

2026 Zeigler Research Forum

The Zeigler Research Forum was established in 2010 to honor Jim Zeigler, who passed away in 1984 from non-Hodgkin's lymphoma six months after graduating from UVM with a bachelor's degree in physical therapy. The forum continues to celebrate his legacy by promoting research and innovation in the health sciences.

Hosted by

College of Nursing and Health Sciences

May 6, 2026

8:00 AM – 12:00 PM

Grand Maple Ballroom & Livak Fireplace Lounge

UVM Davis Center



**University
of Vermont**

College of Nursing
and Health Sciences

Keynote Address



Development Cascades in Infancy:

The Promise of Supported Mobility for Infants with Motor Delays

Jana M. Iverson, Ph.D.

Department of Physical Therapy, Boston University

The onset of independent mobility is among the most transformational events of infancy. In this talk, Dr. Iverson will present findings from research designed to examine ways in which advances in early mobility afford infants multimodal opportunities and experiences that benefit communicative and language development. Results reveal how the achievement of new motor skills exerts far-reaching, cascading effects on development—extending beyond the individual to impact the behavior of social partners and the broader communicative environment—and how these effects may be altered in infants with early motor delays.

Dr. Iverson will present an example of how viewing mobility as a catalyst for learning and development across domains, and focusing on the constant, dynamic, complex, and multimodal interplay between infants and their environments, can transform our approach to designing effective interventions for infants and toddlers with motor delays and disabilities.

Dr. Jana M. Iverson is the Christopher A. Moore Professor of Pediatric Rehabilitation and Associate Dean for Research at Sargent College of Health & Rehabilitation Sciences, Boston University. Her research, funded by NICHD, NIDCD, and Autism Speaks, focuses on the interface between early motor development and the emergence of communication and language in both neurotypical infancy and in infants with or at risk for neurodevelopmental conditions. Dr. Iverson has published a co-edited book and more than 100 journal articles and book chapters. She serves on the editorial boards of the Journal of Child Language and Language Learning and Development and is a Fellow of the Association for Psychological Science.

Schedule of Events

8-8:30 AM	Breakfast and Poster Set-Up
8:30-9:15 AM	Opening Remarks and Poster Session I (even # boards only)
9:15-10:15 AM	Keynote Address
10:15-11 AM	Poster Session II (odd # boards)
11-11:30 PM	Data Blitz Talks
11:30-12 PM	Awards and Closing Remarks

Data Blitz Talks

Biomedical and Health Sciences

Presenter: Pika Nandagopal

Stk11 C-Terminal domain variants impact lung cancer biology independent of kinase activity

Communication Sciences and Disorders

Presenter: Fredericka Tagupa

Question Sequences in a Conversational Narrative Impacted by Alzheimer's Dementia

Nursing

Presenter: Shandi Barclay

Implementation of a Nurse-Driven Protocol for Hypertension Management in Primary Care

Rehabilitation and Movement Sciences

Presenter: Molly Hilliker

Effect of anticipation on landing forces following mid-flight external perturbation

Posters At A Glance

Rehabilitation and Movement Science

Livak Fireplace Lounge, poster numbers 1-18

Biomedical and Health Sciences

Livak Fireplace Lounge, poster numbers 19-30

Grand Maple Ballroom, poster numbers 31-39

Nursing

Grand Maple Ballroom, poster numbers 40-58

Communication Sciences and Disorders

Grand Maple Ballroom, poster numbers 59-70

Data Blitz Posters

Grand Maple Ballroom, poster numbers 71-74

Rehabilitation and Movement Science

Poster Number	Author(s)	Title
1	Elie, Josephine, M; Delmas, Viki; Kennedy, Deborah; Feretti, Ann-Marie; Maynard, Margaret	Energy Explorers Program: A Healthy Habits Pilot Program for Students Grades 3-5
2	Fox, M, Westervelt, K, Sibold, J, Dai, B	Factors Supporting Continued Running in Older Adults
3	Bailey, A.A., Westervelt, K.C., Brown, J., Rose, G.L.	A Whole Health Approach to Physical Activity Promotion for People with Arthritis
4	Allembert, I, M; Hawko, N, P; Zuk, H, L; Maynard, M, C	Identifying Effective Cognitive Assessments for Evaluating Readiness to Drive in Individuals with Aphasia
5	Greenleaf, O, K	ON Time Mobility Curriculum Innovation and Go Baby Go! Pilot Program
6	Whitman, S, TK; Westervelt, K; Kennedy, A, G; Dai, B; Whitcomb, H	Developing Practice Standards for Health Coaching in Primary Care
7	Lesser, E, B; Krug, M; Choquette, R; Gardner-Morse, M; Beynnon, B; Failla, M	Knee Flexion Symmetry Is Related To Return-To-Sport Criteria After Anterior Cruciate Ligament Reconstruction
8	Finn Brokaw, Marcy Pelkey, OTR/L, Nicki Hawko, OTR/L, OTD, CLVT	Exploring School-Based Occupational Therapy's Role in Assessing and Treating Functional Vision Impairments
9	Labrie, L. McAllister, C. Feretti, A, M. Maynard, M.	Using Personalized Music Listening to Enhance Occupational Therapy Care

Rehabilitation and Movement Science

Poster Number	Author(s)	Title
10	Tomasik, S., Koitzsch, E., South, L., Brunone, C., Escorpizo, R., Dai, B.	Step Length and Margin of Stability Increased through Slipping Repetition Induced by a Movable Platform
11	Brier, M; Gilaman, A; Dupont, E.	Sensory Regulation and Leisure Play in the Young Athletes Program
12	Madeline L. Cushing	Identifying Improvements and Educational Resources for Falls Risk Prevention within the Supports and Services at Home (SASH) Program in Vermont
13	Steele, M	School Mental Health: An Occupational Therapy Approach for Academic Success
14	Biziukova-Comeau, A, A	Assessing ALS Clinicians' Experiences with Augmentative and Alternative Communication (AAC) Systems to Support Client-Centered Practice
15	Wolf, D, B	Utilizing the Health Belief Model to Enhance Finger Injury Prevention in the Rock Climbing Athlete
16	Cook, M., R.; Alexander, C.; Priganc, V.; Maynard, M.	Ergonomic Resources for Vermont Farmers
17	Grove-Griffith, E. R., Olsen, A., Priganc, V., & Maynard, M.	Exploring the Impact of Pre-Literacy Based Programming on Early Childhood Literacy Development within Rural Libraries
18	Balakrishnan Swapna, Chiulli Bella, Bobkoskie Anya, Peters Denise	Using GPS and Accelerometry to explore spatial extent of physical activity in the community after a stroke.

Biomedical and Health Sciences

Poster Number	Author(s)	Title
19	Calzone, S, M Wainwright, E, M	School Transportation Infrastructure as a Barrier to School Attendance
20	Vagg, S and Showalter, A and Bierman, S and Royer, C and Scheiber, M	A Whole-Embryo RT-qPCR Method for Measuring Human Gene Expression in Zebrafish Xenografts
21	Shrestha, T, L; Schwartz, Z, M	Naloxone Administration & Basic First Aid Training for Bartenders and Bouncers in Downtown Burlington, Vermont
22	Jenkins, P ; Nandagopal, G; Royer, C; Deming, P	STK11 C-Terminal Domain Mutations Drive Ameboid Morphology Independent of Kinase Function
23	Sofia M. Calzone, Sophie E. Bierman, Jennifer M. Demers, Ph.D.	Interpersonal Violence at UVM: Victimization Rates Among Students & Utilization of Campus Resources
24	Mayo, K, F Demers, J, M	Assessing Risk, Protective Factors, and Readiness to Address Interpersonal Violence at the University of Vermont
25	Haydar, P, J	Contingency Management for Tobacco use in Addiction Treatment: A Proposed Intervention
26	Murphy, Emma; Nguyen, Tram	On-Site Childcare In Hospitals Addressing Treatment Accessibility for Parents With Cancer Diagnoses
27	Remington, S. K; Racela, A; Deming, P; Scheiber, M; Esposito, K; Seward, D; Lenahan, S.	Targeting NF- κ B Reduces Metastatic Transcriptional Programs in STK11-Null Lung Adenocarcinoma
28	Mosley, S, M. Litton, J, T. Deming, P. Scheiber, M.N.	Systematic Review of Metabolic Rewiring and Metastasis in KRAS-Driven Lung Adenocarcinoma
29	Racela, Allison; Prior, Shannon; Lenahan, Sean; Royer, Cole; Remington, Sydney; Seward, David; Deming, Paula.	Activation of NF- κ B signaling drives pro-metastatic programs in STK11-deficient lung adenocarcinoma
30	Speer, Zarina E. & Grimes, Charly P.	Implementation of Naloxone and Medicaid 1115 Waiver Adaptation for the Recently Incarcerated

Biomedical and Health Sciences

Poster Number	Author(s)	Title
31	Duffy, O, R; Stannard, G, E	Improving Mental Health Through Shared Student Experiences: Creative Interventions to Support College Students with Depression
32	Khan, I, N; Stieglitz, M; Elazar, L; Demers, J, M	Investigating Strengths and Barriers to Effective Faculty-Student Communication and Readiness to Address Interpersonal Violence at UVM
33	Puterbaugh, Summer A.; Stieglitz, Max; Villegas-Tapia, Ashley; Demers, Jennifer	Exploring Perceptions of UVM's Resources and Efforts to Address Interpersonal Violence on Campus
34	Jacobs, Veronica; Suranofsky, Raeann;	Addressing the Needs of Children in Domestic/Intimate Partner Violence Shelters
35	McPhee, R. M.	Student Sun Safety Beliefs and Behaviors: A Health Belief Model-Based Survey Study
36	Brown, M.E.	Refugee-led educational program for specialists to address healthcare accessibility in the new American community
37	Walsh, E. and Hurley, K.	Sun Safety for Student Clubs: Evaluating the Effectiveness of an Educational Presentation Using Pre-Post Surveys
38	Chinn, Z, C.	Interventions to Prevent and Mitigate the Effects of Cognitive Decline and Delirium in Hospitalized Elder Patients
39	(Lindenberg, J, C), (Dewey, S, A) (Sherwood-McGrath, M)	Loneliness in Hospitalized Elders at the University of Vermont Medical Center

Nursing

Poster Number	Author(s)	Title
40	Ukaj, A; Pelski, J.	Improving Maternal RSV Vaccine Uptake: A Multifactorial QI Approach
41	Smith, Rachel B; Leighton, Erin M	Optimizing Hypertension Management in a Primary Care Setting
42	Meyer, E.M., Rumley, K., and Pelski, J.	Primary Care Rapid Mental Health Assessment and Triage (PCR-MHAT): An Evidence-Based Protocol
43	(Nguyen, A); (Martin, L)	Enhancing Anxiety Screening and Early Intervention in Adolescent Primary Care
44	Bentil, E.K; Aitken,M.; Bovee;A	Implementation of Point-of-Care Hemoglobin A1c Testing at an Adult Primary Care Clinic
45	Gallucci, Joseph, A.; Tarbi, Elise; Burnham, Tara; Okrant, Jessica	Improving Documentation of Serious Illness Conversations In An Outpatient Hematology & Oncology Clinic
46	Garibay, Elizabeth	Integrating a Planetary Health in a Nurse Practitioner Program
47	Waters, C, W	Ask, Advise and Connect: Proactive Smoking Cessation.
48	Parker-Waters, L, W	Facilitating Extended-Release Naltrexone for Alcohol Use Disorder in Vermont Primary Care
49	Lozito, S. A.; Cahill-Griffin, T.; Palumbo, M. V.; Hagood, C.	Impact of a Comprehensive Dementia Care Pilot Program on Patient, Caregiver, and Health System Outcomes
50	Goodwin, K.M.	Standardizing Interprofessional Communication to Improve Absenteeism Rates in Northern Vermont Elementary Schools
51	Bailey, A.A., Westervelt, K.C., Brown, J., Rose., G.L.	A Whole Health Approach to Physical Activity Promotion for People with Arthritis
52	Didrikson, K.; Aitken, M.	Educational Toolkit for Patients with Diabetes During Transition of Care Calls
53	Phipps, S,M	Implementation of a Standardized Pediatric Urology Referral Guide: A Quality Improvement Initiative to Improve Provider Satisfaction

Nursing

Poster Number	Author(s)	Title
54	Tetreault, H, J; Leighton, E; Bovee, A	Optimizing Transition of Care Management Visit Coding in a Primary Care Setting
55	Katz, Andrew; Whitcomb, Holly; Weise, Daniel	Improving Social Determinants of Health Screening and Referral at a Nurse Practitioner-Led Primary Care Office
56	Dillon, K.M.; Dale, R.; Weise, D.	Exploring Barriers to Glycemic Control Among Individuals with Type 2 Diabetes
57	Addo, I.A., Dale, R., Shaper, K.	Bridging the Gap: Post-Discharge Telephone Support for Diabetes Self-Management
58	Massena, K; Martin, L	Implementing PEARLS with Older Adults in the Nursing Home Setting

Communications Sciences and Disorders

Poster Number	Author(s)	Title
59	Elliott, K., Medeiros, S., Owens, E., Humphreys, H. & Coderre, E. L.	The apple of my mind's eye: Exploring the relationship among autistic traits and cognitive introspection patterns
60	McCluskey, K	Predictive processing of written and visual narratives in adults across the autism spectrum
61	Bishop, M, L	Social Anxiety in People Who Stutter
62	Rousse, Kristen, M.	How does disease progression of amyotrophic lateral sclerosis (ALS) shape patients' experiences with speech, language, and swallowing?
63	Hutchins, T.L., Elliot, K., Gardner, A., & Coderre, E.L.	What word comes ____?: Responses of autistic adults are more unconventional but not more "wrong" compared to their nonautistic peers
64	Staab, S, A	Taste and Smell Recovery Post-COVID-19: Review of Stellate Ganglion Block
65	Pettineo, S.L.; Hutchins, T. L.	Exploring the Effectiveness of Instructional Methods for Teaching Conversation Analysis to Future Speech-Language Pathologists.
66	Herdje, J	The Effectiveness of Task-Oriented Virtual Reality for Improving Executive Functioning Skills in Adults with Acquired Brain Injury
67	Hannah K. Smith	Effective Social Communication Treatment Approaches for Individuals with Traumatic Brain Injury
68	Rose, M, E	How do individuals with cerebral palsy describe the impact of Augmentative and Alternative Communication (AAC) on identity and autonomy?
69	Calderon, Gabi F	Age-Related Feeding and Swallowing Symptom Differences in Children With Eosinophilic Esophagitis
70	Sahagian, S., Pastor, C., Medeiros, S., Elliott, K., Hutchins, T., Coderre, E.	"Meet the kid where they're at": Caregiver perspectives of indexicality among Autistic youth

Data Blitz Posters

Poster Number	Author(s)	Title
71	Nandagopal G, Royer C, Jenkins P, Deming PB	Stk11 C-Terminal domain variants impact lung cancer biology independent of kinase activity
72	Barclay, Shandi; Aitken, Margaret; Eckhaus, Jeremiah	Implementation of a Nurse-Driven Protocol for Hypertension Management in Primary Care
73	Frederika Tagupa, Katie Ekström Grenon, Mia Twarog, Ardyn Olszko, Michael Cannizzaro, David Jangraw	Question Sequences in a Conversational Narrative Impacted by Alzheimer's Dementia
74	Hilliker, Molly; Tomasik, Shayenne; Calby, Claudia; Kniess, Adeline; Koitzsch, Ellie Song, Yu; Dai, Boyi	Effect of anticipation on landing forces following mid-flight external perturbation

Poster Abstracts

Rehabilitation and Movement Science

1. Energy Explorers Program: A Healthy Habits Pilot Program for Students

Grades 3-5. *Elie, Josephine, M; Delmas, Viki; Kennedy, Deborah; Feretti, Ann-Marie; Maynard, Margaret.*

Background and Objectives: Vermont children demonstrate low fruit and vegetable intake, inadequate physical activity, and additional lifestyle factors that negatively affect physical and mental health and contribute to preventable chronic disease across the lifespan. Existing frameworks and programs address components of child health, but do not provide a holistic, developmentally appropriate, weight-inclusive curriculum for children across Vermont. This doctoral capstone project (DCP) aimed to design, implement, and refine a seven-week pilot program for children in grades 3-5, and to evaluate changes in selected habits reported by both children and their parents.

Methods: This 14-week DCP was conducted at an afterschool program in Vermont. A seven-week curriculum paired weekly nutrition themes with related habit topics and used developmentally appropriate, hands-on activities to provide repeated cues to action (following the Health Belief Model) and build self-efficacy. Custom pre- and post-program child and parent surveys served as needs assessments and outcome measures. Parental engagement was cultivated using varied channels. Reflections and feedback on programming were incorporated into a website for project sustainability.

Results: The results from students (n=3) and parents (n=1) demonstrated little to no changes surrounding the selected habits. Nonetheless, students (n=2) reported they learned something, and had fun for 94% of the attended activities.

Discussion: The program had limited funding, used convenience sampling, and participation was limited, potentially constraining program effectiveness. However, the program demonstrated potential and was theoretically aligned. Future programs should increase sample size and duration, try alternative settings, and strengthen parental engagement.

2. Factors Supporting Continued Running in Older Adults. *Fox, M, Westervelt, K, Sibold, J, Dai, B.*

Background: Running is a widely accessible form of exercise linked to various physical and mental health benefits, yet few people continue to run into their senior years. This study explores the factors that contribute to continued running among people over 60 using an integrative, whole-person health approach.

