UAMS

COLLEGE OF HEALTH PROFESSIONS

FACULTY POSTER PRESENTATIONS

Spring 2026

Friday, April 10, 2026

FACULTY & STAFF MEETING
Friday, April 10, 2026

UAMS College of Health Professions

CHP FACULTY POSTER PRESENTATIONS 11:00-11:50 a.m.
Locations: IDW 126 Lobby; Baker Auditorium
10:45-11:00am Set up posters
11:00-11:50am Stay by posters
1:30pm Taking poster down after CHP faculty meeting

FACULTY & STAFF MEETING AGENDA 12:00-1:30 p.m.
Locations: IDW 226; CHP Classroom (NW Campus)
Lunch Provided – pickup at the entrance to the meeting rooms

- **Welcome** – Phyllis Fields, Associate Dean for Student Affairs

- **Staff Excellence Awards** – Jessica Stahulak, Associate Dean of Administration
  - Impact and Heart Awards

- **Research and Scholarly Activity**
  Reza Hakkak, Associate Dean for Research
    - Reporting of scholarly activity
    - Revisions to grant submission and scholarly activity forms

  Mohamed "Moe" Elasri, Ph.D., Associate Vice Chancellor for Research
    - Overview of the Division of Research and Innovation

- **Program Highlights**
  - Genetic Counseling – Noelle Danylchuk, M.S
  - Diagnostic Medical Sonography – Layla Simmons, M.Ed.

- **UAMS Academic Senate** – Madison Howe, AuD and Melissa Halverson, PharmD

- **Faculty Development Committee** - Jennifer McArthur, M.S., Committee Chair
  - 2025–2026 CHP Faculty Development Survey

- **CHP New Faculty and Staff** – Susan Long, EdD., Dean
  CHP Faculty Promotions

- **Q&A with Chancellor Barnes** **1:00 p.m.**

CHP P&T WORKSHOP – to follow; Same rooms with link to the NW campus

Teaching Shared Decision-Making: Insights from Students' Prior Knowledge

Lipika Sarangi, Ph.D., Assistant Professor, Department of Audiology and Speech Pathology, College of Health Professions, UAMS

Abstract: Shared Decision-Making (SDM) is a cornerstone of patient-centered healthcare, requiring meaningful collaboration between patients and professionals to select management options aligned with patient needs and preferences. For future audiologists to successfully implement SDM in clinical practice, they must not only recognize its importance but also possess a clear and accurate understanding of what SDM entails and how to operationalize it. Despite increasing attention to SDM in audiology education, it remains unclear whether students truly understand the concept beyond a superficial level. This quality improvement project evaluated baseline knowledge of SDM among audiology students prior to formal instruction on the topic. This information will allow instructors to identify the elements of SDM they should incorporate in their coursework.

A total of 138 audiology students from six universities (four in the United States, one in Canada, and one in New Zealand) completed the 24-item Shared Decision-Making Knowledge Questionnaire (SDM-K-Q). Students completed the survey anonymously before any curricular exposure to SDM, and descriptive item-level analyses were conducted following the developers' recommendations.

Students generally demonstrated awareness of the contexts in which SDM should be applied; however, only 22% accurately identified the respective roles of the clinician and patient in the SDM process. Findings suggest that although students value SDM, many either overgeneralize its application or lack a nuanced understanding of its essential components.

Given the central role of SDM in audiology service delivery, ensuring accurate student understanding is critical. Results from this project informed revisions to SDM instructional content within the UAMS Audiology counseling curriculum. Future work should explore instructional strategies that most effectively foster meaningful SDM competence among audiology students.

Preceptors Perception of Radiologic Imaging Sciences Graduates Workplace Skills and Leadership Competencies.

Jessica Stahulak, MHA and
Deziree Arnett M.Ed., R.T.(R)(CI)(VI)(ARRT)

Background: Radiologic Imaging Sciences (RIS) programs are increasingly challenged to prepare graduates not only with technical competence but also with leadership, communication, and professional readiness for complex clinical environments. Traditional program structures that emphasize specialty track selection may inadvertently limit options for students who prefer to remain in general diagnostic radiography while still seeking advanced professional development.

Purpose: The purpose of this project was to evaluate clinical preceptors' perception of graduate preparedness following the implementation of a Diagnostic Leadership Track. The research question was: To what extent do current radiologic imaging technologist graduates demonstrate the workplace skills and leadership competencies expected by hiring managers, and what additional skills or course content would better prepare them for diagnostic imaging practice?

Participants: Participants included clinical preceptors and supervisors from affiliate clinical sites across both Northwest Arkansas and Little Rock campuses. The survey was distributed to approximately 60 clinical affiliates, with 22 responses collected during a two-week period.

Evaluation Design: This study used the Kirkpatrick Model of Training evaluation as the conceptual framework. A survey instrument aligned with the four levels of reaction, learning, behavior, and results. This survey was used to assess clinical preceptors and supervisor's perceptions of curriculum relevance, knowledge acquisition, clinical application, and workplace impact.

