ year. This includes increasing the availability of disease-modifying therapy (DMT) IV infusions within the VHA whenever feasible, rather than relying on community care for infusion administration
Clinical Core	1. Optimize and promote national adoption of the MS CPRS note template for quality improvement.	Investigate national CPRS publication opportunities	Continue promoting in provider e-letters and public forums.
	2. Increase utilization of VA MS-MRI protocol across additional VAMC sites nationwide. (Bagnato, Federal Practitioner 2022).	Facilitate training and awareness of protocol utility.	Expand training and site integration across all VISNs in FY25-26.

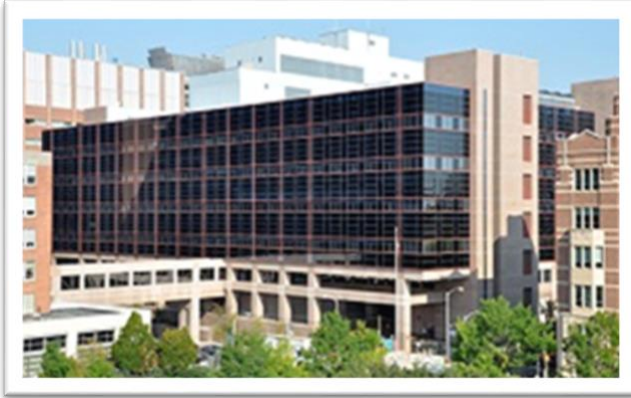
Core	Strategic Goals	MSCoE Action Plan	Next Steps
	3. Expand national MS interfacility consults between MS Regional Specialty Programs and other VAMC in a given VISN.	Develop educational material on IFC setup and maintenance.	Collaborate with NTNP and other telehealth networks to unify and enhance IFC processes.
	4. Telehealth Service Expansion	Implement telehealth services across all MSCoE centers, providing staff training and necessary technology for remote consultations and follow-ups.	Expand telehealth to additional specialties and explore new technologies to enhance service capabilities and patient experience. Increase utilization among veterans.
Research Core	1. Submit at least two research grants within MSCoE-East and West networks.	New grant submissions pending for FY25.	Focus on funding for translational research and multi-site collaboration projects.
	2. Continue participation in multi-site research projects across VA MS networks.	Publish Lipoic Acid Trial results; initiate CAFE-MS recruitment.	Expand multi-site collaborations and prepare additional publications from ongoing studies.
	3. Publish 25+ manuscripts in peer-reviewed journals and present at least 4 posters/presentations.	Numerous presentations made at ECTRIMS Q4 FY24.	Maintain and expand visibility through poster presentations, journal publications, and research dissemination.
Education	1. Create and improve programs, products, and resources for Veterans new to VA care.	Continue with annual caregiver webinars and explore bi-annual webinars in collaboration with MSCoE SW Network. Explore annual or bi-annual webinar on VA resources and multi-D care in VA. Expand and improve printable products for VA clinics. Gather information on Veteran and caregiver focused programs and products at RSP. Explore creation of guideline documents for facility or VISN level educational programs and products.	

Core	Strategic Goals	MSCoE Action Plan	Next Steps
	2. Explore integration of RSP provider programs into national education agenda.	Gather information on RSP provider CME and non-CME programs, exploring interest in national exposure. Collect interest from RSPs on involvement in national educational programs, products, and committees.	
	3. Improve navigation and content of MScOE website.	Increase focus of website on VA care and resources. Improve navigation of website. Integrate website provider section with VA SharePoint.	
Informatics	1. Expand data tracking for outpatient, inpatient, telehealth, and community care utilization.	VISN 5 and 20 tracking established in FY24, ongoing. Complete data tracking in additional VISNs.	Expand tracking across all VISNs and create annual encounter reports for core MScOE clinics.
	2. Track and assess clinic utilization and stop code accuracy across VISNs 5, 6, and 20.	Ongoing tracking established; report expected Q1 FY25. Complete accuracy assessments.	Establish a comprehensive reporting system to monitor stop code use across all MScOE clinics.
	3. Develop and maintain an MS Surveillance Registry cohort, tracking patients longitudinally.	Organize and resource longitudinal tracking.	Recruit and track 2,000-2,500 Veterans with MS annually from selected VAMCs.

# MSCoE Coordinating Centers

## MSCoE East

**VA Maryland HCS**  
Baltimore, MD



**Washington VAMC**  
Washington, DC



## MSCoE West

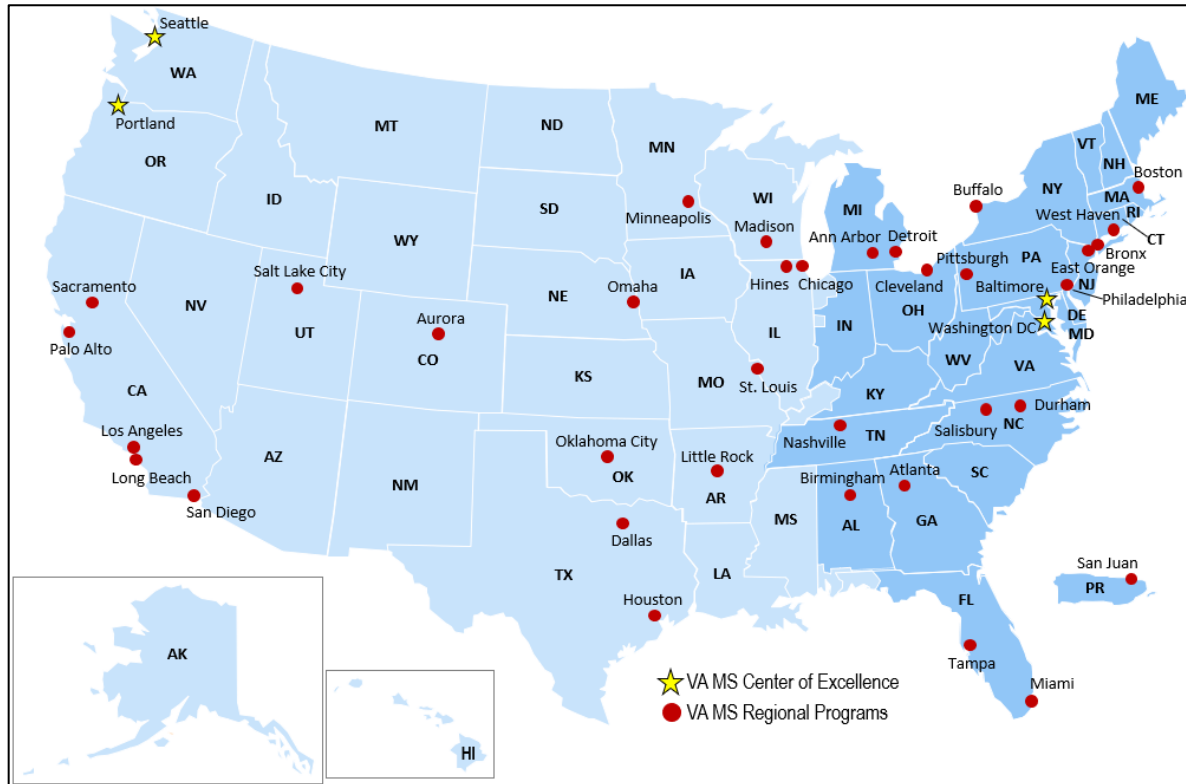
**VA Puget Sound HCS**  
Seattle, WA



**VA Portland HCS**  
Portland, OR



# Multiple Sclerosis Network of Care



## MS Regional Specialty Programs (MS-RSPs)

### Definition of RSPs – MSCoE

*The VHA Directive – 1101.06 – MS System of care was renewed in July 2023. Per this directive, each VISN will be required to name at least 1 Multiple Sclerosis (MS) Regional Specialty Program (RSP) by July 31, 2024, per VHA Directive 1101.06.*

### MS-RSPs Qualifications listed in the Directive include:

- A multidisciplinary MS teams.
- Expertise diagnosing MS subtypes, treating relapses, and assessing/managing disability.
- Access to MRI for diagnosis & ongoing monitoring
- Ability to prescribe, infuse and monitor FDA-approved disease modifying therapies.

### Purpose of the MS-RSPs:

- Commitment to consistent, high standards of care.
- Access to specialized resources for Veterans with MS
- Improved patient care
- Telehealth expansion
- Research and education opportunities.
- Support for clinical excellence.

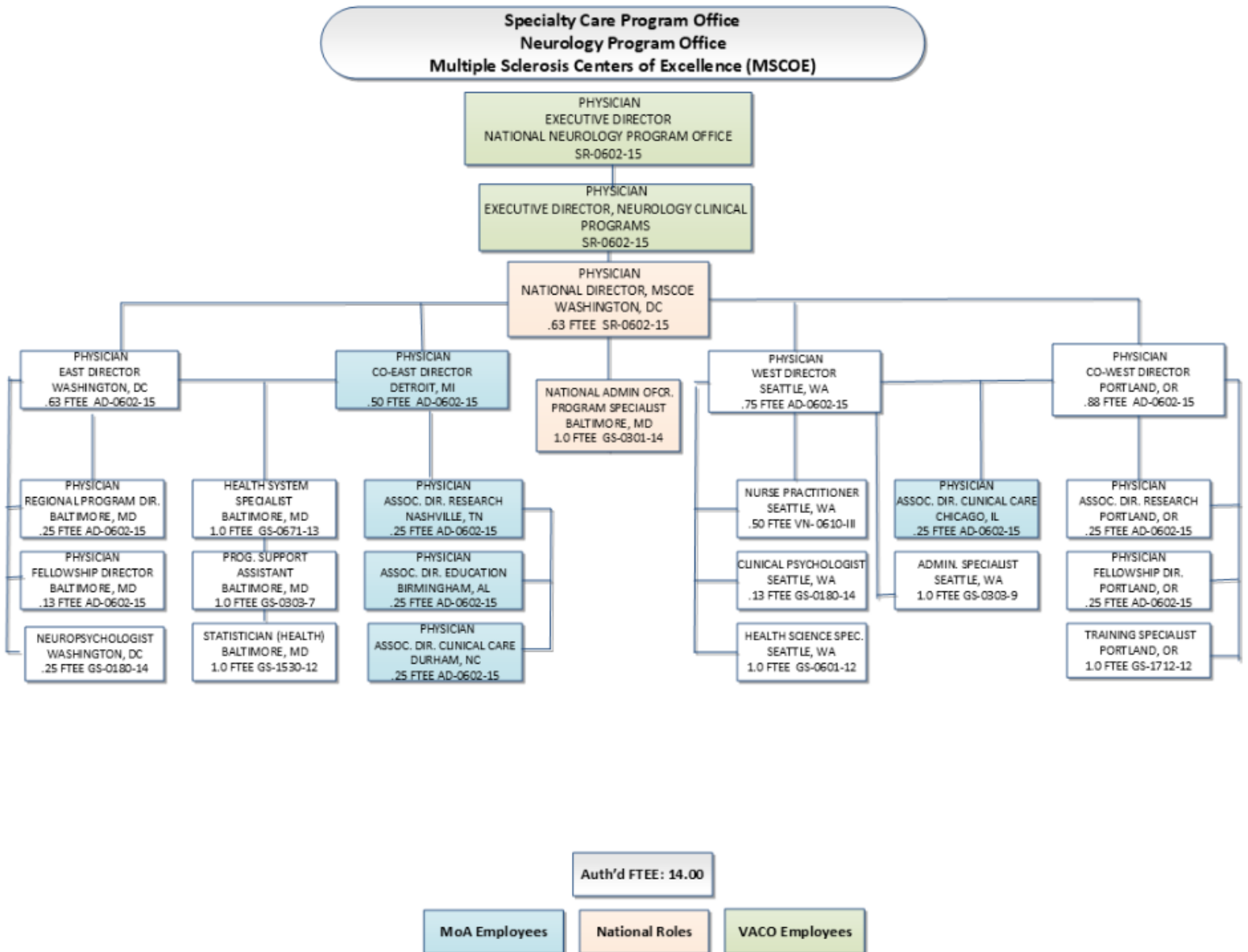
## MS-Regional Specialty Programs (MS-RSPs):

35 MS-RSPs met criteria

Sr #	VISN	RSP-EAST (n=17)
1	1	West Haven, CT
2	2	East Orange NJ
3	2	Bronx, NY
4	4	Pittsburg, PA
5	4	Philadelphia, PA
6	5	Washington, DC
7	5	Baltimore, MD
8	6	Durham, NC
9	6	Salisbury, NC
10	7	Birmingham, AL
11	7	Decatur (Atlanta), GA
12	8	Miami, FL
13	8	Tampa, FL
14	8	Puerto Rico (Caribbean or San Juan), PR
15	9	Nashville, TN
16	10	Ann Arbor, MI
17	10	Detroit, MI

Sr #	VISN	RSP-WEST (n=18)
1	12	Hines, IL
2	12	Chicago, IL
3	12	Milwaukee, WI
4	12	Madison, WI
5	15	Saint Louis, MO
6	16	Houston TX
7	17	Dallas TX
8	19	Aurora (Denver), CO
9	19	Oklahoma City, OK
10	19	Salt Lake City, UT
11	20	Portland, OR
12	20	Seattle, WA
13	21	Mather (Sacramento), CA
14	21	Palo Alto, CA
15	22	Long Beach, CA
16	22	Los Angeles, CA
17	22	San Diego CA
18	23	Minneapolis, MN

# MSCoE Organizational Structure



**Fiscal Budget:** The approved MSCoE annual budget for FY24 was \$5.5 Million. The authorized full-time employment equivalent (FTEE) for the MSCoE is 14.0. The actual FTEE level is 10.0, with 4 vacancies.

## MSCoE Team Structure



**Mitchell Wallin, MMPH**  
National Director, MSCOE  
Washington, DC



**Anza Memon, MD**  
Director, MSCOE – East  
Detroit, MI



**Jodie Haselkorn, MD, MPH**  
Director, MSCOE – West  
Seattle, WA



**Rebecca Spain, MD,MPH**  
Co-Director, MSCoE –  
West Portland, OR

## MSCoE Team

### MSCoE East

Name	MSCoE Position	Location
Mitchell Wallin, MD, MPH	Interim, National Director	Washington, DC
*Ernest Aucone, PhD	Neuropsychologist	Washington, DC
*Anza B. Memon, MD	Interim, Director MSCoE-East	Detroit, MI
*Tesiley Ash, RN	MS Nurse Coordinator	Detroit, MI
*Suma Shah, MD	Associate Director Clinical Care	Durham, NC
*Francesca Bagnato, MD	Associate Director Research	Nashville, TN
*John Rinker, MD	Interim Associate Director, Education	Birmingham, AL
Dan Harrison, MD	Fellowship Director	Baltimore, MD
Sarah Fredrich, MD	Regional Program Director/Education Committee	Baltimore, MD
Angela Young, MBA	Interim, National Administrative Officer	Baltimore, MD
Kenith Walker	Program Support Assistant	Baltimore, MD
Shan Jin	Statistical Programmer	Baltimore, MD
*Bethany Ferguson, LCSW	MS/SCID Social Worker	Baltimore, MD
*Arlene Zawadzki, RN	Nurse Registrar – MS Surveillance Registry	Buffalo, NY

\* VA staff paid via Memorandum of Agreement (MoA)

## MSCoE West

Name	MSCoE Position	Location
Jodie Haselkorn, MD, MPH	Director West	Seattle, WA
Aaron Turner, PhD, ABPP (RP)	Co-Associate Director Research	Seattle, WA
Steven Leipertz, PhD	Associate Director Informatics	Seattle, WA
Lynda Hillman, DNP, ARNP	National Clinical Nursing Director	Seattle, WA
Lani Pitofsky	Administrative Specialist	Seattle, WA
Rebecca Spain, MD, MSPH	Co-Director West	Portland, OR
Lindsey Wooliscroft, MD	Associate Director Research	Portland, OR
Vijayshree Yadav, MD, MCR	Assistant Director Clinical Care/ Fellowship Director	Portland, OR
Jaimie Henry, MPA	Training Specialist	Portland, OR
*Carolyn Bevan, MD	Interim, Associate Director Clinical Care	Chicago, IL
*Carolyn Waslo	Project Manager, Salient Queri MS Project	Portland, OR

\* VA staff paid via Memorandum of Agreement (MoA)

## VA Advanced Fellows – MS FY24

Name	MSCoE Position	Location
Yesenia Enriquez-Gonzalez, MD	VA Advanced Fellow – MS (OAA)	Baltimore, MD
Hunter Mitchell, MD	VA Advanced Fellow – MS (OAA)	Baltimore, MD
Erin Mistretta, PhD	MS Neuropsychology Fellow (NMSS)	Seattle, WA
Jacob Perelman, MD	VA Advanced Fellow – MS (OAA)	Portland, OR
Carolina Garcia Garcia, MD	VA Advanced Fellow – MS (OAA)	Portland, OR
Cole Crowson, MD	VA Advanced Fellow – MS (OAA)	Portland, OR

## MSCoE Inventory of Services FY24

Service Category	Specific Services
<b>Clinical Services</b>	
Comprehensive Neurological Assessment	In-depth evaluations to assess neurological function and disease progression.
Medical Management	Ongoing treatment and monitoring of MS symptoms and disease progression through medication and therapy.
Specialty Clinics	Access to specialized care tailored to individual needs, including neurologists and other specialists.
Rehabilitation Services	Physical Therapy (PT), Occupational Therapy (OT), and Speech Therapy to aid recovery and improve function.
Neurophysiological Testing	Assessments such as EEG and EMG to evaluate nerve and muscle function.
Psychological and Emotional Support	Counseling and support services to address mental health and emotional well-being.
Nursing Care	Comprehensive nursing services to assist with medical needs and care coordination.
Telehealth	Remote consultations to provide convenient access to healthcare providers.
Pharmacy Services for Disease Modifying Therapies	Medication management and support specifically for disease-modifying therapies (DMTs).
Diagnostic Services	Comprehensive diagnostic evaluations to inform treatment plans.
Advanced Imaging and Diagnostics	State-of-the-art imaging techniques to enhance diagnosis and treatment planning.
MRI Scans	Magnetic Resonance Imaging to assess brain and spinal cord changes related to MS.
<b>Educational Services</b>	
Patient and Family Education	Resources and programs to educate patients and families about MS and its management.
Community Outreach and Awareness	Initiatives to raise awareness about MS and available resources within the community.
Professional CME at Online and National Meetings	Continuing Medical Education (CME) opportunities for healthcare professionals to stay updated on MS care.
<b>Research and Clinical Trials</b>	
Randomized Controlled Clinical Trials	Participation in clinical trials to evaluate the effectiveness of new treatments.
Basic Science, Translational, Clinical, and Epidemiologic Research Studies	Research initiatives aimed at advancing understanding and treatment of MS.

<b>Social and Financial Support</b>	
Social Work Services	Support for navigating social services and community resources.
Financial Counseling	Guidance on managing healthcare costs and accessing financial assistance.
<b>Multidisciplinary Team Approach</b>	
Coordination of Care	Collaborative care management among healthcare providers to ensure comprehensive treatment.
Personalized Care Plans	Customized treatment plans developed in collaboration with the patient and care team.
<b>Additional Services</b>	
Alternative and Complementary Therapies	Options for complementary treatments to support overall wellness.
Nutrition and Diet Counseling	Guidance on nutrition and diet to enhance health and manage symptoms.
Assistive Technology/Prosthetics	Access to assistive devices and prosthetic solutions to improve quality of life.
Vocational Rehabilitation	Support services aimed at helping Veterans regain employment and manage workplace challenges.
<b>Support for Families and Caregivers</b>	
Caregiver Support	Resources and assistance for those providing care to Veterans with MS.
Educational Programs for Caregivers	Training and support programs designed for caregivers to enhance their skills and knowledge.
Respite Care	Temporary relief for caregivers to allow for self-care and recovery.

