

DECEMBER 2023

CAAS MPH NEWSLETTER

VOLUME 5 ISSUE 2



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College of Agriculture & Applied Sciences
UtahStateUniversity

A MESSAGE FROM THE ADVS DEPARTMENT HEAD

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As the department head of Animal, Dairy, and Veterinary Sciences, I'm delighted to share insights into our Master of Public Health (MPH) program with a focus on veterinary health. In this edition of our newsletter, I wish to celebrate the synergy between our university and our Aggie community, here in Utah and across the country, emphasizing our commitment to offering education that aligns with the needs of our stakeholders.

Our MPH program, rooted in the 'One Health' concept, recognizes the interconnectedness of human, animal, and environmental health. This approach is vital in addressing public health challenges and sets our students on a path to make meaningful contributions in various sectors.

Key to our program's relevance and success is engagement with community members and stakeholders. Their input is crucial in shaping a curriculum that reflects real-world needs. In this regard, I extend my gratitude to Dr. Danilo Franco and Dr. Amanda Price from the Utah Department of Agriculture and Food, Hannah Rettler from the Utah Department of Health and Human Services, and Commander Willy Lanier from the CDC/Utah Department of Health and Human Services. Their participation on our MPH advisory board has been invaluable, ensuring our program remains dynamic and impactful.

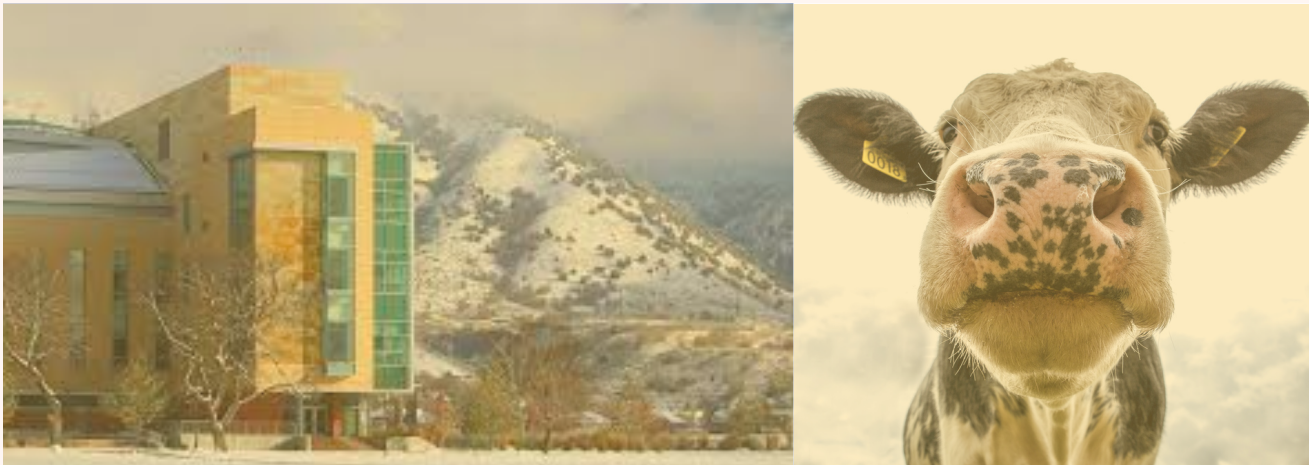


Abby Benninghoff, PhD
Interim Head of the Department of Animal,
Dairy, and Veterinary Sciences

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A MESSAGE FROM THE ADVS DEPARTMENT HEAD

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The achievements of our students are a testament to the program's effectiveness. I am proud to congratulate two students completing their MPH degree program in our department this fall: Morgan Richard, who will continue her role with the U.S. Department of Agriculture as a Veterinary Medical Officer, and Elody Fredette, who will continue her role as a veterinary assistant in Kentucky. Their upcoming roles reflect the diverse opportunities our graduates have in contributing to public health.

Our department's focus on veterinary health within the MPH program is a commitment to understanding public health in its entirety. The collaborative efforts with our community stakeholders, the guidance of our advisory board, and the successes of our students underscore our dedication to educating professionals who are equipped to tackle the complexities of public health.

As we move forward, our commitment to this collaborative approach remains unwavering. We will continue to seek insights and participation from our community and stakeholders to ensure that our program is not only academically robust but also relevant and responsive to the changing public health landscape.

ROCKY MOUNTAIN PROJECTS GRANT

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During the 2023-2024 academic year, the Rocky Mountain Public Health Training Center (RM-PHTC) will award 27 students in higher education \$3,500 in financial support to assist with public health focused field placements and faculty-student collaborative projects.