Outcome Measures: Outcome measures include perceptions of graduate work-readiness, leadership behaviors, clinical application of skills, and contributions of departmental workflow and patient care.

Results: Overall, respondents reported positive perceptions of graduate preparedness and professionalism. Feedback suggested improved confidence, communication, and leadership behaviors among graduates, with some respondents identifying opportunities for continued curriculum enhancement.
Conclusion: Findings support the value of incorporating leadership-focused curriculum within RIS programs. The Kirkpatrick Model provided a practical framework for evaluating real-world impact and identifying opportunities to further enhance graduate readiness and clinical performance.

Conclusion: Findings support the value of incorporating leadership-focused curriculum within RIS programs. The Kirkpatrick Model provided a practical framework for evaluating real-world impact and identifying opportunities to further enhance graduate readiness and clinical performance.

Soy Protein Concentrate with Low and High Isoflavones Can Reverse Non-Alcoholic Fatty Liver Disease Caused by Obesity and Alter Gut Microbial Composition

[1,2,3]Reza Hakkak, [4]Soheila Korourian,[2]Beverly Spray, [2]Christopher Randolph, [2]David Irby, and [5]Michael Robeson. [1]Dept. of Dietetics and Nutrition, [2]Arkansas Children Research Institute, [3]Dept. of Pediatrics, [4]Dept. Pathology, [5]Dept. Biomedical Informatics, University of Arkansas for Medical Sciences, Little Rock, AR

Objectives: To examine the effects of 10 weeks feeding of low and high isoflavones levels in soy protein concentrate after 8 weeks on casein (CAS) as control diet on protection against Non-Alcoholic Fatty Liver Disease (NAFLD) and determine alterations within the fecal gut microbiome in this obese rat model.

Methods: Twenty-one, six-week-old male Zucker rats were fed were randomly assigned to casein diet (CAS), soy protein with low isoflavones (LIF), or soy protein with high isoflavones (HIF) for 10 weeks (n=7 rats/group). Rats were sacrificed and livers were samples taken for histopathological analysis. Fecal samples were collected for DNA extraction and microbial community composition was determined through amplicon sequencing of the V4 region of the 16S rRNA gene on an Illumina MiSeq. Microbial community data was analyzed via QIIME 2 using Amplicon Sequencing Variants (ASVs). The steatosis was semiquantitated as a score of 0 to 4 in each case based on relative degree of steatosis within hepatocytes: (0) no steatosis; (1) <25%; (2) 25–50%; (3) >50–75% and (4) >75%.

Results: The LIF and LHF-fed rats had significantly ($p<0.05$) lower steatosis scores, microvascular score and liver weight compared to control ($p<0.05$). There were no significant differences between LIF vs HIF for steatosis score. Similarly, beta diversity analysis of the gut microbial communities were significantly different ($p<0.05$), between the controls and both LIF & HIF. There were no significant differences in beta diversity between LIF and HIF. Additionally, No significant differences in alpha diversity were observed between any of the groups. Differential abundance analysis via ANCOM-BC, found 122 significantly different ASVs between the control and LIF/HIF groups. Compared to the controls the LIF/HIF group, contained 21 enriched ASVs and 101 depleted ASVs.

Conclusions: We found that soy protein concentrate regardless of isoflavones levels can reverse NAFLD caused by obesity and this protection was associated with alteration of gut microbial composition.

Funding Sources: USDA

Grain Intake Across Trimesters of Pregnancy Among Women Enrolled in the Glowing Study

Lesley Jones, MS, RD, LD; Makenna Glover, MS; Maddie Vowels, MS; Wei Li, PhD; Lisa T. Jansen, PhD

Background: Whole grains, rich in fiber, B vitamins and minerals, aide in maternal gastrointestinal and blood sugar regularity and healthy fetal development. Dietary Guidelines for Americans (DGA) recommend daily intake of 6-8 oz of total grains per 1800-2400 Calories during pregnancy. As with non-pregnant persons, whole grains should comprise at least half of total grain intake per DGA.

Methods: This report included data from participants enrolled in the ongoing Glowing study (NCT01131117) at Arkansas Children's Nutrition Center, which investigates effects of maternal obesity on offspring metabolism, adiposity, and growth. Total, whole, and refined grain intake across the pregnancy trimesters (N=104) were analyzed with repeated-measures one-way ANOVA and post hoc analysis with Bonferroni adjustment in SPSS.

Results: Average energy intake over three semesters was 1945±442 Calories. Average total grain intake was 7.85±2.05 oz/day in trimester one, 7.99±2.34 oz/day in trimester two, and 8.10±2.20 oz/day in trimester three; there was no significant change across trimesters, $F(1.86,191.73)=.45$, $p=.624$. Average whole grain intake was 1.65±1.04 oz/day in trimester one, 1.86±1.33 oz/day in trimester two, and 2.0±1.41 oz/day in trimester three; there was a significant change from trimester one to trimester three, $F(2,206)=3.16$, $p=.044$.

