STATEMENT OF
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Good afternoon, Chairwoman Miller-Meeks, Ranking Member Brownley, and members of the Subcommittee on Health. Thank you for the opportunity to testify before you today to discuss VA's Amputation System of Care (ASoC). Joining me today is Dr. Joel Scholten, Executive Director, Physical Medicine and Rehabilitation (PM&R); Dr. Ajit Pai, Executive Director, Office of Rehabilitation and Prosthetic Services; and J. Drew Craig, Design Chief, Enterprise Measurement and Design Directorate, Veterans Experience Office (VEO).

At VA, we are dedicated to addressing the diverse needs of Veterans with amputations throughout their lifetime and ensuring access to rehabilitation services, specialty benefits and services, and advanced prosthetics. Our comprehensive approach focuses on providing tailored care, cutting-edge technologies, and ongoing support to improve the quality of life for Veteran amputees.

Overview

VA's ASoC offers a comprehensive, integrated care model for Veterans with amputations or those who are at risk of amputation. This holistic approach emphasizes Veteran-centric care through a multidisciplinary team, including PM&R physicians, physical and occupational therapists, prosthetists, mental health clinicians, and various other specialists. ASoC's core philosophy revolves around providing lifelong care through coordination, collaboration, and education.

Amputations present unique challenges and complexities for Veterans requiring specialized services and support throughout their lifespan, including pre-amputation care, post-surgery, rehabilitation, prosthetic prescription and training, and lifelong follow up. The Veteran's care journey begins with pre-prosthetic care and preparation. Whenever possible, the ASoC team engages with Veterans and their families before surgery. This proactive approach allows for crucial education on post-operative care, home preparation, equipment needs, and future prosthetic plans. It ensures a smoother transition for Veterans returning home and assists families in making necessary preparations.

Once the Veteran’s residual limb has healed, the prosthetic fitting and training phase begins. The prescription process considers the Veteran's goals, prior functional level, and medical history. Fitting may occur within the VA system or with community prosthetists with the VA team collaborating to ensure the prosthesis meets the Veteran's mobility needs. The subsequent training process is intensive and requires commitment from the Veteran, their family, and the care team. This initial rehabilitation phase can extend more than a year post-amputation.

Post-prosthetic rehabilitation services involve close monitoring, especially during the first year. The team anticipates and responds to changes in the Veteran's limb and strength and makes necessary modifications to the prosthesis and rehabilitation plan. Veterans typically return to the Amputation Specialty Clinic multiple times in the first year after amputation to ensure the prosthesis supports the Veteran in achieving their functional goals.

Long-term follow up and maintenance are crucial aspects of the ASoC model. VA recommends annual assessments for all Veterans with major amputations to ensure continuity of care and lifelong management. ASoC adopts a Whole Health approach that incorporates peer support, support groups, and adaptive sports to help Veterans reintegrate into the community.

Adaptive sports programs play a significant role in the rehabilitation process. VA uses health care practitioners to refer patients to recreation therapists who educate Veterans and families about adaptive sports and leisure activities. They also aid Veterans with renewing pre-injury leisure activities, introduce adaptive equipment, teach new skills, and facilitate community integration. Adaptive Sports programs adhere to specific regulations for equipment provision and can have a profound impact on Veterans' well-being. They help Veterans restore functional capabilities, boost self-esteem, and improve overall quality of life. Recreation therapists, working with Veterans in adaptive sports programs, partner with the ASoC team when specialty prosthetic limbs are required to participate in a sport.

Through this comprehensive approach, ASoC provides a continuum of support from pre-amputation through long-term care, ensuring Veterans receive the highest quality of care and support throughout their journey.

Recent Data

During fiscal year (FY) 2024, the Veterans Health Administration (VHA) surgery programs performed over 8,000 amputations, which is a 7.7% decrease from FY 2019. Toe/foot amputations were most common (69.7%), followed by below-knee (19.9%) and above-knee leg amputations (15.3%). A trend towards more distal (further away from the body) amputations in FY 2024 suggested a preference for tissue preservation.

Veterans undergoing amputations were predominantly male (98%) with a mean age of 70 years. They often had complex comorbidities, which included diabetes (87%),

peripheral vascular disease (82%), and ongoing tobacco use (over 50%). Notably, most VA amputations result from chronic diseases rather than combat or trauma. Only 119 of the over 8,000 FY 2024 amputations were performed on Veterans with Operations Enduring Freedom, Iraqi Freedom, or New Dawn designations.