Methods: Sixteen runners ages 60 and over who run once a week participated in semi-structured virtual interviews

Results: Data was analyzed using Braun and Clarke's thematic analysis. Two independent researchers identified themes and agreed upon four key themes: (1) social interaction, running provides meaningful relationships and community; (2) identity, defining running as a part of self-perception; (3) health benefits, including both mental and physical benefits; (4) body awareness, highlighting the ability to adapt training to age-related changes. These factors supported running participation despite common barriers with aging.

Discussion: The findings from this study suggest senior runners can continue in their sport because of the beneficial impact of a combination of favorable psychological, social, and physiological factors.

3. A Whole Health Approach to Physical Activity Promotion for People with Arthritis. *Bailey, A.A., Westervelt, K.C., Brown, J., Rose, G.L.*

Background and Objectives: Approximately 54 million US adults are affected by arthritis. Arthritis is a barrier to regular exercise; fewer than half of diagnosed adults meet recommendations of 150 minutes per week of moderate aerobic activity. A pilot study at the University of Vermont (UVM) combined the Arthritis Foundation Walk with Ease (WWE) 6-week, self-directed walking program with Integrative Health and Wellness Coaching (IHWC). IHWC is an evidence-based approach that promotes long-term behavioral change. This project evaluates the feasibility of integrating student coaches into the WWE program.

Methods: Participants enrolled in WWE were assigned a Physical Therapy doctoral student, who provided IHWC. Participants attended virtual weekly coaching sessions following the lessons in the WWE guidebook. Upon program completion and 6 weeks later, participants were surveyed on satisfaction and exercise behaviors. Students were surveyed using the

Service LEarning BEnefits (SeLeB) scale that measures personal responsibility, practical skills, interpersonal skills, and citizenship.

Results: Fifty-seven participants registered. Thirty attended at least 1 coaching session and were eligible to receive surveys. Fifteen of the 30 participants returned an initial post-program survey. Responses indicated participants exercised on average 123 minutes per week. All respondents were satisfied with coaching, 93% stated coaching sessions kept them interested in the program, and 67% were confident they would continue being active. Responses to the 6-week follow-up survey (n=16) indicated participants exercised on average 127 minutes per week. Sixty-nine percent of respondents reported improved wellbeing and diet. All students reported personal growth, improved leadership skills, and an ability to apply knowledge in real-life situations.

Discussion: This study demonstrated feasibility incorporating student coaches into the Walk with Ease program. Participants were satisfied, reported greater motivation, and stated that coaching sessions kept them interested in participating. Students reported that coaching was helpful for developing professional and interpersonal skills.

4. Identifying Effective Cognitive Assessments for Evaluating Readiness to Drive in Individuals with Aphasia. *Allement, I, M; Hawko, N, P; Zuk, H, L; Maynard, M, C.*

Background and Objectives: Safely returning to driving after a stroke requires an accurate cognitive assessment, which can be challenging for individuals with aphasia. Driving rehabilitation (DR) provides a structured approach to evaluate cognitive abilities despite language impairments. Although DR facilities have various assessments for functional cognition, it is unclear which are most effective for this population. This doctoral capstone project addresses the question: Which functional cognitive evaluations best measure readiness to transition back to driving for individuals with stroke-related aphasia?

Methods: A Qualtrics survey was distributed to 33 certified driver rehabilitation specialists (CDRS) nationwide to assess the perceived effectiveness of functional cognitive assessments for individuals with stroke-related aphasia. The survey addressed clinician comfort with

aphasia assessments, current models of care, and identified gaps in cognitive assessments that evaluate readiness to drive.

Results: Preliminary findings show that Trails A, Trails B, and the Clock Drawing Test are the most commonly used cognitive assessments. However, 59% of participants reported limited confidence in the effectiveness of their current assessment tools, as many require significant verbal instruction and response. The Montreal Cognitive Assessment (MoCA), Saint Louis University Mental Status (SLUMS), and Short Blessed Test were assessments most often avoided or modified. Due to the lack of low-language and non-verbal cognitive assessments, nearly 75% of participants rely on functional on-road assessments for a full evaluation of cognitive skills.

Discussion: There is ongoing uncertainty and a lack of standardized cognitive assessment tools for individuals with stroke-related aphasia. DR specialists frequently utilize non-standardized methods, leading to variability in approach. Future research should focus on the evaluation and standardization of multimodal, low-language cognitive assessments to improve the effectiveness and accessibility of driving rehabilitation evaluations for this population.

5. ON Time Mobility Curriculum Innovation and Go Baby Go! Pilot Program.

Greenleaf, O, K

Mobility is a human right. Many young children with disabilities do not have self-directed mobility on a developmentally appropriate timeline. These children experience restrictions in their ability to engage in play that leads to slower development compared with their peers without disabilities (Cheung et al., 2020; Shikako-Thomas et al., 2012). There needs to be accessible and cost effective ways for children to access needed assisted technology to participate in their lives to the fullest degree. Go Baby Go is a community-based program that provides young children with disabilities mobility devices. This capstone project developed a Go Baby Go pilot program based in Vermont to better serve the needs of Vermont children. Funding for the program was acquired through a College of Nursing and Health Science education grant. This Go Baby Go program took an interdisciplinary approach within the College of Nursing and Health Sciences and the Center for Biomedical Engineering to create

modified ride-on cars. Students involved in the project learned about the ON Time Mobility framework, adaptive mobility technology, and had a hands-on role by modifying ride-on cars. In culmination, four modified ride-on cars were distributed to young children with disabilities in Vermont.

6. Developing Practice Standards for Health Coaching in Primary Care

Whitman, S, TK; Westervelt, K; Kennedy, A, G; Dai, B; Whitcomb, H

Background and Objective(s):

Many patients leave healthcare visits with clear recommendations for lifestyle changes but struggle to translate these into sustained behavior change. While behavior change is central to preventing and managing chronic disease, healthcare systems do not consistently support this process. Clinical health and wellness coaching offers a promising approach; however, variability in role definition and operationalization creates challenges for clinical integration. This study aims to develop expert-informed practice standards to clarify the role of clinical health and wellness coaches and support effective integration into healthcare settings.

Methods:

A modified Delphi study is being conducted with a purposive sample of interdisciplinary experts in coaching, clinical care, and behavior change. An initial qualitative phase generated draft practice standard statements based on interviews and open-ended responses regarding roles, responsibilities, and competencies in clinical settings. In subsequent rounds, participants rate statements on importance and feasibility and provide qualitative feedback. The study is currently in round two and will progress through four rounds.

Results:

Preliminary findings identify key domains of practice, including collaboration, communication, documentation, referral processes, and outcome measurement. Thirty-eight draft practice standards are currently being refined through expert feedback to establish consensus on standards needed to effectively integrate health and wellness coaching into primary care.

Discussion:

These findings address a critical gap in the clinical integration of health coaches. In the absence of defined standards, variability in training, workflows, and role understanding limits consistent use within healthcare

teams. Practice standards provide a shared framework to support integration while informing education, supervision, and program development. As healthcare shifts toward prevention, chronic disease management, and whole-person care, clearly defined coaching practices are increasingly necessary to support sustained behavior change. Future work will apply these standards in clinical settings and evaluate their impact on implementation, team functioning, and patient support for behavior change.

7. Knee Flexion Symmetry Is Related To Return-To-Sport Criteria After Anterior Cruciate Ligament Reconstruction. *Lesser, E, B; Krug, M; Choquette, R; Gardner-Morse, M; Beynnon, B; Failla, M.*

Background: Nearly 1 in 4 young athletes who return to high-risk sports following an ACL injury will sustain a secondary ACL injury during their athletic careers.¹ To reduce secondary injury risk after ACL reconstruction (ACLR), minimum symmetry scores of 90% of the uninvolved limb for quadriceps strength and the triple hop test are recommended to begin a return-to-sport progression.² However, many do not meet these criteria before returning-to-sport.² It remains unclear whether meeting current symmetry recommendations is sufficient to ensure normal knee function and reduce secondary injury risk. This study aims to determine how many participants met return-to-sport symmetry criteria following ACLR, and the relationship between meeting these recommendations and knee biomechanical symmetry during the triple hop test.

Methods: 58 young active individuals who underwent ACLR surgery and were cleared for return-to-sport performed a triple hop test. Reflective markers were placed on the hip, knee, and ankle. Joint angles were calculated from the second landing, and quadriceps strength was measured. Participants were grouped by whether they did or did not meet return-to-sport criteria for analysis.

Results: 41% of participants cleared for return-to-sport met the recommended strength and hop distance symmetry criteria. Those who met the criteria had more symmetrical knee biomechanics at peak knee flexion (97 ± 11.5) than the group that did not meet the cutoff criteria (91.5 ± 7.8) ($p = 0.043$). The ACLR knee was less flexed in both groups.

Discussion: Meeting recommended criteria resulted in more knee symmetry, however, asymmetries in knee biomechanics persisted in both groups. Current return-to-sport criteria may not be stringent enough to ensure symmetry. More patients meeting criteria before beginning a return-to-sport progression may reduce secondary ACL injury incidence. Future work includes assessing whether 95% limb symmetry results in improved biomechanical symmetry, and how hop biomechanics relate to secondary injury risk.

8. Exploring School-Based Occupational Therapy's Role in Assessing and Treating Functional Vision Impairments. *Finn Brokaw, Marcy Pelkey, OTR/L, Nicki Hawko, OTR/L, OTD, CLVT*

Background: Functional vision entails how well the visual system functions to complete functional tasks (Bennet et al., 2019). Many school-based vision programs (SBVPs) remain focused on acuity rather than functional vision (Neitzel et al., 2022; Pilling & Outhwaite, 2017; Vongsachang et al., 2021). Due to the insufficient SBVP universal screening process, there may be an underestimation of the incidence rate of functional vision impairments in elementary-age students (Corwin et al., 2018; Donaldson et al., 2019; Nishimura et al., 2020; Pilling & Outhwaite, 2017).

Objectives: This occupational therapy (OT) Doctoral Capstone Experience (DCE) aimed to explore the incidence rate of specific functional vision deficits in third-grade elementary school students and to use this information to develop a school-based OT functional vision resource.

Methods: Quantitative functional vision, academic data, and qualitative behavioral data were gathered and analyzed in this population-based, retrospective and prospective, observational correlational study. Thirteen third-grade students and three teachers (n=16) participated. Functional vision evaluations were compared with standardized testing scores in math and reading. Data collected were used to inform the development of a school-based OT functional vision resource.

Results: Preliminary findings suggest functional vision deficits were identified within the sample assessed. Data analysis comparing functional vision data with academic and behavioral outcomes suggests a possible



relationship between functional vision deficits and poor academic and behavioral performance.

Discussion: These findings suggest that functional vision deficits may be underdiagnosed among elementary school students. The OT scope of practice is well-suited to assess and treat functional vision impairments in the school setting. Elementary school students with academic or behavioral difficulties should be assessed for functional vision measures. Further research is recommended to understand relationships between functional vision and functional participation in various populations.

9. Using Personalized Music Listening to Enhance Occupational Therapy Care. *Labrie, L. McAllister, C. Feretti, A. M. Maynard, M.*

Music is all around us in our day-to-day lives, but its powerful therapeutic potential is not widely known. Music is one of the only known stimuli to stimulate every mappable area of the brain. It can promote neuroplasticity, reduce pain, promote movement, and help with depression and anxiety. This can be used to benefit people with a wide range of health conditions, including brain injury, neurological conditions, chronic pain, and mental health. However, several barriers limit the use of music in therapeutic contexts, including a shortage of music therapists, limited knowledge of its use among other therapeutic professions, and limited public understanding of its therapeutic potential.

One intervention requiring minimal musical background from clinicians or patients is Personalized Music Listening (PML), which uses an individual's music preferences to create playlists and listening schedules to target therapeutic goals and symptoms. This project aimed to implement PML into occupational therapy treatment plans to enhance care, evaluate its effectiveness and develop a toolkit to provide a baseline for future research. Participants were recruited through High Quality Home Therapy. Three sessions were completed with each participant. Participants completed the PROMIS 29+2 independently each session to measure changes in health domains, while motivational interviewing was used to gather subjective participant feedback.

Eight participants completed the program. PROMIS data was analyzed using the Health Measures scoring service. Individual improvements varied across domains, with 62.5% of participants demonstrating improved PROPr scores. Improvements on a group level occurred in the ability to



participate in social roles and activities, and cognitive function domains. Participants also noted some positive effects on mood, energy, and distraction from pain.

This program demonstrates the potential benefits of integrating PML into occupational therapy practices. The results of this project and the intervention toolkit could guide future research in this area.

10. Step Length and Margin of Stability Increased through Slipping Repetition Induced by a Movable Platform. *Tomasik, S., Koitzsch, E., South, L., Brunone, C., Escorpizo, R., Dai, B.*

BACKGROUND: Slipping is a leading cause of falls and injuries.

Perturbation-based training using repeated simulated slips has been shown to improve reactive balance and reduce fall risk. However, most studies used expensive treadmills or specialized devices, limiting clinical and research accessibility. **OBJECTIVES:** The purpose of the study was to examine whether anticipated and unanticipated repeated slipping perturbations induced by a manually controlled movable platform would alter step characteristics and margin of stability during walking. **METHODS:** Thirteen young adult females walked on a wooden platform while wearing a safety harness during six anticipated and six unanticipated slipping trials. In anticipated trials, participants knew the platform would move forward; in unanticipated trials, it could move forward, backward, or remain stationary, with only forward slips analyzed. Researchers manually pushed the platform 30 cm forward at approximately 1 m/s to induce a slip during the mid-single-leg stance. Reflective markers were placed on participants and the platform, and kinematic data were recorded using eight OptiTrack cameras. Step parameters and margin of stability were compared between the first three and last three trials for both conditions. **RESULTS:** Recovery step length increased by more than 0.15m in the last three trials compared with the first three for both conditions ($p < 0.01$). Margin of stability improved by over 0.05 m in both anterior and posterior directions in unanticipated trials ($p < 0.05$).

DISCUSSION: Repeated slipping perturbations using a manually controlled, low-cost platform enhanced participants' reactive stepping and stability control. These changes suggest improved anticipatory preparation and faster recovery following balance loss. The findings support the feasibility of this approach as a practical balance training method. Further research



should investigate its application in older adults and examine long-term retention of training effects.

11. Sensory Regulation and Leisure Play in the Young Athletes Program. *Brier, M; Gilaman, A; Dupont, E.*

Background & Objectives: The ability for youth to have an integrated sensory system is crucial to participating in activities of daily living, including sports and leisure play. Sports provide youth an opportunity to socialize and develop new skills with others, fostering an inclusive environment (Crawford et al., 2015; McConkey & Menke, 2022; McConkey et al., 2019; O'Rourke et al., 2023; te Velde et al., 2018). Sensory dysregulation, combined with a lack of trained volunteers and an inaccessible environment, can affect engagement in these meaningful activities (Iverson et al., 2021; Martin et al., 2024; Shahsavay & Zarei, 2023). This Doctoral Capstone Project examined the effectiveness of sensory regulation education in increasing volunteers' and caregivers' knowledge and confidence in managing sensory dysregulation.

Methods: To assess participants' knowledge levels about sensory regulation and OT, a twelve-question family/guardian survey and an eighteen-question volunteer survey were created. These Likert surveys were used pre/post educational sessions and were analyzed using descriptive statistics.

Results: Preliminary results from the post-education surveys show an increase in participants' knowledge level regarding sensory regulation and confidence working with children who are demonstrating signs of a dysregulated sensory system.

Discussion: Preliminary findings suggest that sensory regulation education for family members and volunteers will be beneficial to utilize in the future so that YA participants can participate to their full potential. Future research should be conducted to examine the relationship between the implementation of sensory regulation techniques and youths' participation in sports.

12. Identifying Improvements and Educational Resources for Falls Risk Prevention within the Supports and Services at Home (SASH) Program in Vermont. *Madeline L. Cushing*

Background: Nearly 20% of Vermont adults are ages 65 and older (Health Needs for Older Adults, 2023). Rurality creates barriers to resources: including limited transportation, financial difficulty, and geographic location. The aging population is at an increased risk for falls and often demonstrates lower levels of physical activity. Evidence suggests education for both providers and at-risk individuals can reduce fall risk (McMahon et al., 2019). Supports and Services at Home (SASH) is a community-based program that provides services throughout Vermont and is aligned with occupational therapy values: promoting aging in place through home modifications, education, and social engagement.

Objectives: This doctoral capstone experience aimed to: (1) provide falls prevention education to SASH participants, (2) highlight the role of occupational therapy in falls prevention within SASH, and (3) evaluate the effectiveness of the collaborative Senior Buddies program.

Methods: Educational materials were developed using an occupational therapy lens, and were delivered through seminars at SASH residencies. Participant surveys were collected to assess the relevance and usefulness of the seminars. A separate survey was created and administered to Senior Buddies participants to evaluate the effectiveness of the program.

Results: Survey responses indicated that participants found the educational seminars clear, concise, and useful. Most participants reported increased knowledge of how to access adaptive equipment and create a safer home environment to reduce fall risk. Senior Buddies participants found value in the program regardless of whether or not they implemented safety recommendations. Both groups of participants identified a need for continued education and resources to promote productive aging.

Discussion: These findings support the effectiveness of the doctoral capstone experience in delivering falls prevention education. Future efforts should focus on additional educational opportunities and advocacy for the creation of an occupational therapy role within SASH.