Conclusion: Participants consumed the recommended amount of total grains. However, whole grain intake did not comprise at least half of total grain intake as recommended by DGA, despite a statistically significant increase from trimester one to three. Findings suggest the need for targeted nutrition education to promote increased whole grain intake to help ensure positive maternal and fetal health outcomes.

Long-Term Feeding Soy Protein Concentrates with Low and High Isoflavones Reduces LPS Translocation in Obese Zucker Rats

Wei Li, Reza Hakkak

Objective: To investigate whether soy protein concentrates (SPC) with low and high isoflavones (LIF and HIF) reduce LPS translocation using an obese (fa/fa) Zucker rat model.

Methods: Six-week-old male obese (O, n = 21) Zucker rats were randomly assigned to one of 3 dietary groups after one week of acclimation: casein control (C) diet, SPC with LIF, or SPC with HIF (n=7 rats/group). After 18 weeks, rats were killed. Liver samples were used for total RNA extraction and TaqMan qPCR analyses for LPS-binding protein (LBP) expression. Immunohistochemistry (IHC) of LPS was performed on liver slices. LPS staining in IHC images was quantified by Aperio ImageScope software (Leica Biosystems). Data were analyzed by one-way ANOVA in SPSS Statistics (IBM Corp).

Results: Compared to obese rats fed the C diet, obese rats fed SPC-LIF and SPC-HIF diets had significantly lower LBP expression (relative expression C 2.23 ± 0.62, SPC-LIF 0.91 ± 0.40, and SPC-HIF 0.67 ± 0.18, $p < 0.05$) and less LPS IHC staining (cytoplasm H-scores C 31.0 ± 23.3, SPC-LIF 4.1 ± 4.5, and SPC-HIF 2.9 ± 4.5, $p < 0.05$) in the liver. There was no significant difference in LBP expression or LPS IHC staining between SPC-LIF and SPC-HIF groups.

Conclusion: Feeding obese rats SPC diets, regardless of isoflavone level for 18 weeks significantly decreased the translocation of gut-derived LPS to the liver. Our findings warranty future research to investigate the effect of SPC on gut microbiota composition and intestinal barrier functions.

Funding Sources: USDA

Predictors of Success on Registered Dietitian Board Examination

Courtney Fose, Mike Anders

Background: National pass rates for the Registration Examination for Dietitians have been declining, reaching an all-time low in 2024 for first attempt pass rates. This study aimed to determine the most significant predictors of first-attempt RD Exam success among various applicant characteristics.

Methods: A retrospective analysis was conducted on data from graduates of the University of Arkansas for Medical Sciences Dietetics program from 2022-2025 (n=49). Twelve pre-admission variables were analyzed using binomial logistic regression to predict first-attempt pass/fail outcomes on the dietetics board exam.

Results: A three-step logistic regression analysis revealed a strong trend indicating that the combination of total undergraduate GPA, undergraduate GPA of math and science courses, along with quantity of work and volunteer experience may best predict first-attempt RD Exam success in this dataset.

Conclusions: The study offers valuable insights for dietetics education programs to identify and support students who may be at higher risk of not passing the RD Exam on their first attempt, potentially improving overall pass rates and student outcomes.

Urine Osmolality Trends Reveal Missed Hydration Targets in Pregnant Women with Overweight and Obesity

*Alex Peña [1] , *Haylee Wren [1] , Aline Andres [2,3] , Lisa T. Jansen [1,2,3]
[1] Department of Dietetics and Nutrition, College of Health Professions, UAMS
[2] Department of Pediatrics – Section: Developmental Nutrition, College of Medicine, UAMS
[3] Arkansas Children's Nutrition Center, Arkansas Children's Research Institute
* Denotes Graduate Student Mentee

Objectives: Maintaining adequate fluid intake during pregnancy is crucial for maternal and fetal health, yet limited research suggests a risk of hypohydration. This study assessed longitudinal urine osmolality (UOsm) and total water intake (TWI) across all trimesters, examining pre-pregnancy BMI as a potential modifier.

Methods: Data from the GLOWING trial (NCT01131117) were analyzed, including 79 healthy, second-parity women enrolled before 10 weeks of gestation. Participants were categorized by BMI (normal weight: 18.5–24.9 kg/m2 ; overweight/ obesity: ≥25 kg/m2) and provided spot urine samples and TWI questionnaires each trimester. Linear mixed-effect models evaluated hydration markers and BMI-related differences.

Results: UOsm significantly changed over pregnancy, F(2,113.88)=4.419, p=0.014, increasing in the second trimester (497.7±23.5 mOsm/kg, mean difference 72.7±26.5 mOsm/kg, p=0.020). Pre-pregnancy BMI also influenced UOsm (F(1,80.57)= 4.863, p=0.030), with higher values in women with overweight/ obesity (493.4±23.7 mOsm/kg, mean difference 75.2±34.1 mOsm/kg, p=0.030), though no interaction effect was observed (p=0.660). TWI increased across pregnancy (F(2,106.54)=6.472, p=0.002), rising from baseline (2209.7±82.6 mL/d) to the second (2383.5±82.6 mL/d, p¼.023) and third trimester (2471.3±83.3 mL/d, p=0.002), with no significant effects of BMI (p=0.816) or BMI*trimester (p =0.142).

Conclusions: UOsm increased during pregnancy, peaking in the second trimester, and was higher in women with overweight/obesity despite increasing TWI across gestation. The lack of a BMI effect on TWI suggests fluid intake may be inadequate, particularly in BMI ≥25 groups. Given the absence of defined UOsm hypohydration thresholds in pregnancy, these findings underscore the need to optimize hydration recommendations for maternal and fetal health.

Funding Sources: USDA

Design of Micro Lessons for Remote Healthy Pregnancy Support in Arkansas: A Behavioral Intervention Support Tool for the GEM Study as a Protocol Design Element

*Christopher Mayfield [1], Lisa T. Jansen [1,2,3]

[1] Department of Dietetics and Nutrition, College of Health Professions, UAMS
[2] Department of Pediatrics – Section: Developmental Nutrition, College of Medicine, UAMS
[3] Arkansas Children's Nutrition Center, Arkansas Children's Research Institute
* Denotes Graduate Student Mentee

Objective: To translate the Dietary Guidelines for Americans and healthy pregnancy lifestyle recommendations into accessible, low-burden micro-lessons for delivery in de-centralized settings.

Methods: Micro-lesson development was guided by formative focus group findings identifying gaps in nutrition literacy and behavioral self-efficacy. Lessons were designed using 7taps™ (7taps OpCo LLC, West Palm Beach, FL, USA), a mobile-first microlearning platform designed for short, interactive educational content. Iterative revisions were made based on peer and faculty feedback to meet predefined educational and usability standards. Twenty interactive micro-lessons were developed and organized into six thematic clusters: (1) Glucose and metabolic health (2) Physical activity, (3) Healthy Eating in Pregnancy, (4) hydration, sleep, and stress management, (5) Individualized goal-setting and self-monitoring, and (6) Food safety. Lessons were designed to be concise, culturally relevant and behaviorally focused.

Results: The micro-lesson intervention is expected to improve nutrition literacy, self-efficacy, and confidence among pregnant women living in decentralized settings in and beyond Arkansas.

Conclusions: This partner-informed micro-lesson tool provides scalable, low-burden approach to addressing knowledge gaps and supports future testing of its impact on behavior change and gestational weight gain outcomes.

Attentional Components and Neural Speech Encoding in Adverse Listening Environments

Caitlin Price, Au. D., Ph.D., CCC-A

Objectives: Attention plays a vital role in speech perception, particularly in noisy listening environments. Attention is comprised of unique components (i.e., alerting, orienting, executive control, vigilance) that assist in identifying and tracking a talker of interest, all while suppressing irrelevant, competing background noise. While speech-in-noise (SPiN) perception and attention have been extensively studied, much remains unknown about how early sensory encoding and later cognitive functions, such as attention, interact to result in successful SPiN understanding. Thus, this study aimed to (1) evaluate how the components of attention relate to SPiN perception and (2) clarify the relationship between attentional components and the neural encoding of SPiN. We hypothesized that each attentional system would contribute to SPiN perception and strongly relate to cortical responses.

Design: Behavioral assessments of attention and SPiN perception were used to evaluate the relationship between discrete attentional components and speech recognition ability in 20 young, normal hearing adults. Participants completed the ANTI-Vea task to objectively measure their alerting, orienting, executive control, and vigilance abilities. Performance for each attentional component was correlated with SPiN performance to identify which, if any, measures of attention predicted SPiN accuracy. To enhance our understanding of neural processes and attentional influences underpinning speech understanding in noise, we used electrophysiologic techniques to record subcortical and cortical responses during a speech perception task. Behavioral assessments of speech understanding and attentional components were then correlated with neural responses to relate neural encoding differences to behavioral outcomes.

Results: Analyses revealed that certain attentional components, particularly alerting, relate to SPiN perception. Participants who were more accurate in identifying a target when no additional cue was presented (i.e., more challenging task) also demonstrated better SPiN perception abilities. This suggests a reliance on cognitive strategies when acoustic cues are degraded by noise. When relating neural responses to attentional components, significant relationships were noted between attention and cortical responses (i.e., N1 and P2).

Conclusions: This study provides novel insight into the complex relationship between attentional components and SPiN perception. Findings suggest that certain attentional strategies may improve an individual's ability to successfully communicate in background noise. The use of electrophysiologic measures further contributes to understanding the brain-behavior relationship between attentional mechanisms and neural processing involved during SPiN tasks. Overall, these results underscore the significance of attention in SPiN perception and suggest promising directions for future interventions to enhance speech understanding in adverse listening conditions.