DoD and VA Partnerships

The Department of Defense (DoD) and VA have established a robust collaborative framework to ensure seamless care for Service members and Veterans, particularly in amputation and limb trauma. This interagency partnership is exemplified through various initiatives and programs designed to enhance patient care, streamline processes, and foster innovation.

One cornerstone of collaboration is the Extremity Trauma and Amputation Center of Excellence (EACE), which is a Congressionally-mandated joint effort that focuses on advancing care for individuals with limb trauma or amputations. EACE ensures consistency and efficiency across both agencies and demonstrates a commitment to providing the highest quality care for those who have sacrificed for our country.

Another significant area of cooperation is the development and updating of Clinical Practice Guidelines (CPG). VA and DoD regularly join forces to create evidence-based guidelines that improve patient care for Veterans, Service members, and civilians. These interagency workgroups have made substantial progress in developing guidelines for upper and lower limb amputation rehabilitation, which ensures standardized care practices based on the latest research. CPGs for upper and lower limb amputation are publicly available on the VA/DoD Clinical Practice Guidelines webpage (https://www.healthquality.va.gov). VA clinicians are informed of CPG updates through a variety of educational forums, such as webinars, community of practice calls, and email distribution to clinical providers.

The collaboration extends to logistical support with VA's Denver Logistics Center (DLC) providing comprehensive supply chain management for various VA programs. Notably, DLC grants DoD orthotists and prosthetists access to its contracted orthotic and prosthetic components, which facilitates timely procurement and enhances care delivery. This cooperation is further strengthened by mutual participation of DoD and VA providers in each other's educational programming, thereby fostering knowledge exchange and professional development.

To ensure a smooth transition of care for Service members, ASoC implemented a network of 25 Amputation Rehabilitation Coordinators across the country. These coordinators assist Service members with amputations in their transition to the VA system. Additionally, they help coordinate care for Veterans who receive ongoing treatment in both systems.

The Office of Advanced Manufacturing (OAM) currently executes a Joint Incentive Fund (JIF) grant to align advanced manufacturing between VA and DoD. A

major component of this work was developing a shared Quality Management System (QMS) that adheres to U.S. Food and Drug Administration (FDA) requirements and allows for the development and manufacturing of certain medical devices within VA and DoD, thus facilitating easy sharing of products and ideas. With the shared QMS and medical devices, transitioning Service members can expect to receive continuation of care and similar prosthetics services between DoD and VA.

Research and Innovation

Since 9/11, technological advancements revolutionized care delivery and prosthetic devices. Additionally, VA improved communication between Veterans and their clinic teams through platforms like MyHealtheVet, My VA Images, and VA Video Connect. These tools allow Veterans to share their home and community environments with providers, which enables a better matching of prostheses and rehabilitation plans to optimize independence. VA's Office of Healthcare Innovation and Learning also has been instrumental in implementing cutting-edge technologies. By adopting 3D scanners, printers, and digital software, VA developed a digital prosthetic workflow and seamlessly integrated new hardware and software.

Prosthetic devices have benefited from micro-computing and design improvements. Lower limb prostheses now use advanced algorithms and real-time measurements to react to user movements, which reduces the risk of falls. Power-generating foot and knee systems can actively propel users forward. Upper limb prostheses also have advanced systems that can identify muscle activity patterns to replicate desired movements more accurately and prosthetic hands that can move individual digits for increased precision.

The human-prosthesis interface has seen advancements through various surgical techniques including Ertl technique, Targeted Muscle Reinnervation (TMR), and bone-anchored external prostheses. The Ertl technique is a surgical procedure in which a tibiofibular bone bridge is established with the intent of creating improved distal weightbearing. The TMR procedure aims to alleviate phantom limb pain and improve muscle control over myoelectric prostheses by intentional placement of nerves within selected muscles. Veterans now have access to osseointegration (OI) surgery creating direct skeletal attachment for the prosthetic limb. Nine Veterans have received OI surgery, either in VA or through a community provider, since the inception of the program in January 2022. VA is carefully monitoring the demand for this procedure to ensure Veterans have access to this innovative surgery.