13. School Mental Health: An Occupational Therapy Approach for Academic Success. *Steele, M.*

Mental health and dysregulation conditions effect people of all ages but have a high representation among school aged youth. Emotional or sensory dysregulation can be a result of mental health or other diagnosis impacting the social skills and learning of a student. This project was designed to create a program and resources for students, staff, and families on topics of social emotional learning and regulation techniques to support students in their academic careers. The program implementation consisted of a 6-week program with 25-minute sessions including topics of sensory regulation, mindfulness, interoception, zones of regulation, and the alert program. Pre/post measures were utilized to assess the students' knowledge and understanding of regulation topics as well as their overall regulation needs as reported by staff. Parental reports on students' regulation needs were sought out through pre/post measures, but no responses were received. In addition to the program implementation and curriculum, weekly handouts were created on the topics discussed for staff and parents including ways to carryover in the classroom and at home to support development of regulation skills. Results for the pre-program data shows that students got an average of 6.94 out of 12 questions on different types of regulation techniques and strategies correct, while results for the post-program data show that students got an average of 8.78 out of 12 questions correct. All students scored the same or better on post-program measures indicating a growth in knowledge of regulation techniques. Pre-program surveys for staff, showed that common times of dysregulation or actions of the students include disrupting class, being overly fidgety, becoming nervous or overwhelmed, task completion, and students often needing many cues to help themselves regulate during these times. Post-program data varied with some results noting that students seemed to be dysregulated less often, while others remained the same.

14. Assessing ALS Clinicians' Experiences with Augmentative and Alternative Communication (AAC) Systems to Support Client-Centered Practice.

Biziukova-Comeau, A, A.

Background: Despite the predictable progression of speech impairment in Amyotrophic Lateral Sclerosis (ALS) and strong evidence supporting early

Alternative and Augmentative Communication (AAC) intervention, significant gaps persist in clinical practice. Research demonstrates underutilization of AAC, delayed referrals, fragmented service delivery, lack of standardized care pathways, clinician training deficits, and geographic and insurance-related barriers (Moorcroft et al., 2018; Peters et al., 2022). While the majority of patients who receive AAC report improved quality of life, many experience delayed access, insufficient education about available options, and insufficient follow-up (Jervis-Rademeyer et al., 2022; Kogel et al., 2020).

Objectives: This project aimed to explore current AAC service delivery across the country, assess clinicians' training and knowledge about AAC resources and functions, and examine the role and involvement of occupational therapists (OT) in AAC provision.

Methods: A survey of ALS clinicians was conducted to better understand clinicians' experiences and training with AAC, and barriers and facilitators to AAC provision. The survey was developed in collaboration with content experts and distributed directly to non-profit organizations, vendors, and ALS clinics. Responses were analyzed using descriptive statistics.

Results: The survey analysis revealed that clinicians lack training and knowledge about AAC resources and functions. Additionally, survey results indicate variability among clinicians in considering the full range of AAC functions beyond communication, with only 20% of respondents reporting that OT is involved in AAC provision. All respondents agree that developing AAC-specific services will improve outcomes for ALS patients.

Discussion: The results were used to demonstrate current gaps in AAC practices and guide the development of resources for ALS clinicians to facilitate improvement in AAC service delivery. Additionally, survey results were used to advocate for the inclusion of OTs in AAC provision to support a client-centered approach and raise awareness of underutilized functions of AAC, such as participation in digital tasks.

15. Utilizing the Health Belief Model to Enhance Finger Injury Prevention in the Rock Climbing Athlete. *Wolf, D, B.*



Background and Objective(s): Rock climbing has grown rapidly in popularity in recent years, accompanied by a corresponding rise in climbing-related injuries, with finger injuries being the most common. Many climbers report a lack of trust in healthcare professionals' ability to effectively treat climbing-specific injuries. This highlights the importance of targeted, effective injury prevention programs. However, existing programs lack both evidence of their effectiveness and a guiding theoretical framework. To address this gap, this project proposed the use of the Health Belief Model (HBM) as the foundation for a climbing injury prevention program. The primary objective was to develop, implement, and evaluate a climber-centered workshop informed by the HBM, and to assess its impact on participants' knowledge, attitudes, and self-reported injury prevention behaviors.

Methods: A structured educational workshop was developed incorporating current literature on climbing biomechanics, injury mechanisms, and prevention strategies, while intentionally targeting HBM constructs such as perceived risk, perceived severity of injury, benefits of preventive behaviors, and self-efficacy. Participants were recruited from local indoor climbing gyms. A pre-survey, immediate post-survey, and 2-week follow-up survey were administered to assess changes in knowledge, perceptions, and behaviors. Surveys utilized Likert-scale items and descriptive questions to evaluate outcomes.

Results: Preliminary results suggest participants demonstrated increased awareness of high-risk grips, improved understanding of common finger injuries, and greater perceived susceptibility and severity related to these injuries. Self-efficacy in implementing prevention strategies also improved following the workshop.

Discussion: Preliminary findings suggest that an HBM-informed educational intervention can positively influence climbers' knowledge, health beliefs, and short-term injury prevention behaviors. However, further research is necessary to validate this approach. Future research should examine long-term adherence, injury outcomes, and the effectiveness of targeting specific HBM constructs to promote sustained behavior change.

16. Ergonomic Resources for Vermont Farmers. Cook, M., R.; Alexander, C.; Priganc, V.; Maynard, M.

Background: In 2022, there were 6,537 farms reported in the state of Vermont (United States Department of Agriculture, 2022). While

ergonomic resources exists for farmers, barriers such as lack of awareness of current resources, limited knowledge or understanding on how to use the ergonomic resources have been reported (Karsh et al., 2013).

Objectives: This study aimed to understand Vermont farmers' current knowledge and implementation of ergonomics through surveys, ergonomic assessments, and observations.

Methods: A mixed methods study was approved by the University of Vermont IRB. Participants were recruited through agricultural listservs, social media platforms, and conferences. 30 participants responded to the survey and 7 participants were involved in farm visits.

Results: Survey responses indicated that Vermont farmers are not aware of current ergonomic resources that are available. The ergonomic assessments that were completed with Vermont farmers showed they are at a high risk of developing musculoskeletal disorders based on their work posture and environment.

Discussion: Findings suggest that there is a need for increased knowledge and implementation of ergonomic principles for Vermont farmers to decrease pain and improve the longevity of farming. Educational materials were created based on the current findings and distributed through Vermont farming organizations and state departments. Continued research is recommended to analyze a larger population and accommodate the ergonomic needs of Vermont farmers, as well as examining the effectiveness of educational materials.

17. Exploring the Impact of Pre-Literacy Based Programming on Early Childhood Literacy Development within Rural Libraries

Grove-Griffith, E. R., Olsen, A., Priganc, V., & Maynard, M.

This community engagement project addressed the preexisting gaps in accessing early child literacy for children and their caregivers living in rural areas by incorporating pre-literacy skills into a pre-existing library story hour program. Through an initial needs assessment, it was found not all children are accessing structured programs that teach pre-literacy skills. Without these foundational skills, children can experience gaps in the early stages of learning and development. Public libraries were identified as a



common, community space many families frequently attend, and therefore a strong environment to conduct this project.

This project was developed over three stages. In the evaluation stage, a needs assessment survey for Vermont librarians was distributed to identify common activities and pre-literacy skills used in existing programming. This survey helped identify five skills of focus for curriculum and activity development: phonological awareness, letter-name knowledge, fine motor dexterity, visual scanning, and postural control. Then, in the implementation phase, a 13-week curriculum guided by the Model of Children's Play was developed to incorporate play-based pre-literacy skills and strategies into an existing library Story Hour program. Finally, in the dissemination phase, caregivers completed pre- and post-intervention surveys to assess perceived changes in children's skills from the program, along with qualitative feedback on the program effectiveness.

Results indicated variability in current pre-literacy activities being used by librarians and identified a limited existing use of collaboration between occupational therapy professionals and community spaces. Despite challenges related to small sample size, caregiver handouts and take-home kits supported the education being provided.

18. Using GPS and Accelerometry to explore spatial extent of physical activity in the community after a stroke. *Balakrishnan Swapna, Chiulli Bella,*

Bobkoskie Anya, Peters Denise.

Background: Return to community mobility can often be a challenging experience for stroke survivors. Fortunately, geospatial and accelerometer can provide unique insights about intensity of community mobility post-stroke.

Objectives: This study examined the geographical extent of physical activity and physical activity intensity calculated using activity counts by location using both global positioning systems (GPS) and accelerometer data in one community-dwelling stroke survivor.

Methods: We will calculate the mean time spent wearing GPS and actigraph sensors weekly by locations of home and community. Similarly, we will calculate mean daily activity counts stratified by locations of home and community. Participant wore Actigraph sensor on the non-paretic ankle and carried the GPS device for 8-10 hours for 10-14 days. All sensors were mailed to participants, and study procedures were conducted remotely.



Results: We analyzed the data for one participant. Participants had a score of 5 on the Functional ambulation scale (FAC). Participants spent a total of about 926 minutes in the light intensity activity and 10 seconds in moderate intensity activity and did not reach vigorous intensity activity. When analyzing only the walking data, participant spent 1.5 minutes of their time in light intensity activity in the home buffer and 702 minutes of their time in light intensity activity outside the home buffer and engaged in about 10 seconds of moderate intensity activity outside the home buffer.

Discussion: Combined accelerometer and GPS can capture time spent and intensity of PA captured by activity counts relative to locations among adults with stroke.

Biomedical and Health Sciences

19. School Transportation Infrastructure as a Barrier to School Attendance.

Calzone, S.M. and Wainwright, E.M.

Chronic absenteeism is a key determinant of negative health and academic outcomes, and Vermont continues to see disproportionately high rates among students in rural, low-income, and transportation-insecure communities.^{1,2} Rural districts such as St. Johnsbury, White River Valley, Sharon, and others face higher poverty rates, limited vehicle access, longer routes across low-density areas, frequent bus cancellations, reliance on private contractors, and no overlap with public transit systems.^{3,4,5,6} By contrast, more affluent districts like South Burlington operate in-house fleets, have shorter routes, and benefit from Green Mountain Transit overlap.^{5,6} As part of our capstone, we analyzed multiple focus groups conducted as part of the current work being done by Heidi Schumacher and Every Day Counts. These groups discussed facilitators and barriers to school attendance, as well as possible interventions to improve it in rural Vermont. Through our analysis, inaccessible busing was consistently mentioned as a barrier to school attendance.

Peer-reviewed research shows that expanding access to transportation reduces chronic absenteeism. Research shows that transportation eligibility decreases the probability of chronic absenteeism by 2-4 percentage points, with the strongest effects among economically

disadvantaged students.⁷ Rural transportation studies similarly show that long commutes, unreliable routes, and a lack of alternatives contribute to absenteeism.¹ Currently, there are limited interventions addressing the lack of school transportation infrastructure in rural communities.⁸ So, the proposed intervention is a culmination of various evidence-based approaches and continuation of the current union policy reform aimed at improving access to busing.

Our project addresses the scarcity of transportation options for students in rural Vermont by proposing a multi-component intervention grounded in existing community resource-sharing and Vermont policy structures.

20. A Whole-Embryo RT-qPCR Method for Measuring Human Gene Expression in Zebrafish Xenografts. *Vagg, S., Showalter, A., Bierman, S., Royer, C and Scheiber, M.*

The zebrafish xenograft model is widely used in cancer research due to its rapid development, transparent embryos, and conserved genetic pathways with humans. In this model, human tumor cells interact with the zebrafish vasculature and are exposed to physiological stresses such as fluid shear stress, which can influence cancer cell survival and transcriptional changes. Understanding how circulating tumor cells (CTCs) respond to vascular stress may help identify mechanisms that allow metastatic cells to survive in circulation.

The goal of this project is to develop a method to measure transcriptional changes in human tumor cells within zebrafish embryos. Traditional approaches require dissociating embryos and sorting GFP-positive human cells, which is labor intensive. Instead, we aim to establish a reverse transcription quantitative PCR (RT-qPCR) method that detects human transcripts directly from RNA extracted from whole zebrafish embryos. To develop this method, we identified human-specific housekeeping gene primers that would not amplify zebrafish transcripts. Two candidates, HPRT1 (hypoxanthine phosphoribosyl transferase 1) and TBP (TATA-binding protein), were selected from previous studies. RT-PCR using RNA from zebrafish embryos and human lung cancer cell lines confirmed both primer sets were human specific; however, HPRT1 was selected because it produced a single amplification product without non-specific bands. RT-qPCR is now being used to determine the limit of detection for human transcripts within RNA extracted from whole zebrafish embryos. Varying numbers of human lung cancer cells are added to zebrafish embryo RNA

to determine the minimum number reliably detected using the human-specific HPRT1 primer. Establishing this detection threshold will confirm that human gene expression can be measured directly from whole embryo RNA without isolating tumor cells. This method will enable future studies examining transcriptional responses of circulating tumor cells exposed to vascular shear stress during metastasis.

21. Naloxone Administration & Basic First Aid Training for Bartenders and

Bouncers in Downtown Burlington, Vermont. *Shrestha, T, L; Schwartz, Z, M* Opiate overdoses in downtown Burlington are a disproportionate public health concern, particularly in areas surrounding the University of Vermont where students and community members live. In 2024, approximately 16% of Vermont's EMS overdose calls and over 44% of overdose deaths in Chittenden County occurred in Burlington, despite the city comprising only 7% of the state population and 25% of the county (VT Department of Health, 2026). Drug use is driven by factors including peer pressure, stress, drug availability, genetic vulnerability, limited access to treatment, and broader environmental stressors, with socioeconomic marginalization strongly linked to higher overdose rates (Mitra et al., 2023). The impacts include increased mortality, addiction, and strain on EMS and emergency healthcare systems, as well as economic consequences such as declining property values (Chang et al., 2014). Cat E Care is a program run in collaboration with UVM's Department of Emergency Management and UVM's Initiative for Rural Emergency Medical Services. Our goal is to provide high quality and accessible first aid training, including CPR, AED use, Narcan administration, and stop the bleed training, to UVM students, faculty, and staff. Our intervention aims to address the amount of death by opioid overdose in downtown Burlington, Vermont in collaboration with Cat E Care. This intervention aligns with the Socio Ecological Model by aiming to reduce harm caused by opioids both at the interpersonal and organizational level. Training local downtown Burlington employees (of bars, restaurants, and shops) with lifesaving Narcan administration and first aid training will give these employees the ability to recognize overdoses occurring in and around their businesses will allow for faster response, reducing deaths and creating a safer and more welcoming environment. This intervention would be a pilot program as there hasn't been a similar intervention yet proposed before in the state of Vermont.



22. STK11 C-Terminal Domain Mutations Drive Ameboid Morphology Independent of Kinase Function.

Jenkins, P; Nandagopal, G.; Royer, C; Deming, P.

STK11 is a tumor suppressor commonly mutated in lung adenocarcinoma often coupled with a KRAS driver mutation. Individuals harboring STK11/KRAS co-mutations have worse prognoses, present with increased metastasis, and respond poorly to current treatments. Uncovering the molecular basis of this subset of cancer is essential for guiding patient treatment and improving outcomes. To this end, variants of unknown significance (VUS) provide a unique challenge. Notably, mutations within the C-terminal domain (CTD) retain kinase activity, suggesting functional consequences may not arise from complete loss of catalytic function. This raises the possibility that these variants drive tumor progression through alternative mechanisms, and thus determining their biological impacts is essential for expanding our ability to classify clinically relevant mutations and guide therapeutic strategies. In this study, we assess the functional consequences of STK11 mutations within the C-terminal domain on cell adhesion and morphology. We further explore whether dysregulation of focal adhesion kinase (FAK) signaling contributes to these phenotypes. We report that cells lacking STK11 have a shift towards an amoeboid morphology, and the re-expression of wild-type STK11, but not the mutants R297M and K416E/K423E rescues this phenotype. Despite no observable alterations in total focal adhesion area or the number of focal adhesion sites per cell, preliminary data indicate increased phosphorylation of FAK in STK11-deficient cells, and in cells expressing the R297M mutant. Together, these findings suggest that CTD mutations, despite retaining kinase activity, disrupt noncatalytic functions of STK11 required for maintaining mesenchymal morphology, potentially promoting invasive behavior through altered FAK signaling. This work provides functional insight into STK11 VUS and supports their role in driving aggressive phenotypes in lung adenocarcinoma.

23. Interpersonal Violence at UVM: Victimization Rates Among Students & Utilization of Campus Resources. *Sofia M. Calzone, Sophie E. Bierman, Jennifer M. Demers, Ph.D.*

Interpersonal violence is a prominent issue on college campuses, impacting 1 in 3 women, 1 in 6 men, and 54% of transgender and gender non-conforming individuals in their lifetime. Gender disparities reflect an



overarching pattern in the literature where students with marginalized identities experience disproportionately high rates of victimization compared to their privileged counterparts.

Previous research supports the use of structured frameworks such as the Strategic Prevention Framework (SPF) for a range of issues, the first step of which is assessing community needs to ensure that interventions are contextually relevant and sustainable. The SPF suggests that to effectively address interpersonal violence at the University of Vermont (UVM), it is critical to first understand the scope and severity of the problem. Campus climate surveys are a crucial tool for not only measuring victimization rates, but also perceptions of institutional response, student knowledge, and campus resources. However, UVM lacks a comprehensive campus climate survey that systematically measures key factors to developing essential interventions and initiatives to address interpersonal violence. This considerable gap prevents the university from implementing data-driven, equity-informed interventions.