Effectiveness of a Simulated Research Project in Research Methods Education

Samuel R. Atcherson, Ph.D., Kristen Muller, Ph.D., and Michael Anders, Ph.D.

Abstract: A course in Research Methods teaches about research processes, including designing appropriate research methods, interpreting statistical tests, accessing research information, and applying findings to clinical practice and patient care. It may also include instruction about evidence-based practice procedures and reinforce ethical conduct standards in research. For the first time, the instructor of record in a graduate speech language pathology research methods course sought to introduce a simulated research project that the students could complete within a semester followed by an end-of-semester supplementary course-specific evaluation.

Beyond the Scan: Evaluating the Impact of a Poverty Simulation of First-Year Sonography Students

Megan Ott, MHA, RDMS, RVT ; Kathryn Neill, PharmD, CCMS, FNAP ; Karen Dickinson, MBBS, MD, MEd, CHSE-A, FRCS; Wendy Ward, PhD, ABPP, FAPA, FNAP; Michael Anders, PhD, MPHc

Background: Diagnostic medical sonography (DMS) programs emphasize technical proficiency and interprofessional simulation; however, limited attention is given to helping students recognize patients' social contexts. Although healthcare education increasingly highlights social determinants of health (SDOH), experiential learning opportunities that allow students to understand poverty and its impact on healthcare remain uncommon in sonography curricula. Simulation is widely used to support technical competency but rarely addresses SDOH, empathy, or professional identity development in sonography students. This gap may negatively impact patient-centered care and interprofessional collaboration.

Purpose: The purpose of this project was to examine the impact of an interprofessional education (IPE) poverty simulation on DMS students, exploring how they make meaning of poverty as a social determinant of health (SDOH), interprofessional competencies, and professional identity formation, using an explanatory sequential mixed methods.

Methods: The quantitative component evaluated changes in interprofessional competencies and attitudes toward poverty using the Interprofessional Collaborative Competency Attainment Survey (ICCAS) and the Attitude Toward Poverty – Short Form (ATP-SF) survey administered pre- and post-simulation. The qualitative component explored how students made meaning of the simulation through two rounds of semi-structured interviews, reflective writing assignments, and faculty field notes. Qualitative data were analyzed thematically to capture students' reflections on empathy, advocacy, collaboration, and professional growth.

Results: Students reported improvements across ICCAS domains including communication, collaboration, roles and responsibilities, conflict management, and team functioning. ATP-SF results suggested shifts in attitudes toward poverty following the simulation. Qualitative analysis revealed three primary themes: emotional responses to experiential learning, understanding systemic complexity, and collaborative professional identity development.

Conclusions: Poverty simulation may be an effective experiential strategy for helping sonography students move beyond abstract knowledge of SDOH to embodied understanding. Integrating SDOH-focused simulation into DMS curricula may strengthen empathy, interprofessional collaboration, and preparedness for patient-centered care.

From Classroom to Certification: Associations Between Immunohematology Course Performance, Program Comprehensive Sub Scores, and ASCP Certification Exam Scores

Cherika Robertson, M. Ed., MLS (ASCP)^{CM},
Nathan Johnson, PhD, MLS (ASCP)

Abstract: Ensuring that Medical Laboratory Science (MLS) graduates are adequately prepared to pass the American Society for Clinical Pathology (ASCP) Board of Certification (BOC) examination remains a persistent concern for academic programs, as certification serves as a primary gateway to professional practice. Within this context, Immunohematology (Blood Bank) accounts for approximately 17–22% of the content on the ASCP BOC examination and represents one of the most conceptually challenging domains. Understanding how course-level assessments align with certification outcomes is therefore essential for curriculum evaluation and continuous quality improvement. This retrospective observational study investigated the relationship between student performance on MLSC 43163 Immunohematology course examinations and performance on both the Blood Bank sub score of the MLS program comprehensive examination and the Blood Bank sub score of the ASCP BOC examination. Data from 140 students who completed MLSC 43163 during the Fall 2024 semester were analyzed. Pearson correlation analysis was used to examine the extent to which five course examinations and a final examination were associated with these high-stakes outcomes. Among the course examinations, Blood Bank Exam 2 demonstrated the strongest correlation with the comprehensive examination Blood Bank sub score ($r(138) = .67$, $p < .001$), whereas Blood Bank Exam 4 showed the weakest association ($r(138) = .51$, $p < .001$). The ASCP Blood Bank sub score was positively correlated with the comprehensive examination Blood Bank sub score ($r(138) = .63$, $p < .001$) and with all individual course examinations, with correlation coefficients ranging from moderate to strong. The strongest correlation observed in the analysis was between the ASCP overall score and the ASCP Blood Bank sub score ($r(138) = .75$, $p < .001$). Among course-level assessments, Blood Bank Exam 1 and Blood Bank Exam 2 demonstrated the highest intercorrelation ($r(138) = .72$, $p < .001$). Overall, the uniformly positive and statistically significant correlations across all variables indicate that course-level assessments within the Immunohematology course are meaningfully associated with both program-level comprehensive examination performance and national certification sub scores in Blood Bank. These findings support the alignment of course assessments with certification expectations and reinforce the role of course performance as a potential indicator of certification examination readiness.