## Administrative Core

### MSCoE Administrative Core Objectives

- Establish the vision, mission, goals, and strategies of the MSCoE.
- Serve Veterans with MS through oversight of the Clinical Care, Informatics, Education, and Research Cores.
- Execute the MSCoE Directive, including reporting and accountability.
- Manage the budgets, staffing, and employee experience.
- Report to leaderships in the VA Central Office and National Program Office.
- Partner with VISN and facility leadership to fulfil MSCoE goals.
- Collaborate with other Neurology Centers of Excellence to efficiently deliver high-quality neurological care, training, and education.
- Partner with advocacy organizations to maximize the benefits to Veterans living with MS.

### Meetings

In FY 2024, the MSCoE successfully hosted two annual meetings, catering to our members in the East and West regions. The East meeting was held in person, fostering valuable face-to-face interactions and collaborative discussions among attendees, while the West meeting was conducted virtually, ensuring accessibility for all participants despite geographical constraints. Looking ahead, we are excited to announce that MSCoE will host a national meeting for directors and coordinators from both regions in March 2025 in Tampa, Florida. We eagerly anticipate this gathering as an opportunity to unite our community and strengthen our collective efforts.

### MSCoE East – Regional Directors and Coordinators Meeting - March 19 – 21, 2024 (Baltimore, MD)



Attendees: (left to right, front) –Angela Young, Marinella Galea, MD; Anza Memon, MD, Mitchell Wallin, MD, Kenith Walker (left middle)- Francesca Bagnato, MD, Bethany Ferguson, LCSW, Gail Beasley, RN, Alton Bryant, MD, Laurel Keller (left back) Demetrios Konstas, MD, William Tyor, MD, MD, Nicoya Butler, RN, Carey Deluca, NP, Ernest Acheampong, NP (right) – John Rinker, MD, Danielle Lawrence, Suma Shah, MD, Janice Leon, MD, Hector Soto-Negron, RN, Carol Gill, MD, attended, but not pictured.

**MSCoE-West – Regional Directors and Coordinators Meeting** was held virtually on July 27, 2024.

**MSCoE Business Meeting - August 26, 2024 (Anaheim, CA)**

**Paralyzed Veterans of America Healthcare Summit and Expo**



Danielle Lawrence, President's Management Fellow, VHA



Sharyl Martini, MD, Executive Director, National Neurology Program Office



Glenn Graham, MD, Executive Director, Neurology Clinical Programs

## **VHA Neurology Centers Advisory Subcommittee (NCAS)**

The MSCoE convenes a VHA NCAS that reports to the VA Federal Advisory Committee (FAC) on VA Advisory Committee on Prosthetics and Special Disabilities (ACPSD) in accordance with 38 U.S.C. 7314. The committee meeting was held on November 14, 2023.

### **Subcommittee Requirements**

The responsibility of the VHA NCAS is to assemble, review, and make policy recommendations related to: (1) assessing the capability of VA health care facilities that host Neurology Centers of Excellence to respond with the most effective and appropriate services available to Veterans struggling with the physical, emotional, and social challenges of neurological disorders; and (2) advancing scientific knowledge to meet those needs by enhancing neurological care for Veterans through research, the training of healthcare professionals (HCP) in the provision of specialized neurological care, and developing improved models of clinical services for Veterans with neurological disorders. The NCAS may perform specific projects or assignments as necessary and consistent with the parent Committee's mission.

The VA MSCoE Designated Federal Officials are Dr. Mitchell Wallin, Dr. Jodie Haselkorn, Mr. Kenith Walker, and Ms. Lani Pitofsky. FY23 NCAS members are found in [Appendix A](#).

## **MSCoE Staff Memberships in Non-VA Advisory Committees**

MSCoE staff maintain active memberships in non-VA advisory committees. See [Appendix B](#) for a current list of memberships.

## **MSCoE Internal & External Partnerships**

## Internal Collaborations

<b>VA Office of Academic Affiliations</b>	<p>The VA conducts education and training programs to enhance the quality of care provided to Veterans within the VA HCS. Building on the longstanding, close relationships among the VA and the nation’s academic institutions, the VA plays a leadership role in defining the education of future HCPs that helps meet the changing needs of the nation’s healthcare delivery system. Through its partnerships with affiliated academic institutions, the VA conducts the largest education and training effort for health professionals in the nation.</p>
<b>VHA Office of Community Care</b>	<p>The VHA Office of Community Care (OCC) operates two main service lines, Delivery Operations and Revenue Operations, that support medical care delivery and services for Veterans and their families. VHA OCC is also responsible for functions that support service lines such as administration, planning, oversight, and stakeholder relations. VHA OCC works closely with Veterans and their families, community providers, and VA staff to ensure that Veterans can get care from community providers when needed.</p>
<b>VHA National Center for Healthcare Advancement &amp; Partnerships</b>	<p>The VHA National Center for Healthcare Advancement and Partnerships (HAP) serves as a trusted resource and a catalyst for the growth of effective partnerships at the national, state, and community level. It also serves as a facilitator/access point for public and private entities interested in partnering with VHA to benefit Veterans, their families, care partners, and survivors.</p>
<b>VA Employee Education System</b>	<p>The VA Employee Education System (EES) partners with the VA, VHA program offices, and VISNs to provide quality workforce education and training to improve outcomes in Veteran clinical care, healthcare operations, and administration. VA EES also offers accredited courses and programs, in association with 17 national and two state accrediting bodies.</p>
<b>VA Office of Information &amp; Technology</b>	<p>The VA Office of Information and Technology (OI&amp;T) provides a seamless, unified Veteran experience through the delivery of state-of-the-art technology through collaboration with business partners.</p>
<b>VHA Pharmacy Benefits Management Service</b>	<p>The VHA Pharmacy Benefits Management Service (PBM) provides leadership for pharmacy activities in the VHA and provides advice and support regarding pharmacy issues to a wide variety of stakeholders, including Veterans, the Under Secretary for Health, VA medical facility Directors, and clinical staff across the system. VHA PBM works to enhance clinical outcomes and improve the health of Veteran patients through the appropriate use of pharmaceuticals.</p>

<b>VA Office of Research &amp; Development</b>	<p>The VA Office of Research and Development (R&amp;D) is focused on health issues that affect Veterans. It is part of an integrated HCS and has come to be viewed as a model for superior bench-to-bedside research. The VA R&amp;D program has been improving the lives of Veterans and all Americans through health care discovery and innovation.</p>
<b>VHA Advisory Committee on Prosthetics &amp; Special Disabilities</b>	<p>The VHA Advisory Committee on Prosthetics &amp; Special Disabilities (ACPSD) provides advice to the VA Secretary on VA prosthetics and special-disabilities programs; coordination of VA and non-VA programs to develop and test prosthetic devices; and coordination of the informational exchange regarding development and testing of prosthetic devices. VHA ACPSD also serves as the parent VA FAC to the VHA NCAS.</p>
<b>VA Spinal Cord Injury &amp; Disorders National Program</b>	<p>The VA Spinal Cord Injury &amp; Disorders (SCI-D) National Program supports and maintains the health, independence, quality of life, and productivity of Veterans with SCI-D throughout their lives. These objectives are accomplished through rehabilitation, sustaining medical and surgical care; patient and family education; psychological and vocational care; education; and professional training. In addition, VA SCI-D National Program works collaboratively with MSCoE in the care management of Veterans with MS who also have spinal cord lesions and complications.</p>

### External Collaborations & Partnerships

MSCoE collaborations and partnerships with non-VA organizations exist for the purpose of building strong communities, sharing knowledge, and enhancing communication within the MS network to optimize services and resources for Veterans. Services include providing educational materials and programs for HCPs and Veterans, developing strategies to reach people with MS in rural areas, providing fellowship opportunities and experiences, promoting research in MS, and providing networking opportunities. The following organizations are the primary MSCoE external collaborators and partners:

### University Affiliates

Through partnerships with affiliated academic institutions, the VA conducts the largest education and training effort for health professionals in the nation. The MSCoE collaborates with our VA facility university affiliations University of Maryland School of Medicine, University of Washington School of Medicine, Oregon Health and Science University, and Vanderbilt University Medical Center.



## National MS Society



The MSCoE and National MS Society (NMSS) have collaborated since the MSCoE establishment in 2003. As part of the VA's efforts to advance and improve the lives of Veterans with MS, the VA formalized a partnership with the NMSS on March 6, 2019. The partnership continues to support and maintain the VA's national network of MS clinical services, education, and research. The VA and NMSS seek to enhance health services, patient and HCP education, Veteran self-efficacy, and promote whole health goals of Veterans, care partners, and their families.

Progress toward a Memorandum of Agreement (MOA) was accomplished in FY23, with the VA Undersecretary for Health and the President of NMSS jointly signing in FY24. The purpose of the MOA is for VA to be able to formally partner with the NMSS, a community partner, promote and facilitate access for Veterans with MS to high quality MS care by each organization promoting their shared resources to patients and clinicians to optimize and streamline MS care.

## MS Navigator

**Objective:** Empower people affected by MS to solve everyday challenges by providing information, education, and resources to Veterans living with MS and their care partners.

**Performance Measure:** The Society will be a trusted source of resources, support, and connection for clinicians and Veterans living with MS and their care partners, measured by the number of referrals to MS Navigators.

MS Navigator Interactions (Cases) with Veterans

- Access to Healthcare
- Emotional and Mental Health Support
- Employment Support
- Health Insurance
- Social Connection



Poster Session at PVA Summit - Left to Right: Bethany Ferguson, LCSW (VA Staff), Vicki Kowal, NMSS, Alicia Sloan, LCSW (VA Staff)

## Programs and Resources Development & Community Engagement

**Objective:** Empower people affected by MS to solve everyday challenges by providing information, education, and resources to Veterans living with MS and their care partners.

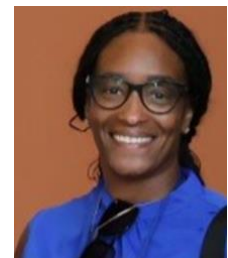
**Performance Measure:** Veterans living with MS and their care partners will be more confident in addressing the challenges of MS and have the knowledge and resources that facilitate self-efficacy and treatment adherence, measured by the number of Society and MSCoE educational collaborations to support Veterans with MS and their care partners, the number of Veterans and their care partners who attended educational Society and MSCoE collaborations, and post-program survey results.

## The International Organization of MS Nurses



The International Organization of MS Nurses (IOMSN) is the first and only international organization focused solely on the needs and goals of professional nurses, anywhere in the world, who care for people with MS. Mentoring, educating, networking, sharing – the IOMSN supports nurses in their continuing effort to offer HOPE. **Ms. Tomicka McMillion,**

**DNP, MSN, RN MSCN,** VA New Jersey HCS, East Orange, NJ, serves as the appointed VA MS Nurse Representative, (2023 - 2026).



Ms. Tomicka McMillion, DNP, MSN, RN MSCN

## Consortium of MS Centers



The Consortium of MS Centers (CMSC) provides leadership in clinical research and education, develops opportunities to share information and knowledge among consortium members, and disseminates information to the health care community and to people affected by MS. The CMSC has been a consistent partner and supporter of the MSCoE and has provided excellent education opportunities for VA HCPs through scholarships to attend the CMSC Annual Meetings, with additional training opportunities for fellows and nurses. During the CMSC annual meetings, the MSCoE is complemented with two sponsored education symposia that are facilitated by VA presenters. The Consortium also provides an opportunity for MSCoE to host an annual VA Business Meeting, host an educational booth in the exhibit hall, and collaborate with the CMSC on the annual Patient Education Program. The CMSC provides complementary consortium membership to all VA employees and a position on the CMSC Board of Governors to a MSCoE representative. Dr. Haselkorn is currently serving as the MSCoE representative.



VA MS Staff attending Highlights from CMSC event in Nashville, TN. Left to Right: Angela Young, MBA, Joyce Williams, LCSW, Annie Altener, LCSW, Tomicka McMillion, DNP, Marquette Lee, LCSW, Keith Walker.

## Can Do MS



Can Do MS is a nonprofit that delivers health and wellness education programs for families with MS. The organization has been at the forefront of promoting the culture and belief that everyone living with MS has the power to live full lives. MSCoE partners with Can Do MS to deliver health and wellness education programs via monthly patient-education webinars and virtual programs.

## Paralyzed Veterans of America

The Paralyzed Veterans of America (PVA) is a Veterans Service Organization (VSO) that holds 34 chapters and 69 National Service Offices



**Paralyzed  
Veterans  
of America**

in the US and Puerto Rico. PVA staff are skilled at working with the unique issues involved with MS care access, disability, and service-connection as well as a variety of recreational opportunities. PVA visits many VA MSCoE Regional Programs as part of its evaluation of SCI-D Centers, providing Veteran and organizational perspectives, highlighting VA MSCoE locally and in the VISN, and recommending opportunities for improvements. PVA representatives are also members of facility internal review boards (IRB), providing a voice for Veteran needs. Dr. Maloni and Dr. Lee-Wilk serve as planning committee members.



MSCoE Exhibit Booth with the PVA "MS Mafia" exhibitors.

## Highlights from PVA Summit - Anaheim, CA



**Keynote Speaker:** Dr. Shareef Elnahal, VA Under Secretary for Health United States Department of Veterans Affairs, nominated by President Joseph R. Biden and confirmed by the United States Senate in 2022.



**Keynote Speaker:** Whitaker Memorial Lecture Dr. Maria Fides Pacheco, Chief Operating Officer, SCI Service Dallas VA Medical Center, Dallas, TX

Maria Fides Pacheco, MD, is the Interim Chief and Director of Clinical Operations at the Dallas VA SCI Center and the Co-Director of the Multiple Sclerosis Regional Program. She completed her PM&R residency and SCI Fellowship at the University of Pittsburgh. She moved to Dallas to do an Advanced Fellowship in Rehab Technology and has been with the VA North Texas Health Care System SCI Center for the past 20 years. She has collaborated with Neurology to develop the MS Clinic into a Regional VA Multiple Sclerosis Center of Excellence. She also serves as the CARF Consultant for the National VA SCI Program Office and has led the Dallas SCI Center in several successful CARF Accreditation Cycles. She has been named “Top Provider in PM&R and SCI” at the Dallas VA, as well as Best Doctor in PM&R in Dallas. Aside from SCI and MS patient care, her expertise is in Program Development and Clinical Operations and lectures on SCI and MS nationally and internationally.



## Clinical Care & Informatics Cores

### MSCoE Clinical Care & Informatics Core Objectives

- Understand the demographics, utilization, locations, and needs of Veterans with MS in the VHA
- Ensure high-quality clinical care across the US for Veterans with MS
- Optimize MS care via a national Network in a hub and spoke stepped model.
- Promote a wellness-first approach to care for Veterans with MS
- Advise for appropriate, safe, and monitored use of MS disease-modifying therapies (DMT)
- Partner for education, support services, outreach, and advocacy

### MS Veteran Demographics, Outpatient & Specialty Care Utilization, & Disease Modifying Therapy Use

Knowing our Veteran population with MS is fundamental to ensuring the high quality of their care. MSCoE obtains and synthesizes demographic and utilization data for a confirmed cohort of Veterans with MS. For the following tables, a Veteran is counted as having MS if they have had three MS encounters (Inpatient/Outpatient/Prescription [Rx]) within any year (Culpepper WJ, et al Neurology 2019 DOI: 10.1212/WNL.0000000000007043). The data is confirmed using the VA Computerized Patient Record System (CPRS), MS Surveillance Registry (MSSR), MS Repository, VHA Pharmacy Benefits Management (PBM), and other data streams, either taking an MS-specific therapy or at least one encounter per year with a primary diagnosis of MS.

#### MS Veteran Demographics

Clinical Care/Informatics Table 1 shows total numbers of Veterans with MS nationally, in VISNs containing MSCoE East (VISN 5) and MSCoE West (VISN 20), in the combined MSCoE VISNs, and by other VISNs. Methods to count Veterans with MS include using the algorithm described above and by International Statistical Classification of Diseases and Related Health Problems (ICD) codes, by Veterans served at MS clinics identified by the 344 MS Service Clinic Stop Code, and by entry into the MSSR. **Lower numbers of Veterans identified by MS Service Clinic stop code and by MSSR entry highlight geographic areas needing additional support for these efforts.**

**Clinical Care/Informatics Table 1: FY22-24 Numbers of Veterans with MS seen in the VA system by VISN based on ICD Code, MS Service Clinic Stop Code 344, and MSSR.**

VISN	FY22			FY23			FY24			Unique Veterans	% to the Cube Data
	Unique MS Veterans Collected by VSSC Neurology Cube	Unique Veterans Received MS Service Clinic Stop Code 344, n (% of Cube totals)	Registered at MSSR (n, % of Cube totals)	Unique MS Veterans Collected by VSSC Neurology Cube	Unique Veterans Received MS Service Clinic Stop Code 344, n (% of Cube totals)	Registered at MSSR (n, % of Cube totals)	Unique MS Veterans Collected by VSSC Neurology Cube	Unique Veterans Received MS Service Clinic Stop Code 344, n (% of Cube totals)	% to the Cube Data		
Total	19,172	3,990 (21)	2,858 (15)	18,619	4,740 (25)	3,277 (18)	18,353	5,471	30%	3,608	20%
5: MScOE East	792	597 (75)	539 (68)	783	732 (93)	605 (77)	801	754	94%	645	81%
20: MScOE West	1,324	675 (51)	757 (57)	1,252	703 (56)	773 (62)	1,223	686	56%	763	62%
<b>ALL MScOE East</b>	<b>9,989</b>	<b>1,831 (18)</b>	<b>1,551 (16)</b>	<b>9,727</b>	<b>2,388 (25)</b>	<b>1,843 (19)</b>	<b>9,659</b>	<b>2,894</b>	<b>30%</b>	<b>2,130</b>	<b>22%</b>
<b>ALL MScOE West</b>	<b>9,603</b>	<b>2,159 (22)</b>	<b>1,295 (13)</b>	<b>9,275</b>	<b>2,356 (25)</b>	<b>1,414 (15)</b>	<b>9,184</b>	<b>2,578</b>	<b>28%</b>	<b>1,452</b>	<b>16%</b>
1	880	94 (11)	19 (2)	838	116 (14)	63 (8)	820	113	14%	81	10%
2	934	185 (20)	417 (45)	881	231 (26)	429 (49)	857	190	22%	461	54%
4	962	75 (8)	139 (14)	978	98 (10)	156 (16)	1,005	89	9%	175	17%
6	1,419	177 (12)	89 (6)	1,395	207 (15)	92 (7)	1,424	248	17%	130	9%
7	1,327	295 (22)	226 (17)	1,312	407 (31)	278 (21)	1,322	552	42%	308	23%
8	1,748	35 (2)	64 (4)	1,697	158 (9)	73 (4)	1,674	188	11%	99	6%
9	805	148 (18)	15 (2)	763	184 (24)	15 (2)	756	140	19%	18	2%
10	1,687	228 (14)	34 (2)	1,603	262 (16)	132 (8)	1,592	630	40%	213	13%
12	946	446 (47)	16 (2)	900	533 (59)	39 (4)	887	508	57%	50	6%

15	746	13 (2)	21 (3)	733	30 (4)	21 (3)	743	51	7%	21	3%
16	1,132	277 (24)	28 (2)	1,103	343 (31)	30 (3)	1,126	339	30%	28	2%
17	1,196	0 (0)	195 (16)	1,156	0 (0)	210 (18)	1,067	0	0%	221	21%
19	1,327	263 (20)	208 (16)	1,286	283 (22)	268 (21)	1,324	350	26%	288	22%
21	937	0 (0)	15 (2)	923	0(0)	14 (2)	908	1	0.11%	18	2%
22	1,446	382 (26)	34 (2)	1,403	338 (24)	38 (3)	1,378	517	38%	39	3%
23	1,034	105 (10)	21 (2)	984	131 (13)	21 (2)	970	128	13%	24	2%

Source: ICD codes are from the VHA Support Service Center Neurology Cube. ICD codes are from the VA CDW.