Ongoing research and development initiatives continue to push the boundaries of prosthetic technology. VA has funded a new research center with a focus on prosthetics, which brings the total number of VA Rehabilitation Research and Development Centers in amputation care and prosthetic technology to three. Current projects include a 3D-printed foot system to enable women Veterans to wear shoes of any size, type, and heel height; testing fully implanted neuro-prosthetic systems that enable users to feel touch through their prosthetic as if it were their own limb; improving

clinical measures for upper-limb amputees; and developing shared decision-making tools for amputation level and prosthetic component selection. Research is also underway to improve prosthetic attachment methods. This research includes a multi-site study which tests a VA-developed bone-anchored prosthetic docking system, develops women-specific above-elbow prosthetic suspension systems, creates new variable-compliance below-elbow prosthetic arm sockets based on athletic shoe technology, and tests the effects of an adjustable above-knee socket on asymmetry, residual limb movement within the socket (socket pistoning) and comfort/satisfaction in female and male Veterans.

Procurement and Manufacturing

VA balances efficiency with individual patient needs by following a structured approach to procuring and manufacturing prosthetics. Manufacturing challenges often stem from limitations in local resources, particularly in rural areas. To address these challenges and manage the device lifecycle, VA's regulations (38 C.F.R. §§ 17.3200-3250) prioritize repairing existing items unless replacement is clinically necessary or more cost-effective. Decisions regarding limb repair or replacement involve discussions between the clinician, Veteran, and Prosthetic and Sensory Aids Service (PSAS) representative.

Case studies from the Denver VA Medical Center (VAMC) and Fayetteville VAMC highlight ongoing efforts to improve prosthetics services. Key improvements include aligning surgical implant handling with VHA Directive 1081.01(1), Procurement of Surgical Implants; enhancing Durable Medical Equipment contractor stocking; and addressing staffing shortages. These efforts have yielded tangible results, such as reducing open consults and eliminating delayed orders. The Fayetteville VAMC does not fabricate limbs. All prosthetic limb requests are referred to vendors for fabrication or procurement. The latest Veteran feedback report stated that 88.8% of clinical prosthetics patients expressed trust in their prosthetics team at the Fayetteville VAMC.

The Office of Advanced Manufacturing is collaborating with various VA offices and external organizations to develop an end-to-end digital prosthetic workflow. This digital workflow aims to improve efficiencies in device delivery, reduce facility space requirements, and enhance communication across the VA enterprise including expanding capacity for community-based outpatient clinics (CBOC) and rural sites. The workflow also offers opportunities to improve procurement transparency, standardize care, and better understand the lifecycle of devices Veterans use.

Acquisition Process

The prosthetics acquisition process within the VA system presents strengths and challenges. When VA providers handle artificial limb provision internally, the process is generally more streamlined due to effective collaboration between the Orthotic, Prosthetic, and Pedorthic Clinical Services (OPPCS), ASoC, and PSAS teams. This approach minimizes potential bottlenecks and creates a smoother experience for

Veterans. However, when necessary, community fabrication is available. Involving community prosthetists requires additional steps. For items over $10,000, purchase requests must go through Contracting Officers, potentially delaying the delivery of artificial limbs. This process contrasts with the internal VA process, where such delays are significantly less frequent.

Quality of Care

The ASoC's integrated care model exemplifies a patient-centered approach that emphasizes streamlined, coordinated amputation and prosthetic care. In FY 2024, VA saw 18,387 unique Veterans with 38,122 encounters in amputation clinics, which included 7,896 virtual care encounters to enhance access to specialty amputation care. This multidisciplinary strategy offers numerous benefits, including improved care coordination, cost savings, and continuity of care. Follow-up appointments provide opportunities for more in-depth evaluations and strikes a balance between comprehensive care and specialized attention.

Prosthetic limbs are provided for Veterans through both internal capabilities and referral to community prosthetic providers. Approximately one-third of prosthetic limbs are fabricated within the VA system while two-thirds are provided by community prosthetic providers.

To ensure high-quality prosthetic limb procurement, VA promotes an interdisciplinary post-delivery prosthesis checkout visit, going above the industry standard. In FY 2023, for all Veterans receiving a limb through VA, 76% completed a post-delivery prosthesis checkout. Full FY 2024 data are not yet available.