The current study aimed to address this gap in assessment by conducting a comprehensive campus-wide needs assessment at UVM. A total of 371 undergraduate (n=333) and graduate (n=38) students attending UVM were included in this study. Participants were recruited via email, social media, and snowballing approaches, and were offered entrance into a raffle for their participation. Initial data analyses point to several crucial areas of need at UVM, such as an overall low awareness of and interaction with existing prevention efforts and resources. Findings from this study provide critical insights to inform the development and adaptation of prevention strategies, survivor support services, and institutional policies aimed at reducing interpersonal violence and improving campus safety.

24. Assessing Risk, Protective Factors, and Readiness to Address Interpersonal Violence at the University of Vermont. *Mayo, K, F and Demers, J, M*

Interpersonal violence, including sexual violence, intimate partner violence, stalking, and harassment, has remained a significant issue on college campuses. Prior research has identified several key risk factors, such as the acceptance of rape myths and attitudes supporting intimate partner violence. Protective factors remain less explored, but some have been identified, such as having a strong sense of community and



belonging. Risk and protective factors combined with one's readiness to address interpersonal violence, serve as important areas of assessment needed to adapt prevention efforts to the community. However, the University of Vermont's (UVM) annual campus climate survey does not currently include these measures.

This study addressed the gap in assessment at UVM. Participants consisted of 333 undergraduate and 38 graduate students at UVM who completed an online survey administered through Qualtrics. The survey collected data on several risk factors (i.e., rape myth acceptance, intimate partner violence attitudes, sexual coercion), protective factors (i.e., ongoing sexual consent, communicative sexuality, trust in the college support system, sense of community), and indicators of readiness and actions to prevent interpersonal violence (i.e., readiness to help, bystander behaviors). Participants were recruited via emails sent to 20% of the student body, social media posts, flyering, and snowball sampling.

Results indicated that most participants were in the contemplation stage of change, suggesting awareness but limited engagement. Participants reported having a relatively strong sense of community, moderate trust in the college support system, and low risk. Notably, these low levels of reported risk factors were not explained by social desirability bias. Future research should consider other validated measures of these concepts and additional factors associated with risk. Findings indicate the need to tailor prevention strategies to the UVM community, with a particular focus on maintaining or increasing protective factors and moving individuals from the contemplation stage of readiness to action.

25. Contingency Management for Tobacco use in Addiction Treatment: A Proposed Intervention. *Haydar, P, J*

Background/Objectives: Tobacco use remains highly prevalent among individuals with substance use disorders, contributing significantly to morbidity and mortality. Despite this, smoking cessation is often under-addressed in addiction treatment settings. Contingency management (CM), an evidence-based behavioral intervention that provides incentives for verified abstinence, has demonstrated strong efficacy in promoting smoking cessation. This project aimed to assess the feasibility and design of a CM program for tobacco use within the University of Vermont

Medical Center Addiction Treatment Center (ATC), with the objective of developing a tailored, implementable intervention.

Methods: A mixed-methods approach was used, including a literature review of CM interventions for smoking cessation, stakeholder interviews with addiction treatment and tobacco cessation experts, and an asset and needs assessment of the ATC. The literature review identified effective program structures, incentive models, and verification methods.

Stakeholder insights informed feasibility, barriers, and integration strategies. An asset map evaluated existing clinical, organizational, and community resources to support implementation.

Results: Findings indicate that CM is highly effective in promoting smoking abstinence, particularly when combined with frequent biochemical verification and escalating incentive structures. Key facilitators at the ATC include access to interdisciplinary providers, existing smoking cessation services, and a strong organizational infrastructure. Identified barriers include funding constraints, staff capacity limitations, and logistical challenges to delivering frequent testing and incentives. Stakeholders emphasized the importance of integrating smoking cessation into routine SUD care.

Discussion: This project proposes a 12-week CM intervention tailored to the ATC, incorporating frequent testing, escalating incentives, and integration with existing services. Addressing tobacco use within addiction treatment represents a critical opportunity to improve long-term recovery outcomes. Future steps include securing funding, hiring a program coordinator, and piloting the intervention. This model has the potential to serve as a scalable framework for integrating smoking cessation into addiction treatment settings.

26. On-Site Childcare In Hospitals Addressing Treatment Accessibility for Parents With Cancer Diagnoses. *Murphy, Emma; Nguyen, Tram L*

Background: As cancer research and treatment continue to grow and expand in the world of science, there are still many factors making this treatment inaccessible. While there is ample research focusing on the inaccessibility of cancer treatment for various communities and populations, parents of dependent children are often left out. Studies have shown that for parents, specifically women, lack of childcare is the most frequent cause of delayed or missed healthcare appointments (Alevarez et al., 2022). While subsidies and other childcare solutions

remain rare and widely limited, this study turns to the hospitals and treatment facilities to see what solutions exist on-site.

Objectives: This research focuses on the inaccessibility of cancer treatment for parents of dependent children who cannot afford the high cost of childcare and how hospitals, specifically UVMMC, can mitigate this disparity. The research aims to demonstrate how available on-site childcare for patients can increase treatment and appointment attendance.

Methods: This research reports on accessible recent literature on childcare as a barrier to healthcare for parents with a debilitating diagnosis, as well as information interviews conducted by the researchers. The information collected from these interviews provided clear opinions and perspectives from key stakeholders within the Burlington community and beyond.

Results: This research found parenting to be a large barrier to consistent treatment and appointment attendance. Stakeholder interviews confirmed the positive effect that on-site childcare would have on this health issue and on the overall health outcomes of parents with debilitating disease diagnoses, including cancer.

Discussion: Parents of young and dependent children often sacrifice their own health to focus on the health and needs of their children. Catering health facilities to include family support needs increases the ability for parents to put their health first while still caring for their children.

27. Targeting NF- κ B Reduces Metastatic Transcriptional Programs in STK11-Null Lung Adenocarcinoma. *Remington, S. K; Racela, A; Deming, P; Scheiber, M; Esposito, K; Seward, D; Lenahan, S.*

Lung cancer is the leading cause of cancer-related mortality worldwide. Despite advances in treatments, many lung cancer patients present with treatment-resistant disease. As such, there is a need to characterize the biology of the underlying mechanisms of resistance to inform therapeutic options for patients with advanced stage lung cancer. Notably, patients with KRAS-driven lung adenocarcinomas (LUAD) lacking a functional Serine/Threonine Kinase 11 (STK11) face poorer prognosis due to non-response to anti-PD-1 therapy and higher rates of metastasis, resulting in

more aggressive disease-progression and lower overall survival rates. STK11 encodes a kinase that acts as a tumor suppressor and is disrupted in 10-15% of KRAS-driven LUADs, making up around 15,000 cases of lung cancer in the US per year. The molecular mechanisms underlying the clinical correlation between STK11 loss and resistance to anti-PD-1 therapy remain unclear. Our work supports STK11-loss-dependent transcriptional induction of tumor cytokines as one mechanism that might impact therapy resistance. The Seward Lab previously conducted whole transcriptome sequencing and pathway enrichment studies (KEGG) and identified STK11-loss-dependent activation of the NF-kappa B (NF-κB) signaling pathway in KRAS-driven LUAD cell lines under glutamine deprivation. Based on this analysis, we hypothesize that in the absence of STK11, the NF-κB pathway is being activated and upregulating the transcription of many downstream NF-κB target genes, and these genes are promoting a more aggressive and metastatic phenotype. After demonstrating the upregulation of multiple NF-κB target genes in glutamine-deprived NCI-H2009 KRAS-driven/STK11-null (KS) cells by qRT-PCR, we found that genetic ablation of the NF-κB transcription factor (p65) resulted in their subsequent downregulation. These transcriptional changes were supported by corresponding increases or decreases in protein expression of candidate pro-metastatic genes, cytokines, and anti-apoptotic markers in the respective cell lines, as confirmed by western blot analysis. These findings indicate that NF-κB activation is essential for transcriptional induction of survival, proliferation, and premetastatic genes under glutamine stress. Further, using an in vivo zebrafish model of metastasis, the Scheiber lab identified induction of NF-κB-mediated pro-metastatic signaling networks in KS cells. We also validated that transcriptional expression remains consistent following lentiviral GFP transduction in NCI-H2009 cells used for zebrafish studies. Future studies will involve investigating other LUAD cell lines to evaluate the effect of KRAS point mutation on transcriptional phenotype.

28. Systematic Review of Metabolic Rewiring and Metastasis in KRAS-Driven Lung Adenocarcinoma. *Mosley, S, M. Litton, J, L. Deming, P. Scheiber, M.* Non-small cell lung cancer (NSCLC) is a leading cause of cancer-related mortality, with lung adenocarcinoma (LUAD) representing the main histological subtype. Despite therapeutic advances, KRAS-mutant LUAD remains associated with treatment resistance, poor survival, and a high



propensity for metastatic dissemination. Studies have established that cancer cells undergo shifts in metabolic pathways to meet increased energy demands and adapt to nutrient stress. However, the extent to which KRAS-driven metabolic alterations directly promote metastatic progression is unclear. This systematic review synthesizes preclinical and clinical evidence examining the relationship between metabolic rewiring and metastasis in KRAS-mutant LUAD. A systematic search of PubMed, Embase, and Web of Science from August 2025 to January 2026 identified original studies investigating metabolic pathway activity and metastatic phenotypes. The review was registered in PROSPERO with the registration ID: CRD420251143206. Studies were eligible if they were published in the last 20 years, included either preclinical or clinical KRAS-mutant models with appropriate controls, investigated metabolic pathway activity, and examined markers of metastasis. The total number of studies identified was 197, and 12 studies were included in the review. Studies were grouped by metabolic pathway and stratified by experimental model type and mutational status. Considerable heterogeneity was observed in study design and outcome measures, and relatively few studies directly linked metabolic alterations to metastatic endpoints. Findings were synthesized into mutational-metabolic-metastatic axes to identify mechanistic patterns. Overall, evidence suggests that while multiple metabolic pathways are altered, KRAS-driven metabolic rewiring contributes to metastatic progression primarily through oxidative stress resistance. Although direct causal relationships remain limited, these findings highlight potential metabolic vulnerabilities and biomarkers that may inform KRAS-specific co-targeting strategies.

29. Activation of NF- κ B signaling drives pro-metastatic programs in STK11-deficient lung adenocarcinoma. *Racela, Allison; Prior, Shannon; Lenahan, Sean; Royer, Cole; Remington, Sydney; Seward, David; Deming, Paula.* Lung cancer remains the leading cause of cancer-related deaths worldwide and is characterized by marked clinical aggressiveness, including high rates of therapy resistance and metastatic progression. Although recent therapeutic advances have modestly improved 5-year survival in lung cancer, overall response rates remain low (~25%). A particularly strong genotype-phenotype correlation predicting broad treatment resistance, early disease dissemination, and poor overall survival in KRAS-driven lung adenocarcinomas (LUADs) is loss of the



Serine/Threonine kinase 11 (STK11) tumor suppressor. Patients with STK11-deficient tumors commonly present with advanced-stage disease, exhibit enhanced metastatic potential and experience an especially aggressive clinical course. Despite these well-established clinical associations, the molecular mechanisms driving this aggressive, treatment-refractory phenotype remain largely undefined. We performed whole transcriptome and pathway enrichment studies comparing a KRAS-driven/STK11-competent LUAD (K) cell line with KRAS-driven/STK11-null (KS) cell line and identified STK11-loss-dependent activation of the NF-kappa B (NF-κB) signaling pathway in response to glutamine deprivation. Given this we hypothesize that the pro-metastatic phenotype observed in patients with KRAS-driven LUAD upon STK11 loss is NF-κB dependent. Kmeans clustering of the RNA transcripts highlighted 36 genes induced upon glutamine depletion in KS cells and these genes were subsequently downregulated in the absence of the NF-κB transcription factor (p65) through genetic ablation. These findings indicate that NF-κB activation is essential for transcriptional induction of survival, proliferation, and premetastatic genes under glutamine stress. We then showed that p65 consistently accumulates in the nucleus of KS cells following the removal of glutamine, suggesting transcriptional regulation through NF-κB signaling. Following pharmacological inhibition of NF-κB and glutamine depletion, p65 was unable to translocate into the nucleus and was sequestered in the cytoplasm of KS cells. To assess whether glutamine stress and NF-κB signaling promote metastasis we used a 3D spheroid model. Spheroid models more closely mimic the microenvironment of in vivo tumors, in which nutrients and oxygen become restricted. Glutamine deprivation enhanced ameboid-like single-cell invasion in KS spheroids, an effect markedly reduced by p65 knockout or PS-1145 treatment. Using a combination of transcriptomic analyses and in vitro invasion assays to model metastasis, these results suggest that STK11 loss in KRAS driven lung adenocarcinoma promotes an NF-κB-dependent metastatic phenotypes.

30. Implementation of Naloxone and Medicaid 1115 Waiver Adaptation for the Recently Incarcerated. *Speer, Zarina E. & Grimes, Charly P.*

Background: Our public health capstone project partnered us with the UVM Justice Research Center's Prison Research Innovation Network (PRIN) to examine the public health challenges in Vermont's prisons. Our team of

students created a set of data briefs to present to policymakers about the issues within Vermont prisons.

Objective: The objective of our project was to identify an intervention to reduce barriers to successful re-entry by reducing the risk of overdose post-release. Many of Vermont's 1600+ prisoners have substance use disorders. Upon release, they are at an increased risk for overdose and naloxone or prescription therapy should remain available for as long as possible to improve health outcomes.

Methods: We conducted a review of the literature, focusing on policies that had comparable settings to address barriers to successful re-entry. We identified community assets, including Turning Point Recovery and UVM's Justice Research Center. We also interviewed stakeholders who are involved in PRIN to understand the complexities of medicare policies and other current policy amendments.

Results: Findings support the recommendation to amend Vermont's 1115 Medicaid waiver to include coverage of naloxone for individuals once released from prison. In addition, there is a need to extend the supply of prescription medications that incarcerated people receive upon their release from 30 days to 90 days.

Discussion: Reducing overdose incidence can inform the cycle of recidivism within the carceral system and improve community health. Many people are unable to find stability immediately after incarceration, and access to medication for an extended period of time can eliminate the burden. Future steps would include engaging with the VT state legislature and building partnerships with the Vermont Department of Corrections and the VT Department of Health to facilitate the administration of naloxone as part of the prison's release protocol.

31. Improving Mental Health Through Shared Student Experiences: Creative Interventions to Support College Students with Depression. *Duffy, O, R; Stannard, G, E*

Background and Objectives: 37% of college students experience depression, facing a variety of symptoms including an inability to experience joy, suicidality, and trouble interacting with peers (Petito et al., 2020). In the setting of a senior-level undergraduate service learning partnership between University of Vermont (UVM) public health sciences students and the UVM Center for Health and Wellbeing (CHWB), an intervention centering campus culture and shared experiences was

created with the goal of reducing perceived loneliness and depressive symptoms in UVM students.

Methods: An agency overview of UVM CHWB and a brief review of literature on existing evidence-based interventions for college student depression were conducted. Community assets were identified and community partners interviewed. This information was taken together to create an intervention for undergraduate student depression.

Results: One half of the intervention involves the creation of a physical zine, incorporating elements of UVM student culture and dialectical behavioral therapy skills to help students get through common stressful situations. The other half of the intervention involves the use of two surveys asking students to reflect on their experiences at UVM. One survey asks students to give advice to younger incoming first years to later be compiled and shared during orientation. The other asks students to nominate a fellow student for their uniqueness and passion to have their contributions to the UVM student body celebrated in a 'UVM Yearbook'.

Discussion: Campus culture was crucial in developing this intervention, as it influences mental health treatment beliefs (Chen et al., 2016).

Incorporating elements of campus culture while working with community partners allowed for the intervention to be as efficacious as possible for UVM students, not treating all college students everywhere as a monolith and increasing the likelihood of a shift toward positive mental health treatment beliefs in this population (Chen et al., 2016).

32. Investigating Strengths and Barriers to Effective Faculty-Student Communication and Readiness to Address Interpersonal Violence at UVM.

Khan, I, N; Stieglitz, M; Elazar, L; Demers, J, M

Interpersonal violence (i.e., sexual violence, intimate partner violence, and stalking) is an endemic issue in the U.S. The University of Vermont (UVM) is not immune to this problem. In the 2024-2025 school year, UVM's Office of Equal Opportunity reported 204 sexual harassment or misconduct disclosures. This data is likely an underestimate since research shows that survivors are less likely to report to formal resources and authorities than informal supports. Data on intimate partner violence at UVM is even more limited. Researchers have identified faculty and staff as important players within a Whole School Approach to prevention, though strengths and barriers to these preventative roles are less explored. This study aims to address the gaps in the literature and at UVM by analyzing



staff and faculty's knowledge and comfort with interpersonal violence prevention.

The current study used a mixed-methods design to investigate perceptions of strengths and barriers to effectively addressing interpersonal violence experienced by students. Participants included staff, faculty, and graduate student TAs. Researchers held 25 targeted interviews and 4 focus groups with UVM staff, which varied in size from 2 to 6 participants. An additional 40 faculty members and 38 grad students completed a Qualtrics survey that explored the same constructs. Qualitative responses were analyzed using Braun and Clarke's (2006) thematic analysis.