Clinical Care/Informatics Table 2 contains the demographics of Veterans with MS. In FY23 they are on average 74% male, age of 60, and predominantly White (71%). Two-thirds are classified as relapsing-remitting (RRMS) subtype or clinically isolated syndrome (CIS), while the remaining third have progressive subtypes (secondary progressive MS and primary progressive MS). A third of Veterans with MS live in rural locations.

Both age and rurality are important considerations for selecting appropriate MS therapies for Veterans given less favorable benefit to risk balance with advancing age, and less access to infusion centers in rural locations.

Clinical Care/Informatics Table 2: FY21-23 demographics of Veterans with an MS diagnosis in the VA system. <sup>1</sup>

Demographic Variable	FY21	FY22	FY23	FY24 #Patients	FY24 % to Overall
N (number of Veterans with MS)	19,806	19,079	18,619	18,353	NA
Female	25%	25%	26%	4,867	26.52%
Average age males, years	66	62	61	59	NA
Average age females, years	57	56	55	51	NA
Caucasian	77%	72%	71%	12,882	70.19%
Black	20%	19%	19%	3,645	19.86%
Rural	33%	31%	32%	5,969	32.52%
Operation Enduring Freedom/ Operation Iraqi Freedom	7%	7%	7%	0	0.00%
Veterans represented in the MSSR	NA	NA	3473	3,608	NA
Veterans in MSSR with subtype (used for subtype %)	NA	NA	3221	3,549	98.36%

<sup>1</sup> Data source: VA Corporate Data Warehouse (CDW) tables describing patient by station and related tables. \*Data for MS subtype from the MS Surveillance Registry (MSSR), accessed 3/4/2024.

Demographic Variable	FY21	FY22	FY23	FY24 #Patients	FY24 % to Overall
MS subtype: Clinically Isolated Syndrome*, n (%)	NA	NA	148 (5)	222	6.15%
MS subtype: Relapsing Remitting MS*, n (%)	NA	NA	1895 (59)	1,959	54.30%
MS subtype: Secondary Progressive MS*, n (%)	NA	NA	876 (27)	912	25.28%
MS subtype: Primary Progressive MS*, n (%)	NA	NA	302 (9)	412	11.42%

### MS Veteran Density and Distance to MS Clinical Hub

FY24 density of Veterans with MS and distance to VA MS Clinical Hubs (formerly called Regional Programs) are shown in Figures 1 and 2 below. Areas of Veteran population without a Clinical Hub and with long driving distances in the Western United States highlight unmet MS clinical needs. These areas demonstrate priority needs for increased MS staffing including Telehealth. These figures and other quality indicators regarding community care are in preparation for publication.

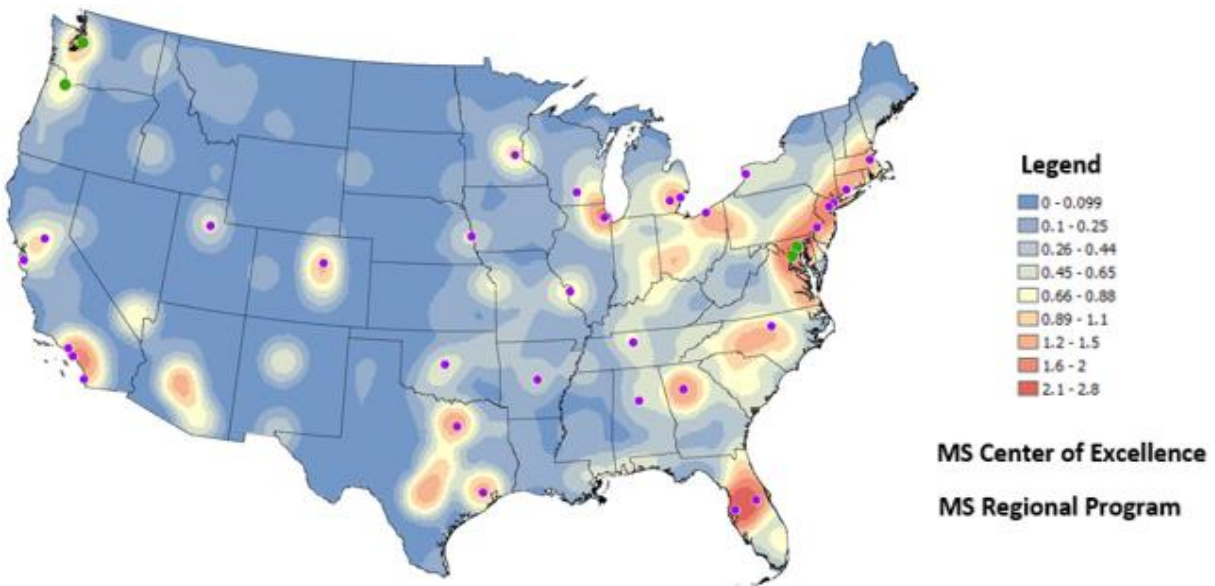


Figure 1. FY24 population density of Veterans with MS and location of MS Centers of Excellence and VISN-level Regional Programs. IDEAS Center, Veterans Affairs Salt Lake City Health Care System, Salt Lake City, UT (publication pending).

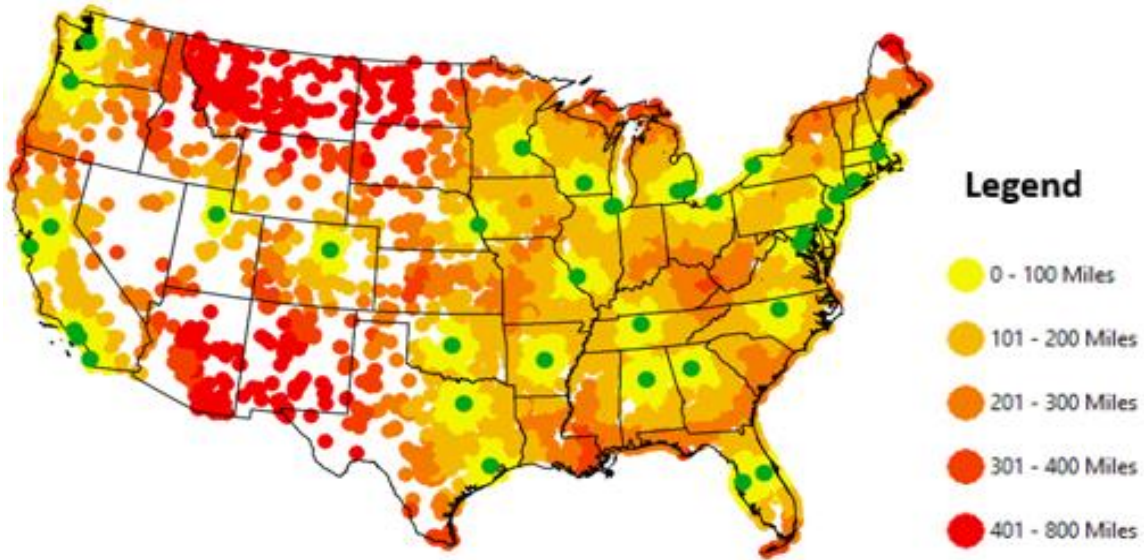


Figure 2. FY23 driving distance for Veterans with MS and location of MS Centers of Excellence and Clinical Hubs. IDEAS Center, Veterans Affairs Salt Lake City Health Care System, Salt Lake City, UT (publication pending).

## MS Veteran Outpatient & Specialty Care Utilization

Veterans with MS are high utilizers of medical care with an average 39 outpatient visits/year (See Clinical Care/Informatics Table 3 below). Most Veterans with MS are seen by neurologists; however, some are seen instead or additionally by Rehab Physicians and SCI-D programs (Clinical Care/Informatics Table 4). Community Care is utilized widely by Veterans with MS (Clinical Care/Informatics Table 5). *FY23 analyses indicated that Veterans with MS care only at VA facilities have greater odds ratios of receiving DMT and MRI surveillance than Veterans receiving MS care only through Community Care neurologists (publication pending).*

## MS Outpatient Care Visits

Clinical Care/Informatics Table 3: FY20-24 Totals of unique Veterans with MS and unique outpatient visits in the VA nationally.<sup>2</sup>

FY	Unique Outpatient Visits (n)	Unique Veterans with MS (n)	Average Visits/Veteran
2024	732,683	18,353	39.9
2023	725,010	18,619	38.9
2022	742,402	19,172	38.7
2021	770,448	19,806	38.9
2020	813,702	22,456	36.2

Multiple Sclerosis Cohort Unique's by VISN. Populated using the VSSC Neurology dashboard.

Multiple Sclerosis Cohort Unique's by VISN					
VISN	FY20	FY21	FY22	FY23	FY24
Totals	22,456	19,805	19,172	18,619	18,270
V01	1,038	917	880	838	815
V02	1,104	990	934	881	847
V04	1,126	986	962	978	993
V05	904	795	792	783	792
V06	1,648	1,441	1,419	1,395	1,410
V07	1,529	1,363	1,327	1,312	1,310
V08	1,962	1,762	1,748	1,697	1,663
V09	927	826	805	763	749
V10	1,960	1,727	1,687	1,603	1,573
V12	1,101	982	946	900	880
V15	872	778	746	733	737
V16	1,274	1,126	1,132	1,103	1,121
V17	1,388	1,233	1,196	1,156	1,155
V19	1,582	1,386	1,327	1,286	1,309
V20	1,547	1,389	1,324	1,252	1,214
V21	1,083	992	937	923	897
V22	1,753	1,505	1,446	1,403	1,371
V23	1,228	1,079	1,034	984	965

<sup>2</sup> Data source: VHA Support Service Center Neurology Cube Neurology Cube

Total Number of clinics associated with the MS (344) Primary Stop Code, using the [VSSC access team Clinic build report](#) to identify how many Clinics are currently set up with a (344) Multiple Sclerosis stop code.

VISN	MS-RSP-EAST	Active (344) Clinics
1	West Haven, CT	4
2	East Orange NJ	0
2	Bronx, NY	2
4	Pittsburg, PA	0
4	Philadelphia, PA	1
5	Washington, DC	10
5	Baltimore, MD	9
6	Durham, NC	0
6	Salisbury, NC	1
7	Birmingham, AK	4
7	Decatur (Atlanta), GA	4
8	Miami, FL	1
8	Tampa, FL	2
8	Puerto Rico (Caribbean or San Juan), PR	0
9	Nashville, TN	1
10	Ann Arbor, MI	0
10	Detroit, MI	0

VISN	MS-RSP-WEST	Active (344) Clinics
12	Hines, IL	3
12	Chicago, IL	4
12	Milwaukee, WI	2
12	Madison, WI	1
15	Saint Louis, MO	1
16	Houston, TX	3
17	Dallas, TX	0
19	Aurora (Denver), CO	1
19	Oklahoma City, OK	7
19	Salt Lake City, UT	2
20	Portland, OR	14
20	Seattle, WA	7
21	Mather (Sacramento), CA	0
21	Palo Alto, CA	2
22	Long Beach, CA	4
22	Los Angeles, CA	2
22	San Diego CA	0
23	Minneapolis, MN	2

## MS Specialty Care Visits

Clinical Care/Informatics Table 4: Veterans with MS seen in national specialty care FY 20-24 visits to Neurology, Rehabilitation (Rehab) Physicians, and SCI-D programs with MS as primary or secondary diagnosis.<sup>3</sup>

FY	Veterans with MS Seen by Providers in Neurology, Rehab Physicians, and SCI-D		Percent of All MS Veterans	Veterans Encounters with MS Provider	As % of all Outpatient Encounters
24	Neurology	8,467	46.13%	19,854	2.71%
	Rehab Physicians	1,154	6.29%	3,076	0.42%
	SCI-D	3,589	19.56%	49,655	6.78%
23	Neurology	8,402	45.10%	19,469	2.70%
	Rehab Physicians	1,119	6.01%	2,966	0.40%
	SCI-D	3,554	19.10%	48,012	6.60%
22	Neurology	8,417	43.90%	19,604	2.60%
	Rehab Physicians	1,133	5.90%	2,718	0.40%
	SCI-D	3,470	18.10%	46,688	6.30%
21	Neurology	7,824	39.50%	17,739	2.30%
	Rehab Physicians	1,152	5.80%	2,600	0.30%
	SCI-D	3,596	18.20%	46,198	6.00%
20	Neurology	8,807	39.20%	18,720	2.30%
	Rehab Physicians	1,303	5.80%	3,216	0.40%
	SCI-D	3,654	16.30%	49,559	6.10%

<sup>3</sup> Data source: VHA Support Service Center Neurology Cube Neurology Cube

**Clinical Care/Informatics Table 5: Office of Community Care (OCC) utilization by Veterans with MS FY22-FY24.**  
 Data from OCC, VACO. Abbreviations: Pt: patients; Enc.: Encounters; \*Numbers covered OCC services after payment was made for the encounter.

Location	FY23: # OCC					FY24: # OCC					FY24: Mean	
	FY23: # Veterans with MS Received OCC	Service Records from Veterans with MS Received OCC	# OCC Service Records from Veterans with MS Received	FY23: # OCC Visits from Veterans with MS Received OCC	FY23: Mean # OCC Visits from Veterans with MS Received OCC	FY24: # Veterans with MS Received OCC	FY24: # OCC Service Records from Veterans with MS Received OCC	# OCC Service Records from Veterans with MS Received	FY24: # OCC Visits from Veterans with MS Received OCC	FY24: Mean # OCC Visits from Veterans with MS Received OCC	FY24: # OCC Referrals from Veterans with MS Received OCC	FY24: Mean # OCC Referrals from Veterans with MS Received OCC
<b>Total</b>	10,988	1,497,801	136.31	169,097	15.39	11,146	1,482,343	132.99	1,017,243	91.27	41,327	3.71
East	5,413	670,064	123.79	77,441	14.31	5500	665,374	120.98	464,691	84.49	18,883	3.43
West	5,658	827,737	146.29	91,656	16.20	5728	816,969	142.63	552,552	96.47	22,446	3.92
VISN 1	446	53,685	120.37	6,250	14.01	450	53,776	119.50	36,513	81.14	1,588	3.53
VISN 2	367	45,986	125.30	3,528	9.61	351	38,157	108.71	31,458	89.62	901	2.57
VISN 4	455	46,372	101.92	6,241	13.72	444	49,472	111.42	32,296	72.74	1,470	3.31
VISN 5	385	43,672	113.43	4,949	12.85	403	50,457	125.20	27,442	68.09	1,257	3.12
VISN 6	788	89,356	113.40	11,025	13.99	833	88,463	106.20	60,213	72.28	2,715	3.26
VISN 7	791	80,988	102.39	10,229	12.93	838	83,558	99.71	53,823	64.23	2,948	3.52
VISN 8	922	131,938	143.10	12,390	13.44	949	135,373	142.65	102,824	108.35	3,103	3.27
VISN 9	493	50,168	101.76	8,337	16.91	492	51,870	105.43	31,158	63.33	1,849	3.76
VISN 10	884	127,899	144.68	14,492	16.39	872	114,248	131.02	88,964	102.02	3,064	3.51
VISN 12	486	86,368	177.71	7,438	15.30	487	83,838	172.15	64,638	132.73	1,803	3.70
VISN 15	448	46,766	104.39	7,589	16.94	431	43,134	100.08	29,075	67.46	1,575	3.65
VISN 16	713	78,358	109.90	11,566	16.22	746	87,866	117.78	55,851	74.87	3,031	4.06
VISN 17	691	98,410	142.42	11,043	15.98	727	100,741	138.57	71,899	98.90	2,634	3.62
VISN 19	832	140,008	168.28	15,464	18.59	826	121,124	146.64	78,472	95.00	3,470	4.20
VISN 20	808	105,758	130.89	13,432	16.62	848	99,785	117.67	56,547	66.68	3,408	4.02
VISN 21	468	56,996	121.79	6,740	14.40	446	58,197	130.49	41,120	92.20	1,605	3.60
VISN 22	715	94,755	132.52	8,449	11.82	706	110,872	157.04	77,030	109.11	2,448	3.47
VISN 23	597	120,318	201.54	9,935	16.64	635	111,412	175.45	77,920	122.71	2,476	3.90

## Clinical Care Interfacility Virtual Consults

Interfacility consults (IFC) are a mechanism for smaller MS programs to receive intermittent help with managing complex MS care via e-consults and virtual visits. Reasons for IFCs can include diagnosis confirmation, help with initiating or switching DMT, and symptomatic management. MSCOe East and West serve as models of regional MS care by providing IFCs within VISNs 5 and 20, respectively. Consults utilize telehealth (e-consults and Veteran Video Connect consultations). Informal consultation to Veteran providers by email is also utilized until a formal IFC tract is in place. **In FY24, Portland completed 14 IFC from 4 sites in VISN 20 and 4 additional sites outside the VISN. IFC is the model by which MS care will ultimately reach every Veteran with MS, regardless of home location.**

## Disease Modifying Therapy Use

Approximately 54% of Veterans with MS are currently prescribed a DMT with greater percentages in Veterans less than 60 years old, consistent with known greater efficacy of DMT at younger ages (Clinical Care/Informatics Table 6). Specific DMT use prescribed within the VA system is listed in Clinical Care/Informatics Table 7. Of those taking DMT, one-third are taking high-efficacy DMT. MSCOe works closely with VHA PBM to promote rapid adoption of generic medications, resulting in half of Veterans taking DMT taking a generic formulation. Cost savings from conversion of brand Betaseron® to lower cost Extavia® in FY21 saved \$548,310. Conversion of brand Tecfidera® to generic dimethyl fumarate saved \$24,450,887 between July 2021 and February 2022.

Clinical Care/Informatics Table 6: FY23-24 Percentage of Veterans with MS in the MSSR taking DMT by age group.

