COLORADO STATE UNIVERSITY DOCTOR OF VETERINARY MEDICINE PROGRAM

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COLORADO STATE UNIVERSITY

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ACRONYMS

AAVMC – Association of American Veterinary Medical Colleges
AD-DVM – Associate Dean of Veterinary Academic and Student Affairs
AD-R – Associate Dean for Research
ARBL – Animal Reproduction and Biotechnology Laboratory
AsD-DEI – Assistant Dean of Diversity, Equity, and Inclusion
AsD-TL – Assistant Dean of Teaching and Learning
BMS – Biomedical Sciences
CBCO – Cancer Biology and Comparative Oncology
CCA – non-tenure track contract, continuing, or adjunct
CMHW – DVM Counselor and Manager of Health and Wellbeing Programs
CORE – Committee On Resilience and Engagement
CSA – Colorado Supplemental Application
CS – Clinical Sciences
CSPS – DVM Committee on Scholastic and Professional Standards
CSU – Colorado State University
CVID – Center for Vector-Borne Infectious Diseases
CVMA – Colorado Veterinary Medical Association
CVMBS – College of Veterinary Medicine and Biomedical Sciences
DCC – DVM Curriculum Committee
DEI – Diversity, Equity, and Inclusion
DFL – Dumb Friends League
DMC – Diagnostic Medicine Center
EAR – Early Academic Review
EHS – Environmental Health Services
ELT – Executive Leadership Team
EMR – electronic medical record
EMT – Emergency Management Team
ERHS – Environmental and Radiological Health Sciences
ERL – Bud and Jo Adams Equine Reproduction Laboratory
FACC – Robert H. and Mary G. Flint Animal Cancer Center
FAVCIP – Food Animal Veterinary Career Incentive Program
FES – Financial Education Specialist
GRE – Graduate Record Exam
IT – Information Technology
JFEH – Johnson Family Equine Hospital
LHS – Larimer Humane Society
LMS – Livestock Medicine and Surgery
MBA – Master of Business Administration
MIP – Department of Microbiology, Immunology, and Pathology
MMI – Multiple Mini Interview
MPH – Master of Public Health

MS-AnSci – Master of Animal Science
MS-Tox – Master of Toxicology
MSTP – Medical Scientist Training Program
NIH – National Institutes of Health
OFA – Office of Financial Aid
OHI – One Health Institute
OMM – Orthopedic Medicine and Mobility
ORC – Gail Holmes Orthopedic Research Center
OSHA – Occupational Safety and Health Administration
PCC – Primary Care Clinic
PPE – personal protective equipment
PRSE – University Program of Research and Scholarly Excellence
PSRM – Public Safety and Risk Management
SOAP – Subjective, Objective, Assessment, and Plan (progress notes)
SOM – School of Medicine
STEM – Science, Technology, Math, and Engineering
TMI – C. Wayne McIlwraith Translational Medicine Institute
TTC – transition to clinics
UAF-CSU 2+2 – University of Alaska Fairbanks/CSU 2+2 Collaborative Veterinary Program
UC – University of Colorado
UC SOM – University of Colorado School of Medicine
URM – underrepresented minority
VAC – Veterinary Admissions Committee
VDI – Veterinary Diagnostic Imaging
VDL – Veterinary Diagnostic Laboratories
VEC – Veterinary Education Center
VetCAN – Veterinary Career Advisors Network
VHC – Veterinary Health Complex
VHS – Veterinary Health System
VMCAS – Veterinary Medical College Application Service
VSSP – Veterinary Summer Scholars Program
VTH – James L. Voss Veterinary Teaching Hospital
WICHE – Western Interstate Commission for Higher Education

University of Alaska Fairbanks

AD-DVM-UAF – Associate Dean of Veterinary Academic and Student Affairs at University of Alaska Fairbanks
ARC – Animal Resources Center
CNSM – College of Natural Science and Mathematics
DVMed – Department of Veterinary Medicine
LARS – Large Animal Research Station
UAF – University of Alaska Fairbanks

INTRODUCTION: EXECUTIVE SUMMARY

The College of Veterinary Medicine and Biomedical Sciences (CVMBS) at Colorado State University (CSU) has educated veterinary students for more than 100 years, and continues to advance a tradition of excellence in teaching, research, and service.

The mission of our College is to "Improve the health of animals, people, and the planet through innovative and dedicated teaching, research, outreach, and clinical service. Through our actions, we empower the next generation of leaders." We feel strongly that we accomplish our mission, but there is still much to do.

Dr. Mark Stetter joined CSU as College Dean in 2012 and served in this role for almost 10 years. This period saw great strides in all aspects of our mission but perhaps most impactful has been the greater sense of unity and common purpose across a large, dispersed, and diverse College. In addition, we have elevated our commitment to diversity, equity, and inclusion (DEI), and continue our focus on improving the health and wellbeing of our students, faculty, and staff. Finally, we are engaged in a well-supported and well-resourced process to revise the DVM curriculum so that our students are better prepared for personal and professional success on the day they graduate. We continue to execute against our ambitious and visionary strategic plan and promote a Collegewide sense of community. We continue to institutionalize our shared values: "We act with integrity, and we are trusting and respectful of one another. We create an atmosphere that makes our College the community of choice. Our shared values include transparency, accountability, collaboration, respect, and innovation."

A robust strategic planning effort was launched in 2013, and in 2014 key initiatives were identified through strategic mapping. We have continued to refine and update this plan that now includes six strategic priorities, listed below. As with many things, the pandemic impacted our momentum in executing against all of the objectives of our strategic plan; however, we have regained momentum as we not only execute but also align our strategy with an ambitious Universitywide Courageous Strategic Transformation, led by CSU President Joyce McConnell. As such, College strategic priorities will be evaluated and, as appropriate, aligned and developed in accordance with emerging University priorities.

Our strategic priorities:

- **Undergraduate Education.** Pioneer innovative approaches to educating undergraduate students in biomedical health sciences.
- DVM Program. Adapt the DVM program and space to facilitate student-directed discovery and collaboration.
- **Research and Graduate Education.** Enhance and align research and graduate education.
- **Veterinary Health System (VHS).** Develop a unified veterinary health system of staff, facilities, and services to support and grow the programs of excellence in medical education, clinical service, and research.
- **Medical School.** Create a human medical education program in partnership with the University of Colorado (UC) School of Medicine (SOM).
- **Diversity, Equity, and Inclusion.** Build a diverse and inclusive community with equitable pathways to success for all.

The principal strengths of our College include:

- Exceptional faculty and staff with a long history of excellence.
- High-caliber students who continue to inspire us and challenge us to be our best.
- Engaged and supportive external constituents including alumni, veterinary professionals, CSU faculty outside the College, and industry and government partners.
- Pre-pandemic, a large and growing caseload in all areas of service including the James L. Voss Veterinary Teaching Hospital (VTH) and the Robert H. and Mary G. Flint Animal Cancer Center (FACC). Caseload was sustained during the pandemic, and a resumption of growth is anticipated. Notably, there was tremendous growth in Veterinary Diagnostic Laboratories (VDL) services in response to the pandemic, as CLIA certification was achieved and, with processing of human SARS-CoV-2 samples, associated revenues remarkably increased.

- World-class research programs that include a diverse array of concentrations in animal and human health. Total research funding since 2014 is $377 million.
- A strong partnership with the University of Alaska Fairbanks (UAF) formally implemented in 2015 that allows exchange of research, experiential, and teaching resources and grows the pool of veterinarians who will serve Alaskan communities.
- Recognition as one the 10 best universities in addressing the coronavirus pandemic.
- Launch of a branch campus for human medical education in partnership with the UC SOM, with the first cohort of entering students in 2021.
- Highly productive partnerships between faculty and the advancement team, which have provided tremendous growth in philanthropic support. Since 2014, CVMBS advancement has been responsible for more than $307 million in philanthropy.
- Integration of DEI into the College strategic priorities and the successful hire of a new Assistant Dean of Diversity, Equity, and Inclusion (AsD-DEI), Dr. Naomi Nishi.
- The opening of new facilities to support research (C. Wayne McIlwraith Translational Medicine Institute (TMI), Center for Vector-Borne Infectious Disease (CVID)) and clinical service and teaching (Johnson Family Equine Hospital (JFEH)).
- A creative and visionary culture that supports new ideas and innovative programs.

The primary challenges facing the CVMBS include:

- Low state financial support: The state of Colorado supplies only 10.7% of the University operating budget. In general, facility construction and upgrades are not supported by state resources.
- Student debt-to-income ratio is a national concern and one that we are working hard to address through enhancing scholarships. Additionally, CVMBS leadership partnered with the state of Colorado to extend and expand legislation that has provided loan relief to rural practitioners, termed the Veterinary Education Loan Repayment Program.
- College programs are dispersed over three campus locations in Fort Collins, as described in Standard 3.
- While the Veterinary Health Complex (VHC) has witnessed substantial growth in clinical, research, and teaching infrastructure, our facilities on Main Campus are aging and need attention. In line with our commitment to DVM students, resource allocations are made appropriately in our designated teaching facilities. Classrooms, student lounges, and study spaces have been remodeled; still, our aged research facilities need enhancements.
- DVM curriculum renewal is led by passionate faculty experts with strong engagement of program faculty; yet, this multiyear process represents major change to long-held paradigms.
- A new Primary Care Clinic (PCC) and Veterinary Education Center (VEC), currently in the planning phase, will enhance overall DVM student education as well as training in primary care. At the same time, planned renovation of the current teaching hospital will allow growth and development of existing clinical specialty services. These activities represent change and disruption, and require tremendous resource investment.
- Health and wellbeing of our faculty, staff, and students continue to be a challenge, but it is one we are facing head-on with multiple initiatives.
- Enhancement of DEI across the University and within animal health professions: a strong and growing foundation exists, yet much work remains.

In concert with national needs within the profession and through our strategic planning efforts, numerous College initiatives were launched, two of which are of particular note. The first is enhancement of DVM student services to focus on wellbeing, financial literacy, and career placement. The goal is to ensure that DVM students are exposed to a robust array of services to promote success during their time at CSU, as they enter the workforce, and as they develop their careers. The second initiative involves One Health. The CVMBS has led, and continues to lead, a major University venture to join all eight CSU colleges and three schools, plus government and industry partners, to address global challenges in human and animal health, food safety/security, sustainable agriculture, and ecosystem health.

The UAF-CSU 2+2 Collaborative Veterinary Program (UAF-CSU 2+2) was realized in Fall 2015; accordingly, UAF-specific information is provided within relevant standards. Please see Standard 12.1.1 for details.

Finally, CSU has contracted with a national search firm to manage the search for the next permanent Dean for the CVMBS. The search committee has been finalized by the CSU President and Provost, with a planned formal launch in early 2022. Dr. Colin Clay is currently serving as Interim Dean of the College. Dr. Clay has been a faculty member in the CVMBS for almost 30 years, having served for nine years as head of the Department of Biomedical Sciences (BMS) and, more recently, as Executive Associate Dean under Dean Stetter. As such, Dr. Clay brings a wealth of experience with the diverse missions of the CVMBS.

The future of the College is bright. Through the partnership of talented faculty and staff and engaged, dedicated students, and with a robust strategic plan, the College will continue to excel in all aspects of our tripartite mission of research, teaching, and service.

12.1.1. Provide a college mission statement for the undergraduate, DVM, or equivalent program.

CSU CVMBS Mission: We improve the health of animals, people, and the planet through innovative and dedicated teaching, research, outreach, and clinical service. Through our actions, we empower the next generation of leaders.

CSU DVM Mission: We elevate veterinary education through student-centered learning, diverse experiential opportunities, student-faculty engagement and professional wellbeing in a vibrant Rocky Mountain community.

UAF-CSU 2+2 Overview: The UAF-CSU 2+2 welcomed the first cohort in Fall 2015. Students in the program (i.e., UAF-origin students) complete their first two years of DVM training at UAF, then move to Fort Collins to complete their final two years at CSU. UAF-origin students are admitted by CSU and are CSU DVM students throughout their program, as reflected on their transcript. As UAF students also, these individuals have access to resources at both universities. While at UAF, students are subject to CSU academic and professionalism policies and UAF-specific policies such as facilities and safety. Tuition is paid to CSU, and UAF invoices CSU for instruction and training provided, equivalent to all tuition received from UAF-origin students minus a 10% administrative fee retained by CSU DVM Services and a $500 per student processing fee. UAF faculty within the College of Natural Science and Mathematics (CNSM) Department of Veterinary Medicine (DVMed) provide instruction to UAF-origin students. Where faculty expertise does not exist at UAF, CSU faculty support their instruction through full remote delivery (e.g., VM 638 Veterinary Parasitology), hybrid delivery (e.g., VM 623 Veterinary Nutrition and Metabolism), and in-person instruction (e.g., VM 733 Principles of Surgery laboratories). UAF faculty contribute to CSU-origin student development through hybrid course instruction, mentorship and research opportunities, and unique electives. Curriculum change of any scale is coordinated between the two programs to ensure continuity and resource availability at UAF.

UAF DVM Mission: The DVMed provides high-quality education, research, and service in veterinary medicine and the biomedical sciences. Faculty from several disciplines work collaboratively under the One Health paradigm, striving for combined optima in human, animal, and environmental health.

12.1.2. Identify the body that accredits the university and the current status of accreditation.

The Higher Learning Commission, a commission of the North Central Association, accredits CSU. The most recent accreditation was completed in January 2014 and is active through 2023-2024.

UAF: UAF is accredited by the Northwest Commission of Colleges and Universities. The most recent accreditation was completed in Fall 2020, with a midcycle review scheduled for Fall 2023.

12.1.3. Provide a flowchart indicating the position of the college of veterinary medicine in the university structure and show lines of authority and responsibility and give names and titles of principal university administrative officers related to the college.

For CSU and UAF organizational charts, please see Appendix 1.3.a and Appendix 1.3.b.

12.1.4. Provide a flowchart of the organizational design of the college, listing names, titles (deans, associate/assistant deans, directors, department heads, etc.), academic credentials, and assignments of the college administrators.

The CVMBS comprises four academic departments: BMS; Clinical Sciences (CS); Environmental and Radiological Health Sciences (ERHS); and Microbiology, Immunology, and Pathology (MIP). The College has robust undergraduate, graduate, and research programs associated with these departments; the exception is CS, which does not have an undergraduate program. CVMBS undergraduate programming positively impacts the DVM program through diversification and development of a competitive applicant pool and as an additional College revenue stream. Programs described in Standard 6 are dedicated to DVM students; undergraduate students use University support services. Most CVMBS faculty teach either DVM or undergraduate students, though some, primarily in BMS, teach both. Faculty and facilities from all four departments contribute to the DVM program, as outlined in Standard 12.8.1. For CVMBS and DVMed organizational charts, please see Appendix 1.4.a and Appendix 1.4.b.

The UC SOM welcomed the first cohort of 12 medical students in Fall 2021. The program was conceived by the Chancellors of the CSU and UC systems, who charged the SOM and the CVMBS to partner in program implementation. Accreditation and admissions are managed by the UC; students are UC students and pay tuition to UC. Facilities, staff, and faculty were expanded to accommodate the Fort Collins branch campus, supported by the CSU and UC Systems Offices. All finances are kept separate from other CSU and CVMBS programs, with no impact on, or risk to, those entities.

12.1.5. Describe the role of faculty, staff, and students in the governance of the college, and list the major committees of the college and their appointment authority.

The Dean of the CVMBS has budgetary and supervisory authority necessary to assure compliance with accreditation standards. Officers responsible for the professional, ethical, and academic affairs of the VTH are veterinarians, with the

exception of the Interim Dean. As outlined in a letter to the COE dated August 30, 2021, appointment of Dr. Colin Clay, PhD, as Interim Dean of the CVMBS was deemed most appropriate to advance Collegewide initiatives. This was approved by the COE on September 27, 2021, with assurance of a timely search for a permanent Dean with a veterinary degree.

Executive Council: Composed of the Dean; Executive Associate Dean; Associate Deans; Department Heads; Directors (i.e., VTH, VDL); Senior Director of Operations; and Executive Directors (advancement, human resources, communications, finance), this College leadership team meets twice monthly to discuss and implement the strategic vision and associated operational policies that govern the College.

Dean's Advisory Committee: Composed of the Dean; Executive Associate Dean; Associate Deans; Executive Director of Operations; AsD-DEI; Director of Human Resources; and Assistant to the Dean, this advisory committee meets twice monthly.

VHS Executive Leadership Team (VHS ELT): The CVMBS stands upon three primary pillars of activity: instruction, research, and service. The VHS is intended to support, administer, and deliver the service pillar under the direction of the VHS ELT. The VHS exists to offer comprehensive and effective support for College fee-for-service activities in an environment that supports and accommodates the unique market-driven needs of these services and is dedicated to their success. The ELT includes the VHS Senior Associate Dean; the directors of the VTH, Clinical Diagnostic Laboratories, TMI, Equine Clinical Services, and FACC; the CVMBS Associate Deans for Research (AD-R) and Veterinary Academic and Student Affairs (AD-DVM); the CVMBS Director of Human Resources; and the VHS Administrator.

VTH: Historically, the VTH Board was composed of the Director, Hospital Administrator, section chiefs, key faculty, and senior staff, meeting monthly to review and establish policies and procedures related to operations and medical practices. With interim leadership and the pandemic, the more formal structure was replaced by frequent faculty meetings and town halls. The College Emergency Management Team (EMT) formed in March 2020 (please see Standard 12.9.10) was established to guide the VHS pandemic response, with strong VTH representation. Incident reporting and ethics committees are active. As part of VHS development, a service advisory council is being formed to include representation of all service areas.

College Operations Leadership Team: Under the direction of the Senior Director of Operations, this group is composed of departmental business officers and senior administrative personnel who oversee finance, information technology (IT), human resources, research administration, communications, and facilities and safety.

DVM Committees: Please refer to Appendix 1.5 for key DVM committees; DVM faculty committee members are full-time employees. Other standing College committees include the DEI Committee (Standard 12.1.7), Biomedical Curriculum Committee, College Research Council, and Scholarship and Awards Committee.

UAF: Faculty, staff, and students participate in relevant committees at CSU (e.g., DVM Curriculum Committee (DCC), DVM Committee on Scholastic and Professional Standards (CSPS)) and departmental and UAF shared governance. Committees in the CNSM include a college curriculum committee with purview over all courses taught within the college. The college Executive Committee meets biweekly and consists of the Dean; Associate Dean of Veterinary Academic and Student Affairs (AD-DVM-UAF); Department Chairs; and executive and fiscal officers.

12.1.6. If the college plans to change its current organization, provide a summary of those plans.

National searches for the following positions are underway: Dean of the College (anticipated placement Fall 2022); Senior Associate Dean of the VHS (anticipated placement Spring 2022); Department Head of ERHS (anticipated placement Fall 2022); Department Head of MIP (anticipated placement July 2022); Director of Equine Clinical Services (anticipated placement Summer 2022).

The College is actively creating and implementing the VHS, a new, conceptual structure to better administer client and clinical service-oriented activities. Recognizing current and future resource limitations, including but not limited to state of Colorado statutory restrictions and future, national enrollment predictions, the College aims to optimize resource capacity through beneficial business practices and a "people-first" philosophy. Please see Standard 12.1.5.

UAF: There are no planned organizational changes.

12.1.7. Provide documentation of policies and activities that demonstrate that diversity is an important part of the academic culture, as consistent with applicable law.

As noted, DEI is a strategic priority of the CVMBS and includes a comprehensive scope of goals, activities, and opportunities for engagement, training, and education. These efforts are overseen by Naomi Nishi, PhD, who joined the CVMBS in October 2021 in the new position of AsD-DEI. The AsD-DEI oversees the College DEI Committee, which includes undergraduate, graduate, and DVM students; faculty; and staff. The AsD-DEI will launch the College diversity blog in January 2022 to highlight efforts in the College and DEI best practices in coordination with the American Association of Veterinary Medical Colleges (AAVMC) Senior Director for Institutional Research and Diversity. A DEI seminar series open to all faculty and staff will begin in Spring 2022, as will a pilot DEI educational program with DVM/PhD students

and faculty, with the goal of integration into the larger DVM curriculum. The AsD-DEI is partnering with Human Resources, the Office of Inclusive Excellence, and CVMBS search committees to implement practices and policies to increase the number of diverse candidates at every level of hiring. The AsD-DEI is also working to expand funding and support for marginalized DVM students and to attract marginalized applicants through grants and philanthropy.

The University Office for Inclusive Excellence offers activities, resources, and training pertinent to DEI. The College DEI SharePoint site provides position statements and resources. The DEI Committee also hosts a SharePoint site, with information relevant to the DVM program. Please refer to Standard 12.7.2 and 12.7.3 for additional information relevant to DEI.

UAF: The UAF and DVMed are committed to DEI, evidenced by the UAF mission statement: "The UAF is a Land, Sea, and Space Grant university and an international center for research, education, and the arts, emphasizing the circumpolar North and its diverse peoples. UAF integrates teaching, research, and public service as it educates students for active citizenship and prepares them for lifelong learning and careers." Initiatives to enhance the strategic goal to grow a culture of respect, diversity, and inclusion often focus on, but are not limited to, rural and Alaska Native students. Examples include Rural Student Services focusing on rural and Alaska Native students; Student Support Services focusing on low-income and first-generation students, as well as those with disabilities; and the Nanook Diversity Action Center focused on DEI, prevention, and wellness. All services are available to DVM students. In the CNSM, the Alaska Native Science and Engineering Program offers support to rural and Alaska Native students with career aspirations in engineering and the natural sciences.

UAF admissions are conducted in accordance with the CSU holistic admissions philosophy. The Biomedical Learning and Student Training Program, a multimillion-dollar National Institutes of Health (NIH)-funded program led by UAF DVM faculty and administration, was implemented partly to enhance diversity of individuals in the pipeline to biomedical research and professional medical careers, with an emphasis on those from underrepresented backgrounds such as rural and Indigenous Alaska communities. To date, three students from rural communities or with Indigenous backgrounds who participated in the training program have entered the DVM program.

12.2.1. Complete Tables A, B, and C for the past five years and analyze the trends for each category.

See Appendix 2.1 for Tables A and B, representing total CVMBS and DVMed expenses and revenue data. The financial resources of the CVMBS are adequate to sustain the educational programs and mission of the College. In 2016 and 2017, concerted efforts were made to identify and eliminate noncritical positions and to curtail unnecessary expenditures, which produced growing positive balances starting in 2018.

Total expenditures increased from $135 million to $152 million, a 4% increase. It is important to note, however, that CSU classifies internal revenue as a reduction to expense, and therefore included within total expense is a significant $9.1 million of offsetting internal revenue from the VDL. This was primarily earned from COVID-19 testing to assist the state, county, and long-term care facilities. If this was instead recognized within our total revenue, the average expense increase would have been $162 million, representing 11% over five years. See "Diagnostic lab and other clinical lab" for additional information.

Total revenue increased from $136 million to $170 million, a 25% increase over the last five years. However, if the $9.1 million of 2021 internal revenue from COVID-19 testing (noted above and currently included as a reduction of expense) was instead included as revenue, it would result in $179 million of revenue for 2021, representing a 32% increase over five years. Beyond this, 2020 saw a slight decrease in revenue due to significant COVID-19-related losses in Q4. In addition, in 2021 the CVMBS had base reductions of $1.3 million in appropriated funds. In 2021, the revenue-generating operations saw rebounding increases in client revenues and sponsored program income, with related indirect cost recoveries.

Total Expenditures (Table A)

Instruction, academic support, and student services: Due to an accounting change in FY19 related to the collection of College overhead, instruction, academic support, and student services decreased by $4 million. This changed only how overhead was recorded, by making it an entry that netted to zero on the financial statements. The remaining changes were due in large part to increased payments to the central fringe pool. In FY21, the College experienced increased expenses related to COVID-19.

Research expenditures: Research expenditures remained steady over four years, but in 2021, the CVMBS saw a $12 million increase in research, with about $9 million related to COVID-19.

Outreach/continuing education: Personnel expenses for the CVMBS CSU Online courses decreased steadily over the past five years, as fewer courses were offered. In 2020 and 2021, there was also a decrease in travel expenses due to pandemic travel restrictions in Q4 of 2020 and most of 2021, primarily related to the CS Visiting Vet Program continuing education classes.

Teaching hospital: The VTH includes field services and other clinical services and maintains a primary function as an instructional resource for the benefit of the DVM program. The VTH realized an average increase in expenses of about 5% over the past five years, reflecting enhanced caseloads and revenues. In Q4 of 2020 and in 2021, the VTH also saw an increase in cost of supplies due to shortages and additional personal protective equipment (PPE) requirements.

Diagnostic lab and other clinical lab: In 2021, the VDL assumed a significant amount of human COVID-19 testing, which was recognized as external revenue through grants and contracts. Subsequently within CSU, the associated activity was recognized as internal revenue within the VDL, and both expense and external revenue against grants and contracts. Again, because CSU treats internal revenue as a reduction to expense, this net impact artificially created lower expense for the VDL in FY21 by $9.1 million.

Capital expenditures (renovations and new construction): Capital expenditures fluctuate consistently, and at times remarkably, due to unique factors in any given year. Large donor-funded projects, such as the TMI and JFEH, are particularly impactful as donor receipts are collected and held in the CSU Foundation. Funds do not appear on University books until construction expenditures occur, at which time they are transferred from the Foundation and posted as revenue to the University. Philanthropy efforts have been highly successful for most major capital projects and have produced several of the largest gifts in CSU history. The resulting impact on CSU and CVMBS financial records depicts large year-to-year fluctuations evidenced by small revenue and expense activity in years where capital funds are accruing within the Foundation, followed by large revenue and expense recognition as those funds are moved to the University for construction use. In response to the pandemic, in 2020 additional capital expenditures were incurred by diverting unused and unneeded travel and operating budget toward capital efforts to enhance online learning and support staffing and infrastructure.

Total Revenue (Table B)

University appropriation to College: The CVMBS receives primary base funding from the University. While no state dollars are directly realized to the CVMBS base budget, the University does receive state funding, which is combined with tuition and other miscellaneous resources to provide base funding to the colleges, divisions, and other programs and initiatives. Base appropriations varied slightly from 2017 to 2020, mostly due to salary increases. In 2021, the CVMBS had a $1,311,373 base reduction to the overall budget.

Revenue derived from students: In 2020, there was no increase in tuition, but additional DVM students were admitted to offset anticipated attrition due to the pandemic (Appendix 6.1 Table A). In 2021, there was a 3% tuition revenue increase, and the number of admitted students remained greater than normal.

Teaching hospital revenue: The VTH saw a steady increase in revenue from 2017-2019, from $24 million to $27 million; however, in 2020, the revenue decreased by 4% to $26 million due to pandemic-necessitated closures that resulted in significant reduction in Q4 2020 revenue. Thereafter, in 2021, revenue was $31 million, reflecting a 20% increase compared to 2020. Comparing the 2021 ending balance to pre-pandemic 2019 reveals a 15% revenue increase.

Diagnostic laboratory and other clinical laboratory revenue: The diagnostic and clinical laboratory revenues typically fluctuate from year to year due to changing revenue opportunities unique to each year (e.g., disease outbreaks, livestock initiatives, shifts in market prices, current game and wildlife practices). In addition, new VDL leadership implemented immediate cost studies that resulted in price adjustments and elimination of testing procedures that had operated at a loss.

Extramural grants and contracts: Extramural grants and contracts fluctuated around $1 million ± 3%, until 2021. In 2020, grants and contracts increased faster than in previous years, but in Q4 much research came to a halt, which caused a slight dip in research funds. In 2021, research resumed and rebounded due to COVID-19 grant awards. This produced an additional $14 million, a 42% increase from 2020 to 2021.

Overhead (indirect costs or F&A) returned to the College: Overhead returned to the College follows closely with extramural grants and contracts. Overhead remained steady from 2017-2020, a roughly 0.05% increase over four years; however, 2021 saw a $4.6 million increase, a 28% increase from 2020 to 2021.

Current-year gifts and endowment income: Because gift and endowment revenue is realized at the time of actual expense (see Capital expenditures), amounts increased significantly as donor-funded buildings were constructed (i.e., the TMI completed in November 2018; the JFEH completed in November 2021).

12.2.2. Comment on the strengths and weaknesses in revenues over the past five years.

Strengths:

- The enablement of COVID-19 testing by the VDL produced large revenue gains, but this is not a permanent change and will fluctuate with future pandemic trends.
- Excluding FY2020 because of the pandemic, the revenue stream increased at a slightly higher percentage/rate than expenses.
    - Average percentage change over six years 2015-2021, excluding 2020
        - Revenue increased by 10.1%
        - Expenses increased by 9.5%
    - Average amounts over six years 2015-2021, excluding 2020
        - Revenue: $29,825,976.29
        - Expense: $28,465,539.23
    - Average amounts over six years 2015-2021, including 2020
        - Revenue: $30,239,607.97
        - Expense: $29,225,310.00

Weaknesses:

- During the pandemic, there was a decrease in VTH cases, with increased expenses, that caused FY20 funds to decline.
- Because COVID-19 revenues are volatile, using associated numbers to predict trends is problematic.

UAF: Tuition revenue is a strength of the UAF DVMed, while reduced state support is a challenge. Increased tuition revenue through larger class sizes and streamlining of departmental processes has compensated for reduced state funding.

12.2.3. Provide a comprehensive trend analysis of revenue sources that have supported the professional teaching program over the past five years (graphs or other visual presentations would be helpful).

Revenue sources that supported the DVM program over the past five years were primarily state support, including Colorado Commission of Higher Education and the Western Interstate Commission for Higher Education (WICHE), and tuition revenue. See Appendix 2.3.

UAF: Revenue from tuition has increased based on increased student numbers, while state support has decreased after initiation of the UAF-CSU 2+2. This decrease was due to a severe reduction in state revenue, resulting in reduced appropriation to the UAF system. A more stable financial future is anticipated during the next review period.

12.2.4. Describe how revenues over the past five years have impacted the college's ability to provide a contemporary professional teaching program and ancillary support services.

Over the past five years, the College received record-making gifts, which allowed construction of the TMI and the JFEH and enabled purchase of new equipment (e.g., CT scanner, microscopes, MRI unit). These enhancements offer progressive, state-of-the-art technology benefiting both students and researchers.

UAF: The larger class size has provided resources to support increases in faculty numbers and has compensated for reduced state support. Resources are adequate to sustain the educational programs and mission of the DVMed.

12.2.5. Compare the percentage of hospital income to total hospital operational costs.

Discrepancies between 2015 and 2016 were due to accounting changes implemented halfway through FY15, which reclassified clinical client revenue as self-funded activity rather than as an augment to the state and tuition budget. See Appendix 2.5.

12.2.6. Describe anticipated trends in future revenues and expenditures.

- If supply chain shortages continue, continued cost increases can be expected.
- If hiring, retention, and staffing shortages continue as seen nationwide, future salary increases can be expected. This may also produce salary compression and equity issues, along with morale issues, requiring additional adjustments.
- Future pandemic episodes may impact revenues both negatively, if operations must cease or caseloads decrease, or positively, if testing and research are enhanced.
- The VHS, currently in development, is based on new approaches to operating efficiencies and cohesiveness across revenue-generating units, by employing more effective structures and business practices among clinical service operations. It is anticipated that this will lead to an improved business model to optimize revenues and control expenses in a way that offers new, incremental net gains for the benefit of the College. The anticipated result is to offer resources that enhance instruction and research missions, and further promote a DVM program of high reputation, relevance, and value.

UAF: It is anticipated that the fiscal health of the state of Alaska will improve, resulting in greater state support for the UAF and DVMed.

12.3.1 Provide a brief description of the major functions of, or activities that take place in the facilities used by the college in fulfilling its mission.

Programs within the College operate on three University locations, detailed below.

Main Campus

Anatomy/Zoology (AZ) Building. The AZ Building is the location of the College Dean's Office; the anatomy teaching lab; classrooms for first-year DVM students; a multiuse laboratory space; and the Cubes (please see Standard 12.3.5 for use and resources associated with the Cubes). Key learning spaces, in addition to general assignment classrooms, include:

- AZ W118, first-year lecture hall: 1,669 SF, 142 seats
- AZ W117, anatomy laboratory: 3,946 SF, 150 seats
- AZ W106, classroom/computer laboratory: 1,497 SF, 50 seats

Pathology Building. The first floor of the Pathology Building is the core space for second-year DVM students, and includes a classroom, lockers, a study area, a pathology and histology microscopy laboratory, and a dedicated computer lab. MIP department research laboratories in which DVM students work are located in this building. Key learning spaces, in addition to general assignment classrooms, include:

- Pathology 101, second-year lecture hall: 2,749 SF, 150 seats
- Pathology 112, microscopy room: 1,466 SF, 50 seats

Veterinary Health Complex (VHC)

VTH. As the hub for the DVM clinical program, the VTH is where third- and fourth-year students participate in course work, laboratories, and clinical rotations. First- and second-year students participate in animal handling/restraint and physical examination laboratories as well as shadowing experiences associated with the Foundations of Veterinary Medicine courses. The VTH Library is located on the second floor (Standard 12.5.1). Key learning spaces include a 20-seat computer laboratory, two 30-seat classrooms, a 40-seat classroom, a 30-seat livestock classroom, clinical rounds rooms, and the 150-seat third-year lecture hall (1,994 SF). On the second floor, lockers are available for each third- and fourth-year student, along with a kitchenette and lounge/study area.

JFEH. The JFEH opened on the VHC in 2021, replacing the old equine barn. The facility provides training for DVM students in surgery, including standing surgery; lameness; medicine; critical care; ambulatory care; sports medicine; and isolation. The building allows improved observation by students and more functional space for lameness evaluation, and it contains larger, updated rounds rooms.

Diagnostic Medicine Center (DMC). The DMC houses the VDL, which provides services to VTH clients and outside clients such as veterinarians and the Colorado Division of Wildlife. The DMC contains eight specialty areas, including parasitology; histology; clinical pathology; endocrinology/specialized infectious diseases; therapeutic drug monitoring; chemistry/toxicology; microbiology/virology/TSE; and avian diagnostic/foreign animal disease. The VDL also houses a specially segregated Biosafety Level 3 containment laboratory. The Necropsy service provides diagnostic pathology support for internal and external clients and training for DVM students and pathology residents. Other areas used by DVM students include:

- DMC 101, classroom: 949 SF, 64 seats
- DMC 201, conference room: 339 SF, 10 seats
- DMC 301, conference room: 338 SF, 10 seats

TMI. Completed in 2019, the TMI is located north of the DMC. The TMI does not host regular academic events for DVM students but does serve as overflow space for laboratories, study, and meetings. DVM students work in TMI research laboratories.

Gail Holmes Orthopaedic Research Center (ORC). The ORC, north of the TMI, is focused on equine sports therapy and rehabilitation. Elective rotations are offered to DVM students.

Foothills Campus

Bud and Jo Adams Equine Reproduction Laboratory (ERL). The ERL has provided education and hands-on experience for DVM students for more than 50 years. ERL faculty have led the development of equine reproduction techniques and provide publications and continuing education for veterinarians. After a fire destroyed the original building, a new facility opened in 2013.

UAF

The DVM teaching facility in the Irving Building features a secure space with two 28-seat classrooms and student carrels to accommodate up to 30 students. There is a student common area with group study, kitchen, and lunch/meeting areas. Showers, lockers, and gender-neutral restrooms are also located in this space. The laboratories, classrooms, and student

common area have smart classroom equipment with large LCD screens, built-in whiteboards, and video capabilities. The anatomy laboratory has, in addition to the above, a high-definition camera, projector, and six dissection tables with computer stands. Laboratory facilities include preparation rooms, a walk-in freezer and refrigerator, and an overhead crane for moving large animal carcasses. The laboratory includes the ventilation, lighting, cabinetry, dissection tables, shelving, fixtures, and drainage appropriate for a veterinary anatomy laboratory. Equine and bovine obstetric simulators, computers, printers, a macerator, embalming equipment, articulated bovine and equine skeletons, microscopes, and learning resources are available to students. An additional laboratory space adjacent to the student study areas is used for microscopy laboratories and companion animal skill training. Large animal handling and physical examination skills are taught at the Large Animal Research Station (LARS) (please see Standard 12.3.2). Faculty offices, research laboratories, and administrative space are located in the Arctic Health Research Building adjacent to the Irving Building.

12.3.2 Provide an area map that indicates the principal facilities of the college. Describe distance and travel time to off-campus facilities.

Please see Appendix 3.2.a.

Veterinary Health Complex. The VHC is approximately 1 mile south of the CSU Main Campus. Frequent bus service between the two campuses is free to students. Drive time is five minutes.

Foothills Campus. The Foothills Campus is approximately 4 miles west of the CSU Main Campus and can be reached by car in approximately 15 minutes.

UAF: Located less than one block from the DVM program space, a necropsy suite used for DVM pathology laboratories is housed in the Biological Research and Diagnostics Facility administered by the Animal Resources Center (ARC). (Please see Appendix 3.2.b.) The LARS, located 3 miles from the UAF campus, is a USDA-inspected university facility housing reindeer, muskoxen, caribou, and beef cattle for research and teaching. Instruction in large animal husbandry, handling, and physical examination occurs at LARS as part of the Foundations courses, VM 648 Food Animal Production and Food Safety, and VM 745/747 Clinical Sciences I and II.

12.3.3 Describe the college's safety plan and facilities management plan including mechanisms documenting compliance.

The College promotes a proactive safety culture for students including, but not limited to, an infection control program that ensures compliance with University and VTH protocols; external building safety audits conducted by the University Environmental Health Service (EHS) department; and conducting of risk assessments and review of job tasks for proper PPE. General and risk-specific orientations for DVM students are conducted, with the expectation that students actively participate.

The VTH Policy Manual is the repository for procedures and safety protocols; this document is included in third- and fourth-year student orientations. Information relevant to DVM students includes incident reporting, management of injury and animal bites, sharps handling, biosafety, and Public Safety and Risk Management (PSRM). Protocols under the PSRM include the COVID-19 Health and Safety Policy, Emergency Planning and Response, Occupational Health, and Radiation Control and Safety. The College follows the safety programs as described on the CSU EHS website.

In response to the pandemic, additional safety protocols were enacted in accordance with guidance from the CDC, state, and county. In some instances, CSU protocols were more conservative than those advocated by the Larimer County Department of Health and Environment. Please see Standard 12.9.10 for details.

The security program and protocols are under the ultimate jurisdiction of the CSU Police Department, which provides guidance on issues such as camera coverage, exterior lighting, the client interface, and active assailant response. The CSU Police Department is active on campus through camera surveillance and foot/mobile patrols. The University encourages the use of electronic prox cards for areas that require a controlled entrance, whether it is an exterior entrance to a building or an internal restricted area.

In accordance with DVM program policy, all entering DVM students must complete their rabies prophylaxis within 45 days of starting the program, unless a medical or religious exemption is established or with evidence of titer results in the instance of previous vaccination. DVM students must obtain titers at the end of the second year and receive a booster if indicated by the start of the third-year fall semester.

Controlled substances in the VTH, JFEH, and ambulatory services are overseen by the VTH pharmacy. Controlled substances may be obtained from Cubex machines, the pharmacy, or service-specific inventory (e.g., ambulatory vehicles, Anesthesia). Service inventory is contained in a locked box within a locked compartment. Administration of controlled substances is recorded via StringSoft or paper record. There are 11 Cubex machines, nine of which contain controlled substances. After hours, technicians, house officers, and faculty may obtain drugs from a Cubex machine or, if the drug is not stocked in the Cubex, may access a pharmacy key. A one- to two-day supply of medications deemed low risk for diversion may be kept in a patient pocket within Critical Care and Intermediate Care. Students may not access Cubex machines.

As noted in Standard 12.3.7, formaldehyde testing was not conducted during the reporting period due to an error. The University EHS was contacted and sampling occurred November 10, 2021. Six samples were obtained, and eight-hour time-weighted averages were below the Occupational Safety and Health Administration (OSHA) permissible exposure limit of 0.75 ppm. The eight-hour time-weighted average range was 0.10 to 0.59 ppm, with an average of 0.30 ppm.

UAF: Students are required to complete Title IX, Laboratory Safety, Chemical Hygiene, Hazardous Waste Management, Hazard Communication, Formaldehyde Safety, Phenol Safety, and Laboratory Sharps training prior to program initiation. Students must also complete departmental Emergency Action Plan training for each building in which they operate. Safe animal-handling protocols are taught in first-year courses VM 610 Foundations and VM 648 Food Animal Production and Food Safety. Classes using live animals require an approved IACUC protocol; participating faculty, staff, and students must complete relevant IACUC training.

The department maintains a training database to ensure compliance and facilitate timely reminders. The department safety officer is responsible for maintaining and reporting training compliance in coordination with the CNSM Dean's office. The UAF Environmental Health, Safety, and Risk Management department consults on matters of laboratory safety and maintains online reporting for accidents, injuries, and unsafe conditions.

Formaldehyde testing was completed in the anatomy laboratory in 2015, 2017, 2018, and 2021. Personal and area values ranged from 0.085 to 1 ppm, which were below the OSHA percentage permissible exposure limit. Some values, however, exceeded American Conference of Governmental Industrial Hygienists ceilings, attributed to commercially sourced cadavers. It is anticipated that changes in cadaver sourcing and processing, along with more frequent formaldehyde testing, will help maintain safe levels for staff and students.

12.3.4 Describe how safety and facilities plans are managed and reviewed at all off-campus core training sites.

Students who experience a medical emergency, are concerned for their safety, or have other concerns while off-site are encouraged to contact the third- and fourth-year Student Coordinator via phone or text. Students traveling internationally work directly with the CSU Office of International Programs and the CVMBS Director of DVM Outreach and International Student Experiences.

Larimer Humane Society (LHS) is overseen by the state of Colorado Department of Agriculture, through the Pet Animal Care Facilities Act, which regulates and inspects shelter and transporter requirements; and by the Department of Regulatory Agencies, which regulates and inspects the drugs utilized at the facility.

The Dumb Friends League (DFL) is overseen by several agencies, including the Denver Fire Department for building inspections, the Colorado Department of Public Health and Environment for radiation/radiology regulations and requirements, and city of Denver for elevator inspections.

UAF: The LARS, managed by the UAF ARC, is the only off-site facility used for core curriculum. Operational and safety orientations and issues are managed by instructors and facility personnel.

12.3.5 Describe the adequacy (pertains to all facilities used by the college whether on campus or off campus).

The College considers the facilities adequate to fulfill the current academic mission of the DVM program. Please see Standard 12.3.1 for detailed space and capacity information.

Classrooms. First- through third-year students have dedicated classrooms that are adequate in size and include wireless access. These classrooms have all been recently remodeled (e.g., seating, lighting, sound systems, projection systems, recording systems).

Designated student areas. First-year student areas (i.e., the Cubes) are located on the first floor of the AZ Building in close proximity to the anatomy laboratory and main lecture hall. Renovated in 2014, this restricted access area consists of a large space with eight separate rooms, each containing 17-18 individual student desks with locked overhead space. Each room has a sink and refrigerator. The second-year student areas on the first floor of the Pathology Building contain a multimedia room, several study rooms, meeting spaces, and lockers. The multimedia room contains computers, audiovisual equipment, and reference material. The dedicated area for third-year students is on the second floor of the VTH, and includes locker rooms and a kitchen area next to the main classroom. A computer/skills laboratory, the VTH Library, gender-neutral lockers, and a lactation room are also located on the second floor of the VTH.

Laboratory space. The anatomy teaching laboratory is expansive and provides an excellent venue for teaching comparative anatomy. There are computers at each dissection station, and openness provides a line of sight for all students to view presentation materials. Students use 3D anatomy software in conjunction with a variety of standard anatomical models. There is also an adjacent room that functions as a teaching area for students to view radiographs and advanced diagnostic images. This space also contains an embalming room for the preparation of anatomical specimens. The microscopy teaching laboratory (i.e., Pathology 112) consists of 23 dual-headed microscopes and is supplemented with videomicroscopy capabilities.

VTH. Areas within the VTH that were renovated during the reporting period include: Small Animal Medicine, Com-

munity Practice, Avian/Exotics, Neurology, Oncology, Small Animal Surgery, Gait Laboratory, Orthopedic Medicine and Mobility, Livestock Medicine, Radiology, CT, Radiation Oncology, operating rooms, General Surgery, Anesthesia rounds room, classrooms, locker rooms, blood bank, main lobby, student laboratory, and technician and resident break rooms. Gender-neutral restrooms are part of the CSU construction standard and are located in the VTH, VDL, and TMI.

The small animal isolation area contains a separate exterior entrance. The area includes a nurses' station and anteroom, and ventilation in this space incorporates HEPA-filter exhaust. The large animal isolation building is separate from the rest of the VTH building and is now used solely for livestock since construction of the JFEH and a dedicated equine isolation space. The area also includes a nurses' station and anteroom.

Library. Please see Standard 12.5.1 for information regarding libraries.

Office space. Faculty and staff office space on the three College locations is considered adequate. Improvements are continually being made, and opportunities are sought to optimize space planning to increase the number of offices and gain efficiency within work environments.

UAF: The DVM laboratory facilities are adequate in nearly all respects. Space for specimen preparation and storage was recently added, with plans to further increase cold-storage capacity. Learning and common areas are adequate for the number of UAF-origin students.

12.3.6 For safety and educational purposes, protocols must be posted in the isolation facilities and the facilities must be used for instruction in isolation procedures (biocontainment).

All isolation facility protocols are included in the VTH Infection Control and Biosecurity Standard Operation Procedures. This resource is available online and contains specific policies for equine, livestock, and small animal areas. It also highlights contagious diseases of concern and information regarding zoonotic diseases.

Procedures for small animals, livestock, and equine patients are posted in nurses' stations. The CVMBS Infection Control Program is considered a benchmark program for many veterinary hospitals. CVMBS faculty actively conduct biosafety research and use the findings to help inform policies. The program has a Control Committee that meets up to weekly at present, and will continue to meet at least quarterly and as needed to address specific issues. The committee reviews infection control protocols and receives suggestions from the various services within the College. The program also has a house officer whose clinical duties are dedicated to implementing and refining the program, which uses multiple approaches (e.g., lectures, orientation rounds, SOP manuals, disease-specific handouts) to educate students. The Control Committee Chairperson or Biosecurity Officer are available 24 hours per day by phone for consultation, and contact information is posted in many locations and included in orientations. A list serve for disseminating information in real time includes representatives for all species and issues, and allows tracking of animals with suspected or confirmed infections so that rapid cleaning and disinfection occurs. Lectures regarding infection control and zoonotic diseases are offered in the core second-year course VM 714 Preventive Medicine. Students are also trained on infection control in third- and fourth-year orientations. Additional rotation-specific information is provided prior to the start of each experience. As specific cases arise, faculty and house officers provide training with regard to hospital infection control, public health, and zoonosis related to those cases. Throughout the students' education, hospital staff are involved in the teaching and modeling of safety procedures.

12.3.7 Describe current plans for improvement.

In preparation for the 2022 site visit, safety programs were reviewed and it was discovered that anatomy laboratory formaldehyde sampling had not occurred during the reporting period. The University EHS was immediately contacted to schedule sampling in the Fall 2021 semester and again in the Spring 2022 semester. The CVMBS Director of Facilities and Safety Management revised the air monitoring policy to include annual sampling at minimum, under the oversight of the Anatomy Laboratory Coordinator.

The Infection Control and Biosecurity Standard Operating Procedures are being updated due to a number of structural changes to the VHC (e.g., addition of the JFEH).

The PCC and VEC are currently in the design phase; additionally, major renovations to the existing hospital are planned. There are 46 clinical and administrative groups included in this effort to ensure that each operational area has a strong voice in the design process. The realization of these new and renovated facilities will allow all DVM students to be located on the VHC, as opposed to the split campuses currently.

As part of the design process of the new hospital, a health and wellbeing representative was added to the Executive Planning Committee. Armed with best practices from health education centers from across the nation, this individual ensures that health and wellbeing concepts are integrated into all program areas. Examples include reflection areas, fitness space, varied types of study areas, space for collaboration and group study, a dog day care, and outdoor spaces to promote exercise, rest, and socializing. A sustainability representative was added to the committee in December 2021.

UAF: Plans for increased cold storage within the laboratory space have been noted.

12.4.1. Complete Tables A, B, and C for the past five years and analyze trends for each species (category). Include only those patients, farm calls, and animals examined that have direct student involvement.

The number of all-species patient visits to the VTH increased modestly in the three years prior to the pandemic, approximately 5% between 2016-2019; caseload is on track to rebound to pre-pandemic levels in the next year (Appendix 4.1 Table A). This overall stability reflects growth in some service areas and decline in others, based on open faculty and staff positions in both primary and support services that impact hospital capacity. The rapid recovery in case numbers so quickly after the pandemic shutdown is viewed as remarkable. Demand for VTH services remains high in spite of growing competition in the Colorado Front Range area. Significant future caseload expansion will likely not be possible given our current operational and teaching models, particularly in the specialty services. Mindful of the risk that excessive caseload may detract from the teaching mission, the concept of concomitant teaching and high throughput service models is being explored as part of the curriculum renewal process.

The modest growth seen is reflected in the canine and feline caseloads, with both on path for full recovery post-pandemic shutdown. The equine caseload had been stable; however, during the pandemic decreased by approximately 25%. This is partly due to planning and construction of the JFEH, with a disruption to operations associated with opening in late 2021. A continued upward trend in caseload is expected. In addition to the VTH equine caseload, the ERL has experienced variability but an overall increase in caseload (Appendix 4.1 Table B); this is a reflection of the robust nature of the equine breeding industry as well as the facilities, care, and clinical expertise available at the ERL.

Livestock (e.g., bovine, small ruminant, porcine) visits to the VTH have seen modest overall growth at 19% over a five-year period. This was likely due to a significant increase in both small ruminant (80%) and porcine (77%) visits, as there was a 59% reduction in bovine hospital visits. This is attributed to the decline in contract dairy work as well as limitations imposed by current handling facilities. The increase in small ruminant and porcine cases is attributed to increased density regionally and the addition of appointments to accommodate greater caseload. The exotic/wildlife caseload has experienced significant growth of 29%, with a 60% increase in wildlife and zoo animal visits. There was a 20% increase in caged bird visits and 30% increase in caged mammal visits.

Over the past five years, the overall number of hospitalized patients increased moderately, by 18% (Appendix 4.1 Table A). This increase is largely reflected in the companion animal caseload and may be associated with an increase in urgent care/emergency caseload, as well as an ever-increasing complexity within our specialty referral caseload. This is not only important for the clinical teaching program by exposing students to cutting-edge veterinary medicine, but also equally important to the missions to advance veterinary medical care and clinical research.

Most field service calls are bovine or equine (Appendix 4.1 Table D). Bovine field calls are divided between the Dairy Field Service and the beef-focused Livestock Medicine and Surgery (LMS) service. Equine field calls are divided between the Equine Field Service and Equine Sports Medicine Service. Equine Field Service calls have been largely stable over the last five years. Livestock service calls have decreased 35% for all species; relevant to dairy work, contract services declined from three to two farms, and Dairy Field Service faculty dropped from three to two. Reduced noncontract work was attributed to the decrease in faculty and the pandemic. A separate student experience in sheep is provided through the seasonal lambing and sheep management rotations (Appendix 4.1 Table F). A Herd Health Management elective is offered to fourth-year students, focused on dairy and beef cattle.

12.4.2. Describe and analyze the adequacy of normal and clinically diseased animals (hospitalized, outpatient, field service/ambulatory, and production medicine) and how they are used for the DVM teaching program.

The DVM clinical teaching program offers 33 clinical rotations to our third- and fourth-year students, directly overseen by more than 100 faculty and instructors and approximately 64 clinical residents. Eleven clinical rotations are considered majority primary care services, 13 are specialty care services, five include a mixture of primary and specialty care patients, and four are support services (i.e., Anesthesia, Diagnostic Imaging, Clinical Pathology, Necropsy). Seven clinical services are exclusively field or ambulatory services, and one service has a field-service component. Faculty members supporting these services represent 20 AVMA-recognized specialty colleges. Seventeen clinical rotations are exclusively surgical services or have a significant surgical caseload as a regular part of the service. In the academic year 2020-21, 2,065 small animal, 500 equine, and 275 livestock surgical procedures were performed at the VTH. Eleven clinical services are exclusively small animal, including exotics; 12 services are exclusively large animal, equine, or livestock; and 10 services include both small and large animals. Eleven clinical services see normal, non-diseased animals, either exclusively (i.e., Spay-Neuter Clinic) or as part of a preventive care program or herd health program (i.e., SA Community Practice, Dentistry, Small Animal Reproduction, Equine Field Service, Equine Reproduction, Dairy Field Service, LMS, Herd Health, Sheep Management, Lambing Management).

While progress has been made in increasing primary care and preventive medicine caseloads, continued expansion of the clinical teaching program in these areas remains an important goal. Recent successes include the addition or restoration of faculty positions in Dentistry, Urgent Care, Equine Field Service, and Dairy Field Service, and the launch of the

LMS. Two important primary care specialties that have been incorporated into the clinical teaching program are Nutrition and Small Animal Reproduction. Continued growth of these service areas is a priority.

12.4.3. Describe unique clinical educational resources or programs that enhance the educational mission.

FACC. The FACC is a world-renowned center that includes a multidisciplinary clinical Oncology service for small animals with cancer. The service includes medical oncologists, surgical oncologists, radiation oncologists, fellows, residents, and specialized technical staff, with a total of 11 oncology faculty and 12-13 residents/fellows/specialty interns. The Oncology service manages approximately 6,400 patient visits per year; rotations through the service are elective for third-year DVM students and required for fourth-year DVM students in the small animal and general tracks. Embedded within the Oncology service is a separate clinical trials service that facilitates the conduct of patient-based clinical research. This service typically has 20-25 actively recruiting clinical trials open at any time and is staffed by a dedicated veterinary specialist and staff. Third-year students may rotate on this service.

Argus Institute. The mission of this unique support service is to honor the human-animal bond by providing compassionate support and advocacy for people who care for animals. Argus provides support to clients who are facing challenges surrounding their pet's health care, facilitates end-of-life discussions and euthanasia appointments, guides parent-child discussions, provides support during surgery and high-risk procedures, and offers grief counseling after the loss of a pet. Argus provides in-the-moment teaching and case debriefing opportunities to DVM students throughout the course of their daily clinical activities. DVM students also participate in Argus-led communication and wellness rounds during fourth-year clinical rotations, providing opportunities to review cases, enhance foundational communication skills, and discuss strategies for resilience and self-care. In 2019 and 2020, Argus had more than 3,100 supportive interactions with VTH clients, faculty, staff, and students and facilitated 140 student rounds.

ERL. An active education, research, and clinical service unit since 1967, the ERL is recognized as one of the premier programs in horse reproduction in the world. ERL services include stallion reproductive assessment and semen collection, analysis, and storage; mare reproductive management, including artificial insemination and embryo transfer; foaling; neonatal foal care; and advanced assisted reproduction services. Educational programs available for DVM students include core theriogenology laboratories in the second year; an elective one-week rotation in the third year; and an elective two-week rotation in the fourth year. Second-year DVM students may also choose an elective Foaling Management course that includes lectures and hands-on laboratory sessions. In addition, several elective wet labs coordinated by the student chapters of the American Association of Equine Practitioners or Society for Theriogenology are held at the ERL each year. Finally, the large caseload of privately owned horses, an embryo transfer recipient herd, and a herd of horses dedicated to teaching allow opportunities for DVM students to participate in the diagnosis and management of dental issues, lameness, colic, ocular issues, and other primary care conditions.

Equine Clinical Services. With the opening of the JFEH, equine teaching resources and facilities were greatly improved. In addition to inpatient medicine, surgery and emergency services, a strong, student-focused equine ambulatory service, growing sports medicine service, and robust primary care experiences in the field and laboratories (e.g., dentistry calls to CSU and shelter herds, innovative hands-on podiatry training) allow students in all years to engage in important, relevant experiential opportunities.

Regional, national, and international experiential opportunities. Please see Standard 12.9.4.

Veterinary Diagnostic Imaging (VDI). DVM students work with the faculty and staff of the VDI section to gain hands-on experience in clinical and research diagnostic imaging for all veterinary species, using a variety of imaging modalities. Veterinary students not only receive intensive training in small and large animal radiology and ultrasound, but also benefit from a full complement of advanced in-house imaging modalities including CT, MRI, and PET-CT.

12.4.4. If off-campus clinical instruction sites are used regularly by multiple students, complete Table H and describe the planning, supervision, and monitoring of students; and contracting arrangements for noninstitutional-based faculty (Table I).

DFL: The DFL Veterinary Hospital at Yuma (previously PetAid operated by the Colorado Veterinary Medical Association (CVMA)) is a donor-funded animal hospital located in Denver that provides full-service, urgent surgical and medical care of injured and ill pets belonging to individuals with financial limitations. This elective two-week rotation offers hands-on primary care through walk-in examinations, 15-30 scheduled urgent care appointments daily, four to eight soft-tissue surgery cases daily, and two to four dentistry cases daily. Students assume primary case management of medical patients using concepts in incremental care and spectrum of care, including client communication and follow-up. Students are involved with surgical and dentistry cases from intake through discharge, with responsibility for selection and interpretation of preoperative diagnostics, development of the anesthetic protocol, and execution of all aspects of the patient surgical visit and follow-up. Students conduct surgical procedures in accordance with individual skill, knowledge, and comfort level. All cases are overseen by one of seven staff veterinarians and a veterinary technician; one clinical educator is dedicated to DVM student training. Each year, the Yuma rotation is available to 48 students of any track; over the

last seven years, the number of students participating in this rotation has ranged from 14 to 30 annually. DFL and CSU hold an annually renewed MOU; CSU provides funding to support student instruction and housing.

LHS: The vision of the LHS, located in nearby Loveland, is to serve as a trusted, responsive community leader providing programs and services essential to the quality of life for animals and people in northern Colorado. Services include foster care; behavior training; veterinary care; wellness and preventive care; licensing; end-of-life services; emergency response; management of stray, aggressive, or injured pets and wildlife; and reuniting owners and pets. Approximately 1,800 spay/neuter, dental, and other surgeries are performed at LHS annually. First-year students visit the LHS as part of animal handling training within the Foundations courses. Third-year students may choose an elective rotation in which participants work directly with LHS staff in all aspects of shelter medicine. Fourth-year students perform anesthesia and elective procedures at LHS as a weekly part of the Community Practice rotation.

Murphy Center: The Murphy Center for Hope serves as a resource center for people experiencing homelessness or near-homelessness. Representing the Inclusive Health Collaborative, a partnership between the Community Practice service, The Street Dog Coalition, the CSU School of Social Work, and the UC SOM at CSU, Community Practice faculty and students provide veterinary services to Murphy Center clients and their pets weekly. The clinic provides opportunity for translational medicine rounds and collaborative outreach. Murphy Center service is a requirement of the Community Practice rotation.

12.4.5. Describe the involvement and responsibilities of professional students in the health care management of patients (and clients) in clinical programs of the college.

Students are integral members of the medical team within all clinical services, typically responsible for initial history-taking, physical examination, development of problem and differential lists, and formulation of initial diagnostic and treatment plans. It is expected that students will effectively and succinctly communicate findings and plans to faculty members and house officers. Students are present for key clinician-client interactions, including communication of the diagnostic/treatment plan, informed consents, and fee estimates. Students are generally responsible for most aspects of the electronic medical record (EMR) including the history, physical examination, daily SOAP, surgical/procedure reports, client communication notes, and discharge instructions; students are trained in use of the EMR during third- and fourth-year orientations. Students participate in the ongoing medical decision-making process in partnership with other members of the medical team, including primary clinicians, consulting specialists, house officers, and technical staff, both through periodic team discussions and formal daily case rounds. Students work closely with technical staff and clinicians in performing basic medical procedures. They assist with virtually all major procedures or surgeries for cases to which they are assigned, with more opportunity for hands-on involvement on primary care and field services. Faculty, house officers, and staff consider requisite knowledge and technical abilities of the student, as well as patient stability and case complexity, when determining whether a student performs a procedure. Students communicate directly with clients, and sometimes with referring veterinarians, depending on the service and case. Relevant to support services, on the Anesthesia service, students formulate treatment plans and directly administer anesthesia. On the Necropsy service, students perform or participate in all necropsies with the guidance of faculty, house officers, and staff.

Third-year students spend weekday mornings in laboratories and clinical rotations, and their experience varies by rotation. In some cases, each student partners with a fourth-year student in performing aforementioned activities, facilitating near-peer teaching and acquaintance with hospital operations. Some rotations deliver tailored programming to third-year students. In other cases, third-year students are assigned an observer role. Third-year students on the Anesthesia rotation provide support for fourth-year students performing spay/neuter surgeries within the Community Practice rotation.

12.4.6. