



Executive Summary:

In 2024, the Tedy's Team Center of Excellence in Stroke Recovery at MGH Institute of Health Professions (IHP) made outstanding progress across its three pillars: Community Outreach, Stroke Research, and Rehabilitation Care.

Community Outreach

The Center focused on stroke education, particularly in underserved communities, using bilingual and culturally tailored programming to promote the "BE FAST" message. Collaborations with schools, senior living facilities, and community organizations delivered workshops, health fairs, and multilingual materials. Stroke awareness videos and participation in events like the IHP Community Impact Day further extended the Center's impact.

Stroke Research

Researchers published twenty-three peer-reviewed articles on stroke recovery, including studies on motor control, vagus nerve stimulation, and post-stroke aphasia. Two NIH-funded studies explored innovative rehabilitation strategies to improve brain function and recovery. The Tedy's Team Stroke Research Fellowship supported faculty projects addressing key issues like fall prevention and home-based therapies while involving stroke survivors as collaborators.

Rehabilitation Care

The Center provided 2,269 pro bono therapy sessions to over sixty stroke survivors, using the "Life Participation Approach" to help clients achieve personal goals and reengage in meaningful activities. Group programs and events, such as the Art of Recovery Day and Waterfront Wellness Day, promoted social connection and recovery. Client feedback highlighted the life-changing impact of these services, especially for those with limited insurance coverage.

The Tedy's Team Center continues to innovate and empower, advancing stroke recovery science and improving the lives of stroke survivors and their families.

Pillar 1: Community Outreach

The Tedy's Team Center of Excellence in Stroke Recovery continues to educate faculty, staff, health professions students, and clients at MGH Institute of Health Professions (IHP), as well as communities across the Boston area, about recognizing stroke symptoms and responding effectively in emergencies. By partnering with community health centers, schools, and organizations, the Center promotes the "BE FAST" message through workshops, health fairs, and educational materials such as pamphlets, magnets, and stickers available in multiple languages.

Dedicated to culturally appropriate education, the Center focuses on underserved populations to advance health equity and improve stroke outcomes. These efforts are supported by a committed group of volunteers, including students, faculty, and runners from Tedy's Team. Highlights of this year's community outreach activities include:

Schools:

- Educational workshop within the curriculum of La Collaborative STEM Internship Program for high school students in Chelsea, MA – January 5, 2024; students went on to apply their knowledge by sharing information within their community at a local health fair
- Education and distribution of materials to families of elementary school-aged children at the Harvard Kent Wellness Fair in Charlestown, MA – March 14, 2024
- Educational workshop within the curriculum of the Chelsea High School Health Career Pathways Program – August 7, 2024

Senior Living Apartments:

- Bilingual English/Albanian Stroke Education Workshop at South Boston Apartments – April 30, 2024
- Bilingual English/Chinese Stroke Education Workshop at Robert A. Georgine Towers in Charlestown, MA – May 23, 2024

Community Centers and parks:

- NEW Health's Viva La Bocce Health Fair in Boston's North End – May 4, 2024
- Bilingual English/Spanish Stroke Education Workshop in partnership with Chelsea Community Connections in Chelsea, MA – May 14, 2024
- Joseph R. Betancourt Health Fair in Roxbury, MA – May 11, 2024
- Educational workshop at Nazzaro Community Center in Boston's North End – October 11, 2024
- Education and distribution of educational materials to clients of the YMCA in Charlestown – November 4, 2024
- Education and distribution of bilingual English/Spanish educational materials La Colaborativa in Chelsea – November 23, 2024



The Tedy's Team Center of Excellence created news items and social media content to raise awareness about stroke signs and the importance of timely action. The Center produced a video featuring the personal story of an IHP faculty member to educate viewers on recognizing stroke symptoms and the critical need to activate emergency medical services immediately. This video, shared through IHP social media accounts and partner organizations, is prominently displayed on the Center's landing page.

For the annual IHP Community Impact Day in September, an interprofessional team of health professions students developed an educational skit video demonstrating how to identify stroke signs and take appropriate action. This [video](#) is now an integral part of the Center's community outreach programming.

Pillar 2: Stroke Research

Researchers continue to make profound advancements in the science of stroke recovery research. Our team of interprofessional scientists disseminate their findings at national and internationally conferences, as well as in peer reviewed scientific journals. They apply innovative research to optimize outcomes for stroke survivors.