Results revealed a lack of understanding of the Title IX reporting process by personnel, as well as uncertainties regarding faculty and staff responsibilities as mandated reporters. Themes included the participants' distrust of university administration and an overall lack of confidence in their own preparedness to respond to disclosures of interpersonal violence. These findings provide important information that can be used to inform institutional education programs for faculty and staff to help increase knowledge about mandated reporting and the Title IX process.

33. Exploring Perceptions of UVM's Resources and Efforts to Address

Interpersonal Violence on Campus. *Puterbaugh, Summer A.; Stieglitz, Max; Villegas-Tapia, Ashley; Demers, Jennifer*

Interpersonal violence is a prevalent problem on college campuses. One U.S. study revealed that 43% of women and 28% of men reported instances of intimate partner violence (IPV) across their lifetime, with half reporting that these instances occurred during college. These rates are disproportionately greater among lesbian, gay, bisexual, and transgender (LGBT) college students, with some studies finding that up to 50% of LGBT students are impacted by acts of IPV. Similarly, at least 20% of women, 6% of men, and nearly half of trans students experience sexual assault during college, although actual rates are likely higher due to underreporting. Faculty and staff often act as mandated reporters on campus who are legally obligated to report incidents of interpersonal violence, with some directly engaging in prevention work. However, a gap exists regarding

faculty and staff perceptions of training and resource efficacy, which impacts mandated reporters' confidence discussing violence and efficacy when responding to disclosures.

The current study explored faculty and staff perceptions of UVM resources for interpersonal violence and campus preventative measures using a mixed-method approach involving surveys (N=411), interviews and focus groups (N=25). Interview and focus group participants were recruited via emails to a targeted list of stakeholders, while survey participants were recruited using a combination of emails, social media, and snowball sampling. All qualitative responses were analyzed using Braun and Clarke's thematic analysis (2006).

Results support the implementation of peer resources for students and other preventative interpersonal violence initiatives that are better tailored to individual survivor needs. Participants identified several specific improvements to UVM's programming, such as more trauma-informed training, opportunities for student peer connection and education, and more accessible services in the context of federal and financial limitations. These findings demonstrate a need for changes in campus culture at UVM that promote open communication and resource accessibility.

34. Addressing the Needs of Children in Domestic/Intimate Partner Violence Shelters. *Jacobs, Veronica; Suranofsky, Raeann; S.*

Based on our work as interns in the Family Program at STEPS to prevent domestic violence, we identified a gap in resources for neurodivergent children entering the shelter. This population may experience increased anxiety and difficulty adjusting, therefore increasing their need for tailored support. Based on reviewing the literature and interviewing stakeholders it was found that a reasonable intervention for the public health issue was to provide Social Stories for kids entering the shelter. As it was found that many children first arrive at the shelter with increased problematic behavior and regression due to uncertainty (Fredland et al., 2014) and Social Stories increased desired behaviors, especially in neurodivergent children (Thompson & Johnson et al., 2013). These Social Stories will provide short, structured narrative that will help children understand the routines and behavior expectations in the unfamiliar setting of the shelter to increase wanted behavior and reduce anxiety. These Social Stories will



also be helpful for any children entering the shelter as they may also find a need to have a story on what to expect in this new environment and promote adaptive behaviors. After trialing the program at STEPS we would hope to recommend it to other domestic violence organizations throughout the state, with recommendation from Michelle Kersey Data and Policy Manager at Building Bright Futures.

35. Student Sun Safety Beliefs and Behaviors: A Health Belief Model-Based Survey Study. *McPhee, R. M.,*

Background and Objectives: Cutaneous malignant melanoma is the deadliest form of skin cancer, and Vermont has the 3rd highest incidence rate in the US. A primary causal factor in melanoma incidence is DNA damage as a result of overexposure to UV rays (sunburns). Young adults are among the highest risk age category for sunburns.

This study aims to:

1. Understand University of Vermont student perspectives on skin cancer susceptibility and severity.
2. Gather baseline data on barriers to increasing frequency of protective sun habits, with the intention of future intervention to address these barriers.

Methods: A survey was developed to collect data on sun safety behaviors and preconceptions among the UVM student population. Questions were based on the health belief model addressing perceived susceptibility to skin cancer, perceived severity of a sunburn, and perceived barriers to increasing one's sun protection. The survey was distributed among various email listservs and social media.

Results: We collected 171 responses. Of responses, 33% (n=56) said that they do not take any preventative actions when outside on cloudy days, compared to only 5% (n=8) on sunny days. 33% (n=56) of participants reported getting 4 or greater sunburns annually. Further, 63% of participants (n=108) felt that more freely available sun safety resources on campus (for example, sunscreen dispensers) would help them to protect themselves from the sun more often. Results indicate more freely available and affordable sun safety resources, as well as education about the risk of sunburn on cloudy days would be beneficial to student sun safety habits.

Discussions: The data collected throughout this study is valuable as it targets a population that is susceptible to sunburns, and serves as baseline data for pre-intervention beliefs on sun safety.

36. Refugee-led educational program for specialists to address healthcare accessibility in the new American community. *Brown, M.E.*

BACKGROUNDS AND OBJECTIVES: The greater Burlington area began resettling Afghans in early 2022. The Vermont Afghan Alliance was founded simultaneously to support the needs of the population being resettled, providing targeted services and preserving Afghan culture and community. As a Health Program intern, students address the various social determinants of health affecting refugees by planning, implementing, and evaluating public health programs and community-building events, as well as assisting with crucial health navigation services. The work done by this agency is imperative, as cultural, linguistic, and other structural barriers can affect accessibility to health care, particularly in specialist services like dental and vision, causing inequitable outcomes for refugees. **METHODS:** After a review of literature, stakeholder interviews, community asset mapping, and assessment of evidence-based interventions and best practices, a pilot intervention was identified that addresses health care accessibility for refugee populations in Chittenden County. **RESULTS:** An educational series for specialists, mainly dental and vision care providers, constructed and directed by Afghan community leaders, can increase cultural humility and further understanding of common barriers and needs among the new American population. **DISCUSSION:** Future considerations for the Vermont Afghan Alliance include building close partnerships with a multitude of specialist health care providers to bolster connections and coordinate a cultural humility initiative that will better prepare providers to work with new Americans.

37. Sun Safety for Student Clubs: Evaluating the Effectiveness of an Educational Presentation Using Pre-Post Surveys. *Walsh, E. and Hurley, K.J.*

Background: Malignant melanoma is the deadliest form of skin cancer, and Vermont has the third highest incidence rate in the US. A primary causal factor for developing melanoma is DNA damage because of unprotected exposure to UV radiation resulting in sunburns. Young adults are among the highest risk age groups for sunburns.

Objective: The objective of this study was to educate student club sports on campus about the dangers of unprotected sun exposure and ways that they can practice sun safety in their sport.

Methods: A short presentation was developed that provided education on the high incidence rate of melanoma in Vermont, the dangers of unprotected sun exposure, an explanation of skin cancer, and how students can protect themselves when spending time outdoors. During these presentations, free sunscreen, chapstick with sunscreen, and other sun safety materials were handed out to the students. The presentation included a pre- and post-survey that assessed students' knowledge and beliefs around sun safety before and after listening to the presentation.

Results: A series of McNemar's tests were conducted to assess changes in responses from pre- to post-survey ($n = 40$). Significant improvements were observed for Q2 ($\chi^2 = 10.0$, $p = 0.002$), Q5 ($\chi^2 = 8.05$, $p = 0.005$), and Q6 ($\chi^2 = 18.0$, $p < 0.001$), indicating increased positive responses following the intervention. No significant change was found for Q3 ($\chi^2 = 0.33$, $p = 0.56$). Q1 and Q4 showed no variability in post-intervention responses, limiting statistical interpretation.

Discussion: The results from this study provide valuable insight into the efficacy of a targeted sun safety presentation to increase knowledge and assess students' attitudes and beliefs. The findings from this study could inform a future study to evaluate whether health education for sun safety leads to behavior change in college aged individuals.

38. Interventions to Prevent and Mitigate the Effects of Cognitive Decline and Delirium in Hospitalized Elder Patients. *Chinn, Z, C*

Background: For my capstone project, I worked with the Hospitalized Elder Life Program (HELP) at UVM Medical Center. The goal of the HELP program is to decrease the public health issue of cognitive decline in older adults during their hospital stays through companionship, support, and social connection. As a volunteer in this program, I engaged in many conversations with patients experiencing cognitive decline in forms such as delirium or dementia, or patients at risk for the aforementioned.

Interventions that I used as part of this program to avert cognitive decline

in patients included word games, board games, art activities, orienting conversation, encouraging food and liquid intake, and other such activities that encouraged daytime wakefulness and stimulation of the mind.

Objective: Our objective was to identify an intervention to address this public health issue.

Methods: To gather more information on this public health issue, we conducted a review of literature, identified community assets, interviewed stakeholders, and assessed evidence based interventions.

Results: Based on our research and experiences, additional interventions to address this public health issue are music therapy, service animals and social connection, and increased diversity of art and engagement activities.

Discussion: The HELP program is already taking many steps to prevent cognitive decline in patients during their hospital stays, but as a complex issue, an even more nuanced approach may be beneficial. Integrating additional interventions into the program could further improve patient experience, prevent cognitive decline, and smoothen the transition from hospital stay to home life for patients. Feedback will be provided to the HELP program with suggestions for additional interventions, and efforts made to connect the HELP program to other programs in Vermont aimed at helping older adults with daily life in order to ensure a seamless move between hospital stay and returning home.

39. Loneliness in Hospitalized Elders at the University of Vermont Medical Center. *(Lindenberg, J, C), (Dewey, S, A) (Sherwood-McGrath, M)*

Loneliness among older hospitalized adults is growing as a public health concern. Social isolation in hospital environments can be associated with increased risk of delirium, poor health outcomes, and longer hospital stays. The Hospital Elder Life Program (HELP) was developed by the American Geriatrics Society as an evidence-based intervention to prevent cognitive decline and delirium. To evaluate the effectiveness of this program at UVMHC we interviewed stakeholders, observed the program, and reviewed existing literature on HELP implementation. Stakeholder



perspectives were gathered from the HELP program coordinator and two geriatric nurses. Additionally, recent studies (e.g., Shen et al., 2024; Schulman-Green, 2023) were analyzed to investigate program benefits and flaws. Findings found that the HELP program is associated with lower cases of delirium, improved patient satisfaction and shorter hospital stays. Stakeholders expressed that the program compliments patient care by providing companionship that staff often isn't able to provide. Expanding HELP within UVMMC represents an impactful strategy to address loneliness among all hospitalized patients. Future efforts should focus on broadening participating floors, sustaining volunteer recruitment and improving volunteer interventions and visits. Overall HELP demonstrates potential as an evidence-based intervention that can improve clinical outcomes and patient quality of life for older hospitalized individuals.

Nursing

40. Improving Maternal RSV Vaccine Uptake: A Multifactorial QI Approach.

Ukaj, A; Pelski, J.

Respiratory syncytial virus (RSV) is a leading cause of infant hospitalization in the United States and is associated with long-term respiratory complications, making prevention during pregnancy a critical public health endeavor. Maternal RSV vaccination between 32-36 weeks gestation has been shown to significantly reduce severe RSV-related outcomes in infants; however, uptake remains suboptimal due to limited provider recommendation, low patient awareness, and vaccine safety concerns. This quality improvement project aimed to increase maternal RSV vaccination rates among eligible patients through provider education, implementation of a standardized EHR documentation template, and planned standing orders between September 1, 2025, and December 13, 2025, with a stretch goal of 90% uptake. Pre- and post-intervention Likert-scale surveys assessed provider confidence and presumptive language practices following an educational session, and retrospective chart review evaluated vaccination rates and EHR template utilization at the 30-week prenatal visit. Maternal RSV vaccination rates increased to 58.4% during the intervention period, representing a meaningful improvement though not meeting the aspirational target. Provider surveys demonstrated high baseline confidence and frequent

use of proactive communication; confidence slightly decreased while presumptive language usage remained stable post-education. The standardized EHR template was used in 69.8% of eligible visits and was associated with a 72.7% vaccination rate when utilized. These findings support the value of multifactorial, system-level interventions to improve prenatal RSV vaccine uptake in clinical practice.

41. Optimizing Hypertension Management in a Primary Care Setting. *Smith, Rachel B; Leighton, Erin M.*

Hypertension affects nearly one-third of U.S. adults and remains poorly controlled despite established guidelines. In a primary care clinic in Northern Vermont, 65% of patients met recommended blood pressure (BP) control and follow-up measures, underscoring the need for quality improvement to better align care with local and national benchmarks. This Doctor of Nursing Practice (DNP) project aimed to improve hypertension management through the implementation of an evidence-based protocol focused on standardized BP measurements, structured documentation, and follow-up scheduling, with a goal of achieving 80% protocol utilization. The secondary aim was to increase the percentage of patients achieving BP control by 5%. Clinic staff received role-specific training to support consistent protocol use. Data were collected at baseline and at 4-week intervals over a 10-week implementation period using electronic health record (EHR) reports and manual chart reviews. Primary outcomes included the percentages of protocol utilization, hypertension-related documentation completeness, and patients with BP control (BP < 140/90 mmHg). Descriptive statistical analyses assessed changes over time. Standardized BP measurement utilization increased by 78.6%, and structured documentation improved across note components by 20-40% from baseline. Follow-up protocol remained at 0%, reflecting workflow and scheduling barriers identified during implementation. Average BP control improved modestly from 65% to 67%, demonstrating early progress toward improved clinical outcomes. Overall, implementation of a structured, evidence-based protocol improved care consistency and documentation practices, with modest gains in BP control. Continued staff education, enhanced EHR integration, and broader stakeholder engagement are necessary to support sustainability, scalability, and ongoing quality improvement.



42. Primary Care Rapid Mental Health Assessment and Triage (PCR-MHAT): An Evidence-Based Protocol. Meyer, E.M., Rumley, K., and Pelski, J. Access to timely mental health care continues to decline in rural states such as Vermont, contributing to increased reliance on emergency departments (EDs) for psychiatric crises. Individuals in distress often contact their primary care provider (PCP) for guidance; however, outdated triage protocols and limited awareness of community resources frequently lead to ED referral, despite being poorly suited for trauma-informed mental health care. This quality improvement (QI) project implemented the Primary Care Rapid Mental Health Assessment and Triage (PCR-MHAT) protocol in a Central Vermont family medicine clinic to strengthen primary care response. PCR-MHAT integrates validated screeners and standardized algorithms to support rapid acuity assessment and referral to appropriate levels of care, including community ED alternatives such as Mental Health Urgent Care. The protocol was piloted from September 15 to November 14, 2025. Evaluation included pre- and post-implementation surveys of registered triage nurses and retrospective review of telephone encounters. Eight nurses were eligible to participate; six completed pre-implementation surveys and three completed post-implementation surveys. Chart review identified eight calls in which the PCR-MHAT template was used, most involving suicidal ideation and depressive symptoms. Screening tools, community resource referrals, and follow-up plans were consistently documented. Baseline mean confidence in recognizing and triaging specific mental health conditions was high. Post-implementation confidence appeared lower, except for general triage skills (e.g., assigning acuity, identifying community resources, and level of care). Qualitative feedback indicated the protocol was easy to use, supported structured decision-making, increased awareness of crisis resources, and reduced uncertainty during high-stress calls. Although the sample was small and results illustrative only, findings suggest that a standardized mental health triage protocol in primary care is feasible and promotes consistent assessment and referral practices. Future work will focus on protocol refinement, expanded nurse training, broader implementation, and evaluation of patient-level outcomes, including suicidal ideation and ED utilization.

43. Enhancing Anxiety Screening and Early Intervention in Adolescent Primary Care. (Nguyen, A); (Martin, L).



Adolescent anxiety is highly prevalent, increasingly burdensome, and often under-identified in primary care, especially following the COVID-19 pandemic. Despite national screening recommendations, implementation remains inconsistent and follow-up after positive screens is often unstandardized. This quality improvement project aimed to improve the detection and initial management of adolescent anxiety in a Vermont family medicine clinic by expanding routine anxiety screening and distributing a validated, evidence-based anxiety toolkit focused on mindfulness, exercise, and self-management resources. A 12-week initiative, implemented from August to November 2025, extended Generalized Anxiety Disorder-7 (GAD-7) screening to adolescents aged 11-19 presenting for Well Child, New Patient, and Established Patient Visits \approx 30 minutes. Adolescents with GAD-7 scores ≥ 5 were offered the toolkit. Outcome measures included screening completion rates, prevalence of positive screens, and toolkit distribution rates collected via the electronic health record extraction and provider surveys. Of 62 eligible adolescent visits, 64.5% (n=40) completed GAD-7 screening and 23% (n=9) screened positive for anxiety. 67% (n=6) of the positive screens received the toolkit. Screening occurred most frequently during Well Child Visits. Providers (n=4) reported strong clinical value but noted variability in workflow integration, documentation burden, and follow-through. Findings suggest expanded screening is feasible and valuable, especially in preventive care workflows. However, inconsistent uptake and follow-up highlight the need for clearer workflow prompts and standardized post-screen pathways. Pairing screening with immediate, low-cost psychoeducation may improve early intervention and guide future quality improvement efforts.