Developing Behavioral Codes for Data Loss During a Word-Understanding Eye-Tracking Assessment

Kristen Muller, Ph.D. CCC-SLP (Department of Audiology and Speech Pathology); Chandra Lewis, R.N. (Translational Research Institute)

Abstract: Eye-tracking technology may be a viable alternative measure of word understanding for autistic children who are non-speaking or have minimal verbal skills. Unfortunately, high levels of data loss are reported when using eye-tracking with this population. Data loss occurs when the child's gaze is not directed to the target or foil stimuli and when the eye tracker cannot pick up the child's gaze. Previous studies have not measured participant behavior during data loss trials. This poster will present pilot data from an ongoing research study examining the use of eye-tracking as a measure of word understanding for autistic children. We will discuss the process of developing a behavioral coding manual used to capture participant behavior during eye-tracking trials with data loss. This holistic view of data loss is a necessary first step in discovering how to reduce the occurrence of unreliable trials.

Factors Impacting Community Participation in Persons with Aphasia

Dana Moser, Ph.D., CCC-SLP, Portia Carr, Ph.D., CCC-SLP
Department of Audiology & Speech Pathology,
Speech-Language Pathology Program

Background: Aphasia can hinder opportunities to be involved in social activities and community groups, leading to isolation and lack of participation in meaningful activities that will in turn contribute to decreased quality of life in persons with aphasia (PWA).

Purpose: The purpose of this study is to examine the relationship between community participation and various intrinsic and extrinsic factors for persons with aphasia.

Method: This study recruited 108 individuals with post-stroke aphasia to complete an online survey. The survey included questions about demographics, perception of aphasia, mental health, environment, support system, accessibility, and participation. In addition, PWA were asked to identify their interests in different types of activities/programs specific to PWA. Data was analyzed using Wilcoxon Signed Rank.

Results: PWA reported significantly decreased participation in community activities post-stroke ($Z=-6.6$; $p<0.01$). The data showed greater perceived limitations in participation due to aphasia compared to the impacts of physical ($Z=-4.8$, $p<0.01$) and financial ($Z=-5.2$, $p<0.01$) disabilities. Greater participation was associated with disability status [greater time post stroke ($r = .27$, $p=.004$), less need for assistance ($r = -.21$, $p=.03$)] , and absence of other disabilities ($r = .24$, $p=.014$)] and psychological factors [depression ($r = -.34$, $p<.001$), anxiety ($r = -.24$, $p=.01$), and feelings of helplessness ($r = -.31$, $p=.001$).

Conclusions: Multiple factors contribute to the decreased participation that commonly occurs in aphasia. Understanding the role of these factors can help drive solutions to facilitate positive outcomes. PWA are interested in participating in supported community activities, but accessibility is an issue. More research is needed to determine how to support community reintegration for persons with aphasia.

CHEM-RISK: Chemistry Early Monitoring – Risk Identification of Student Knowledge

Paul R. Nelson, M.S., MLS(ASCP); Sarah B. Parker, M.S., MLS(ASCP); Jason Key, M.S., MLS(ASCP)CM; Corrie Hollingsworth, BS, MLS(ASCP); Shaneika R. Chambers, MHA, MLS(ASCP)CM; Nathan H. Johnson, Ph.D., MLS(ASCP)

Abstract: Students who perform poorly early in a course often struggle to recover academically. When gaps occur early in a course where concepts build sequentially, these deficiencies can compound. In medical laboratory science curricula, early comprehension gaps may negatively affect performance on subsequent course assessments and professional certification examinations. We hypothesized that at risk students could be identified early, allowing targeted intervention to improve outcomes. For this exploratory study, data from 118 students graduating in Spring 2025 were analyzed. Students were enrolled in several tracks (3, 4 or 5-5 semester). Students MLT score and GPA were recorded and scores from 5 clinical chemistry examinations and the course final were collected, along with MLT-to-MLS comprehensive examination subscores and MLS certification examination scores and subscores.