Publications

Since December 2023, there were twenty-three stroke-related papers published by researchers connected with Tedy's Team Center of Excellence in Stroke Recovery. These studies contributed to the scientific body of knowledge related to motor control and mobility after stroke, vagus nerve stimulation therapy after chronic



stroke, the role of social support on improving outcomes after stroke, accuracy of outcome measurement tools, and novel interventions for post stroke aphasia. These studies were published in a variety of esteemed journals including Stroke, Annals Neurology, Archives of Physical Medicine and Rehabilitation, and the American Journal of Speech-Language Pathology. Full listing of the twenty-three publications is available upon request. In addition to peer reviewed publications, Tedy's Team Center of Excellence in Stroke Recovery supported an interprofessional collaboration of faculty with diverse

experience and expertise in stroke rehabilitation including clinical, research, and technology to create and published a [comprehensive report on rehabilitation strategies](#) and technological advances to improve quality of life after stroke.

Research Scientists and Tedy's Team Stroke Research Fellows

Two senior researchers, Dr. Julie Keysor and Dr. Teresa Kimberley, are currently leading National Institutes of Health sponsored research aimed at improving outcomes of stroke survivors. This funding also supports PhD in Rehabilitation Science graduate students and post-doctoral fellows. These two scientists shared more about their work during the [Celebration of Tedy's Team runners](#) on June 6, 2024 which was attended by about 2 dozen runners. During the event, Dr. Kimberley discussed how to pair nerve stimulation with rehabilitation can greatly increase arm and hand functioning after a person has a stroke. She explained that "We know that

rehabilitation helps to rebuild connections and find new pathways between different areas in the brain. Our ultimate goal is to make those connections better, faster, and stronger so all of the things people want to do, that they can do them and do them better. If you have better connections, you can have better brain activation and better function." In total, researchers submitted 14 grants related to stroke to a variety of external funders in 2024.

Tedy's Team Center of Excellence in Stroke Recovery launched Tedy's Team Stroke Research Fellowship for IHP Faculty conducting novel stroke research in 2023. The aim of this Fellowship is to advance the mission of the Tedy's Team Center of Excellence through faculty led research by providing seed funding to support pilot data collection that will be leveraged to apply for external funding. This Fellowship bridges the gap between practice and research and provides investigators the opportunity to engage directly with stakeholders and seek input from stroke survivors and their care partners. Three teams of Fellows were selected for 2023-2024: Dr. Megan Schliep (mentored by Physical Therapy Professor, Dr. Prue Plummer), Communication Science Disorders Associate Professor, Dr. Lauryn Zipse (mentored by Dr. Nara Gavini), and the team of Communication Science Disorders Instructors, Esther Ayuk and Suzanne Pennington (mentored by Dr. Marjorie Nicholas).

The [Tedy's Team Stroke Research Fellows](#) made excellent progress on their novel research projects, presenting their work at national forums and publishing in peer reviewed journals. They will present a summary of their achievements in Spring 2025. These projects have focused on:

- Identifying the moderating roles of psychosocial, physical activity, and communication factors on fall status after stroke using ecological momentary assessment
- Scaling up: Piloting a home-practice version of Melodic Intonation Therapy
- Activating Life Participation: Tracking outcomes after an Intensive Comprehensive Aphasia Program

Pillar 3: Rehabilitation Care

Therapeutic Approach

The Center follows a "Life Participation Approach" that was originally developed for stroke survivors with aphasia and has since been generalized to all stroke survivors. This approach is "a consumer-driven service-delivery approach that supports individuals with [stroke] and others affected by it in achieving their immediate and longer-term life goals." It focuses on personalized care targeting engagement in meaningful life activities. The stroke survivor is empowered to identify goals and participate in therapy for as long as they find benefit. Given this approach to neurorehabilitation, clients in the Center can participate in therapy for a longer period than traditional treatment settings that are dictated by insurance coverage.

Number of Stroke Survivors Treated

In 2024, over 60 stroke survivors and care partners participated in the pro bono services at the Sanders Impact Practice Center based in the Charlestown campus of the IHP. These clients benefited from a total of 2,269 visits for rehabilitative care provided by clinicians in training under the supervision of faculty from occupational therapy, physical therapy, speech and language pathology, and nursing programs. Services were provided individually with a focus on personalized goals or via



various group offerings including the Aphasia Conversation, Rebuilding Identity After Stroke, Stroke Care Partner Support, Leisure-Wellness, Seated Exercise, and Walking groups.

Approximately 20% of clients took advantage of more than one rehabilitation offering. Session formats varied based on client needs with options for in-person (52%), virtual (29%), or hybrid (19%). The average client age was 62 years old (range 14-86 years), and 65% of the population were male. The time since stroke ranged widely from 1 to 26 years with an average of 8.5 years.