44. Implementation of Point-of-Care Hemoglobin A1c Testing at an Adult

Primary Care Clinic. *Bentil, E.K; Aitken, M.; Bovee, A*

Hemoglobin A1c (HbA1c) monitoring is an essential part of diabetes management. Compared with laboratory HbA1c testing, which limits in-person treatment discussions and can delay care, point-of-care (POC) HbA1c testing provides immediate results at patient visits, allowing for timely treatment discussions. The purpose of this quality improvement project was to implement and evaluate POC HbA1c testing at a small primary care clinic in Burlington VT, including its feasibility, impact on disease management, and staff satisfaction with implementation. Specific

aims were that 75% of diabetic patients seen for a diabetes management appointment during the project's timeframe, would have a POC HbA1c test performed, and at least 80% of clinic staff would report satisfaction with the usability and integration of the new workflow. Interventions included selecting, obtaining, and integrating a DCA Vantage Analyzer into clinic operations, staff trainings, protocol development, electronic health record integration, and selection of appropriate patients.

Outcomes measured were the proportion of eligible patients that received POC HbA1c testing and post-implementation staff surveys assessing device usability, workflow feasibility, and satisfaction with the new process. Data was analyzed through descriptive statistics and thematic review of qualitative feedback. Of the 21 patients deemed eligible, 15 (71.4%) received POC HbA1c testing. All providers (100%) reported that POC HbA1c testing was easy to integrate into appointments, improved appointment efficiency, supported immediate treatment decisions, and strengthened patient engagement and communication. All support staff (100%) found the device easy to use and integrate into patient visits, and manageable within their existing workflow. This project demonstrated that POC HbA1c testing at this primary care clinic was feasible, effective, and well accepted by staff. It transformed delayed treatment decisions into real-time, patient-centered conversations. Ongoing device training will support sustainability, and future work should evaluate long-term outcomes, including diabetes quality measures and HbA1c levels.

45. Improving Documentation of Serious Illness Conversations In An

Outpatient Hematology & Oncology Clinic. *Gallucci, Joseph, A.; Tarbi, Elise; Burnham, Tara; Okrant, Jessica*

Patients with cancer face complex treatment decisions, making timely, values-based serious illness conversations (SICs) essential to ensuring goal-concordant care. Despite their importance, SICs are often delayed due to clinician discomfort, limited training, and inconsistent documentation workflows. In an outpatient hematology and oncology clinic in Northern New England, SIC documentation within the electronic health record (EHR) was inconsistent and difficult to locate. This quality improvement project aimed to standardize SIC documentation by increasing use of a structured EHR documentation tool and evaluating provider perceptions of feasibility, acceptability, and workflow fit. Seventeen Advanced



Practice Providers (APPs) received brief education and workflow-support materials to promote tool adoption over a two-month implementation period. SIC documentation increased from 1 update occasion in the 2 months prior to implementation (0.5 per month) to 6 update occasions during the two-month implementation period (3 per month). Post-implementation survey results demonstrated high feasibility and acceptability of the intervention, with mean aggregate Feasibility of Intervention Measure (FIM) and Acceptability of Intervention Measure (AIM) scores of 17.6/20 (SD = 1.96) and 19.4/20 (SD = 0.8), respectively. Qualitative feedback reflected improved organization of SIC content, greater accessibility of patient goals within the EHR, and increased documentation confidence. Implementation of a structured SIC documentation tool was feasible and acceptable in this outpatient oncology setting. Low-intensity educational strategies supported uptake and may offer a scalable approach to improving accessibility of serious illness documentation and supporting goal-concordant cancer care.

46. Integrating a Planetary Health in a Nurse Practitioner Program.

Garibay, Elizabeth

Planetary health is the bidirectional relationship between human health and Earth's natural systems. Environmental degradation has contributed to worsening health outcomes, including increased vector-borne diseases, respiratory illnesses, and mental health conditions. Despite these growing impacts, nursing education has been systematically slow to integrate planetary health into curricula, leaving nurse practitioners underprepared to address climate-related health risks in clinical practice. The purpose of this project was to address this educational gap by integrating planetary health content within a nurse practitioner curriculum. Evidence demonstrates that nursing and medical programs that integrate planetary health and climate change education improve student knowledge and preparedness in clinical settings. The primary goal was to ensure that students' knowledge would increase by 75%, measured using pre- and post-surveys that collected both quantitative and qualitative data. Also, completion of the Planetary Health Report Card (PHRC), a student-led evaluation to assess gaps and strengths within the nursing program and institutions. Three courses were provided with content materials delivered through an electronic platform. The (PHRC), planetary health tool with 52 metrics across five domains: curriculum,



research, community engagement, student initiatives, and campus sustainability. Baseline survey results from first- and second-year DNP students (n=43) showed a mean knowledge score of 3.7, a neutral level of understanding of Planetary Health. Post-survey results (n=31), a mean score of 3.8. Unable to calculate percentage change because the sample size was different from pre to post. Qualitative findings highlighted a desire for deeper curricular integration, experiential learning, and stronger connections to clinical practice. The PHRC yielded an overall grade of B, with the curriculum domain scoring lowest at a C. These findings suggest that while baseline knowledge exists, more comprehensive and applied planetary health education is needed. Expanding integration across the curriculum is essential to prepare future clinicians to address climate-related health challenges.

47. Ask, Advise and Connect: Proactive Smoking Cessation.

Waters, C, W

The smoking of tobacco remains the causation of major negative health changes within the United States and Vermont. The addictive nature of tobacco makes cessation a challenge and many repeated attempts are often needed for success. To better address smoking cessation within primary care a change in provider workflow was implemented and the effects on cessation motivation and engagement with smoking resources were measured. The intervention Ask, Assess, Connect (AAC) was used to increase health awareness and cessation attempts by actively working with the patient on connecting to cessation enrollment during patient encounters. AAC actively increases patient-provider interaction. In a primary care practice health care provider (n=68) were offered a short training in AAC and aids for integration of the intervention. During the patient encounter, motivation was measured by a survey pre and post - intervention, to estimate the change. Smoking cessation patient engagement was measured by the number of completed applications leveraging cessation resources. Motivational change from AAC was found to have a large positive effect (D=0.826) and 5.9% (n=4) enrolled in the tobacco cessation quitline compared to the state average of 2.2%. Both metrics demonstrate that AAC when implemented may have positive effects toward increasing tobacco cessation attempts. The long-term incorporation of AAC into practice would enable future study of sustained changes to the health of the smoking population.



48. Facilitating Extended-Release Naltrexone for Alcohol Use Disorder in Vermont Primary Care.

Parker-Waters, L, W

Alcohol use disorder (AUD) is highly prevalent and associated with significant health and societal harms, yet engagement in evidence-based pharmacologic treatment remains low. Primary care is often the first point of contact for individuals with AUD and offers an opportunity to expand access to evidence-based treatment. This quality improvement project aimed to 1) evaluate the implementation of extended-release naltrexone (XR-NTX), an FDA-approved pharmacotherapy for AUD, within a Vermont primary care Pilot Clinic, and 2) assess feasibility for adoption in a Comparison Clinic. A multi-method process evaluation assessed implementation outcomes in the Pilot Clinic using the Proctor framework, including acceptability, adoption, appropriateness, feasibility, fidelity, sustainability, penetration, and cost. Three providers and two nurses participated in interviews, while four providers and two nurses completed surveys. In the Comparison Clinic, one provider and one nurse participated in interviews and surveys to assess readiness for implementation. Data were analyzed using the integrated Promoting Action on Research Implementation in Health Services (i-PARIHS) framework across the domains of Innovation, Recipients, Context, and Facilitation, with the Mi-PARIHS Facilitation Planning Tool guiding thematic analysis and feasibility scoring. The Pilot Clinic demonstrated high acceptability and feasibility of XR-NTX within routine workflows, supported by leadership engagement, clinical champions, and structured facilitation. Penetration remained limited to a small subset of providers, reflecting workflow complexity, limited training exposure, and role delineation challenges. The Comparison Clinic showed strong perceived appropriateness and motivation to implement XR-NTX with modifiable barriers including limited staff knowledge, workflow integration uncertainty, and facilitation needs. Findings from both sites informed development of a tailored educational module to support broader dissemination. This project advances implementation methodology by integrating Proctor's outcomes with i-PARIHS to guide feasibility assessment and facilitation planning. Results support XR-NTX as a feasible and acceptable intervention in primary care while highlighting the



importance of intentional facilitation, role clarity, and clinical competency to expand access to evidence-based AUD treatment.

49. Impact of a Comprehensive Dementia Care Pilot Program on Patient, Caregiver, and Health System Outcomes. *Lozito, S. A.; Cahill-Griffin, T.; Palumbo, M. V.; Hagood, C.*

Background and Objectives: Dementia is a major driver of caregiver burden, acute care utilization, and health care costs in the United States. Comprehensive dementia care models, such as the University of California, Los Angeles Alzheimer's and Dementia Care (ADC) Program, have demonstrated benefits for patient-caregiver dyads and health systems. Vermont piloted this model within an academic medical center's memory program. The purpose of this quality improvement (QI) project was to develop and implement an evidence-based protocol to evaluate the program's return on investment (ROI) and impact on dyad health outcomes.

Methods: A mixed-methods evaluation was conducted among dyads eligible for one-year evaluation between June and December 2025. Measures included patient behaviors, depression, acute care utilization, and advance care planning (ACP); caregiver depression, strain, burden, satisfaction, and self-efficacy; and ROI. Data were obtained through caregiver questionnaires and retrospective chart review. Analyses included descriptive statistics, pre-post comparisons, qualitative thematic analysis, and ROI calculation.

Results: Caregivers reported high satisfaction and moderate to high self-efficacy; however, pre-post analyses did not show improvement in clinical outcomes for patients or caregivers. Behavioral symptoms and caregiver depression increased significantly, while changes in patient depression, caregiver strain, and burden were not significant. ACP documentation improved, and inpatient days remained below national benchmarks. The pilot program achieved an ROI of 0.56.

Discussion: The ADC pilot demonstrated meaningful perceived benefit, improved health system outcomes, and promising early financial performance, with an ROI that offset more than half of operational costs and aligned with expected early-phase implementation trajectories.

Findings highlight a discrepancy between perceived benefit and measurable symptom-based clinical outcomes, underscoring the importance of mixed-methods evaluation in dementia care. To strengthen



clinical outcomes and long-term sustainability, enhancements in caregiver support, follow-up processes, and billing practices are recommended.

50. Standardizing Interprofessional Communication to Improve Absenteeism Rates in Northern Vermont Elementary Schools. *Goodwin, K.M.*

The primary aim of this DNP project was to decrease the rate of absenteeism in four elementary schools by implementing a standardized protocol for communication between the school nurse and the primary care practice in response to chronic absenteeism. Chronic absenteeism, missing at least 10% of days in a school year, can have a significant negative impact on lifelong health. Rates of absenteeism rose during the COVID-19 pandemic, and they have remained high in the United States. As part of a collaborative health care team including the primary care clinician (PCP) or “medical home,” school nurses offer interventions and insight to help address many of the interrelated factors contributing to absenteeism with consideration of the spheres of influence affecting the individual child.

Caregivers for students in four elementary schools were asked to participate in the project by completing Release of Information (ROI) forms sent by the medical home allowing communication between the school nurse and the PCP. A standardized absenteeism response protocol was developed using a communication checklist based on the validated Situation-Background-Assessment-Recommendation (SBAR) tool. Four Plan-Do-Study-Act (PDSA) cycles were used to test and improve the protocol. Monthly synchronous meetings were conducted with the project manager and participating school nurses to review lessons learned in each implementation cycle.

The intent was for the school nurse-led protocol to be used after a participating student missed two school days. While the absenteeism response protocol was triggered twelve times during the project, it was not used; several systems challenges were identified as contributors to lack of protocol use. ROI process limitations and privacy constraints, staff engagement, and feasibility of communication were all identified as areas to target with future quality improvement projects.

51. A Whole Health Approach to Physical Activity Promotion for People with Arthritis. *Bailey, A.A., Westervelt, K.C., Brown, J., Rose., G.L.*

Background and Objectives: Approximately 54 million US adults are affected by arthritis. Arthritis is a barrier to regular exercise; fewer than half of diagnosed adults meet recommendations of 150 minutes per week of moderate aerobic activity. A pilot study at the University of Vermont (UVM) combined the Arthritis Foundation Walk with Ease (WWE) 6-week, self-directed walking program with Integrative Health and Wellness Coaching (IHWC). IHWC is an evidence-based approach that promotes long-term behavioral change. This project evaluates the feasibility of integrating student coaches into the WWE program.

Methods: Participants enrolled in WWE were assigned a Physical Therapy doctoral student, who provided IHWC. Participants attended virtual weekly coaching sessions following the lessons in the WWE guidebook. Upon program completion and 6 weeks later, participants were surveyed on satisfaction and exercise behaviors. Students were surveyed using the Service Learning Benefits (SeLeB) scale that measures personal responsibility, practical skills, interpersonal skills, and citizenship.

Results: Fifty-seven participants registered. Thirty attended at least 1 coaching session and were eligible to receive surveys. Fifteen of the 30 participants returned an initial post-program survey. Responses indicated participants exercised on average 123 minutes per week. All respondents were satisfied with coaching, 93% stated coaching sessions kept them interested in the program, and 67% were confident they would continue being active. Responses to the 6-week follow-up survey (n=16) indicated participants exercised on average 127 minutes per week. Sixty-nine percent of respondents reported improved wellbeing and diet. All students reported personal growth, improved leadership skills, and an ability to apply knowledge in real-life situations.

Discussion: This study demonstrated feasibility incorporating student coaches into the Walk with Ease program. Participants were satisfied, reported greater motivation, and stated that coaching sessions kept them interested in participating. Students reported that coaching was helpful for developing professional and interpersonal skills.

52. Educational Toolkit for Patients with Diabetes During Transition of Care Calls. *Didrikson, K.; Aitken, M. L.*



Diabetes, in all forms, has an extensive effect on the health of our population. Education in diabetes management is linked to improved outcomes at all stages of one's diagnosis. Having a multidisciplinary team use educational materials at all points of contact increases patients' understanding and self-management. The aim of this project was to increase education and self-management of glycemic control for a cohort of patients with T1DM and T2DM through transition of care support with individualized educational material and guidance. Patients were identified through discharge notes to the Nurse Practitioner (NP). The transition of care (TOC) calls were conducted by the Certified Diabetes Educator (CDE) following an established algorithm and evidence-based questionnaire to assess patients' needs. The CDE then provided evidence-based individualized educational material to support them. A validated tool to assess self-care activities for diabetic patients was administered during the initial TOC call and repeated in 1-4 weeks at their follow-up clinic visit. Six patients were targeted for TOC phone calls, four of the six were successfully reached and completed pre-intervention surveys. Two of the six patients attended clinic follow-up visits and submitted post-intervention surveys. Information about blood glucose monitoring was the most frequently distributed education material. Based on survey results, the number of days patients took their medication increased from 5 to 7, and glucose testing scores remained stable. The project showed modest gains in patient education, with TOC calls improving insulin use and glucose monitoring among those reached. This quality improvement project aligns with existing research demonstrating improved diabetes self-management when discharge coordination and follow-up care are offered via TOC planning.

53. Implementation of a Standardized Pediatric Urology Referral Guide: A Quality Improvement Initiative to Improve Provider Satisfaction.

Phipps, S.M.

Congenital genitourinary abnormalities are common in pediatrics and require timely evaluation to prevent long-term morbidity. Inconsistent or inappropriate referrals to pediatric urology contribute to delayed care, inefficient use of specialty resources, and dissatisfaction among both primary care providers (PCPs) and specialists. Prior studies have demonstrated high rates of unnecessary referrals and low provider confidence related to pediatric urology referral processes. The purpose of

this quality improvement project was to develop and implement a standardized, pediatric urology-endorsed referral guide to improve PCP confidence with referrals and increase satisfaction among pediatric urology specialists at a large academic medical center. Drawing from existing guidelines, a comprehensive referral guide was created to address common pediatric urology diagnoses. The guide was designed in collaboration with primary care providers and pediatric urology specialists and included pre-referral workup and recommendation sections. This project also sought to promote a supportive and collaborative environment between providers. PCP confidence improved across all measured domains following guideline implementation. Post-intervention survey respondents reported increased confidence in referral timing, diagnostic testing, physical examination requirements, and initiation of first-line therapies. Referral volume increased slightly from 212 referrals pre-intervention to 223 post-intervention. Post-intervention specialist surveys demonstrated improvement in overall referral appropriateness and satisfaction with referral timing, though dissatisfaction persisted regarding pre-referral physical examinations and diagnostic testing. Overall appropriateness of referrals improved, with all specialists reporting being at least somewhat satisfied. Implementation of a standardized pediatric urology referral guide was associated with improved PCP confidence and modest improvements in specialist satisfaction with referral appropriateness. While referral volume did not decrease, improved clarity and preparedness of referrals suggest enhanced care coordination. These findings support the use of standardized, user-centered referral tools to strengthen interprofessional collaboration and improve specialty access. Ongoing refinement and sustained implementation may further enhance referral quality and provider satisfaction over time.

54. Optimizing Transition of Care Management Visit Coding in a Primary Care Setting. *Tetreault, H, J; Leighton, E; Bovee, A.*

Background: Effective care transitions following hospital discharge are crucial for improving patient outcomes and reducing readmissions. Transition of Care Management (TCM) billing codes were created to encourage and reimburse the additional work required for these visits. However, they are underutilized due to knowledge gaps and workflow inefficiencies.

Objectives: This quality improvement continuation project aimed to increase the proportion of eligible visits billed with TCM codes by 20% and increase the TCM-related visit revenue by 15% in a primary care clinic.

Methods: Over a three-month period, the project implemented staff education and workflow modifications. Education addressed TCM eligibility requirements, documentation, and billing timelines for clinical and support staff. Workflow adjustments included flagging TCM-eligible visits on the schedule to improve identification and timely billing.

Outcomes were measured by comparing the proportion of TCM-eligible visits accurately billed before and after the intervention and reviewing associated revenue data.

Results: TCM billing accuracy increased from 38.9% at baseline to 86.9% post-intervention, representing a 48% relative improvement. Revenue outcomes were difficult to quantify precisely due to alternative payment models and attribution through accountable care organization contracts, though TCM billing codes always lead to higher billing than traditional E&M codes.

Discussion: These findings suggest that low-resource, team-based interventions may improve transitional care processes and better align reimbursement with the clinical work required after hospital discharge. Future efforts should focus on longer-term monitoring, refinement of revenue measurement strategies, and improved processes to help clinical and support staff reliably identify recent hospital discharges.

55. Improving Social Determinants of Health Screening and Referral at a Nurse Practitioner-Led Primary Care Office. *Katz, Andrew; Whitcomb, Holly; Weise, Daniel*

Research demonstrates a strong association between social determinants of health (SDOH) and poor health outcomes. Evidence suggests that addressing health-related social needs (HRSNs) can reduce healthcare utilization and improve quality of care. Primary care practices face persistent barriers to consistent screening, including time constraints, discomfort with screening, and limited knowledge of community resources. This quality improvement project aimed to improve SDOH screening rates and establish a standardized approach for connecting

patients with relevant community resources in a nurse practitioner-led primary care practice. Interventions included expanding screening for patients not screened in the prior 12 months, regardless of visit type, and developing a community resource guide for use by providers. A pre-post analysis evaluated changes in screening completion and provider-reported confidence and barriers to screening. SDOH screening completion increased from 37.6% (143/380 patients) during the baseline period to 62.8% (228/363 patients) during the intervention period. Screening improvements were greatest when in-person workflows supplemented asynchronous patient portal outreach. Although overall positivity rates remained low, more new social needs were identified during the intervention period. Provider confidence improved across all SDOH domains, particularly for food insecurity, housing instability, and interpersonal violence (IPV), while lack of time remained the most persistent barrier. Use of the resource guide was limited by the low number of positive screens, although providers reported that it was relevant and easy to use. These findings demonstrate that low-resource, workflow-based interventions can meaningfully improve SDOH screening and support hybrid screening approaches to promote more equitable identification of patient needs.

56. Exploring Barriers to Glycemic Control Among Individuals with Type 2

Diabetes. *Dillon, K.M.; Dale, R.; Weise, D.*

Diabetes affects 17% of U.S. adults aged 18-64, and up to 76.9% of individuals with type 2 diabetes experience poor glycemic control. Hemoglobin A1c (HbA1c) levels above 9% are associated with increased risks of complications and significant lifestyle burdens. Although social determinants of health (SDOH) significantly contribute to patients' inability to achieve glycemic goals, these SDOH barriers often go underrecognized in clinical settings. This quality improvement project aimed to identify perceived barriers to glycemic control in patients with type 2 diabetes with an HbA1c >9% using a standardized verbal questionnaire administered via telephone. A secondary aim was to increase follow-up appointment scheduling within the target population through proactive outreach. Guided by the Minority Health and Health Disparities (NIMHD) Research Framework and the social-ecological model, a 12-week intervention was implemented in a suburban primary care practice. Eligible patients were identified through the electronic health



record (EHR) and contacted by a care coordination nurse. A standardized SDOH questionnaire with supplemental open-ended prompts was administered by phone, and all patients were offered follow-up appointments. Outcome measures included contact rate, questionnaire completion, identification of reported barriers, and follow-up scheduling. Thirteen patients met the inclusion criteria, with a 69.2% successful contact rate. SDOH documentation increased from 33.3% to 77.7% after outreach. Although 44.4% of contacted patients completed the standardized questionnaire, all provided narrative descriptions of barriers. Follow-up appointment scheduling doubled from 22.2% to 44.4% among contacted patients. Findings suggest that a narrative-first approach may elicit more meaningful insights than structured SDOH tools alone and may strengthen future efforts to address barriers to diabetes management in primary care.

57. Bridging the Gap: Post-Discharge Telephone Support for Diabetes Self-Management. *Addo, I.A., Dale, R., Shaper, K.*

Purpose: Diabetes can complicate medical and surgical conditions leading to increased rate and frequency of hospitalizations. Diabetes can be a source of significant social and economic burden costing over \$400 billion in both direct and indirect medical costs. Poor self-management and disease progression are significant factors leading to an increased rate and frequency of hospitalizations. The cycle of admissions and readmissions can result in fragmented care coordination, inadequate symptom management, and poor outcomes. The purpose of this quality improvement project was to determine patients' confidence level in their ability to self-manage their diabetes and to identify post-discharge self-management knowledge deficits these patients have, by implementing a post-discharge phone call intervention.

Methods: The intervention was implemented through an outpatient endocrinology clinic. Eligible participants were adults aged >18 years with a diabetes mellitus 1 or 2 diagnosis who were recently discharged from an inpatient hospital admission. Telephone calls were conducted within 2-3 days of hospital discharge using a structured telephone script assessing the participants' diabetic self-management knowledge.

Confidence was measured using the Perceived Competence for Diabetes Scale (PCDS). Qualitative inductive coding was the method of analysis used.



Results: Three main themes were established: (1) balance of diabetes management and primary admitting diagnosis management (2) hypoglycemia/Hyperglycemia understanding and (3) caregiver involvement and education needs. Participants who were newly prescribed insulin had the lowest average PCDS scores, indicating a greater need in glycemic control education.

Conclusions: The implementation of a telephone-based transitional care intervention can provide a connection between in-hospital diabetic education and diabetes self-management when a patient is home by reinforcing the education provided during their inpatient hospitalization, identifying patient concerns and issues early. These phone calls can also provide clarification of discharge instructions or provide additional education regarding various aspects of diabetes management during the vulnerable post-discharge period.

58. Implementing PEARLS with Older Adults in the Nursing Home Setting.

Massena, K; Martin, L.

Purpose. Depression is common among nursing home residents and is often underrecognized due to inconsistent screening and limited use of evidence-based, nonpharmacologic interventions. The Program to Encourage Active, Rewarding Lives (PEARLS) is an evidence-based depression care model. This Doctor of Nursing Practice quality improvement project evaluated the feasibility and acceptability of implementing PEARLS and its impact on depression screening and depressive symptoms among cognitively intact residents.

Methods. This project was conducted over 18 weeks in a Vermont nursing home using a structured PEARLS implementation protocol. Eligible residents were identified through chart audit and screened using the Patient Health Questionnaire-9 (PHQ-9) and Brief-6 cognition screen. Participants completed six group-based PEARLS sessions. Outcomes included depression screening rates, enrollment and retention, PHQ-9 score changes, and participant satisfaction. Data were analyzed descriptively using within-participant comparisons.

Results. Depression screening rates increased from 52.4% to 85.7%, a 33.3% improvement. The mean absolute reduction in PHQ-9 score from baseline to post-intervention was 7.25 points, representing a 64.4% reduction in mean PHQ-9 scores. Retention was 100%. All participants (100%)

demonstrated clinically meaningful improvement in depressive symptoms, defined as a reduction of five or more points on the PHQ-9.

Conclusions. PEARLS was feasible and acceptable in a nursing home setting and was associated with improved depression screening and reduced depressive symptoms. These findings support integrating structured, nonpharmacologic depression interventions into long-term care practice.

Communication Sciences and Disorders

59. The apple of my mind's eye: Exploring the relationship among autistic traits and cognitive introspection patterns. *Elliott, K., Medeiros, S., Owens, E., Humphreys, H. & Coderre, E. L.*

Background: There is a commonly held assumption that people are either "visual" or "verbal" thinkers (e.g., Warford, 2018; Grandin, 1995; Öncel, 2024). Autistic individuals especially are often characterized as "visual thinkers" (e.g., Rozema, 2015; Gately, 2008; Styslinger, 2012; Quill, 1995; 1997); a generalization that has led to visual stimuli being preferred for cognitive assessments, interventions, and educational supports in this population (Coderre, 2020).

Objective: The objective of the present study was to explore whether an association exists among autistic traits and participant thinking styles.

Methods: We recruited 73 adults with varying levels of autistic traits. In a discussion-based format using a semi-structured approach, participants were administered an open-ended verbal prompt regarding thinking styles. To analyze the data, a team of four completed a reflexive thematic analysis (TA; Braun & Clarke, 2021). The sample was then divided into 1/3rd percentiles based on AQ score data to create three AQ groups (i.e., low, middle, and high), and the same TA approach was used to analyze responses in each group.

Results: Our analysis revealed three main themes: (1) when participants were describing abstract or nebulous concepts, they reported more verbal thinking patterns and attempted to articulate the experience of a mind's eye; (2) participants associated visual thinking and imagining with learning and memory; and (3) there was a relative consensus across interviews that task demands and contexts can influence which modality is elicited. Each theme was distributed relatively equally across AQ groups,

suggesting that negligible differences exist across varying levels of autistic traits.

Discussion: Despite the assumption that autistic individuals may favor a visual thinking style, there is insufficient evidence from this study to suggest that visual thinking is characteristic of autism. Our findings suggest that both individual capacities and the format of stimuli presentation should be considered when working with individuals across the spectrum.

60. Predictive processing of written and visual narratives in adults across the autism spectrum. McCluskey, K.

The "Visual Ease Assumption" (VEA) refers to the idea that pictures are "easier" to understand than language. This idea underlies many educational and clinical interventions for individuals with autism. However, visual advantages in single image-processing in Autism may not extend to comprehension of image sequences, like visual narratives (stories told through pictures).

Comprehension relies on using story context to predict upcoming events, however, predictive abilities are shown to be affected in linguistic and visual domains in Autism. Such differences may contribute to difficulties with narrative comprehension.

Prediction can be examined through cloze probability, the expectancy of a given word or event in a story. In studies using event-related potentials (ERPs), highly predictable ("high-cloze") words or panels elicit smaller N400 amplitudes compared to less predictable ("low-cloze") ones. We used a cloze probability ERP paradigm to examine predictive processing in visual and linguistic narratives in 87 adults (ages 18-65, mean-age = 28, SD=14), with language and IQ scores within normal ranges. Autistic traits were measured as a continuous variable using the Autism Quotient (AQ; range= 4-44, mean = 24, SD=11).

Participants with higher autistic traits showed larger differences between high- and low-cloze conditions, driven by enhanced negative amplitudes in the low-cloze condition, in both visual and linguistic conditions. These results suggest that, contrary to previous literature, predictive abilities are not impaired in Autism and they may be even more sensitive to cloze probability. Furthermore, the similar results across modalities contradict the VEA and suggest similar narrative processing mechanisms across modalities.

61. Social Anxiety in People Who Stutter. Bishop, M.L.



Purpose: The purpose of this study was to examine the relationship between social anxiety and stuttering severity in adults who stutter.

Methods: Twenty-seven adults who stutter (mean age = 34 years; 21 males, 6 females) completed measures of social anxiety and stuttering severity. Social anxiety was measured using self-reports from the Social Phobia and Anxiety Inventory (SPAI; Turner et al., 1989) and objective measures of skin conductance levels taken from low versus high socially stressful speaking tasks. Stuttering severity was assessed using the Stuttering Severity Instrument-Fourth Edition (SSI-4; Riley, 2009), which measures stuttering frequency, duration, and physical concomitants, and the Overall Assessment of the Speaker's Experience of Stuttering (OASES; Yaruss & Quesal, 2006), which evaluates the perceived impact of stuttering. Participants were also rated for secondary behaviors, including physical concomitants (e.g., blinking, head movements, eye movements, facial tension, lip pressing) and speech-related behaviors (e.g., fillers such as "uh").

Procedures: Following the completion of self-reports and speaking tasks for measurements of stuttering severity, participants spoke in conversation in a low- and high-socially stressful VR cafe situation. For the high social stress task, participants were asked to speak to a group of nine avatars varying in emotional expression. Pearson correlation analyses were conducted to examine relationships between social anxiety and stuttering severity measures.

Results: Results revealed a strong, negative, and statistically significant correlation between SPAI scores and SSI-4 scores, $r(25) = -.646$, $p < .001$. Negative relationships were also observed between SPAI scores and both OASES scores and secondary behaviors, although these correlations were not statistically significant.

Conclusion: These findings contribute to the understanding of the relationship between social anxiety and stuttering severity in adults who stutter.

62. How does disease progression of amyotrophic lateral sclerosis (ALS) shape patients' experiences with speech, language, and swallowing?

Rousse, Kristen, M.

Purpose: The purpose of this study is to synthesize the expressed speech, language, and swallowing needs of patients with amyotrophic lateral

sclerosis (ALS) at each stage of the disease (early, middle, and advanced).

Methods: Systematic searching of PubMed and handsearching resulted in 198 unique articles, with 5 meeting the following eligibility criteria: they were qualitative studies published within the last 10 years and included patient perspectives on speech, language, or swallowing services.

Results: Seven common themes emerged across studies and were further reviewed for differences between early, middle, and advanced stages of ALS. Across all stages of the disease, patients would like earlier intervention, caregiver training/support, and more frequent care. Across themes, knowledge of the disease and healthcare system in general was the primary need of patients identified to be in the early-stages of ALS. Patients in middle and advanced stages of ALS reported needs primarily focused on patient-centered care with regards to making decisions about disease management and adoption of assistive technology.

Conclusion: Care of patients with ALS should be tailored to the individual. It is recommended speech language pathologists provide information about the course of the disease, available services, and available resources as soon as the patient is ready. This allows patients to make their own decisions about all aspects of disease management and end-of-life planning early, but on their own timeline.

63. What word comes ____?: Responses of autistic adults are more unconventional but not more "wrong" compared to their nonautistic peers.

Hutchins, T.L., Elliot, K., Gardner, A., & Coderre, E.L.

Background: Autistic language is often characterized by formulaicity, which has recently been linked to difficulty with linguistic analysis.

Alternatively, autistic language can be pedantic, which is theoretically consistent with strengths observed in analyticity.

A fill-in-the-blank prediction task (sentence comprehension subtest of the Wide Range Achievement Test; WRAT-5) was used to probe the distinction between formulaic and analytic language processing. Respondents typically supply conventional completions that align with formulaic constructions (e.g., "The baby cried when it was hungry"). Contrastingly, less conventional responses (e.g., wailed) suggest an analytic approach.



Objective: Our objective was to evaluate whether autistic participants relied more on formulaic or analytic composition in a sentence completion task. We hypothesized that autistic adults would produce a higher proportion of unconventional yet contextually correct completions than matched non-autistic peers.

Methods: Participants were autistic adults (n=70) and non-autistic adults (n=64) between ages 18-65.

For WRAT scoring, lists of correct and incorrect responses are provided; however, responses from neither list often occur. Using ~600 responses from 16 participants, investigators coded items as 'correct' or 'incorrect'. Interrater-reliability following independent coding of 'no list' responses was then calculated (86.5 point-to-point agreement).

Results: A t-test indicated no significant difference ($p=0.25$) in number of incorrect responses by group. A 'conventionality index' was then calculated for each participant (i.e., the proportion of other respondents providing the same word for that item). A linear mixed effects model with group as a fixed effect and subject and item as random effects showed that the autistic group had lower conventionality among correct items ($M=0.57$, $SD=0.09$) than the non-autistic group ($M=0.61$, $SD=0.08$).

Discussion: The hypothesis of higher analyticity among autistic participants was supported: the autistic group provided more creative, but not more incorrect predictions. Results have implications for the interpretation of language assessments and for autistic expressive language more generally.

64. Taste and Smell Recovery Post-COVID-19: Review of Stellate Ganglion

Block. *Staab, S, A.*

Purpose: This systematic review evaluated the effectiveness of stellate ganglion block (SGB) in improving taste and smell recovery in adults with post-COVID-19 dysgeusia or parosmia.

Methods: A systematic search of PubMed, CINAHL, and hand-searched peer-reviewed journals was conducted for studies published from 2020 onward. Keywords included COVID-19, dysgeusia, anosmia, parosmia, and stellate ganglion block. Studies involving adults with persistent post-

COVID chemosensory dysfunction treated with SGB were included. Eligible designs included randomized controlled trials, cohort studies, and case reports. Thirteen studies met inclusion criteria, representing approximately 388 participants.

Results: Findings demonstrated mixed but generally positive trends. Studies reported improvement in taste and smell in approximately 43%-100% of participants, with some experiencing immediate and sustained relief.

Case reports and series described substantial or complete symptom resolution. However, one randomized controlled trial found no significant difference between SGB and placebo. Overall, studies were heterogeneous in design and outcome measures.

Conclusions: SGB shows potential as a treatment for post-COVID taste and smell dysfunction, though evidence remains limited and inconsistent. The predominance of lower-level study designs and methodological variability limits generalizability. Further high-quality, controlled studies are needed.

65. Exploring the Effectiveness of Instructional Methods for Teaching Conversation Analysis to Future Speech-Language Pathologists.

Pettineo, S.L.; Hutchins, T. L.