The goal of this program is to increase the supply and diversity of the public health workforce in the Rocky Mountain Region, specifically in underserved communities and populations by supporting students conducting applied public health projects and providing opportunities for mentoring and professional development. This program is funded by the Health Resources and Services Administration (HRSA).

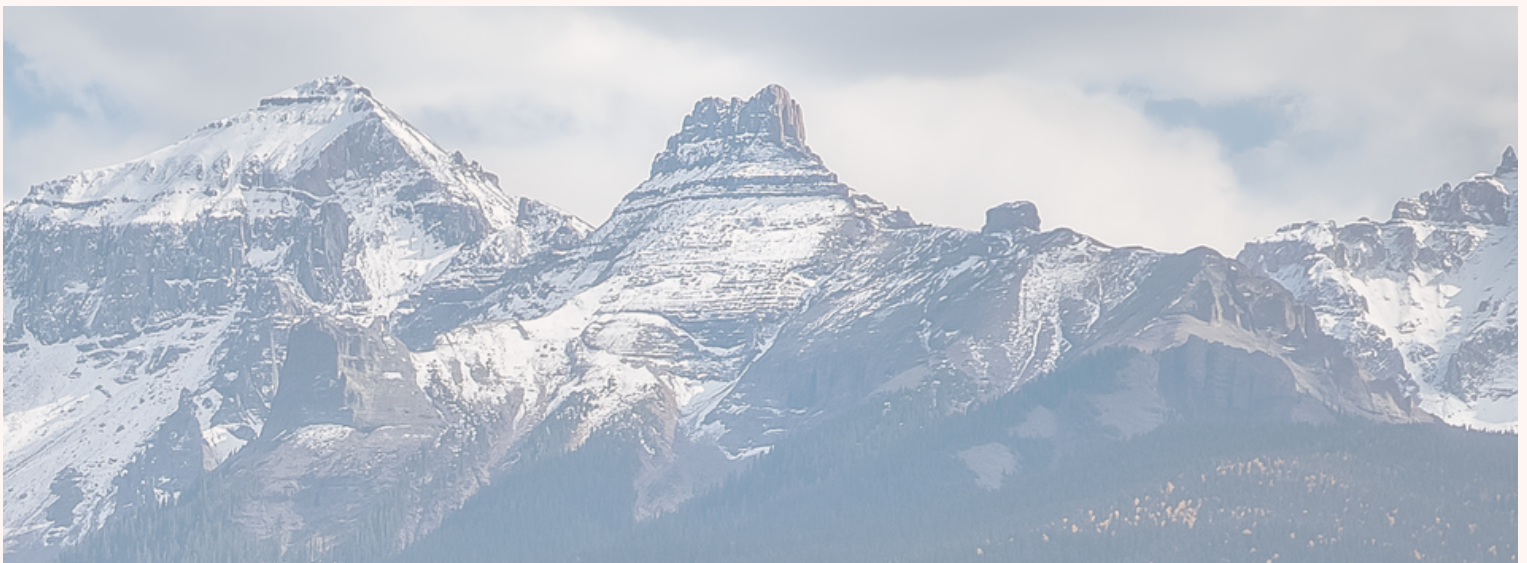
RM-PHTC encourages applications from

- Students from groups that have been historically marginalized and/or underrepresented in public health
- Students proposing field placements working with medically underserved/rural/tribal areas or populations

The SLPH application collects demographic data as well as lived experience to enhance the review process. All eligible applications will be reviewed by the Student Leaders in Public Health Review Committee. The SLPH Review Committee is made up of RM-PHTC staff, faculty members and community public health practitioners.

[Learn more about the program and its requirements here.](#)

Application deadline is December 15, 2023. If all 27 positions are not filled, another application deadline will be in February 2024.



ZOONOTIC DISEASE CORNER

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I thought I would describe some recent cases of toxicity in animals in the next few editions of the MPH newsletter. These are not zoonotic diseases, of course, though some of these plants or substances are toxic to humans as well as animals. Toxic substances include plants, heavy metals, rodenticides, pesticides, and many other substances. Animals that died due to exposure to poisonous substances that have been submitted to the Utah Veterinary Diagnostic Laboratory will be covered in the next few editions of the MPH newsletter.

The most recent case was a cow that was submitted for necropsy last week and died due to ingestion of a poisonous plant. The history of what happened is fairly typical of cases of halogetin toxicity. The cows were being moved quite a long distance and were hungry and thirsty. One of the areas they were driven through had water troughs so the cows went to drink the water and had some mouthfuls of the surrounding plants, which happened to be halogetin. Several cows died and they were noticed staggering before they died. There were no significant lesions noted on gross necropsy; however, oxalate crystals were observed in the kidneys on histopathology (Figure 1).