Descriptive statistics were calculated for each student group. Analysis of variance (ANOVA) was used to compare examination performance across the 5 course examinations, and Tukey's Honestly Significant Difference (HSD) test was used for post-hoc comparisons. Multiple linear regression analyses were performed for both the combined cohort and individual program tracks to identify predictors of student success. ANOVA demonstrated a statistically significant difference among the 5 course examination scores ($p < 0.001$), with Exam 3 differing significantly from all other examinations. In a multiple regression model using the course final examination score as the dependent variable, Exams 2, 3, and 4 were statistically significant predictors. When the chemistry component of the UAMS comprehensive examination was used as the dependent variable, exams 3 and 4 were significant predictors. When the chemistry component of the MLS certification examination was used as the dependent variable, Exams 1 and 4 were statistically significant predictors. Although chemistry subscores from the MLT examination were not available, overall MLT certification scores were included in the regression analysis. When incorporated into the model, the statistical significance of program examination scores decreased, suggesting that variation in foundational knowledge prior to program entry contributes substantially to academic performance. Mean ASCP MLS certification scores differed across program tracks, with the 4-semester track demonstrating the highest mean score (519) compared with the 3-semester track (493) and 5-semester track (484); however, this difference was not statistically significant ($p = 0.11$). Mean ASCP MLS chemistry subsection scores were also highest in the 4-semester track (492) compared with the 3-semester (471) and 5-semester tracks (462), though these differences were not statistically significant ($p = 0.431$). Although statistically significant differences between program tracks were not observed, the findings suggest that early examination performance may provide valuable indicators of student knowledge gaps. Identification of these early indicators may assist programs in implementing targeted review strategies to support preparation for the clinical biochemistry final examination, the program comprehensive examination, and the ASCP MLS certification examination.

Closing the Gap: The Impact of Structured Remediation on Graduation Outcomes

Jason Key, MEd, MLS(ASCP)CM, Corie Hollingsworth, B.S., MLS(ASCP)CM , Sarah B. Parker, M.S., MLS(ASCP)CM , Nathan H. Johnson, Ph.D., MLS, SC, DLM, SC, (ASCP)

Abstract: The Medical Laboratory Science (MLT-to-MLS) bridge program at the University of Arkansas for Medical Sciences (UAMS) administers a comprehensive capstone examination that correlates strongly with performance on the ASCP Medical Laboratory Scientist (MLS) certification exam. Students scoring below 70% are required to complete remediation prior to graduation. Before December 2024, remediation activities were unstructured; beginning in December 2024, a standardized remediation process using ASCP-based review materials was implemented. Student program records were analyzed, including ASCP MLS total scores, projected scores from an established predictive model, and individual sub scores. Pass rates and subscores were compared between students completing unstructured remediation (n = 21) and structured remediation (n = 22) using chi-square analysis and two-sample t-tests.

Students completing structured remediation demonstrated a significantly higher ASCP MLS exam pass rate (64%) than those completing unstructured remediation (33%) ($p = 0.02$). Subscore analysis showed a significant improvement in urinalysis performance ($p = 0.03$), with no significant differences in other areas. Structured remediation was associated with improved ASCP MLS exam pass rates. Continued data collection is planned, and broader application of structured remediation strategies may further enhance certification outcomes.

Closing the Gap: The 20% Exception—Subscore Patterns Among MLS Students Whose MLS Exam Score Is Higher Than Their Incoming MLT Score

Jason Key, MEd, MLS(ASCP)^{CM}, Corie Hollingsworth, B.S., MLS(ASCP)^{CM}, Sarah Parker, M.S., MLS(ASCP)^{CM}, Jenni McArthur, M.S., MLS (ASCP)^{CM}, Nathan H. Johnson, Ph.D., MLS, SC, DLM, SC, (ASCP)

The Medical Laboratory Science (MLT-to-MLS) bridge program at the University of Arkansas for Medical Sciences (UAMS) uses a model to predict performance on the American Society for Clinical Pathology MLS certification examination, with incoming MLT exam score as a primary predictor. Historically, mean MLT scores exceed MLS scores by approximately 70 points, reflecting increased academic rigor and peer group differences. Both exams use scaled scores from 100 to 999, with 400 required to pass. Approximately 20% of graduates score higher on the MLS exam than on their incoming MLT exam, a pattern not previously described. Program records from Spring 2023 through December 2025 were analyzed, including total and subsection scores. A total of 126 graduates comprised this higher-scoring cohort. Despite entering with significantly lower mean MLT scores than the overall graduating cohort (485 vs. 561, $p < 0.001$), these students exceeded the overall MLS average and outperformed historical program means across all seven MLS subsections. Subsection rank order differed from historical patterns, with overperformance ranging from 3.1% in chemistry to 15.9% in urinalysis compared with national means. Subsection scores exceeded 400 in 90% of cases, versus a historical average of 74%, and all passed the MLS exam on the first attempt. These findings suggest a distinct performance profile for further study.