Objective: Autistic communication is characterized by a wide range of unconventional verbal behaviors. Conversation analysis (CA) is the study of coordinated social action in naturally occurring interaction, examining how participants manage turn taking, repair, and other moment-to-moment contingencies of communicative exchange (Schegloff, 2007). CA has potential use in analysis of language samples of persons with autism spectrum disorder and other neurogenic communication disorders. CA is under-utilized by speech language pathologists in language analysis, thereby missing a powerful, neurodiversity affirming assessment and intervention planning tool. The purpose of this study was to evaluate effectiveness of instructional methods for teaching conversation analysis to future clinicians.

Method: Two cohorts of undergraduate students in upper-level communication sciences and disorders classes participated in descriptive qualitative study designed to inform training efficacy. Data were collected anonymously post training in assessment format at two points in time. Thematic analysis was performed on the data using focused prompts in OpenAI with rigorous independent analysis of two researchers

to reveal major themes, which were then contrasted to formulate improvements to the training program.

Results: Data collection from the second cohort is still in progress, but results from data collected from the first cohort revealed major themes for areas of potential improvement including amount of practice, feedback on and peer review of transcription, the subjective nature of transcription and analysis, and ambiguity in transcription.

Conclusions/Implications: In response to first round of data, we lengthened the training, changed location within schedule to allow more time, added optional data sessions for peer review. Future research is indicated to continue improvement in instructional methods of CA so clinicians may use this as part of their assessment battery and intervention planning.

66. The Effectiveness of Task-Oriented Virtual Reality for Improving Executive Functioning Skills in Adults with Acquired Brain Injury.

Herdje, J.

Background: Traumatic Brain Injury (TBI) and stroke, classified altogether as 'acquired brain injuries' (ABIs), are top causes of long-term disability across the globe, impacting millions of individuals each year. Deficit in executive function is one of the most prevalent injury related impacts for patients with acquired brain injury. Executive functioning (EF) skills are important because they are at the core of activities of daily living. Decreased independence associated with EF deficits contributes to decreased Quality of life in both TBI and stroke patients. Speech Language Pathologists can support these individuals by finding and implementing the most effective treatments for improving executive functioning skills, and consequently help increase independence and QoL as well.

Objectives: To determine whether evidence supports task-oriented virtual reality as an effective treatment strategy for improving EF skills in adults who have acquired a brain injury.

Methods: A mixed-methods systematic review of 10 studies was conducted via PubMed and CINAHL databases to uncover whether task-oriented VR training yielded a positive impact on executive functioning skills and whether the impact was significant.

Results: Overall, data demonstrated that task-oriented virtual reality led to an improvement in executive functioning skills for individuals with Acquired Brain Injuries. More specifically, the executive functioning skills that showed the most consistent improvements across studies were working memory and planning, sequencing, and organizing, whereas selective attention, self-awareness and self-monitoring only showed improvement in two of the studies. Qualitative findings yielded two groups of themes: overall benefits observed and clinician feedback for treatment delivery.

Discussion: Results will be compared with more traditional treatment approaches including metacognitive strategies like Goal-Plan-Do-Review and reflection journaling. Clinical implications and future directions will also be discussed.

67. Effective Social Communication Treatment Approaches for Individuals with Traumatic Brain Injury.

Hannah K. Smith

Introduction: The purpose of this systematic review was to examine treatment approaches associated with improved long-term social communication outcomes following traumatic brain injury, with particular attention to adolescents, and intervention features that support generalization across settings.

Methods: This review synthesized 10 studies involving approximately 403 participants ages 8 to 65 years. Because long-term pediatric evidence is limited, selected adult traumatic brain injury and acquired brain injury were also included when relevant. Intervention approaches were grouped into recurring approaches, including metacognitive strategy training, video feedback, telehealth-supported intervention, communication partner or peer-mediated practice, and school-based carryover supports.

Results: Quality appraisal indicated that 2 studies were high quality and 8 were moderate quality, with common limitations including small sample size resulting in limited generalizability. Across studies, the strongest gains were observed in pragmatic communication, conversational participation, and psychosocial functioning. Overall, the most consistent treatment patterns included dynamic, individualized, and contextually embedded approaches that incorporated feedback, coaching, partner or peer involvement, and real-world carryover.



Conclusions: Evidence suggests that long-term intervention should emphasize functional participation across home, school, and community contexts, although stronger pediatric long-term research is still needed.

68. How do individuals with cerebral palsy describe the impact of Augmentative and Alternative Communication (AAC) on identity and autonomy?. Rose, M, E.

Purpose: This systematic review aims to identify how individuals with cerebral palsy (CP) describe the impact of augmentative and alternative communication on their identity and autonomy.

Method: An electronic search of three databases including PubMed, CINAHL Complete, and EBSCO Host through the University of Vermont library was completed. Studies were included if they incorporated direct perspectives from AAC users with cerebral palsy discussing their experiences using AAC. The search strategy resulted in 6 studies, 42 participants, that met inclusion criteria. Of the 6 studies, all were qualitative, three studies used in-depth interviews, two studies used online forums and discussion posts, and one study used ethnographic interviews and observations. Findings were discussed in narrative synthesis.

Results: Results showed the emergence of five themes. Three themes centered around autonomy, and included independence, communication opportunities, and participation barriers. Two additional themes were identified that related to autonomy and included culture & community, and AAC system features.

Conclusion: Individuals with CP describe AAC as a crucial component to their independent functioning and communication, while also identifying barriers and future directions of AAC systems. Current evidence is limited by number of studies. More systematic research exploring the perspectives of individuals with CP on the effect of AAC on identity and autonomy is required.

69. Age-Related Feeding and Swallowing Symptom Differences in Children With Eosinophilic Esophagitis. Calderon, Gabi F

Eosinophilic esophagitis (EoE) is an inflammatory condition that causes swelling in the esophagus due to an eosinophilic response. In children, it is often underdiagnosed because symptoms can look very different depending on age, which makes it difficult to identify. This can be

especially challenging for speech-language pathologists (SLPs) evaluating feeding and swallowing concerns. The purpose of this review was to explore how dysphagia and feeding difficulties present across pediatric age groups in children with EoE, with the goal of supporting more accurate diagnosis and effective clinical management.

Using PubMed and CINAHL, literature was searched using the following terms: EoE, eosinophilic esophagitis, dysphagia, deglutition disorders, swallowing disorders, feeding difficulties, and pediatric populations, ranging in age from birth to eighteen. Included studies reported symptoms across age groups and focused on feeding and/or dysphagia. Each article was reviewed for eligibility and quality. Data were then organized by age group, symptom presentation, and type of outcome measure, including functional, behavioral, instrumental, and standardized assessments.

Eleven studies met the inclusion criteria. The review includes six retrospective studies, one case-control study, two cross-sectional studies, one prospective study, and one qualitative interview study. After reviewing the data, a clear age-related pattern emerged. Instrumental and objective findings showed that younger children are more likely to demonstrate feeding aversion, vomiting, refusal of certain textures, prolonged mealtimes, and other maladaptive feeding behaviors. Older children and adolescents more commonly experience dysphagia and food impaction. Bolus impaction and abnormal swallowing patterns were more frequently reported in older children, while caregiver-reported feeding concerns were more common in younger children.

These findings suggest a developmental shift in how EoE presents in children. Recognizing these age-related differences can help SLPs better identify potential cases, make appropriate referrals, and support interdisciplinary care. Future research should focus on more consistent outcome measures and examining how symptoms change over time to better guide clinical decision-making and treatment.

70. "Meet the kid where they're at": Caregiver perspectives of indexicality among Autistic youth. *Sahagian, S., Pastor, C., Medeiros, S., Elliott, K., Hutchins, T., Coderre, E.*

Background: Much like how we use our index finger to point, indexicals are words that "point" to things in our surroundings. They exist under the broader umbrella of pragmatics, and can be used to describe places,



spaces, and time. Some examples include, "here," "this," and "you." Indexicality captures a wide range of communicative meanings that can only be derived and disambiguated in the contexts in which they occur. In autism, a condition characterized by communication differences, this topic has been studied in a limited capacity; the results are currently mixed regarding which words are mastered and when in development.

Objective: To converse with caregivers of autistic youth to gain perspective into their and their child's experiences with indexicals.

Methods: We recruited 5 caregivers to participate in focus groups (n=2) and interviews (n=3) to discuss their perceptions of their child's indexical abilities. We asked a series of questions regarding various parts of speech (e.g., pronouns, demonstratives, determiners) to examine developmental trajectories as well as strengths and areas for growth. Reflexive thematic analysis was conducted to analyze the results.

Results: Although recruitment is still ongoing, some insights have emerged in the data: pronouns were consistently found to be problematic across children; time words were tricky, especially for referencing the past and approximates in the future (e.g., saying "in a minute" but not actually meaning in 60 seconds); rigidity and perseveration in communication can impede connection; and gestures are complementary, not obligatory.

Discussion: Caregivers have developed strategies to overcome hardships (e.g., marking days in calendars to signify the passage of time, offering additional time for processing). When communicating with individuals on the autism spectrum, caregivers spoke to the need to meet children where they are at, suggesting the relevance of the double empathy problem in navigating indexicality in communication.

Data Blitz Posters

71. **Stk11 C-Terminal domain variants impact lung cancer biology independent of kinase activity.**

Nandagopal G, Royer C, Jenkins P, Deming PB.

KRAS-driven lung adenocarcinomas (LUADs) with STK11 loss of function (LoF) mutations are associated with aggressive tumors, increased risk of metastasis and lower survival. In LUAD, STK11 LoF impacts many aspects of coordinated cell motility and promotes alterations characteristic of metastasis. STK11 is a metabolic kinase comprised of three domains: N-

terminal, kinase, and C-terminal (CTD). Aiming to develop a method for identifying pathogenic STK11 mutations, we previously assessed the functional impact of genetic variants identified from lung cancer patients at the UVM Medical Center by evaluating STK11 kinase activity. Results revealed that CTD variants retained kinase activity and the ability to form the STK11 heterotrimeric complex. Although the CTD has no catalytic activity, it is thought to be integral for STK11 localization to the plasma membrane and cytoskeleton. Recent literature identified the polybasic motif (PBM), (aa403-426) of the CTD as key for localization of STK11 to the plasma membrane. Therefore, we reasoned that STK11 CTD variants would demonstrate altered localization and cytoplasmic functions. We show in LUAD cell lines through immunofluorescent microscopy that point mutants in 3 of the polybasic motif residues (R409W, K416E, and K423E) retain kinase activity but lead to partial nuclear sequestration despite their ability to bind heterotrimeric complex partners STRAD-a and MO25. This suggests a novel mode of dysregulated localization, independent of the known mechanism of STK11 export into the cytoplasm through STRAD-a binding. This phenotype is exacerbated in a double mutant within the PBM: K416E/K423E. To determine whether this partial nuclear retention of STK11 leads to altered cell function, 2D migration assays were conducted using a Boyden chamber system. Here we observed that both the single PBM mutants, and the K416E/K423E double mutant display an increased migratory phenotype that mimics a total loss of STK11. Furthermore, in adhesion assays PBM point-mutants display a more amoeboid phenotype compared to the mesenchymal morphology displayed by cells expressing wildtype STK11. Taken together, these findings suggest that point mutations within the C-terminal polybasic region disrupt its localisation, and lead to functional alterations within the cell. Current experiments aim to determine whether these CTD variants also display a more invasive phenotype. Overall, this work highlights the importance of examining both kinase dependent and independent functions when evaluating genetic variants of STK11.

72. Implementation of a Nurse-Driven Protocol for Hypertension Management in Primary Care. *Barclay, Shandi; Aitken, Margaret; Eckhaus, Jeremiah.*

Hypertension remains a leading cause of cardiovascular morbidity, with up to 40% of treated patients remaining uncontrolled. At a rural Vermont primary care clinic, uncontrolled hypertension mirrored national trends,



highlighting the need for innovative care models. Evidence supports nurse-led chronic disease management to improve blood pressure control and access to care. This quality improvement project had a primary aim of implementing a nurse-driven hypertension management protocol. The secondary aims of this project were to decrease rates of uncontrolled blood pressure at the clinic, improve patient blood pressure, enhance patient self-management, increase frequency of contact, and demonstrate feasibility among the clinic staff. This 16-week quality improvement project was conducted in a rural primary care clinic and guided by the Chronic Care Model. Adult patients with uncontrolled hypertension were referred by their primary care providers using a standardized order set. Registered nurses provided structured education on lifestyle modification and home blood pressure monitoring and conducted follow-up visits every two weeks. Antihypertensive medications were titrated using a provider-approved algorithm with defined safety parameters. Outcome measures included changes in systolic and diastolic blood pressure, time to goal, number of nurse visits, goal attainment, clinic access metrics, and patient- and staff-reported feasibility. Both qualitative and quantitative analytic methods were employed. Forty patients were enrolled. Mean systolic blood pressure decreased from 150.1 mmHg to 128.4 mmHg and mean diastolic blood pressure from 89.2 mmHg to 77.6 mmHg ($p < .001$ for both). Patients achieved blood pressure goals in a mean of 34.9 days using an average of 3.1 nurse visits. By project completion, 65% achieved and maintained blood pressure at or below goal. Although 15% remained above goal, all demonstrated improvement with post-intervention values near target ranges. Twenty percent were lost to follow-up, reflecting real-world primary care constraints. Same-day nurse visit availability contrasted with an average 19-day wait for provider appointments. A nurse-driven hypertension management protocol was considered feasible and useful among staff, and was well-accepted by patients, nursing, and providers. The implementation of this project resulted in clinically meaningful blood pressure reductions and improved access to care. While limited by project scope, consistent patient-level improvements support scalability and potential for broader implementation to reduce uncontrolled hypertension over time.



73. Question Sequences in a Conversational Narrative Impacted by

Alzheimer's Dementia. *Frederika Tagupa, Katie Ekström Grenon, Mia Twarog, Ardyn Olszko, Michael Cannizzaro, David Jangraw.*

Background: Modelling interpersonal behaviors in everyday communication is critical for developing evidence-based care for people with cognitive-communication disorders. Large-scale automated annotation of communicative acts during conversational storytelling provides insight into patterns of pragmatic communication structure. For example, in comparison to a non-clinical reference group, conversational stories impacted by memory loss include significantly more wh-questions. This type of dialog act (DA) requests information (e.g., what, where, when, etc.) and the expected response is a statement. Analyzing temporal patterns of DA used for communication management can further characterize variability in the co-construction of discourse.

Method: This case study describes distributions of wh-question sequences, in a single, 41-minute conversational story, between an individual with Alzheimer's dementia and her conversational partner. All questions used in this analysis were initiated by the conversational partner. Using a 42 dialog-act tag-set, we manually identified question/response sequences beginning with wh-questions and ending with participants' achievement of communicative understanding. This sequence closure was indicated through explicit use of DAs or tacitly through conversational progression.

Results: Among 51 total wh-question sequences, 31 were resolved within three DAs. Of these, 23 followed a common pattern: request-statement-understanding. Response sequences of four or more DAs in length included a greater variety of DA types; typically, sequences longer than three DAs included more statements, understandings, answers, and agreements, and their internal structures were highly variable.

Discussion: These findings illuminate patterns of communication in a conversational narrative that includes a person with Alzheimer's. In the context of cognitive-communication disorders, increased use of wh-questions is consistent with communication partner strategies that facilitate participation by narrowing the response space and using clarification statements to reduce cognitive load. Future research can use wh-question sequences identified in this study to investigate patterns of

communication co-construction that may generalize to longitudinal population level analyses.

74. Effect of anticipation on landing forces following mid-flight external

perturbation. *Hilliker, Molly; Tomasik, Shayenne; Calby, Claudia; Knies, Adeline; Koitzsch, Ellie Song, Yu; Dai, Boyi.*

BACKGROUND: The prevalence of anterior cruciate ligament (ACL) injury has stayed at a high level in recent years, raising concerns for the safety of athletes and the long-term health consequences, including ACL re-injuries and knee osteoarthritis. ACL injuries commonly occur during jump-landing tasks with external perturbation to the trunk, and researchers are prioritizing efforts to understand injury mechanisms and implement effective prevention protocols.

OBJECTIVE: The purpose of this study was to investigate the effects of anticipation on bilateral landing forces following mid-flight external perturbation.

METHODS: Nine male and nine female participants with jump-landing sports experience performed double-leg vertical jump-landings while landing forces were collected under two anticipation conditions (anticipated or unanticipated) and three perturbation conditions (none, left, or right perturbation directions). Medicine balls, approximately 5% of the participants' weight, were thrown by researchers to deliver a pushing perturbation to contact participants'+H5 upper trunk near their maximal jump height. Jump-landing kinematic and kinetic data were collected using eight OptiTrack cameras and two AMTI force platforms.

RESULTS: Horizontal ball speeds were consistent at 4.4 ± 0.2 m/s prior to contacting the participants. Under perturbed conditions, the peak landing forces were greater for the contralateral leg than the ipsilateral leg in both anticipated and unanticipated conditions (Figure 1; $p < 0.001$). The landing forces for the contralateral leg were greater for the unanticipated condition than the anticipated condition, only with perturbation coming from the right side ($p < 0.001$).

DISCUSSION: Mid-flight external trunk perturbation increased the peak landing forces for the contralateral leg for both anticipated and unanticipated conditions. Knowledge of the perturbation direction did not appear to greatly reduce the landing forces for the contralateral leg. Further research is needed to identify the influence of anticipation and

technique instruction to promote safe landings with the aim of reducing indirect contact ACL injury risk.