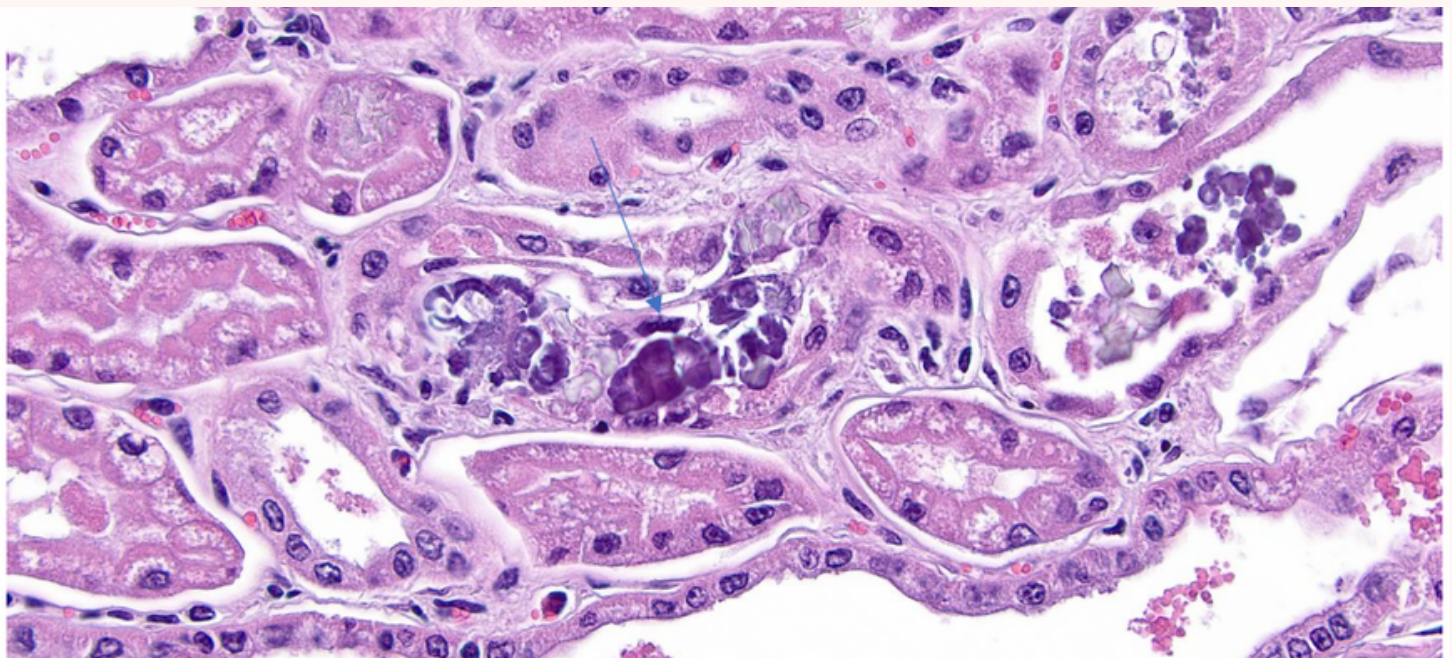


Figure 1: oxalate crystals in kidney, Hematoxylin & Eosin stain

ZOONOTIC DISEASE CORNER

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Halogetin is an invasive plant of the Western States and has been reported to cause toxicity in sheep and cattle. It is native to Russia and China. In 2019, I necropsied two 3-year-old merino ewes in February that died suddenly in central Utah. Numerous sheep had died. Plant material was also submitted: it was typical of Halogetin glomeratus (red to purple tinged stems branching from the base, and green, fleshy, tubular leaves with round edges and a single spine on the tips). The plant typically invades disturbed sites such as around railroad loading sites, trail heads, stock trails, and water holes. The toxic compounds are sodium and potassium oxalates, and deaths usually occur in fall and early winter when the plant's oxalate content is higher and the plant is more palatable. Soluble oxalates are absorbed from the rumen and bind to circulating calcium to form insoluble calcium oxalate crystals that precipitate in tissues including the kidneys and blood. Death is often due to acute renal failure. Ingestion of as little as 300 g of the plant can cause death in an adult sheep. Underfed sheep and cattle are more susceptible because they are more likely to ingest the plant and lower levels of oxalates are lethal as compared to well fed animals. Dozens of cattle and over 1,000 sheep have been poisoned in single events.

To reduce livestock losses, it is recommended to give supplemental feed to animals that are grazing and are moving through halogetin infested areas. Death occurs when animals graze a large amount of the plant in a short period. This is more likely if they are very hungry and thirsty. Livestock being trucked to grazing areas will graze indiscriminately if they are hungry and are unloaded in halogetin-infested areas. There is no known treatment for halogetin poisoning.



**E. Jane Kelly, DVM, MS, MPH,
DACVPM, DACVM**
**Veterinary Diagnostician and Microbiologist
Central Utah Branch of the Utah Veterinary
Diagnostic Lab
Clinical Professor**

References:

1. Halogetin Toxicity in a Sheep Flock. Mainenti M, Kelly EJ, Hall JO, VanWettere AJ. Abstract and Oral Presentation at the American Association of Veterinary Laboratory Diagnostician meeting October 2019 in Providence, Rhode Island.
2. Plants Poisonous to Livestock in the Western States. USDA ARS Agriculture Information bulletin Number 415, Reprinted October 2016

CURRENT STUDENT HIGHLIGHT

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Maddi Creer

Master of Public Health Student

Tell us a little bit about yourself including your undergraduate degree, MPH concentration, and plans after graduation.

I was born and raised in northern Utah, and am an Aggie through and through! I attended Utah State as an undergraduate, earning a bachelor's degree in Nutrition Sciences to prepare me for a career in medicine. While learning about the intersection between nutrition and health, I became interested in public health and wanted to expand my knowledge on the large tapestry of factors that weave together to form an individual's health. The MPH Nutrition program at Utah State has been a great way to intertwine my interests in nutrition, public health, and medicine, and I feel much better prepared to provide informed and equitable care to my future patients because of this program. I am happy to share that I have recently been accepted to medical school, and will matriculate in the fall of 2024. I am looking forward to a medical career in maternal/child health, where I can work at the community level to reduce the unique health disparities of women and children, and provide excellent individual care to each of my patients.

What specific courses or experiences in the MPH program have had the most significant impact on your understanding of public health? How do you envision applying these in your future career?

I have really enjoyed the unique perspectives on health issues brought forward by each class in the program, and have learned something special in each one! The Social Determinants of Health course was especially fascinating to me, as I had many opportunities to choose a topic I was interested in and further investigate the "big picture" to see just how complex an individual's health can be and identify room for improvement in our health delivery systems. I also enjoyed the Global Public Health elective, which encouraged me to explore the humanistic and cultural variations in health. These skills will be incredibly valuable throughout my career, as I hope to work with a wide range of demographics who have been failed by our current healthcare systems to ensure better care for them in the future.

CURRENT STUDENT HIGHLIGHT

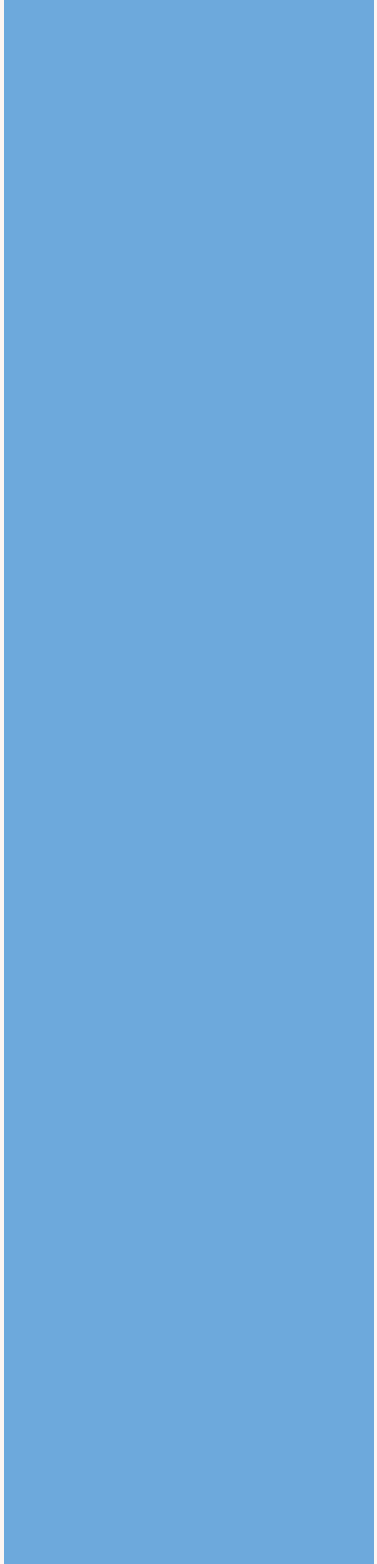
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In your opinion, what is the most pressing public health issue facing our local or global community? How do you believe your time in the MPH has equipped you to contribute to addressing this issue?