Veteran satisfaction remains a top priority, as evidenced by continuous monitoring efforts using data from VEO’s Veteran Signals (VSignals), a survey platform used to measure Veterans’ trust in VA. In FY 2024, results showed 95.4% of Veterans felt respected and comfortable during their Amputation Specialty Clinic experience, and 92.8% reported feeling the health care team included what matters most to the Veterans in their plans for what to do next in managing their health and well-being. ASoC proactively enhances patient experience through annual satisfaction evaluations and is currently collaborating with VEO to develop a Veteran Journey Map for the Amputation Specialty Clinic.

To improve service delivery and provide more equitable care to rural Veterans, ASoC is exploring digital workflow infrastructure to extend prosthetic services beyond VA medical centers into outpatient clinics and Mobile Prosthetic and Orthotic Care units. Furthermore, ASoC leverages digital prosthetic workflows to enable collaboration across clinical services, and OAM is exploring ways to overlay different imaging modalities with patient anatomy and prosthetic devices. This approach aims to facilitate communication between surgery, wound care, rehabilitation, and prosthetics, ultimately yielding prosthetic devices that fit well, are comfortable, and prevent friction-related

pressure wounds.

ASoC demonstrates an unwavering commitment to providing Veterans with high-quality prosthetic devices and care services through a multifaceted approach to standards, quality control, and patient satisfaction. This dedication is evident in the organization's ongoing efforts to refine and implement evidence-based practices, which includes the forthcoming Lower Limb Amputation CPG that is set to release in December 2024, and a meticulous "check out" process for prostheses to ensure devices meet patients' needs in terms of fit, performance, and comfort.

Training and Education

To enhance care quality, promote innovation, and empower those affected by limb loss, ASoC and its associated programs offer comprehensive training and education initiatives for providers, specialists, patients, and families. For health care professionals, ASoC provides annual regional trainings, a Monthly Education Series, and annual Peer Support Training in collaboration with the Amputee Coalition. Three Regional Amputation Center sites offer established PM&R physician Amputation Fellowships for specialized physician training, while the OPPCS National Program Office complements these efforts with monthly Virtual Education Sessions, annual in-person training, and the VA Prosthetic and Orthotic Residency Program.

VA continues to develop training materials for implementing new technologies in prosthetic services and funds nearly 300 PM&R physician residency positions annually. In addition, VA supports Orthotics and Prosthetics (O&P) education through various initiatives, which includes funding residency positions, participating in trainee recruitment events, and providing resources for non-competitive hiring flexibilities. To further enhance the quality of care for Veterans with limb loss and other related conditions, VA also sponsors numerous physical therapy and occupational therapy residency and fellowship programs across various specialties.

Veterans and their families also benefit from ASoC collaboration with the Amputee Coalition. This collaboration includes development of a workbook on sex and intimacy after amputation, as well as a robust Certified Peer Support program with over 25 trained VA Clinician Trainers and more than 40 VA Certified Peer Visitors.

VA also leverages its relationships with Veterans Service Organizations (VSO) to better understand the Veteran experience. VSOs inform us of Veterans who are experiencing delays or challenges with their amputation-related care, which allows VA to address Veteran-specific issues and perform service recovery. These challenging scenarios are used as training examples during national forums. VSOs have been invited to participate as faculty during our regional amputation training conferences to support education efforts and ensure the Veteran experience is adequately represented.

Future Improvements

VA is actively addressing gaps in its O&P services and facing challenges such as limited access in the Midwest and among insular islands despite mobile care units. While weighing in-house production against outsourcing, VA aims to improve service delivery by streamlining procurement processes and hiring additional staff in areas of limited access.

To modernize its prosthetic workflow, VA aims to implement an end-to-end digital process to allow for better storage, reproduction, and research capabilities. This plan includes expanding access to 3D printing technologies and streamlining electronic systems Nationwide. VA also introduced the Prosthetic Sock Management Tool, a patient-centered education tool to aid in education and management of prosthetic sock use.

Conclusion

Chairwoman Miller-Meeks, Ranking Member Brownley, and members of the Subcommittee on Health, thank you for the opportunity to testify today to update you on VA's holistic approach to amputee care. Our system encompasses innovative technologies, specialized care, and unwavering support to ensure Veterans with amputations receive the highest quality of care and services possible. Our commitment to ensuring that all Veterans receive the care, support, and respect they deserve remains steadfast. My colleagues and I are prepared to answer any questions you may have.