FY 2024 Age Group (yrs.)	Total MSSR Pts	% Each Age Group Over Total	MSSR Pts Ever Taking a DMT	% Each Age Group Ever Taken a DMT	MSSR Pts Currently Taking a DMT	% Each Age Group Currently Taking a DMT
<b>All ages</b>	3,608	100.00%	2,787	77.25%	1,928	53.44%
<b>21-30</b>	17	0.47%	15	88.24%	14	82.35%
<b>31-40</b>	257	7.12%	234	91.05%	201	78.21%
<b>41-50</b>	541	14.99%	484	89.46%	417	77.08%
<b>51-60</b>	818	22.67%	716	87.53%	568	69.44%
<b>61-70</b>	867	24.03%	671	77.39%	438	50.52%
<b>71-80</b>	860	23.84%	568	66.05%	254	29.53%
<b>81+</b>	212	5.88%	95	44.81%	35	16.51%
FY 2023 Age Group (yrs.)	Total MSSR Pts	% Each Age Group Over Total	MSSR Pts Ever Taking a DMT	% Each Age Group Ever Taken a DMT	MSSR Pts Currently Taking a DMT	% Each Age Group Currently Taking a DMT
<b>All ages</b>	3,300	100.00%	2,545	77.12%	1,766	53.50%
<b>21-30</b>	53	1.61%	45	84.91%	38	71.70%
<b>31-40</b>	338	10.24%	297	87.87%	256	75.70%
<b>41-50</b>	598	18.12%	533	89.13%	453	75.80%
<b>51-60</b>	829	25.12%	673	81.18%	519	62.60%
<b>61-70</b>	826	25.03%	599	72.52%	351	42.50%
<b>71-80</b>	544	16.48%	368	67.65%	141	25.90%
<b>81+</b>	111	3.36%	30	27.03%	8	7.20%

Clinical Care/Informatics Table 7: Unique prescriptions for Veterans with MS taking specific DMTs, by year FY19-24. Numbers do not reflect prescriptions provided to Veterans with MS receiving their MS care through the Office of Community Care. Not applicable (NA) is used when the year is prior to FDA-approval. <sup>4</sup>

Medication Class oral & injectables	DMT Name	FY19	FY20	FY21	FY22	FY23	FY24
Glatiramer	Glatiramer Acetate (generic, Glatopa®, Copaxone®)	1,914	1,707	1,561	1,362	1,196	977
Interferons	Interferon Beta-1a (Avonex®, Rebif®)	1,131	979	836	708	576	726
	Peginterferon Beta-1a (Plegridy®)	43	41	2	4	30	135
	Interferon Beta-1b (Extavia®, Betaseron®)	270	226	195	162	125	549
Fumarates	Dimethyl Fumarate (generic, Tecfidera®)	2,084	1,973	1,967	1,832	1,691	1,502
	Diroximel Fumarate (Vumerity®)	0	3	26	35	36	43
	Monomethyl Fumarate (Bafiertam™)	NA	0	0	0	0	4
S1P inhibitors	Fingolimod (Gilenya®)	477	453	419	396	362	710
	Ozanimod (Zeposia®)	NA	2	9	19	41	47
	Ponesimod (Ponvory™)	NA	NA	1	1	2	2
	Siponimod (Mayzent®)	2	22	37	59	55	63
B cell depleting agents	Ofatumumab (Kesimpta®)	NA	NA	31	74	190	334
Other	Cladribine (Mavenclad®)	14	9	15	18	18	14
	Teriflunomide (Aubagio®)	468	562	611	620	640	628
<b>Medication Class infusions</b>	<b>Total oral and injectable DMT</b>	<b>6,403</b>	<b>5,977</b>	<b>5,708</b>	<b>5,286</b>	<b>4,962</b>	<b>4646</b>
B cell depleting agents	Ocrelizumab (Ocrevus™)	651	1,098	1,279	1,489	1,849	1705
	Rituximab (Rituxan®, biosimilar Truxima)	407	525	512	514	398	504
	Ublituximab (Briumvi™)	NA	NA	NA	NA	0	48
Other	Alemtuzumab (Lemtrada®)	27	51	1	0	56	2
	Natalizumab (Tysabri®)	335	270	217	190	155	134
<b>Total Infusion DMT</b>	<b>Total Infusion DMT</b>	<b>1,420</b>	<b>1,944</b>	<b>2,008</b>	<b>2,193</b>	<b>2,458</b>	<b>2393</b>
<b>Total DMT</b>	<b>Total DMT</b>	<b>7,823</b>	<b>7,921</b>	<b>7,716</b>	<b>7,479</b>	<b>7,420</b>	<b>7039</b>

<sup>4</sup> Data source: Neurology Cube, MSSR

## MSCoE Management of DMT

The MSCoE Clinical Core reviews the latest literature regarding DMT and symptomatic treatments for MS at quarterly meetings. MSCoE shares updates with the MSCoE Network via a variety of academic (abstracts, manuscripts, invited lectures) and internal communications (patient and provider e-letters, podcasts, webinars, Network meetings). **In FY23, the Clinical Core partnered with VA PBM to update Veteran-focused DMT treatment guidance and a DMT comparison document which was disseminated in FY24.**

## Telehealth Utilization

Telehealth is an essential method of providing MS care in the hub and spoke MSCoE Network. Telehealth utilization including video encounters and telephone encounters remained robust in FY21-24, despite lifting of COVID-19 pandemic in-person visit restrictions, highlighting the ongoing need for telehealth in MS care.

Clinical Care Informatics Table 8: Telehealth Utilization for FY21 - FY24

Telehealth Variable	FY21 Veterans with MS Having At Least One of the Defined Encounters , n	FY21 Total Encounters , n (mean encounters per veteran)	FY22 Veterans with MS, n	FY22 Total Encounters , n (mean encounters per veteran)	FY23 Veterans with MS, n	FY23 Total Encounters, n (mean encounters per veteran)	FY24 Veterans with MS, n	FY24 Total Encounters , n (mean encounters per veteran)
Outpatient encounters	19,783	NA	19,172	742,402 (39)	18,619	725,010 (39)	20,967	
Telehealth encounters	18,955	355,107 (19)	17,767	295,926 (17)	17,254	279,457 (16)	19,462	310,555 (16)
Telehealth encounters using video	10,440	76,068 (7)	9,875	67,558 (7)	9,625	61,036 (6)	10,337	61,690 (6)
Telehealth encounters using telephone	18,582	249,930 (14)	17,170	199,350 (12)	16,619	189,034 (11)	15,199	172,882 (11)

## MS & COVID-19 Cases in the VA

Cumulative to the end of FY22, 3.2% of Veterans with MS had incident COVID-19. An additional 2.8% of Veterans with MS had a new case of COVID-19 in FY23. COVID-19 was the reason for hospitalization among 10.5% of all hospitalizations occurring in Veterans with MS through FY22, and for 15% of Veterans with MS in FY23. COVID-19 was the reason for death for 12% of deaths in Veterans with MS through FY22 and 19% of deaths in FY23. Table 9 shows the breakdown between VISNs of these statistics.<sup>5</sup>

---

<sup>5</sup> Source: VA CDW

Clinical Care/Informatics Table 9. MS Veterans with COVID-19 (COVID-MS) from FY22- FY24 by VISN. Inpatient COVID-MS cases and deaths due to COVID in Veterans with MS from FY22-24.

VISN	COVID-MS FY22  (n, % of all Veterans with MS)	COVID-MS FY23  (n, %)	COVID-MS FY24  (n, %)	Inpatient COVID-MS FY22  (n, % of all inpatient visits for Veterans with MS)	Inpatient COVID-MS FY23  (n, %)	Inpatient COVID-MS FY24  (n, %)	COVID-MS Deaths FY22  (n, % of all deaths among Veterans with MS)	COVID-MS Deaths FY23  (n, %)	COVID-MS Deaths FY24  (n, %)
<b>Total</b>	<b>627 (3.2%)</b>	<b>526 (2.8%)</b>	<b>436</b>	<b>195 (10.5%)</b>	<b>369 (15%)</b>	<b>142</b>	<b>74 (11.8%)</b>	<b>124 (19%)</b>	<b>148 (33.9%)</b>
1	33 (3.5%)	19 (2.3%)	24	7 (9.5%)	16 (19%)	5	4 (12.1%)	5 (23%)	10
2	54 (5.4%)	28 (3.2%)	24	23 (13.4%)	25 (14%)	12	11 (20.4%)	9 (30%)	9
4	41 (4.2%)	22 (2.2%)	29	10 (13.5%)	18 (12%)	8	3 (7.3%)	9 (23%)	11
5	30 (3.8%)	24 (3.1%)	17	5 (7.9%)	18 (20%)	7	2 (6.7%)	7 (27%)	9
6	51 (3.5%)	37 (2,7%)	36	8 (10.1%)	18 (13%)	6	4 (7.8%)	6 (14%)	6
7	56 (4.2%)	19 (1,4%)	25	11 (10.6%)	18 (14%)	8	5 (8.9%)	5 (15%)	7
8	103 (5.8%)	70 (4.1%)	38	22 (11.5%)	60 (21%)	22	4 (3.9%)	14 (25%)	18
9	38 (4.6%)	24 (3.1%)	16	4 (4.3%)	14 (15%)	6	1 (2.6%)	7 (21%)	3
10	69 (4.0%)	44 (2,7%)	39	16 (11.1%)	26 (16%)	9	12 (17.4%)	10 (15%)	11
12	40 (4.1%)	19 (2.1%)	23	5 (4.8%)	21 (14%)	9	3 (7.5%)	8 (21%)	4
15	34 (4.4%)	30 (4.1%)	11	9 (12.7%)	16 (15%)	7	3 (8.8%)	5 (23%)	7
16	52 (4.6%)	19 (1.7%)	18	15 (16.7%)	10 (8%)	1	3 (5.8%)	1 (3%)	5
17	28 (2.3%)	21 (1.8%)	19	8 (9.1%)	12 (13%)	6	3 (10.7%)	3 (15%)	6
19	42 (3.0%)	27 (2.1%)	19	8 (9.3%)	17 (14%)	3	2 (4.8%)	3 (8%)	6
20	31 (2.2%)	20 (1.6%)	14	11 (15.5%)	13 (13%)	3	1 (3.2%)	8 (17%)	7

21	37 (3.7%)	21 (2.3%)	15	8 (10.0%)	14 (11%)	3	2 (5.4%)	3 (12%)	6
22	86 (5.7%)	55 (3.9%)	43	17 (9.6%)	38 (15%)	21	8 (9.3%)	15 (29%)	12
23	54 (5.0%)	27 (2.7%)	26	8 (10.3%)	15 (11%)	6	3 (5.6%)	7 (23%)	11

Clinical Care/Informatics Table 10. FY23 Demographic and clinical characteristics of Veterans with MS and COVID-19. Data are presented for all patients and by clinical outcome severity. Data source: VA CDW and MSSR.

Demographics	Overall (N 282)	Not Hospitalized (n = 192)	Hospitalization (n = 90)	ICU and/or ventilator support (n = 32)	Death (n = 12)
Female	71 (25%)	49 (26%)	22 (24%)	9 (28%)	1 (9%)
Male	211 (75%)	143 (74%)	67 (66%)	23 (72%)	11 (91%)
Age, Mean (SD), y	58.72 (13.41)	56.23 (13.26)	64.02 (12.18)	64.31 (10.97)	74.17(7.42)
<b>Race</b>					
White	198	130	68	25	11
Black	77	55	22	7	1
Asian	3	3	0	0	0
Native American	2	2	0	0	0
Other	2	2	0	0	0
<b>US Census Region</b>					
Continental	44	24	20	7	4
Midwest	65	43	22	9	3
North Atlantic	61	48	13	6	3
Pacific	61	43	18	5	1
Southeast	51	34	17	5	1

## Clinical Demonstration Projects

Clinical Demonstration Projects focus efforts on pressing aspects of MS clinical care for Veterans.

FY24 Clinical Demonstration Projects	Met Expectations	In Progress	Description
1. Quality Indicators: MS diagnosis, MS subtype, discussion of DMT in clinical notes. <b>Initiated FY21</b>		X	<p><b>FY21:</b> A baseline evaluation based on a random sampling of 1,300 chart notes by the company Quality Insights® showed MS diagnosis in 97% of notes, MS subtype in 49% of notes, and DMT discussion in 71%.</p> <p><b>FY22:</b> Education campaign to increase use</p> <p><b>FY23:</b> Re-evaluation with marginal improvement. CPRS clinical note templates initiated.</p> <p><b>FY24:</b> Clinical note templates published and promoted (through <b>FY25</b>).</p> <p><b>FY25 Plan:</b> re-evaluated quality indicators</p>
2. CPRS clinical note templates. <b>Initiated FY23</b>	X		Templates initiated FY23, deployed FY24. (See #1)
3. Standardized MS MRI acquisition protocol. <b>Initiated FY 22</b>		X	<p><b>FY22:</b> Creation of a standardized MRI acquisition protocol by the Research Core.</p> <p><b>FY23:</b> Completed meetings with 22 MSCoE and Network radiology department to share the protocol.</p> <p><b>FY24:</b> Protocol disseminated to additional 10-15 Network sites.</p> <p><b>FY25 PLAN:</b> Publication of protocol</p>
4. MSSR/COVID Project		X	<p><b>FY22:</b> COVID status added to MSSR.</p> <p><b>FY23:</b> Veterans with MS and COVID were entered into MSSR by MSCoE and Network members. Interim analyses are presented in Clinical Care/Informatics Table 10.</p> <p><b>FY24:</b> Entry of Veterans in focus VISN5.</p> <p><b>FY25 Plan:</b> Analysis and publications planned.</p>

## Research Core

### MSCoE Research Core Objectives

- Conduct clinical science, health services, rehabilitation, and biomedical laboratory research relevant to the care of Veterans with MS.
- Disseminate research findings through publications, presentations, abstracts, and clinical practice guidelines.
- Enhance collaboration among VA medical facilities and increase the participation of Veterans in research activities.
- Provide research mentorship for the next generation of VA MS scientists.

### About The MSCoE Research Core

The MSCoE Research Core is characterized by several key strengths that contribute to our overall success:

**High Level of Cooperation:** Regular monthly meetings between MSCoE-East and MSCoE-West, along with quarterly research meetings involving other Network investigators, foster a collaborative environment.

**Diverse Research Portfolio:** Our extensive and heterogeneous research portfolio encompasses various fields, including Biomedical Laboratory, Clinical Science, Health Services, and Rehabilitation Services.

**High Productivity:** We demonstrate significant productivity as measured by national and international standards, including:

- The number of publications in peer-reviewed journals.
- The number of awarded grants.
- The frequency of presentations by our investigators and their fellows at national and international conferences.
- Research accolades such as special awards.
- Active participation in grant peer-review committees, including NIH, VA, and the National MS Society.
- Leadership roles in national and international conferences.

**Academic Affiliations:** Our academic partnerships enhance MSCoE's research accomplishments, further solidifying our position as leaders in the field.

**Accomplishments of the MSCoE Research Core are listed in the following appendices:**

- [Appendix C](#). FY24 MSCoE Multi-site and FY24 MSCoE Single PI Research Projects
- [Appendix D](#). FY24 MSCoE Research Publications
- [Appendix E](#). FY24 MSCoE Research Posters
- [Appendix F](#). FY24 MSCoE Research Conference Presentations and Invited Talks.

## FY24 Highlighted Research Projects

FY23 achieved completion of a modified Delphi panel process to identify MS research priorities among Veterans with MS and MS providers and researchers within the VA system. Results were presented internally and will be published in FY24 (PI: L. Wooliscroft)

FY23 initiated participation in the multi-site CAFÉ-MS study, “Confirmatory Trial for Alleviating Fatigue with Elevida in Multiple Sclerosis (MS)”. MSCoE participating sites are Washington, DC, Baltimore, MD, Nashville, TN, Portland, OR, and Puget Sound, WA. This study is funded through the Department of Defense and is a partnership with Accelerated Cure Project and IConquer MS. The VA is expected to enroll approximately 500 Veterans with MS and fatigue (Lead VA PI M. Wallin, site PIs D. Harrison, F. Bagnato, C. Hollen, R. Spain, J. Haselkorn, A. Turner).

## MSCoE-National MS Society Partnership: RESEARCH

### VA Clinicians Serving on FY24 Research Committees

- Rebecca Spain- Portland VA- Wellness Research Group
- Mitchell Wallin, MD, MPH- MS Prevalence Work Team

### VA-Related Research Grants Funded FY24

- **Michelle Cameron, MD, PT** - Oregon Health & Science University. 10/1/19-7/31/23, extended to 7/31/24. A Randomized Controlled Trial of a Multicomponent Walking Aid Program for People with MS.
- **Aaron Turner, PhD** - The Seattle Collaborative Fellowship. 7/1/18-6/30/23, extended to 6/30/24. Researchers at the University of Washington and VA Puget Sound are training a series of promising professionals in how to conduct MS rehabilitation research.
- **Rebecca Spain, MD, MSPH** - Oregon Health & Science University. 10/1/17-9/30/24. Investigators are conducting a clinical trial to determine if the oral supplement, lipoic acid, is an effective treatment for progressive forms of multiple sclerosis.
- **Francesca Bagnato, MD, PhD** - Vanderbilt University Medical Center Nashville. 10/1/2019-9/30/2024. 7T-rings as a biomarker of disease severity in multiple sclerosis: cross-sectional and longitudinal validation. Vanderbilt University researchers are testing whether an indicator found using powerful imaging tools can – if found early – serve to predict and ultimately prevent a more severe course of MS.
- **Olaf Stuve, MD, PhD** - The University of Texas Southwestern Medical Center. 10/1/22-9/30/25. Deciphering choroid plexus volume changes in multiple sclerosis. University of Texas Southwestern Medical Center scientists are studying a structure in the brain called the choroid plexus to determine if it is an indicator of MS disease stage and a site of entry into the brain for particular subsets of inflammatory cells. 3
- **Jennifer Graves, MD, PhD** - University of California San Diego. 4/1/23-3/31/26. Biological Age in the Pediatric MS Population. A team at the University of California, San Diego is studying aging in children with and without MS for clues to stopping the effects of aging on the course of MS.

## Education & Training Core

### MSCoE Education & Training Core Objectives

- Provide a national program of MS education for HCPs, Veterans, and care partners to improve knowledge, enhance access to resources, and promote Veteran self-efficacy and treatment adherence.
- Collaborate with VSOs, MS organizations, and community healthcare institutes to increase educational opportunities, share knowledge, and expand participation.
- Utilize the MSCoE website to provide enduring educational programs, opportunities, and outreach.
- Coordinate physician and psychology fellowships to develop expertise in MS healthcare.

### About MSCoE Education & Training Core

In alignment with the VA’s “Mission Act Implementation” and “Customer Service” priorities, MSCoE ensured educational content discussed the prominent needs of Veterans with MS as well as the many VA programs, services, and choices available to Veterans with MS. MSCoE education and training programs for HCPs focused on delivering content-rich curricula on neurology quality improvement initiatives, medication and symptom management, and multidisciplinary care practices. Veteran education and training focused on whole health, wellness, and accessing VA and community resources. MSCoE and our Network collaborated and partnered with several internal program offices and external organizations, as well as our affiliated universities.

### Accomplishments of the MSCoE Education & Training Core are listed in the following appendices:

- [Appendix G](#). FY24 MSCoE Health Care Professionals Conferences, Webinars, and other Educational Sessions with Network
- [Appendix H](#). FY24 MSCoE Health Care Professionals Grand Rounds Presentations
- [Appendix I](#). FY24 MSCoE Health Care Professionals Invited Lectures
- [Appendix J](#). FY24 MSCoE MS Fellowship Programs
- [Appendix K](#). FY24 MSCoE Patient and Caregiver Programs
- [Appendix L](#). FY24 MSCoE Veteran Community Engagement
- [Appendix M](#). FY24 MSCoE Patient Support Groups

### FY24 highlighted education, training projects:

Health Care Professionals Projects	Description & Highlights
DMTs in MS VA National Clinical Recommendations Document	The clinical recommendations document " <a href="#">Disease Modifying Therapies in MS Clinical Recommendations</a> " was created in collaboration with PBM and the VA National Formulary Committee. It is intended to provide recommendations to providers in selecting a DMT and considerations for switching, escalating, de-escalating, and discontinuing DMT for MS.
MSCoE & National MS Society Current Topics in MS Webinars	Four live, virtual quarterly CME webinars for a multi-disciplinary audience of VA and non-VA providers. Each webinar is 1 hour, covering a variety of MS topics. The range of attendance for FY24 webinars was 111-254. Evaluation results consistently show that over 95% of attendees learned new knowledge and skills that they plan to apply in their clinical practice.

VA MS Extension for Community Health Outcomes (ECHO) Webinars	8 live, virtual monthly CME webinars for a multi-disciplinary audience of VA providers. Each webinar is 1 hour, discussing essentials of MS care including MS 101 and an introduction to DMTs. Webinars include case studies to apply the knowledge learned.
MSCoE West Regional Directors Meeting	1 live, virtual half day CME conference targeted to MSCoE Network members occurred in July 2024. There were over 80 attendees, and 4 MS Regional Program Directors presented on topics important to VA care.
Consortium of MS Centers Annual Meeting	9 presentations, 1 MSCoE Network business meeting, and 1 VA reception were coordinated for the CMSC annual meeting. A booth in the expo area was staffed. In addition to the MSCoE presentations, MSCoE Network members gave 7 presentations.
Paralyzed Veterans of America Healthcare Summit + EXPO	10 live, face-to-face CME sessions were coordinated by MSCoE staff in collaboration with the PVA annual meeting. In addition to the sessions, 1 business meeting was organized as well as a booth in the expo area. The Whitaker lecturer for the August 2024 meeting was Dr. Heidi Maloni, the retired Associate Director of Clinical Care for MSCoE East.
MSCoE Spotlight Electronic Newsletter	12 monthly electronic newsletters that reached over 48K people through GovDelivery were developed and distributed. This is an audience increase of 3K from FY23. The e-letter open rate ranges from 21-28%, with 17-28% being considered good by national standards. Each issue has a brief article written by a VA MS provider, highlights a VA research article, and provides information about MS care and education.
Fellowship Programs	3 fellowship programs, which included 10 fellows, were coordinated by MSCoE in FY24. The Baltimore MSCoE had 2 OAA physician fellows in FY24, one going into her 2 <sup>nd</sup> year of fellowship and a new fellow coming on in July 2024. The Portland MSCoE had 7 physician fellows in FY24, two through a grant with the NMSS and five funded by the OAA. 3 fellows graduated in 2024, one went into his 2 <sup>nd</sup> year of fellowship, and 3 new fellows came on in July 2024. The Seattle MSCoE had 1 NMSS psychology fellow move into her 2 <sup>nd</sup> year of fellowship.

Patient/Care Partner Projects	Description & Highlights
Veteran Health Library: MS Resources for Veterans	A <a href="#">webpage</a> highlighting MSCoE and the NMSS was developed in collaboration with VA Patient Centered Learning. The page highlights MSCoE, VA, and NMSS resources for people affected by MS. There are several links on the page that direct visitors to the MSCoE and NMSS websites.
MSCoE MS & Vets Podcast	12 recorded monthly podcasts on VA care and MS management were coordinated. Speakers are VA MS experts with each podcast touching on services within VA. The average play is 536, with two reaching over 700 plays. The audience for the podcast series increased by 9% from FY23.
MSCoE, National MS Society, & Paralyzed Veterans of America Annual Webinar	1 annual webinar on Preventing Falls was done in collaboration with the NMSS and PVA. The VA-focused webinar is recorded and then shared live, with the recording available for future viewing. The webinar has been viewed over 340 times.

MS Veteran Newsletter	4 quarterly electronic newsletters were coordinated, reaching an audience of over 60K people through GovDelivery. Each issue has 2-3 topics on managing MS and 1 story about a Veteran living with MS. The e-letter directs people to the MSCoE website for additional information. The open rate range for the e-letter is 21-29%.
Caregiver Webinar	1 webinar was coordinated with the national MSCoE social workers in March for MS Awareness month. The topic was caregiver burnout and resiliency. There were 80 lines, with several having a Veteran and caregiver listening to the session. The survey results from the webinar were positive with all finding the content relevant and useful.
VA Support Groups	4 live virtual educational support groups of various frequencies are coordinated. Most are monthly or held as a series that has a beginning and graduation point.
MS Education & Awareness Month	A national platform for MS Awareness was shared with public affairs officers, national communication offices, and Network members. There was an article for the VA News, as well as posts on Facebook and Twitter.

# Appendix

<a href="#"><u>VA Acronyms</u></a>	<i>Complete list of all VA acronyms used in this report.</i>
<a href="#"><u>Appendix A.</u></a>	<i>FY24 VA Neurology Centers Advisory Subcommittee (NCAS) Members</i>
<a href="#"><u>Appendix B.</u></a>	<i>FY24 MSCoE Memberships in Non-VA and Non-University Committees</i>
<a href="#"><u>Appendix C.</u></a>	<i>FY24 MSCoE Multi-Site &amp; FY24 MSCoE Single PI Research Projects</i>
<a href="#"><u>Appendix D.</u></a>	<i>FY24 MSCoE Research Publications</i>
<a href="#"><u>Appendix E.</u></a>	<i>FY24 MSCoE Research Posters</i>
<a href="#"><u>Appendix F.</u></a>	<i>FY24 MSCoE Research Conference Presentations &amp; Invited Talks</i>
<a href="#"><u>Appendix G.</u></a>	<i>FY24 MSCoE Health Care Professionals Conferences, Webinars, and other Educational Sessions with Network</i>
<a href="#"><u>Appendix H.</u></a>	<i>FY24 MSCoE Health Care Professionals Grand Rounds Presentations</i>
<a href="#"><u>Appendix I.</u></a>	<i>FY24 MSCoE Health Care Professionals Invited Lectures</i>
<a href="#"><u>Appendix J.</u></a>	<i>FY24 MSCoE MS Fellowship Programs</i>
<a href="#"><u>Appendix K.</u></a>	<i>FY24 MSCoE Patient and Caregiver Programs</i>
<a href="#"><u>Appendix L.</u></a>	<i>FY24 MSCoE Veteran Community Engagement</i>
<a href="#"><u>Appendix M.</u></a>	<i>FY24 MSCoE Patient Support Groups</i>

## VA Acronyms

<b>ACPSD</b> - Advisory Committee on Prosthetics and Special Disabilities	<b>MSSR</b> - Multiple Sclerosis Surveillance Registry
<b>ACTRIMS</b> - Americas Committee for Treatment and Research in MS	<b>MS</b> - Multiple Sclerosis
<b>AAN</b> - American Academy of Neurology	<b>MSCoE or Centers</b> - Multiple Sclerosis Centers of Excellence
<b>CDA</b> - Career Development Award	<b>NCAS</b> - Veterans Health Administration Neurology Centers Advisory Subcommittee
<b>CDW</b> - Corporate Data Warehouse	<b>Network</b> - Multiple Sclerosis Regional and Support Programs
<b>CFU</b> - Criteria for Use	<b>NMSS</b> - National Multiple Sclerosis Society
<b>CME</b> - Continuing Medical Education	<b>OAA</b> - Office of Academic Affiliations
<b>CMSC</b> - Consortium of Multiple Sclerosis Centers	<b>OCC</b> - Office of Community Care
<b>CPRS</b> - Computerized Patient Record System	<b>OCE</b> - Office of Community Engagement
<b>DMT</b> - Disease Modifying Therapy	<b>ORH</b> - Office of Rural Health
<b>ECHO</b> - Extension for Community Health Outcomes	<b>OHSU</b> - Oregon Health & Science University
<b>EES</b> - Employee Education System	<b>OI&amp;T</b> - Office of Information and Technology
<b>FAC</b> - Federal Advisory Committee	<b>PBM</b> - Pharmacy Benefits Management
<b>FY</b> - Fiscal Year	<b>PTS</b> - Patients
<b>FTEE</b> - Full-time employment equivalent	<b>PVA</b> - Paralyzed Veterans of America
<b>GAO</b> - Government Accountability Office	<b>RRMS</b> - Relapsing-Remitting Multiple Sclerosis
<b>HAP</b> - National Center for Healthcare Advancement and Partnerships	<b>RSP</b> - Regional Specialty Program
<b>HCP</b> - Healthcare Professional/Provider	<b>R&amp;D</b> - Office of Research and Development
<b>HCS</b> - Healthcare System/Health Care System	<b>Rx</b> - Prescription
<b>ICD</b> - International Statistical Classification of Diseases and Related Health Problems	<b>SCI-D</b> - Spinal Cord Injuries and Disorders
<b>IFC</b> - Interfacility Consults	<b>VA</b> - Veterans Affairs
<b>IOMSN</b> - International Organization of Multiple Sclerosis Nurses	<b>VACO</b> - Veterans Affairs Central Office
<b>IRB</b> - Internal Review Boards	<b>VHA</b> - Veterans Health Administration
<b>MINDS</b> - MS Intervention and Development of Skills	<b>VwMS</b> - Veterans with Multiple Sclerosis
<b>MoA</b> - Memorandum of Agreement	<b>VISN</b> - Veterans Integrated Service Network
	<b>VSO</b> - Veterans Service Organization

**APPENDIX A. FY24 VA Neurology Centers Advisory Subcommittee (NCAS) Members**

Name	Discipline	Organization	VA-affiliated	Title
<b>Ernest Acheampong, RN</b>	Nurse	SCI/MS	YES	Bronx VAMC
<b>Kevin Alschuler, PhD</b>	Psychology	University of Washington	NO	Associate Professor, Department of Rehabilitation Medicine, and Psychology
<b>Natasha Antonovich, PharmD</b>	Pharmacy	PBM	YES	VA Pharmacy Benefits Management
<b>Timothy Besse</b>	Veteran	Paralyzed Veterans of America	NO	Secretary, Paralyzed Veterans of America
<b>Kathleen Burgess, MD, MS</b>	Physical Medicine & Rehabilitation	Puget Sound VAMC	YES	Regional MS Director
<b>John Duda, MD (CHAIR)</b>	Neurology, Movement Disorders	PADRECC	YES	National Director, PADRECC
<b>Glenn Graham, MD, PhD</b>	Neurology, Stroke	VACO	YES	Deputy National Director for Neurology
<b>June Halper, MSN, APN-C, MSCN, FAAN</b>	MS	CMSC	NO	Executive Director, Consortium of MS Centers
<b>Omar Khan, MD</b>	Neurology, Epilepsy	Epilepsy CoE	YES	Baltimore VAMC
<b>Vicki Kowal, MA, LPCC, NCC</b>	MS	NMSS	NO	Senior Manager, Health Equipment Initiatives
<b>Sharyl Martini, MD, PhD</b>	Neurology, Stroke	VACO	YES	Acting Director of Neurology, SCS
<b>Chuck Maynard, PhD, MSW, MA</b>	Sociology	University of Washington	YES	Research Professor Emeritus, Department of Health Services
<b>Shui-Lin (Stan) Niu, PhD</b>	Neuroscientist	Department of Defense	NO	Program Manager for DOD CDMRP MS Research Program
<b>Cheryl Vines, MS</b>	MS	Paralyzed Veterans of America	NO	Director of Research and Education, Paralyzed Veterans of America

## APPENDIX B. FY24 MSCoE Memberships In Non-VA and Non-University Committees

	Committee
<b>Bagnato, Francesca</b>	<ul style="list-style-type: none"> <li>• Member, Annual Meeting Programming Committee, American Neurological Association (2024-present)</li> <li>• Ad Hoc Reviewer, INT Study Section, NIH (2024)</li> <li>• Ad Hoc Reviewer, Abstracts, ACTRIMS (2023-present)</li> <li>• Member, National Medical Advisory Committee, NMSS (2020-present)</li> <li>• Member, Healthcare Provider Engagement Council of Tennessee/Kentucky, NMSS (2017-present)</li> <li>• Member, University Committee, North American Imaging in MS (2017-present)</li> </ul>
<b>Bevan, Carolyn</b>	<ul style="list-style-type: none"> <li>• Consultant, VHA National TeleNeurology Program (2021-present)</li> </ul>
<b>Harrison, Daniel</b>	<ul style="list-style-type: none"> <li>• Ad Hoc Panel Member, National Student Data Corps Panel, National Institute of Neurological Disorders and Stroke (2024)</li> <li>• Organizing Committee Member, North American Imaging in MS Cooperative Annual Workshop, Ultra High Field MRI in MS (2023)</li> <li>• Panel Member, Clinical Neuroimmunology and Brain Tumors Study Section, National Institute of Neurological Disorders and Stroke (2022-2023)</li> <li>• Founder and Director, 7T MRI Working Group, North American Imaging in MS Cooperative (2019-present)</li> <li>• Member, Grant Review Committee, NMSS (2017-present)</li> </ul>
<b>Haselkorn, Jodie</b>	<ul style="list-style-type: none"> <li>• Member, Board of Governors, CMSC (2019-present)</li> <li>• Member, MS Regional Summit Education Committee, NMSS (2017-present)</li> <li>• Member, External Advisory Board, NW PADRECC (2006-present)</li> <li>• Member, VA Telerehabilitation National Advisory Group, Office of Care Coordination (2004-present)</li> <li>• Member, Continuing Professional Education Committee, CMSC (2003-present)</li> <li>• Member, MS Research Interest Group, CMSC (2003-present)</li> <li>• Member, Education Committee, PVA (2003-present)</li> </ul>

	Committee
	<ul style="list-style-type: none"> <li>• Team Physician, National Veterans Wheelchair Games (2002-present)</li> <li>• Member, Northwest Alliance of MS (1999-present)</li> </ul>
<b>Memon, Anza</b>	<ul style="list-style-type: none"> <li>• Member, Monograph Review Committee, American Association of Neuromuscular and Electrodiagnostic Medicine (2023-present)</li> <li>• Member, Abstract Review Committee, American Association of Neuromuscular and Electrodiagnostic Medicine (2020-present)</li> <li>• Academic Editor PLOS One (2022-Present)</li> <li>• Review Editor Frontiers in Neurology, Multiple Sclerosis and Neuroimmunology Section (2023- Present)</li> <li>• Review Editor, Frontiers in Neuroanatomy (2023- Present)</li> <li>• Review Editor Frontiers in Human Neuroscience (2023-Present)</li> <li>• Brain Health and Clinical Neuroscience (2023-Present)</li> </ul>
<b>Perlman, Jacob</b>	<ul style="list-style-type: none"> <li>• Member, Webinar Planning Committee, ACTRIMS (2023-present)</li> </ul>
<b>Rinker, John</b>	<ul style="list-style-type: none"> <li>• Chair, Clinical Fellowship Advisory Committee, NMSS (2022-present)</li> </ul>
<b>Shah, Suma</b>	<ul style="list-style-type: none"> <li>• Mentor, Mentorship Program, NMSS (2018-present)</li> <li>• Member, Workforce Development Taskforce, NMSS (2016-present)</li> </ul>
<b>Sloan, Alicia</b>	<ul style="list-style-type: none"> <li>• Member, Summit Program Committee, PVA (2022-present)</li> <li>• Volunteer Therapist, The Center for Chronic Illness (2017-present)</li> </ul>
<b>Spain, Rebecca</b>	<ul style="list-style-type: none"> <li>• Member, John Dystel Prize Committee, American Academy of Neurology (2021 - present)</li> <li>• Member, National MS Society Nutrition Subcommittee (2019-current)</li> <li>• Member, National MS Society National MS Society Fellowship Review Committee (2018-present)</li> </ul>
<b>Turner, Aaron</b>	<ul style="list-style-type: none"> <li>• Study Section, National Center for Complementary and Integrative Health Training and Education (K) Panel, NIH (2023)</li> <li>• Workgroup Member, VA/DoD Lower Limb Clinical Practice Guideline (Revision)</li> </ul>

	Committee
	<ul style="list-style-type: none"> <li>• Awards Committee, American Psychological Association, Division 22 (2008, 2012-present)</li> <li>• Member, Program Committee, American Psychological Association Annual Convention, Division 22 (2007-present)</li> </ul>
<b>Wallin, Mitchell</b>	<ul style="list-style-type: none"> <li>• Mentor, Summer Research Program, Data Science Skills in Rehabilitation and Whole Health, VA Merit Review, Baltimore, MD (2024)</li> <li>• Member, CDMRP Grant Review Committee for MS and Related Disorders, DOD, Washington, DC (2022-present)</li> <li>• Board Member, Christian Medical &amp; Dental Associations, Washington, DC (2018-present)</li> <li>• Member, Global Health Section Committee, AAN (2013-present)</li> <li>• Member, Neuroepidemiology Committee, AAN (2013-present)</li> <li>• Member, MS Section Committee, AAN (2013-present)</li> <li>• Member, Government Affairs Committee, AAN, (2013-present)</li> <li>• Associate Editor, Encyclopedia of the Neurological Sciences, 2nd Edition, Neuroepidemiology Section (6 chapters) (2011-present)</li> <li>• Neurology Consultant, Washington, DC Community Clinics (2010-present)</li> </ul>
<b>Wooliscroft, Lindsey</b>	<ul style="list-style-type: none"> <li>• Panel Member, Focused Workshop: Expectations, outcomes, and study designs for regenerative studies in MS, ECTRIMS (2024)</li> <li>• Peer Reviewer, Clinical Trials Symptom and Treatment 1 (ST-1), DoD Congressionally Directed Medical Research Program (2024)</li> <li>• Member, Advisory Board, BRAIN Week (2022-2023)</li> <li>• MSCoE Representative, VA Neurology Field Advisory Board (2021-present)</li> <li>• Webinar Lead, Education Committee, American Neurological Association (2020-2023)</li> <li>• Co-Leader, International Women in MS Neuro-Ophthalmology Group (2019-present)</li> </ul>
<b>Yadav, VJ</b>	<ul style="list-style-type: none"> <li>• Member, Clinical Training Programs Committee, NMSS (2023-present)</li> <li>• Chair, Data Safety Monitoring Board, DoD grant # W81XWH2210924 (2022-present)</li> <li>• Member, Steering Committee, MS and Neuroimmunology National Fellowship Didactic Lecture Series, ACTRIMS (2020-present)</li> </ul>

## APPENDIX C. FY24 MSCoE Multi-Site & FY24 MSCoE Single PI Research Projects

Goal: n=4 / Achievement: n=8 / Newly funded: n=0 / Unfunded active projects n=1

Multi-Site Research Projects					
Project Title	Investigator(s)	Funding Source	Amount	Years	Research Category
Lipoic Acid for the Treatment of Progressive MS	R. Spain (PI, Portland) J. Haselkorn (site PI, Puget Sound) M. Wallin (site PI, DC) P. Soldan (site PI, Salt Lake) O. Stuve (site PI, Dallas)	Merit	\$1,296,594	5/2018-6/2024	Clinical Science <b>multi-site</b>
Lipoic Acid for the Treatment of Progressive MS: Multi-Site Randomized Controlled Trial of Lipoic Acid	R. Spain (PI, Portland)	National MS Society	\$1,467,875	10/2017-6/2024	Clinical Science <b>multi-site</b>
Pooled Analysis of MS Findings on Multi-Site 7 Tesla MRI	D. Harrison (role, Baltimore)	NIH	\$2,439,574	7/2020-6/2026	Clinical Science <b>multi-site</b>
A multicenter randomized controlled trial of high-dose immunosuppressive therapy and autologous hematopoietic stem cell transplant versus best available approved therapy for treatment-resistant relapsing multiple sclerosis	V. Yadav (site PI, Portland)	NIH	\$1,603,000	2/2019 – 1/2028	Clinical Science <b>multi-site</b>
ELEVIDA for MS Fatigue, CAFÉ-MS	M. Wallin (co-I, DC) F. Bagnato (Site PI, Nashville) R. Spain/C. Hollen (site PI, Portland) J. Haselkorn/A. Turner (site PI, Puget Sound)	DoD	\$4,478,000	9/2023 – 8/2027	Clinical Science <b>multi-site</b>
Therapeutic Experience Program (TEP) Study Assessing Adherence to On-Label PoNS® Therapy for Improvement of Gait in People with MS in a Real-World Clinical Setting	V. Yadav (site- PI, Portland) S. Shah (site-PI, Durham)	Helius	\$34,000	11/2022-11/2025	Clinical science <b>multi-site</b>

Longitudinal Utilization of MS Disease-Modifying Therapies in two US healthcare systems: Department of Veteran Affairs and Medicare	D. Hartung (Co-I, OHSU) G. Graham (Co-I, Palo Alto) M. Wallin (Co-I, DC) S. Leipertz (Co-I, Puget Sound) N. Antonovich (Co-I, Orlando) R. Spain (PI, Portland)	MSCoE	N/A	2023-2024	Health Services Multi-site
---	---	-------	-----	-----------	-------------------------------

### Single PI Research Projects

Project Title	Investigator(s)	Funding Source	Amount	Years	Research Category
<b>Veteran Health Administration (n=8)</b>					
BLR&D Research Career Scientist Award	A. Vandembark, Portland	Career Scientist	\$1,270,911	5/2018-9/2025	Biomedical Laboratory
A Pilot Trial to Study the Effects of Oral MitoQ on Fatigue in MS	V. Yadav (PI), Portland	Merit	\$387,160	10/2019-3/2024	Clinical Science
Immunoregulation of Myelin-Specific T Lymphocytes	A. Vandembark (PI), Portland	Merit	\$710,000	4/2016-12/2024	Biomedical Laboratory
Preclinical Translational Studies with DRH	A. Vandembark (PI), Portland	Merit	\$880,000	4/2020-3/2024	Biomedical Laboratory
Improving the Assessment of Myelin and Axonal Integrity in Early MS	F. Bagnato (PI), Nashville	Merit	\$945,462	7/2021-6/2026	Clinical Science
Retinal Microvasculature as a Predictor of Neurodegeneration in MS	E. Silbermann (PI), Portland	CDA2	\$1,382,087	10/2020-9/2025	Clinical Science
Tunable Assembly of Regulatory Immune Signals to Promote Myelin-specific Tolerance	M. Wallin (co-I), DC	Merit	\$1,202,339	4/2022-3/2026	Biomedical Laboratory
Biomaterials-Enabled Delivery of Immunometabolic Modulators to Improve Treatment Options for MS in Veterans	M. Wallin (co-I), DC	CDA	\$1,009,579	01/2023 - 12/2027	Biomedical Laboratory
<b>National MS Society (n=6)</b>					
Mentor-based Fellowship in Rehabilitation Research: The Seattle Collaborative Fellowship	A. Turner (PI), Puget Sound, J. Haselkorn (Co-I), Puget Sound	Mentor-based post-doctoral fellowship	\$401,426	7/2018-6/2023 (NCE 2025)	Rehabilitation
A Randomized Controlled Trial of a Multicomponent Walking Aid Program for People with MS	L. Hugos (PI), Portland M. Cameron (Co-I), Portland	Research Grant	\$624,956	10/2019-7/2024	Rehabilitation
7T-rings as biomarker of disease severity	F. Bagnato (PI), Nashville	Research Grant	\$763,804	10/2019-9/2024	Clinical Science

Oregon Health & Science University Institutional Clinical Training Award	V. Yadav (PI), Portland	Institutional Clinical Training Award	\$584,375	7/2020-6/2025	Clinical Science
The Development of a Convolutional Neural Network for MRI Prediction of Progression and Treatment Response in Progressive Forms of MS	D. Harrison (PI), Baltimore	Research Grant	\$586,820	4/2022-3/2025	Clinical Science
Development and Feasibility of a Fatigue Self-Management mHealth Program for Persons with MS	J. Haselkorn (Co-I), Puget Sound A. Turner (Co-I), Puget Sound	Research Grant	\$700,429	7/2021-06/2026	Clinical Science
<b>NIH (n=6)</b>					
In Vivo Assessment of Meningeal Inflammation and its Clinical Impact in MS by 7 Tesla MRI	D. Harrison (PI), Baltimore	R01	\$1,796,000	2/2018-6/2024	Clinical Science
Development of DR $\alpha$ 1-MOG-35-55 for Treatment of DR2-Negative MS Subjects	A. Vandembark (Co-PI), Portland	R44	\$998,486	4/2020-3/2024	Biomedical Laboratory
Longitudinal Measurement of Neurodegeneration in a Mouse Model of Progressive MS: a Clinical and Histopathologic Validation	F. Bagnato (Co-PI), Nashville	R21	\$451,598	10/2020 - 11/2023	Biomedical Laboratory
Aerobic Exercise to Improve Mobility in MS: Optimizing Design and Execution for a Full-Scale Multimodal Remyelination Clinical Trial (Renewal)	L. Wooliscroft (PI), Portland	Loan Repayment Program	\$100,000 in student loan repayment	9/2023-8/2025	Rehabilitation
Aerobic Exercise to Improve Mobility in MS: Optimizing Design and Execution for a Full-Scale Multimodal Remyelination Clinical Trial	L. Wooliscroft (PI), Portland	K23	\$638,916	7/2020-6/2025	Rehabilitation
Optimizing a telehealth behavioral intervention for fatigue in people with multiple sclerosis.	L. Knowles (PI), A. Turner (Mentor), Seattle	K23	\$807,600	7/2023-6/2028	Rehabilitation
<b>Others (n=13, *1 newly funded)</b>					
Novel Biomarkers of Neural Repair in MS	L. Wooliscroft (PI), Portland	Myelin Repair Foundation	\$24,964	11/2020-6/2025	Rehabilitation
The Effects of Aerobic Exercise on Structural, Functional, and Blood	W. Rooney (PI), Portland	Myelin Repair Foundation	\$49,840	8/2021-7/2025	Rehabilitation

Biomarkers of Remyelination and Neural Repair in MS	L. Wooliscroft (Co-I), Portland	and EMD Serono			
The Adaptive Optics Retinal Imaging in Multiple Sclerosis	D. Harrison (PI), Baltimore	Department of Defense	\$594,056	9/2022-9/2025	Clinical Science
Cladribine Tablets: Observational Evaluation of Effectiveness and Patient-Reported Outcomes in Sub Optimally Controlled Patients Previously Taking Oral or Infusion Disease Modifying Drugs (DMDs) for Relapsing Forms of MS (MASTERS-2)	F. Bagnato (Site PI), Nashville	EMD Serono	\$83,018	8/2020 – 8/2026	Clinical Science
Identification of Protein Pathways and Novel Biomarkers in Pre- and Early Clinical MS	M. Wallin (co-I), DC	DoD	\$250,000	4/2023 – 3/2024	Biomedical Laboratory
Using Advanced Dynamic Susceptibility Contrast MR Perfusion to Quantify Microvascular Dysfunction in MS	E. Silbermann (PI), Portland	OHSU Laura Fund	\$70,000	6/2023 – 6/2025	Clinical Science
A CME Course to Educate Health Care Providers About the Latest in Advances in the Field of MS and CNS Neuroimmunological Disorders	V. Yadav (PI), Portland	Paralyzed Veterans of America Foundation	\$15,000-person months per budget period	7/2023 - 7/2025	Education
Opal Mobilise-D Validation and Association with Disability in People with Multiple Sclerosis	L. Wooliscroft (PI), Portland	Clario	\$32,906	11/2023 - 11/2028	Clinical Science
Breaking Out of the Box: Optimizing Outcome Measures for Advanced MS	L. Wooliscroft (co-I) E. Silbermann (co-I), Portland	Laura Fund	\$48,720	7/2024-6/2025	Rehabilitation
Imaging Glial Activation and Oxidative Stress in Progressive MS	C. Hollen (PI), Portland		\$29,958	12/2021 - 12/2024	Biomedical Laboratory
Optimizing lipoic acid drug delivery using novel molecular derivatives for maximal neuroprotective treatment of progressive multiple sclerosis	R. Spain (PI), Portland	OHSU Biomedical Innovation Program	\$60,000	7/1/2024-6/30/2025	Biomedical Laboratory
Tykeson Family Term Professorship	V. Yadav (PI), Portland	Tykeson Family Foundation	\$500,000	11/2015 - 10/2025	General
Insights into Multiple Sclerosis Pathology from 7-T MRI and Multiomics Analysis of Serologic Samples*	D. Harrison (PI)	DoD	\$249,999	8/2024 – 8/2026	Clinical Science

## APPENDIX D. FY24 MSCoE Research Publications

**Goal:** n=25 /**Achievement:** n=36 (Impact Factor (IF) with CiteScore listed)

1. Gromisch, E.S., Raskin, S.A., Neto, L.O., **Haselkorn, J.K.**, & **Turner, A.P.** Appointment attendance behaviors in multiple sclerosis: Understanding the factors that differ between no shows, short notice cancellations and attended appointments. *Mult Scler Relat Disord*. 2023 Feb;70:104509. doi: 10.1016/j.msard.2023.104509. PMID: 36638769 (IF = 5.8)
2. Gromisch, E.S. Ehde, D.M., Neto, L.O., **Haselkorn, J.K.**, Agresta, T., Gokhale, S.S., **Turner, A.P.** Using participatory action research to develop a new self-management program: Results from the design stage of Managing MS My Way. *Mult Scler Relat Disord*. 2023 Jun;74:104720. doi: 10.1016/j.msard.2023.104720. PMID: 37084496 (IF = 5.8)
3. Spain, R., Hildebrand, A., Waslow, C., Emmons, J., Paz Soldan, M., Repovic, P., Solomon, A., Rinker, J., Wallin, M., Haselkorn, J.K., Stuve, O., Gross, R., & **Turner, A.P.** Processing speed and memory tests differ in associated brain volumes in progressive multiple sclerosis. *Front Neurol*, 2023 8, 14:1188124. doi: 10.3389/fneur.2023.1188124. PMID: 37360346. (IF = 4.9)
4. Gromisch, E.S., Neto, L.O., DelMastro, H.M., Dhari, Z., Pisa, M., & **Turner, A.P.** Physical activity and life stress are associated with illness intrusiveness in persons with multiple sclerosis. *Arch Phys Med Rehabil*. 2024. 105(5),876-883. doi: 10.1016/j.apmr.2023.10.020. PMID: 37967667. (IF = 6.2)
5. Nguyen, C.A., Raskin, S., **Turner, A.P.**, Dhari, Z., Neto, L.O., & Gromisch, E.S. Patterns of prospective memory errors differ in persons with multiple sclerosis. *Journal of Clinical and Experimental Neuropsychology*, 2024 46(4):329-340. doi: 10.1080/13803395.2024.2348775. PMID: 38695493. (IF = 6.2)
6. Gromisch, E.S., **Turner, A.P.**, Neto, L.O., **Haselkorn, J.K.**, Raskin, S.A. Improving prospective memory in persons with multiple sclerosis via telehealth: A randomized feasibility study. *Mult Scler Relat Disord*, 2024 10;88:105718. doi: 10.1016/j.msard.2024.105718. PMID: 38878624 (IF = 5.8)
7. Knowles, L.M., Yang, B., Mata-Greve, F., **Turner, A.P.** Perspectives on Fatigue Management among Veterans Living with Multiple Sclerosis. *Mult Scler Relat Disord*, 2024 8;88:105716. doi: 10.1016/j.msard.2024.105716. PMID: 38880030. (IF = 5.8)
8. Link, K., **Knowles, L. M.**, Alschuler, K. N., & Ehde, D. M. Characterizing cannabis use in a sample of adults with multiple sclerosis and chronic pain: An observational study. *Mult Scler Relat Disord*, 2023 75, 104742. <https://doi.org/10.1016/j.msard.2023.104742> (IF = 5.8)
9. Buttolph L, Villanueva J, Parman N, **Wooliscroft L**, Yeh G, Bradley R, Zwickey H. Key Components of Qigong for People With Multiple Sclerosis: A Survey of Clinicians, Researchers, and Instructors. *Glob Adv Integr Med Health*. 2024, 13:27536130241280721. (IF=5.1)
10. **Cameron M**, Hildebrand A, Hugos C, **Wooliscroft L**. A walking aid selection, training, and education program (ADSTEP) to prevent falls in multiple sclerosis: A randomized controlled trial. *Mult Scler*. 2024, 30:1205-1215. (IF=9.6)
11. Bourdette D, **Wooliscroft L**. Developing drugs that promote remyelination: Is our in vitro screening approach too simplistic?. *Neurotherapeutics*. 2024, 21:e00386. (IF=7.0)
12. Bourdette D, **Wooliscroft L**. The challenges of treating late-onset multiple sclerosis. *Neurology*. 2024, 26;102(6):e209146. (IF = 12.2)

13. **Wooliscroft L**, Salter A, Adusumilli G, Levasseur VA, Sun P, Lancia S, Perantie DC, Trinkaus K, Naismith RT, Song SK, Cross AH. Diffusion basis spectrum imaging and diffusion tensor imaging predict persistent black hole formation in multiple sclerosis. *Mult Scler Relat Disord*. 2024, 84:105494. (IF=5.8)
14. Chase E, Chen V, Martin K, Lane M, **Wooliscroft L**, Adams C, Rice J, **Silbermann E**, **Hollen C**, Fryman A, Purnell JQ, Vong C, Orban A, Horgan A, Khan A, Srikanth P, **Yadav V**. A low-fat diet improves fatigue in multiple sclerosis: results from a randomized controlled trial. *Mult Scler*. 2023, 13:1659. (IF=9.6)
15. Monte, S. , **Silbermann, E.** and Tong, M. Distinct and Additive Effects of Alcohol and Thiamine Deficiency in the Developing Brain: Relevance to Fetal Alcohol Spectrum Disorder. *J Behav Brain Sci*, 2024, 14, 161-186.
16. Kundu P, Yasuhara K, Brandes MS, Zweig JA, Neff CJ, Holden S, Kessler K, Matsumoto S, Offner H, Waslo CS, Vandenbark A, Soumyanath A, Sherman LS, Raber J, Gray NE, **Spain RI**. Centella asiatica promotes antioxidant gene expression and mitochondrial oxidative respiration in experimental autoimmune encephalomyelitis. *Res Sq [Preprint]*. 2023 Oct 6:rs.3.rs-3393042.
17. Avasare RS, Clark S, **Spain RI**, Wusirika R, Rope R, Gurley S, Stanaway M, Sekulic M, Santoriello D, Bomback AS, Canetta P, Iyer SJ, Kung V, Charu V, Troxell ML, Kudose S, Andeen NK. Characteristics and Outcomes of NELL1 Membranous Nephropathy in Lipoic Acid Users and Nonusers. *Kidney Int Rep*. 2024 Feb 24;9(5):1379-1386. (IF = 7.7)
18. Silbermann E, **Spain RI**. Serum Neurofilament Light Chain for Multiple Sclerosis Relapses: Too Little Too Late? *Neurology*. 2024 May 14;102(9):e209456. (IF = 12.2)
19. Martin, K\*, Srikanth P, Kanwar A, Falardeau J, Pettersson D, and **Yadav V**. Clinical and radiographic features of a cohort of adult and pediatric subjects in the Pacific Northwest with myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD). *Mult Scler Relat Disord*. 2024; Jan:81:105130. (IF = 5.8)
20. Toubasi AA, Cutter G, Gheen C, Vinarsky T, Yoon K, AshShareef S, Adapa P, Gruder O, Taylor S, Eaton JE, Xu J, **Bagnato F**. Improving the assessment of axonal injury in early multiple sclerosis. *Acad Radiol*. 2024 Sep 13:S1076-6332(24)00610-X. doi: 10.1016/j.acra.2024.08.048. Epub ahead of print. PMID: 39277455. (IF = 7.6)
21. Toubasi AA, Allon S, **Bagnato F**. Disseminated histoplasmosis mimicking post-vaccination side effects in an immunocompromised person with multiple sclerosis. *Mult Scler J Exp Transl Clin*. 2024 Aug 7;10(3):20552173241271790. doi: 10.1177/20552173241271790. PMID: 39119360; PMCID: PMC11307347. (IF = 4.7)
22. Scalfari A, Traboulsee A, Oh J, Airas L, Bittner S, Calabrese M, Garcia Dominguez JM, Granziera C, Greenberg B, Hellwig K, Illes Z, Lycke J, Popescu V, **Bagnato F**, Giovannoni G. Smouldering-Associated Worsening in Multiple Sclerosis: An International Consensus Statement on Definition, Biology, Clinical Implications, and Future Directions. *Ann Neurol*. 2024 Jul 25. doi: 10.1002/ana.27034. Epub ahead of print. PMID: 39051525. (IF = 18.0).
23. Cook SR, Vasamreddy K, Combes A, Vandekar S, Visagie M, Houston D, Wald L, Kumar A, McGrath M, McKnight CD, **Bagnato F**, Smith SA, O'Grady KP. Biological variation in cervical spinal cord MRI morphometry in healthy individuals and people with multiple sclerosis. *J Neuroimaging*. 2024 Jul-Aug;34(4):466-474. doi: 10.1111/jon.13219. Epub 2024 Jun 10. PMID: 38858847; PMCID: PMC11236499. (IF = 4.7)

24. Eaton JE, Oguz I, Kazimuddin H, **Bagnato F**. Intracranial Hypertension Associated With Poly-Cranio-Radicular-Neuropathies: A Case Report and Review of the Literature. *Neurologist*. 2024 Feb 19. doi: 10.1097/NRL.0000000000000559. Epub ahead of print. PMID: 38372201. (IF = 1.9)
25. **Bagnato F**, Sati P, Hemond CC, Elliott C, Gauthier SA, Harrison DM, Mainero C, Oh J, Pitt D, Shinohara RT, Smith SA, Trapp B, Azevedo CJ, Calabresi PA, Henry RG, Laule C, Ontaneda D, Rooney WD, Sicotte NL, Reich DS, Absinta M. Imaging chronic active lesions in multiple sclerosis: a consensus statement. *Brain*. 2024 Sep 3;147(9):2913-2933. doi: 10.1093/brain/awae013. PMID: 38226694; PMCID: PMC11370808.
26. Lawless RD, McKnight CD, O'Grady KP, Combes AJ, Rogers BP, Witt AA, Visagie M, Houston DC, Prock LE, **Bagnato FR**, Smith SA. Detecting macromolecular differences of the CSF in low disability multiple sclerosis using quantitative MT MRI at 3T. *Mult Scler J Exp Transl Clin*. 2023 Nov 13;9(4):20552173231211396. doi: 10.1177/20552173231211396. PMID: 38021451; PMCID: PMC10644741. (IF = 4.7)
27. Clarke MA, Cheek R, Kazimuddin HF, Hernandez B, Clarke R, McKnight CD, Derwenskus J, Eaton J, Irlmeier R, Ye F, O'Grady KP, Rogers B, Smith SA, **Bagnato F**. Paramagnetic rim lesions and the central vein sign: Characterizing multiple sclerosis imaging markers. *J Neuroimaging*. 2024 Jan-Feb;34(1):86-94. doi: 10.1111/jon.13173. Epub 2023 Nov 29. PMID: 38018353; PMCID: PMC10842224. (IF = 4.7)
28. **Harrison DM**, Choi S, Bakshi R, Beck ES, Callen AM, Chu R, Silva JDS, Fetco D, Greenwald M, Kolind S, Narayanan S, Okar SV, Quattrucci MK, Reich DS, Rudko D, Russell-Schulz B, Schindler MK, Tauhid S, Traboulsee A, Vavasour Z, Zurawski JD. Pooled analysis of multiple sclerosis findings on multisite 7 Tesla MRI: Protocol and initial observations. *Hum Brain Mapp*. 2024 Aug 15;45(12):e26816. doi: 10.1002/hbm.26816. PMID: 39169546; PMCID: PMC11339124. (IF = 8.3).
29. **Harrison DM**, Allette YM, Zeng Y, Cohen A, Dahal S, Choi S, Zhuo J, Hua J. Meningeal contrast enhancement in multiple sclerosis: Assessment of field strength, acquisition delay, and clinical relevance. *PLoS One*. 2024 May 29;19(5):e0300298. doi: 10.1371/journal.pone.0300298. PMID: 38809920; PMCID: PMC11135724. (IF = 6.2)
30. Oh J, Airas L, **Harrison D**, Järvinen E, Livingston T, Lanker S, Malik RA, Okuda DT, Villoslada P, de Vries HE. Neuroimaging to monitor worsening of multiple sclerosis: advances supported by the grant for multiple sclerosis innovation. *Front Neurol*. 2023 Dec 1;14:1319869. doi: 10.3389/fneur.2023.1319869. PMID: 38107636; PMCID: PMC10722910. (IF = 4.9)
31. Dahal S, Allette YM, Naunton K, **Harrison DM**. A pilot trial of ocrelizumab for modulation of meningeal enhancement in multiple sclerosis. *Mult Scler Relat Disord*. 2024 Jan;81:105344. doi: 10.1016/j.msard.2023.105344. Epub 2023 Nov 25. PMID: 38035495; PMCID: PMC10843730. (IF = 5.8)
32. Hammer DX, Kovalick K, Liu Z, Chen C, Saedi OJ, **Harrison DM**. Cellular-Level Visualization of Retinal Pathology in Multiple Sclerosis With Adaptive Optics. *Invest Ophthalmol Vis Sci*. 2023 Nov 1;64(14):21. doi: 10.1167/iovs.64.14.21. PMID: 37971733; PMCID: PMC10664728.
33. Polick CS, Rubenstein D, **Shah S**, Beckham JC, Calhoun PS, Noonan D. Addressing Smoking in Persons With Multiple Sclerosis: State of the Science and Need for a Targeted Intervention. *Nicotine Tob Res*. 2024 Jan 22;26(2):250-252. doi: 10.1093/ntr/ntad159. PMID: 37625016. (IF = 8.1)

34. Graham EL, Bove R, Costello K, Crayton H, Jacobs DA, **Shah S**, Sorrell F, Stoll SS, Houtchens MK. Practical Considerations for Managing Pregnancy in Patients With Multiple Sclerosis: Dispelling the Myths. *Neurol Clin Pract*. 2024 Apr;14(2):e200253. doi: 10.1212/CPJ.0000000000200253. Epub 2024 Feb 13. PMID: 38585436; PMCID: PMC10996912. (IF=4.0)
35. Zamecnik CR, Sowa GM, Abdelhak A, Dandekar R, Bair RD, Wade KJ, Bartley CM, Kizer K, Augusto DG, Tubati A, Gomez R, Fouassier C, Gerungan C, Caspar CM, Alexander J, Wapniarski AE, Loudermilk RP, Eggers EL, Zorn KC, Ananth K, Jabassini N, Mann SA, Ragan NR, Santaniello A, Henry RG, Baranzini SE, Zamvil SS, Sabatino JJ Jr, Bove RM, Guo CY, Gelfand JM, Cuneo R, von Büdingen HC, Oksenberg JR, Cree BAC, Hollenbach JA, Green AJ, Hauser SL, **Wallin MT**, DeRisi JL, Wilson MR. An autoantibody signature predictive for multiple sclerosis. *Nat Med*. 2024 May;30(5):1300-1308. doi: 10.1038/s41591-024-02938-3. Epub 2024 Apr 19. PMID: 38641750. (IF = 100.9)
36. Toubasi AA, Xu J, Eisma JJ, AshShareef S, Gheen C, Vinarsky T, Adapa P, Shah S, Eaton J, Dortch RD, Donahue MJ, Bagnato F. Watershed regions are more susceptible to tissue microstructural injury in multiple sclerosis. *Brain Commun*. 2024 Sep 3;6(5):fcae299. doi: 10.1093/braincomms/fcae299. PMID: 39372138; PMCID: PMC11452773. (IF = 7.0)
- 37. Elrefaey A, Mohamedelkhair A, Fahmy L, Affan M, Schultz L, Cerghet M, Memon AB**  
The clinical, diagnostic and treatment spectrum of seropositive and seronegative autoimmune encephalitis: Single-center cohort study of 51 cases and review of the literature. DOI: 10.1111/cen3.12802 *Clin Exp Neuroimmunol*. 2024;1–15.
38. Bonner K, Memon BB, **Memon AB**. Multiple Sclerosis and Pregnancy Management: From Preconception to Postpartum. *Clinical Aspects of Multiple Sclerosis: Essentials and Current Updates; Multiple sclerosis and pregnancy management: From preconception to postpartum - ScienceDirect*. Feb 2nd, 2024 SRIWASTAVA\_9780323953429\_MS BOOK.pdf

## APPENDIX E. FY24 MSCoE Research Posters

Goal: n =4 /Achievement: n=24

### European Committee for Treatment & Research in MS (ECTRIMS) Annual Meeting (Copenhagen, Denmark – September 2024)

1. Waslo, C., Hildebrand, A., Rooney, W., Morris, C., Mitchell, J., Metz, J., Soldan, M.P, Freedman, M.S., Repovic, P., Soloman, A., Rinker, J., **Wallin, M., Haselkorn, J.**, Stuve, O., Gross, R., **Turner, A., Spain, R.** Lipoic acid for treatment of progressive multiple sclerosis: Results of a phase 2 randomized placebo-controlled trial. Poster.
2. Garcia C, Hollen C, Hemond C, Spain R, Wu H, Crowson C, Silbermann E. Optimizing Methods for the Detection of Paramagnetic Rim Lesions in Multiple Sclerosis. Late breaking abstract.

### American Psychological Association Annual Meeting (Seattle, WA – August 2024)

3. Knowles, L.M., Yang, B., Mata-Greve, F.P., **Turner, A.P.** Perspectives on fatigue management among veterans living with multiple sclerosis. Poster.

### Annual International Symposium of Gait and Balance in MS Virtual Interactive Journal Club and Data Blitz (Virtual - October 2024)

4. **Wooliscroft L**, Hildebrand AH, Hugos C, Cameron MH. A walking aid selection, training, and education program (ADSTEP) to prevent falls in multiple sclerosis: A randomized controlled trial. Oral abstract.
5. Kazimuddin HF, Wang J, Hernandez B, Sun L, Eaton JE, Taylor S, Vinarsky T, Ye F, Oguz I, **Bagnato F.** Paramagnetic Rim Lesions and their Relationship with Neurodegeneration and Clinical Disability at the Time of Multiple Sclerosis Diagnosis. Poster.
6. Koch C, Rohm Z, Barter K, Kazimuddin HF, Wang J, Hernandez B, Kramer J, Vinarsky T, Gheen C, Pawate S, Oguz I, **Bagnato F.** Central Vein Sign and its Role in Predicting Lesion Evolution in Early Multiple Sclerosis. Poster.
7. Rohm Z, Koch C, Kazimuddin HF, Wang J, Hernandez B, Moses H, Vinarsky T, Gheen C, Pawate S, Oguz I, **Bagnato F.** Longitudinal Characterization of Paramagnetic Rim Lesions in Early Multiple Sclerosis. Poster.
8. Narisetti L, Combes AJ, Hana M, Sweeney G, Prock L, Houston D, C. Seehorn<sup>1</sup>, T. McGonigle<sup>3</sup>, S. Vandekar<sup>3</sup>, Witt A, McGrath M, Schilling KG, C. D. McKnight C, **Bagnato F**, Sriram S, Smith S, O'Grady K. Characterizing lumbar spinal cord structure and function with multimodal MRI in relapsing remitting MS. Poster.
9. Witt AA, Combes AJ, O'Grady K, McKnight C, Rogers B, Sweeney G, Prock L, Houston D, **Bagnato F**, Sriram S, Smith S. Relating cervical spinal cord functional MRI outcomes to biological variables and neurological disability in MS. Poster.
10. Blitz-Shabbir K, Banks A, Garg H, Nelson F, **Shah S**, Belviso N, Mendoza JP, Avila RL, Bian B, Fong K. Real-World Treatment Outcomes in Black, Hispanic, Asian, and White Patients With Multiple Sclerosis Treated With Natalizumab. Poster.
11. Choi S, Li X, Zhuo J, and Harrison **DM.** Comparison of Paramagnetic Rim Lesions Identified on Quantitative Susceptibility Mapping and Phase Maps on 7T and 3T MRI. Annual Meeting of the American Committee for Treatment and Research in Multiple Sclerosis. Poster.

12. Yuxin Z, Austin B, Jiachen Z, Harrison **DM**. An Evaluation of Perivascular Space Count, Volume, and Enhancement on 7T MRI in Multiple Sclerosis. Annual Meeting of the American Committee for Treatment and Research in Multiple Sclerosis. Poster.
13. Maynard M, Liu M, Fermuller C, Zeng Y, Choi S, Harrison **DM**. Multiple Sclerosis Lesion Segmentation on 7T MRI: A U-Net Tool and Evaluation. Poster.
14. Karuppanan U, Liu Z, Saeedi O, Hammer DX, Harrison **DM**. Visualization of Cellular Structures in the Peripapillary Region by Adaptive Optics – Optical Coherence Tomography in Multiple Sclerosis. Poster.
15. Willhide MC, Dahal S, Cohen AH, Allette YM, Choi S, Harrison **DM**. Evaluation of the Relationship Between Cytokine Profiles and Leptomeningeal Enhancement and Paramagnetic Rim Lesions in Multiple Sclerosis. Poster.
16. Angappan D, **Wooliscroft L**, Xiang M. The use of high dose corticosteroids and functional outcomes in children with viral and immune-mediated encephalitis. Americas Committee for Treatment and Research in Multiple Sclerosis. Poster
17. **E. Silbermann, R. I. Spain**, O. Tan, P. Yeh, A. Hildebrand, E. Young, D. Bourdette, D. Huang. Retinal Microvascular Changes in Early Demyelinating Disease. Americas Committee for Treatment and Research in Multiple Sclerosis. Poster
18. **C. N. Crowson**<sup>1</sup>, K. Nguyen<sup>2</sup>, J. Lee<sup>2</sup>, S. Rice<sup>2</sup>, G. Lau<sup>2</sup>, V. Yadav<sup>3</sup>, E. K. Silbermann<sup>2</sup>. Prescribing Patterns of Intravenous Anti-CD20 Monoclonal Antibodies for Multiple Sclerosis: A Five Year, Single Center Experience. Americas Committee for Treatment and Research in Multiple Sclerosis. Poster

#### **American Society of Health-System Pharmacists Midyear Meeting (Anaheim, CA – December 2023)**

19. Lee J, Crowson C, Nguyen K, Lau, G, Silbermann, E. Prescribing Patterns of Anti-CD20 Monoclonal Antibodies for Multiple Sclerosis: A Five Year, Single Center Experience. Presented at: American Society of Health-System Pharmacists 2023 Midyear Clinical Meeting. Anaheim, CA, December 2023. Poster.
20. Nguyen K, Crowson C, Lee J, Lau, G, Silbermann, E. Time Interval Between Treatment Decision and Delivery of Anti-CD20 Therapy for Multiple Sclerosis: A Five Year, Single Center Experience. Presented at: American Society of Health-System Pharmacists 2023 Midyear Clinical Meeting. Anaheim, CA, December 2023. Poster

#### **American Academy of Ophthalmology (San Francisco, CA – November 2023)**

21. Po-Han Yeh, Ou Tan, **Elizabeth Silbermann**, Elizabeth White, Jie Wang, Dongseok Choi, Aiyin Chen, Eliesa Ing, and David Huang. “Differentiating Multiple Sclerosis and Glaucoma with Sectoral Pattern Analysis of Peripapillary Nerve Fiber Layer”. American Academy of Ophthalmology. San Francisco, CA. November 3-6, 2023.

#### **American Academy of Neurology (AAN, Denver, CO - April 2024)**

22. Guo J, Gokcebel S, Grewal P, Alick-Lindstrom S, O'Hana C, Nobleza S, Ky KE, Kung DH, Shah S, Abdennadher M, Alexander HB, Frost N, Rodrigues K, Durica S, Nagpal S, Yoshii-Contreras J, Zarroli K, Sudhakar P, Zhao C, De Jesus S, Bradshaw D, Brescia N, Foldvary-Schaefer N, Tormoehlen L, Gutmann L, Mantri S, Yang A, He A, Zheng C, Fiecas M, Silver JK, Westring AF, Allendorfer JB, Patel SI, AyubWomen N., on behalf of Women in Neurology Collaborative Survey (WINCS). Perception of Lactation Experience Among Neurology Faculty and Impact on

Productivity. Poster.

23. Guo J, Gokcebel S, Grewal P, Alick-Lindstrom S, O'Hana C, Nobleza S, Ky KE, Kung DH, Shah S, Abdennadher M, Alexander HB, Frost N, Rodrigues K, Durica S, Nagpal S, Yoshii-Contreras J, Zarroli K, Sudhakar P, Zhao C, De Jesus S, Bradshaw D, Brescia N, Foldvary-Schaefer N, Tormoehlen L, Gutmann L, Mantri S, Yang A, He A, Zheng C, Fiecas M, Silver JK, Westring AF, Allendorfer JB, Patel SI, AyubWomen N., on behalf of Women in Neurology Collaborative Survey (WINCS). Women in Neurology Collaborative Survey (WINCS). Burnout in Neurology. Poster.

**American Neurological Association (Orlando, FL, September 2024)**

24. Toubasi AA, Gheen C, Vinarsky T, AshShareef S, Adapa, Gruder O, Xu J, Bagnato F. Improving the assessment of myelin and axonal integrity in early multiple sclerosis. Poster.

**American Association of Neuromuscular and Electrodiagnostic Medicine (Savannah, Georgia October 2024)**

25. Zhou J, Memon AB. Ulnar neuropathy as an uncommon presentation of neurosarcoidosis: A case series. Accepted for poster presentation at AANEM annual 2024 meeting (Abstract # 228) on Wednesday October 16th at Savannah, Georgia.

## APPENDIX F. FY24 MSCoE Research Conference Presentations & Invited Talks

Goal: n =4 / Achievement: n=12 / \*refers to a platform presentation: n=1

### Paralyzed Veterans of America Healthcare Summit + Expo (Anaheim, CA – August 2023)

1. **Wooliscroft, L., Turner, A.P., Bagnato, F., Knowles, L.M.** Establishing short and mid-term research priorities for Veterans with multiple sclerosis: A modified delphi process. Presentation\*
2. **R. Spain, C. Hollen.** Disease-modifying Therapies at the VA: Updated Guidance from MSCoE and VA Pharmacy Benefits Management.
3. **Toubasi AA, Xu J, Eisma JJ, AshShareef S, Gheen C, Vinarsky T, Adapa, Shah S, Eaton J, Donahue MJ, Bagnato F.** The Vascular Topography of Lesions in the Brains of People with Newly Diagnosed Multiple Sclerosis. *Oral presentation.*
4. **Bagnato F, Wallin M,** Imaging Multiple Sclerosis: from Experts Recommendations to Day-to-Day Implementation. *Oral presentation.*
5. **Bagnato F, Wallin M,** Imaging Multiple Sclerosis Beyond the Resolution of the Blood Brain Barrier. *Oral presentation.*
6. **Maloni, H, Wallin M, Bagnato F, Deluca C.** Disease Management Therapies: When to Switch, When to Hold, When to do Nothing. *Oral presentation.*
7. **Spain R, Tarr A, Wallin M.** Enhancing high-quality VA MS care; Creation of the MSCoE VA MS Clinical Note template. *Oral presentation.*

### 25<sup>th</sup> Annual Rehabilitation Psychology Conference (Austin, TX – February 2024)

8. **Gromisch, E.S., Agresta, T., Turner, A.P., Ehde, D.M., Haselkorn, J.K., Neto, L.O., & Gokhale, S.S.** Designing Mobile Health (mHealth) with Accessibility and Usability in Mind. Symposium.

### Consortium of MS Centers (Nashville, TN – May/June 2024)

9. **Jackson, D. Turner, A.P., Raskin, S.A., Neto, L.O., Gromisch, E.S.** Forgotten intentions: The impact of fatigue on prospective memory in multiple sclerosis. Oral presentation.
10. **Hollen, C.** Disease modifying therapy guidance documents: Who has them? Do they help? Oral presentation.
11. **Bagnato F.** The role of AI-Enhanced Neuroimaging in Understanding MS Pathogenesis. *Invited Talk.*

### Southern Clinical Neurological Society (Key Largo, FL - Jan 2024)

12. **Bagnato F.** Toward precision phenotyping of multiple sclerosis. *Invited talk.*

**APPENDIX G. FY24 MSCoE Health Care Conferences, Webinar, And Other Educational Sessions  
With Network**

Date	Program	Collaboration	Title	Author(s)
Dec-23	The MS Spotlight	Network	Perceived Social Isolation in Veterans with Spinal Cord Injuries and Disorders	Wirth M (VA), LaVela S (VA)
Dec-23	VA MS ECHO	NW ECHO, VA ILEAD	Bone Health in MS	Burgess K (RP)
Nov-23	Current Topics in MS	VA ILEAD, NMSS	Assessing and Addressing Cognitive and Psychological Symptoms in People with MS: A Whole Health Approach	Lee-Wilk T (VA), Dux M (VA)
Nov-23	The MS Spotlight	Network	Adaptive Sports and MS	Goedhard K (VA Games)
Nov-23	VA MS ECHO	NW ECHO, VA ILEAD	MS: A Basic Introduction	Hillman L
Oct-23	The MS Spotlight	Network	Blood Flow Restriction Training for People with MS	Manago M (VA)
Sep-24	MS and CNS Neuroimmunology Symposium	OHSU	Biomarkers in MS: A Case-Based Presentation	Thakkar R (fellow), Bird B (fellow)
Sep-24	MS and CNS Neuroimmunology Symposium	OHSU	Diffuse Midline Glioma: A Serious and Under-Recognized Mimic of Inflammatory Myelopathy	Perlman J (fellow)
Sep-24	MS and CNS Neuroimmunology Symposium	OHSU	Emerging Cell-Based Therapies in MS	Cohen J (non-VA)
Sep-24	MS and CNS Neuroimmunology Symposium	OHSU	Molecular Landscape of White Matter Disorders	Wiszniewski W (non-VA)
Sep-24	MS and CNS Neuroimmunology Symposium	OHSU	Pain Management for Chronic and Complex Disorders	Sdrulla A (non-VA)
Sep-24	The MS Spotlight	Network	Decision Making Capacity and Surrogacy: What This Means in Healthcare Ethics	Budd M (VA)
Aug-24	Current Topics in MS Webinar Series	VA ILEAD, NMSS	Surveying Disease Modifying Therapies in MS: Green Light, Yellow Light, Red Light	Rinker J (RP)
Aug-24	PVA Summit	PVA	MSCoE Business Meeting	MSCoE
Aug-24	The MS Spotlight	Network	Taking MS Veteran Care Up a Notch: Including Bone Health Surveillance	Burgess K (RP)
Aug-24	VA MS ECHO	NW ECHO, VA ILEAD	Benefits of Interdisciplinary Rehabilitation	Burgess K (RP)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	Benefits of Working with an MS Pharmacist	Silbermann E (VA RP)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	Cognitive Remediation Therapy Program	Memon A
Jul-24	MSCoE West Regional Meeting	VA ILEAD	CPRS MS Templates	Spain B

Date	Program	Collaboration	Title	Author(s)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	Experiences with Mavenclad	Hooshmand S (VA RP)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	Getting Credit for All That You Do: Outpatient, VVC, CVT, Telephone, and Interfacility Consults	Reggio A (VA)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	Interfacility Consults	Williamson E (VA RP)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	National Neurology Update	Graham G (VA)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	New DMT Selection Guidance Documents	Antonovich N (VA)
Jul-24	MSCoE West Regional Meeting	VA ILEAD	Short and Mid-Term Research Priorities for Veterans with MS	Wooliscroft L
Jul-24	MSCoE West Regional Meeting	VA ILEAD	VHA Support Services Center: Quick Data Access	Leipertz S
Jul-24	The MS Spotlight	Network	How to Approach a Research Study at the VA	Wooliscroft L
Jul-24	VA MS ECHO	NW ECHO, VA ILEAD	MS Disease-Modifying Therapies	Antonovich N (VA)
Jun-24	The MS Spotlight	Network	Learning the System: A New Comprehensive VA MS Social Work Assessment Within the New Electronic Health Record	Sloan A (VA), Spangenberg K (VA)
May-24	CMSC Annual Meeting	CMSC	MSCoE/VA Business Meeting	MSCoE
May-24	CMSC Annual Meeting	CMSC	MSCoE/VA Reception	MSCoE
May-24	Current Topics in MS Webinar Series	VA ILEAD, NMSS	Fostering Meaningful Interactions: Importance of Motivational Interviewing and Shared-Decision Making	Freeman L (non-VA)
May-24	The MS Spotlight	Network	Neural Effects of Fatigue on Cognition in Relapsing MS: Insights from Magnetoencephalography	Memon A
May-24	VA MS ECHO	NW ECHO, VA ILEAD	Rehabilitation Psychology Services in MS Care	Werhane M (VA)
Apr-24	The MS Spotlight	Network	The VA Neurology Cube and MS Case Finding	Leipertz S
Apr-24	VA MS ECHO	NW ECHO, VA ILEAD	Vocational Rehabilitation	Nabbefeld H (VA)
Apr-23	American Academy of Neurology	AAN	MSCoE West-Portland and OHSU Fellowship Poster and Presentation	Yadav V, Garcia Garcia C (fellow)
Mar-24	The MS Spotlight	Network	Paramagnetic Rim Lesions and MS	Graham B (resident)
Mar-24	VA MS ECHO	NW ECHO, VA ILEAD	Health Equity in MS Care	Hillman L
Feb-24	Current Topics in MS	VA ILEAD, NMSS	Assistive Technology Applications in Persons with MS	Dons B (VA)
Feb-24	The MS Spotlight	Network	Infections and MS	Smith B (VA)
Jan-24	The MS Spotlight	Network	The Role of RCC on Interdisciplinary Team	Bakken S (VA)
Jan-24	VA MS ECHO	NW ECHO, VA ILEAD	Whole Health in MS	Hillman L

## APPENDIX H. FY24 MSCoE Health Care Professional Grand Rounds Presentations

Date	Program	Collaboration	Title	Presenter(s)
Jan-24	Resident Didactics	University of Alabama	Neuromyelitis Optica and Other Demyelinating Diseases	Rinker J
Feb-24	Neurology Grand Rounds	University of Arkansas	Cultivating Interest in Neurology for the Future: A Single-Center Success Story	Rinker J
Feb-24	Neurology Residency Noon Conference	Duke University	Work Life Balance	Shah S
Mar-24	Neuroimmunology Seminar Series	John Hopkins University	Adaptive Optics Retinal Imaging for MS	Harrison D
Mar-24	Neurology Grand Rounds	University at Buffalo	The Relationship Between MS and Arterial Vascularization	Bagnato F
Mar-24	Resident Didactics	University of Alabama	Emerging Therapies in MS	Rinker J
Apr-24	Neurology Residency Noon Conference	Duke University	Advanced Curriculum in Neuroimmunology	Shah S
May-24	Neurology Grand Rounds	Thomas Jefferson University	Imaging Chronic Active Lesions in MS	Bagnato F
May-24	Resident Didactics	University of Alabama	MS Case Studies: Practical Approaches to MS Management	Rinker J
Jun-24	Neurology Residency Noon Conference	Duke University	Introduction to Billing	Shah S
Jun-24	Resident Didactics	University of Alabama	Neurological Approach to Dizziness	Rinker J
Aug-24	Neurology Residency Noon Conference	Duke University	Optic Neuropathy	Shah S
Sep-24	Resident Didactics	University of Alabama	Gender-Specific Care of MS	Rinker J
Oct-23	Neurology Grand Rounds	University of Maryland	Global Burden of MS	Wallin M
Oct-23	Neurology Grand Rounds	University of Maryland	Global Burden of MS	Wallin M
Oct-23	Neurology Residency Noon Conference	Duke University	Neuroimmunology Therapies	Shah S
Oct-23	Neurology Residency Noon Conference	Duke University	Optic Neuropathy	Shah S
Oct-23	Resident Didactics	University of Alabama	Relapse Management in MS	Rinker J
Nov-23	Grand Rounds	Dartmouth College	The National Tele-Neurology Program	Bevan C
Nov-23	Grand Rounds	Samaritan Health Services	Updates in MS: Diagnosis and Treatment	Wooliscroft L
Nov-23	Grand Rounds	The Neurology Center	An Update on DMTs for MS	Harrison D
Dec-23	Grand Rounds	Mercy Medical Center	Central Nervous System Manifestations of Systemic Autoimmunity	Fredrich S

## APPENDIX I. FY24 MSCoE Health Care Professional Invited Lectures

Date	Program	Collaboration	Title	Presenter(s)
Dec-23	Neurology Resident Didactics	University Maryland	Brain and Behavior Course: MS Overview	Fredrich S
Nov-23	Annual Meeting	America Association of Neuromuscular and Electrodiagnostic Medicine	Incidence and Management of Inflammatory Neuropathies During Pregnancy	Memon A
Nov-23	Duke Clinical Neurophysiology Fellows	Duke University	Autoimmune Epilepsy	Shah S
Nov-23	MS Didactics	University Maryland	Risk of New Disease Activity in Patients with MS Who Continue or Discontinue DMTs	Enriquez Y (fellow)
Nov-23	Telis Neuroimmunology Education Symposium	Wayne State University	Navigating the complex Interplay: Infections and DMTs in MS	Memon A
Nov-23	Weiner Neurology Update	University Maryland	Transverse Myelitis	Fredrich S
Oct-24	Resident Didactics	OHSU	Lecture: Injectable DMTs for MS	Perlman J (fellow)
Oct-23	MS and Neuroimmunology Fellowship Conference	Duke University	Pregnancy and Demyelinating Disease	Shah S
Aug-24	Annual Meeting	7T Translational Alliance of North America	Advances in 7T MRI for MS	Harrison D
Aug-24	Annual Meeting	PVA	DMTs at the VA: Updated Guidance from MSCoE and VA Pharmacy Benefits Management	Spain R, Hollen C (VA)
Aug-24	Annual Meeting	PVA	Imaging MS Beyond the Resolution of the Blood Brain Barrier	Bagnato F
Aug-24	Annual Meeting	PVA	Whitaker Lecture - Interdisciplinary Team Care in MS: From Assessment to Management	Pacheco MF (RP)
Aug-24	Annual Meeting	PVA	Disease Management Therapies: When to Switch, When to Hold, When to do Nothing	Wallin M, Smith B (VA), Maloni H (VA), Bagnato F, DeLuca C (RP)

Date	Program	Collaboration	Title	Presenter(s)
Aug-24	Annual Meeting	PVA	Imaging MS: From Experts Recommendations to Day-to-Day Implementation	Bagnato F
Aug-24	Annual Meeting	PVA	Enhancing High-quality VA MS Care: Creation of the MSCoE VA MS Clinical Note Template	Spain R, Tarr A (RP), Wallin M
Aug-24	Annual Meeting	PVA	Learning the System: A New Comprehensive VA MS Social Work Assessment Within the New EHR	Sloan A, Spangenberg K (VA)
Aug-24	Annual Meeting	PVA	The MS Multidisciplinary Team: Perspectives from Social Work, Neuropsychology, and the Neurology Nurse Practitioner	DeLuca C (RP), Vazquez B (VA), Ferguson B
Aug-24	Annual Meeting	PVA	The ABCs of Cognitive Functioning in MS: Assessment, Behavioral Health, and Cognitive Rehabilitation	Fernandes M (VA), Aucone E
Aug-24	Annual Meeting	PVA	Establishing Short and Mid-Term Research Priorities for Veterans with MS: A Modified Delphi Process	Wooliscroft L
Aug-24	Lecture Series	VA Teleneurology	MS Progression	Bevan C
Aug-24	VA MS Social Workers Virtual Meeting	VA	Submitting a Successful Abstract for a Platform Presentation or Poster	Sloan A
Jul-24	Contemporary Clinical Neurology Symposium	Vanderbilt University	Treatment of MS	Bagnato F
Jul-24	Contemporary Clinical Neurology Symposium	Vanderbilt University	Smoldering MS: Diagnostic and Treatment Challenges	Bagnato F
Jun-24	Panel	National MS Society	MS Research Community Outreach	Wooliscroft L
May-24	AAN Resident Education Lecture Series	Duke University	MS 101	Shah S
May-24	Annual Meeting	CMSC	Optimizing Care in MS: The VHA MS System of Care: Using Data to Optimize National Strategies to Deliver Health Care	Haselkorn H
May-24	Annual Meeting	CMSC	Optimizing Care in MS: DMT Optimization: DMT Selection – Who has Guidance Documents? Do they help clinical care?	Hollen C (VA)
May-24	Annual Meeting	CMSC	Optimizing Care in MS: DMT Utilization: Patterns of Use and Roles of Generics in VA and US Medicare Systems	Spain R

Date	Program	Collaboration	Title	Presenter(s)
May-24	Annual Meeting	CMSC	The Role of AI-Enhanced Neuroimaging in Understanding MS Pathogenesis	Bagnato F
May-24	Annual Meeting	CMSC	Imaging Patient with MS in 2024: Implementation of Standard MRI Protocols	Wallin M
May-24	Annual Meeting	CMSC	Imaging Patient with MS in 2024: Paramagnetic Rim Lesions	Rohm Z (VA)
May-24	Annual Meeting	CMSC	Imaging Patient with MS in 2024: Biomarkers of Lesion Severity	Toubasi A (VA)
May-24	Annual Meeting	CMSC	Imaging Patient with MS in 2024: Central Vein Sign	Koch C (VA)
May-24	Annual Meeting	CMSC	Approaches to DMT in RRMS	Rinker J
May-24	Neurology Education Symposium	University Maryland	The Science of Happiness	Fredrich S
May-24	Neurology Resident Didactics	University Maryland	Brain and Behavior Course: MS Treatment	Harrison D
Apr-24	Medical Student Research Program	OHSU	Physician-Scientist Experience	Wooliscroft L
Apr-24	Postvention Community of Practice Call	Rocky Mountain MIRECC for Suicide Prevention	Critical Incident Response Team: A Service by Employees for Employees	Sloan A
Mar-24	ACTRIMS Forum 2024 Interview	VuMedi Community	Adaptive Optics Retinal Imaging for MS	Harrison D
Mar-24	ACTRIMS Forum 2024 Podcast	ReachMD	Visionary Insights: Assessing MS-Related Retinal Changes with Adaptive Optics	Harrison D
Mar-24	Duke PA Program Lecture	Duke University	CNS Infections	Shah S
Mar-24	Glaucoma and Neuro Ophthalmology Retreat 2024	OHSU	MS Research	Silbermann E (VA)
Mar-24	Resident Lecture	Dartmouth College	Optic Neuritis Three Ways	Bevan C
Feb-24	Annual Meeting	Association of VA Neurology Services	Diagnosis and Treatment of MS	Wooliscroft L
Feb-24	Cooperative Workshop 2024	North American Imaging in MS	Blood Retinal Barrier and Correlates with Brain Pathology in MS	Silbermann E (VA)
Feb-24	Forum 2024	ACTRIMS	Adaptive Optics Retinal Imaging for MS	Harrison D
Feb-24	Forum 2024	ACTRIMS	Meninges: Imaging Meningeal Enhancement in MS	Harrison D
Feb-24	The Synapse: Research Updates in MS	OHSU	Exploring Aerobic Exercise as a Potential Remyelination Therapy in People with MS	Wooliscroft L
Jan-24		Southern Clinical Neurological Society	Toward Precision Phenotyping of MS	Bagnato F

**APPENDIX J. FY24 MSCoE MS Fellowship Programs**

Years	Training Location	Name, Discipline	Fellowship Funding Source	Position After Graduation, Organization	City/State	VA Position
2022-2024	Portland	Crowson, Cole, MD	VA OAA	MS Neurologist, Wellstar Health	Atlanta, GA	No
2022-2024	Portland	Garcia, Carolina, DO, MS	VA OAA	MS Neurologist, Saint Luke's Neurology Group/Health System	Kansas City, MO	No
2023-2024	Portland	Wu, Helen	NMSS	University of Michigan	Ann Arbor, MI	No
2023-current	Baltimore	Enriquez-Gonzalez, Yesenia, MD	VA OAA	TBD		
2023-current	Portland	Perlman, Jacob, MD	VA OAA	TBD		
2023-current	Puget Sound	Mistretta, Erin, PhD	NMSS	TBD		
2024-current	Baltimore	Mitchell, Hunter	VA OAA	TBD		
2024-current	Portland	Bird, Benjamin, MD	VA OAA	TBD		
2024-current	Portland	Kelley, Laurel, MD, MMS	NMSS	TBD		
2024-current	Portland	Thakkar, Richa, DO	VA OAA	TBD		

## APPENDIX K. FY24 MSCoE Patient & Caregiver Programs

Date	Product	Program	Collaboration	Title	Speaker(s)
Dec-23	E-letter	MS Veteran	Network	My Travels with MS	Henry J
Dec-23	E-letter	MS Veteran	Network	Wellness and MS	Spain R
Dec-23	E-letter	MS Veteran	Network	Living Your Best Life with MS	NMSS
Dec-23	E-letter	MS Veteran	Network	Colitis - A Possible Rare Effect of B Cell Treatment in MS	Memon A
Dec-23	Podcast	MS & Vets	ILEAD, Network	Cognitive Rehabilitation and MS	Askren A (VA)
Nov-23	Podcast	MS & Vets	ILEAD, Network	Choosing a DMT	Martin K (fellow)
Oct-23	Podcast	MS & Vets	ILEAD, Network	What Causes MS?	Williamson E (RP)
Sep-24	E-letter	MS Veteran	Network	Smoking and MS	Turner A
Sep-24	E-letter	MS Veteran	Network	Resilience: Addressing the Challenges of MS	NMSS
Sep-24	E-letter	MS Veteran	Network	I've Traveled a Long Way, and Some of the Roads Aren't Paved	Fredrich J (Veteran)
Sep-24	Podcast	MS & Vets	ILEAD, Network	Taking Care of the MS Caregiver	Sloan A
Aug-24	Podcast	MS & Vets	ILEAD, Network	Headaches and MS	Zughayer S (VA)
Jul-24	Podcast	MS & Vets	ILEAD, Network	Complementary and Alternative Therapies and MS	Shah S
Jun-24	Conference	At the Frontier and Beyond	OHSU	Lipoic Acid: Does it Treat MS?	Spain R
Jun-24	Conference	At the Frontier and Beyond	OHSU	Falls and Fall Prevention in MS	Cameron M (non-VA)
Jun-24	Conference	At the Frontier and Beyond	OHSU	Visual Outcomes in MS Research	Silbermann E (RP)
Jun-24	Conference	At the Frontier and Beyond	OHSU	Pathways in Remyelination Research	Emery B (non-VA)
Jun-24	Conference	At the Frontier and Beyond	OHSU	Strategies to Promote Myelin Repair	Wooliscroft L
Jun-24	E-letter	MS Veteran	Network	Optic Neuritis	Winges K, Shin R
Jun-24	E-letter	MS Veteran	Network	Social Worker Support for Veterans and Families	Spencer J (VA), Sloan A, Ferguson B
Jun-24	E-letter	MS Veteran	Network	Navigating the VA: A Disabled Female Veteran's Journey	Strickland A (Veteran)
Jun-24	Podcast	MS & Vets	ILEAD, Network	Research and MS	Wooliscroft L
May-24	Podcast	MS & Vets	ILEAD, Network	Osteoporosis and MS	Burgess K (RP)

Date	Product	Program	Collaboration	Title	Speaker(s)
Apr-24	Podcast	MS & Vets	ILEAD, Network	Importance of MRI in MS Care	Wallin M
Mar-24	E-letter	MS Veteran	Network	Get Out and Play	Tostenrude D (VA)
Mar-24	E-letter	MS Veteran	Network	MS Research and You	Sloan A
Mar-24	E-letter	MS Veteran	Network	It's Mind Over Matter with MS	Henry J
Mar-24	Podcast	MS & Vets	ILEAD, Network	Vision and MS	Winges K (VA)
Nov-23	Podcast	Ask and MS Expert	NMSS	Managing MS Fatigue	Anza M
Mar-24	Webinar	Ask An MS Expert	NMSS	Preventing Falls for Veterans with MS	Shah S, Manago M
Mar-24	Webinar	MSCoE Caregiver Webinar	NMSS	Webinar for Caregivers and Family Members of Veterans with MS	Sloan A, Ferguson B
Feb-24	Podcast	MS & Vets	ILEAD, Network	Symptoms of MS	Romeo A (RP)
Jan-24	Podcast	MS & Vets	ILEAD, Network	Adaptive Driving and MS	Niewoehner P (VA)

**APPENDIX L. FY24 MScOE Veteran Community engagement**

Date	Program	Collaboration	Title	Speaker(s)
Nov-23	Making Connections: A MS and Neuroimmunology Community Education Symposium	Washington, DC Community Clinics	Update on MS Epidemiology in the US	Wallin M
Oct-23	Without Walls MS Forum	Race to Erase MS	MS and COVID-19 Updates	Yadav V
Jul-24	MS Support Group	VA Portland HCS	Diet and MS	Wooliscroft L
May-24	Webinar Series	Can Do MS	Diagnosing and Treating Neuromyelitis Optica and Neuromyelitis	Bagnato F
Apr-24	Brain Fair	Oregon Museum of Science and Industry	Interactive Station to Teach Children and Community Members About MS	Wooliscroft L

**APPENDIX M. FY24 MScOE Patient Support Groups**

Frequency	Duration	Target Audience	Modality	Location	Title	Coordinator(s)
Annually, Bi-Weekly as needed	60 min.	Veterans	Virtual	Baltimore, MD (national)	Open MINDS (MS Intervention and Development of Skills) - Cognitive Wellness Support Group	Lee-Wilk T (VA), Dalrymple J (VA)
Monthly	60 min.	Veterans	Virtual	Portland, OR	MS Support Group	Strauss L (VA)
Bi-monthly	90 min.	Caregivers	Virtual	Seattle, WA	Physical Rehabilitation Care Services Telehealth Caregiver Support Group	Sloan A
Monthly	60 min.	Veterans	Virtual	Seattle, WA	MS Support Group	Werhane M (VA), Anderson D (VA)