I believe that the most important public health issue of our time is the structural inequity of our healthcare systems due to historical discrimination. We as individuals have come so far in recognizing bias and promoting inclusivity, but our social structures are not yet fully reflective of these changes. Our generation of public health professionals will be tasked with making large-scale improvements to our healthcare systems to reduce the "quiet" discrimination that still occurs based on race, weight, gender, geographic location, culture, or religion. Working in public health allows us to confront and improve our own implicit biases, but we will need to create programs that help other health professionals and society at large to do the same. The MPH program has helped me identify these implicit biases in myself, which will translate into providing more compassionate care to all demographics of patients.

As you approach your final semester in the MPH program, what advice do you have for incoming students? Are there specific skills, resources, or mindsets that you believe are critical for success in the program and in the field of public health and related fields?

My advice to incoming students would be to approach public health with an open mind. The flexibility of this program allows for such a broad cohort of students from different places, backgrounds, and beliefs, and it has been such a pleasure to learn something new from each one of my peers! I would encourage incoming students to seek out opportunities to get outside your comfort zone, interact with your peers as much as possible, and explore topics you have little experience with to broaden your perspectives. Approach your peers and colleagues with the idea that you have something to learn from them, and be open to sharing your experiences in return. Much of the field of public health is objective; we work with data and research and scientific literature regularly. However, learning about the experiences of others opens the door to innovation and is the key to continuous improvement in our field.



DECEMBER PUBLIC HEALTH NUTRITION GRADUATES

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Carina Stephens

My experience with the MPH Nutrition program has been challenging, rewarding, educational, and fun! Overall, it has been a great opportunity to fine-tune my public health skills, explore nutrition, and meet wonderful professors and students. Currently, I am the Supervisor for North Lincoln and Teton County Women, Infant, and Children Program (WIC) in the western Wyoming region. I love what I do, even if most days are challenging, and hope to be there as long as I can. I am a life-long learner and always want to be learning, however, I aim to focus on starting a family with my amazing husband Talon.

I started my MPH back in fall of 2019 and am so excited to be graduating a whole 4 years + a pandemic later. The MPH Nutrition program was an excellent complement to my RD degree. My APE projects included helping create an evidence based medically supervised weight loss program for intermountain Healthcare as well as a weight bias training for their employees. From my weight bias research, I was also able to write a narrative review (co-authored by Mateja). This was published earlier this year with the Health Education & Behavior Journal which was also an amazing (and very intense/stressful) experience to go through the peer review process. I am beyond grateful for the mentorship and support from the MPH nutrition professors and staff with a special shoutout to Mateja who was my mentor. Everyone in this program goes above and beyond! I am still figuring out my next steps for my career, but am excited to see where this degree will take me. In the meantime, I'm excited to get back to remembering what I used to do when I didn't have lectures and homework waiting for me after work.



Kylie Peterson

DECEMBER VETERINARY PUBLIC HEALTH GRADUATES

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The MPH program has been vital to developing my skills and competencies needed as a public health professional. The classes have been engaging and pushed me to be more well-rounded in One Health concepts. I have thoroughly enjoyed networking and interacting with fellow students and professors in the program. The APE allowed me to utilize knowledge that I obtained during the program and apply it to a real-world public health challenge. After graduation, I plan to continue my career as a Veterinary Medical Officer for the United State Department of Agriculture. Additionally, I am preparing to take the American College of Veterinary Preventative Medicine board certification exam in the near future.



Morgan Richard



Elody Fredette

I applied to USU's veterinary public health program to help further my career in the veterinary field. I was particularly interested in this specific program because of its flexibility. I live in Kentucky and work full-time, so I needed a program that was online and worked well with my schedule. I greatly enjoyed my time in this program! I learned a lot and met some great professors and students. I couldn't have been more thankful for my experience in the program. I am still currently working as a veterinary assistant, but I do plan on looking into where a master's in veterinary public health degree can take me. I am excited to see what opportunities lie ahead!

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UPCOMING EVENTS

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Utah Academy of Nutrition And Dietetics Annual Conference

Theme: Fostering Connection, Fueling Innovation

When: April 19-20, 2024

Where: Salt Lake City Marriott University Park

Utah Public Health Association Annual Conference

Theme: ACT for Health: Aspire, Collaborate, Trust.

When: April 10-11th

Where: Utah Valley University

Watch for registration information in
upcoming editions of our newsletter!

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FOLLOW US ON SOCIAL MEDIA

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Be the first to hear about everything public health related by following our social media handles! This is a great way to stay up to date on program changes, accreditation updates, public health events, job openings, project/internship opportunities, and more!



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