At the end of the academic year, each client is asked to fill out a satisfaction survey to help us evaluate our program and ensure every client is receiving the care they need. This survey asks about every part of their visit including logistics around accessing the building, whether they felt respected, if they felt heard, and if they were provided with clear explanations to their questions. When asked about the greatest benefit of their visit, some of the responses included:

- “Addressing my conditions and concerns with the student I was working with”
- “Keeping me in an upward mental state after a debilitating stroke”
- “All of the motivation I received, and how important I am made to feel”
- “Ongoing improvement when insurance coverage is limited”

When asked what they liked best about their visit, some of the responses included:

- “The program allowed me to see personal progress on a weekly basis”
- “Provided me with purposeful, mindful, and intentional activities”
- “The lead therapist and students went out of their way to accommodate me and explain any questions I had to keep me pushing myself”

Bio of stroke survivor

Anna Aguilar was admitted to Massachusetts General Hospital after suffering two strokes in 2018. These strokes left the Chelsea resident, unable to walk, make a fist with her hand, or complete basic activities of daily life without help. With her family’s support and that of her inpatient physical therapy team at MGH, Aguilar slowly began to regain some of these abilities. A local business owner in her home country of Guatemala before coming to America, Aguilar has always been a woman of strength, according to her family. “She was driven to get better, always motivated,” her son said. “The nurses at MGH used to say she was cute, and I would say, ‘My mother?’ She is a fighter.” After her physical therapy services ended at MGH, her doctors recommended she continue treatment. Aguilar sought this treatment at the IHP and has since been regular participant in Tedy’s Team Center of Excellence activities. She continues her physical therapy sessions with students and clinical faculty while also working to achieve her goals beyond the clinic and improve her community participation. Her [inspiring journey](#) was published in May 2024 as a part of Stroke Awareness Month.

Specialized Programming

In addition to 1:1 therapy provided at the Center, Tedy’s Team Center of Excellence supports and develops programming focused on improving social participation for stroke survivors. Research shows that social participation leads to better quality of life, better physical outcomes, and better mental health for people with stroke.

Tedy's Team Center of Excellence Groups

- Two new groups were piloted in Tedy's Team Center of Excellence in Stroke Recovery. The groups were led by doctoral students and supervised by Tedy's Team Center Faculty.
 - [Support Group for Caregivers of Stroke Survivors](#)
 - This group was held virtually for 5 weeks
 - Programming design and feedback presented at the Massachusetts Association of Occupational Therapy Annual Conference and is scheduled to be disseminated at the American Occupational Therapy Association Annual Conference in 2025
 - [Rebuilding Identity after Stroke for stroke survivors](#)
 - This group was held in person for 5 weeks
 - Programming design and feedback presented at the Massachusetts Association of Occupational Therapy Annual Conference and is scheduled to be disseminated at the American Occupational Therapy Association Annual Conference in 2025

Massachusetts General Hospital Neurorecovery Program Art of Recovery Day

Tedy's Team Center of Excellence in Stroke Recovery co-sponsored the Massachusetts General Hospital Neurorecovery program's inaugural [Art of Recovery Day of Community on August 26, 2024](#). This unique event included two arts-based workshops, a facilitated group brainstorming session on improving community engagement, a panel that answered frequent questions after brain injury, and an exhibit hall that displayed relevant resources including Tedy's Team Center of Excellence in Stroke Recovery education materials. The event, with highlights portrayed in this [video](#), brought together a vibrant, caring, and engaged community of patients, families, providers, and researchers committed to understanding and accelerating recovery in innovative ways.



Waterfront Wellness Day

Social participation and physical activity are both restricted after stroke; yet both are viewed by stroke survivors as important to their recovery. [The second annual Waterfront Wellness Day](#) is designed to help stroke survivors take meaningful steps in their recovery process. Participants said Wellness Day helps with recovery because it allows for socialization with others who are also dealing with a stroke, gets them out into the community, exposes them to resources they did not know existed, and is motivational. One participant provided the following feedback: "I hugely appreciate the effort put into offering support to a group of people whose lives have been greatly interrupted. We are somewhat invisible. Everyone genuinely cared about us and that is so rare!" The [event](#) is the result of a collaboration between Tedy's Team Center of Excellence in Stroke Recovery at the IHP, the Coalition for a





Resilient and Inclusive Waterfront, and the New England Aquarium. After holding the event for the first-time last year, Tedy's Team Center expanded this year's event to include more than twice as many participants and invited other organizations that support stroke survivors to take part.

Client Appreciation Seasonal Social

The second annual [Client Appreciation Seasonal Social](#) at Tedy's Team Center of Excellence in Stroke Recovery brought together stroke survivors, their families, students, and faculty to celebrate progress toward personal goals and the holiday season. Designed to foster meaningful interactions, the event provided a platform for stroke survivors to share their achievements from the semester. A dozen stroke survivors participated in the celebration, joining a vibrant community of supporters on campus.