What Student No-Shows for Initial Interview Tell Us About Future Performance in an MLS Program

Shaneika Chambers, MHA, MLS(ASCP)^{CM}, Corie Hollingsworth, B.S., MLS(ASCP)^{CM}, Rebeccah Bird, MAS, MLS (ASCP), Sarah Parker, M.S., MLS (ASCP)^{CM}, Jason Key, MEd, MLS(ASCP)^{CM}, Nathan H. Johnson, Ph.D., MLS, SC, DLM, SC, (ASCP)

The Medical Laboratory Science (MLT-to-MLS) bridge program at the University of Arkansas for Medical Sciences (UAMS) includes a structured onboarding process beginning with an interview. Although long assumed, the impact of missing a scheduled interview on student performance has not been formally examined. This study evaluated academic outcomes for applicants who missed at least one interview to inform early intervention strategies. Program records were analyzed, including interview attendance, program entry, performance in two hematology courses, exam scores, grade distributions, GPA in the second half of the program, and progression through the curriculum. Group comparisons used two-sample t-tests and chi-square or Fisher's exact tests. Seventy-five applicant records were analyzed, including 47 no-shows and 28 attendees. Applicants who attended the interview were more likely to enter the program (82% vs. 55%, $p = 0.024$). In hematology lecture, exam 1 scores were higher among attendees (91.7% vs. 84.9%, $p = 0.003$). While overall pass rates did not differ, attendees more often earned an A or B in hematology lecture (87.5% vs. 62.5%, $p = 0.05$) and hematology distance laboratory (75% vs. 25%, $p = 0.001$). Among students entering the second half of the program, interview attendees had higher mean GPAs (3.42 vs. 3.0, $p = 0.018$) and were more likely to progress (95.2% vs. 64%, $p = 0.013$).

Identification of Maternal Alzheimer's Disease Risk After Atypical Finding on SNP-Based Prenatal cfDNA Screening

Georgina Goldring, Jordan Foster, Anjali D. Zimmer, Priyanka Arya, Jeffrey Meltzer
Affiliations: Natera, Inc., Austin, TX; University of Arkansas for Medical Sciences, Fayetteville, AR

Objective: To report a case in which routine prenatal cfDNA screening identified an atypical finding (AF) on chromosome 21 (chr 21), emphasizing the importance of investigating AFs and the potential of cfDNA to reveal maternal genomic information with personal/familial health implications.

Study Design: Retrospective descriptive case series involving 2 sisters referred for genetic counseling (GC) following a chr 21 AF on SNP-based prenatal cfDNA. Clinical and genetic evaluations were conducted across multiple pregnancies from 2021-2025

Results: A patient was referred for GC due to an AF on cfDNA suggestive of a copy number variant (CNV) on chr 21 of unknown origin. Maternal microarray identified a 3 Mb duplication at 21q21.2q21.3, encompassing the APP gene, which, when duplicated, is associated with autosomal dominant early-onset Alzheimer's disease (ADEOAD). The patient reported no known prior genetic testing; however, family history was notable for early-onset Alzheimer's disease. In a subsequent pregnancy, cfDNA screening again identified an AF on chr 21, this time of maternal origin, consistent with a duplication involving the APP gene.

Her sister had previously been referred for GC after an AF on cfDNA suggestive of a CNV on chr 21 of unknown origin. No follow-up testing was performed at that time. During a subsequent pregnancy, she was referred again, and maternal microarray identified the same CNV that had previously been identified in her sister.

Conclusions: This case series highlights the importance of follow up testing after AF on cfDNA screening. As chr21 is routinely assessed in prenatal cfDNA screening, the incidental detection of AFs may reveal clinically relevant information for both mother and fetus, such as maternal APP duplication associated with ADEOAD. To facilitate timely diagnosis and informed reproductive decision-making, pre-test counseling should address the possibility of AFs, with prompt referral for GC and appropriate clinical follow-up when they are identified.

A Collaborative Process to Develop a Caregiver Resource Toolkit for Informal Caregivers of Individuals with Dementia

Jennifer Muriithi (CHP), Molly Jones

Introduction / Rationale: Caregivers of individuals with dementia often have no formal training in providing care. The burdens of informal caregiving are strongly associated with negative health and well-being outcomes. Objectives: The aim was to develop a caregiver resource toolkit in collaboration with informal caregivers.

Methods / Approach: Informal caregivers were identified through a database of a community organization serving aging adults. A survey was emailed to these caregivers to identify areas of greatest concern regarding their role as informal caregivers. Eighteen individuals responded. Respondents were invited to indicate their interest in collaborating on development of a caregiver resource toolkit. Six caregivers responded affirmatively, and actively engaged in an iterative process including one-on-one interviews, development of modules, feedback from participants, and revisions. Data from the survey and one-on-one interviews provided useful baseline information to inform initial drafts of modules. The iterative feedback process ensured that the final toolkit met felt needs of caregivers, informing significant modifications of initial drafts and creation of additional modules.

Results / Practice Implications: The final toolkit was made available electronically and in print, and included the following modules: Education, What to Expect, Caregiver Support, Self-Reflection Activities, Safety and More, Helpful Resources. Participants rated the final toolkit positively and reported regular use of the self-reflection activities.

Conclusion / Contribution to the occupational therapy profession: To effectively develop resources for caregivers of individuals with dementia, it was found to be highly valuable to seek input from caregivers who would use the resources. This client-centered approach has great potential to reduce caregiver burnout and improve quality of life for individuals with dementia.

UAMS | College of Health Professions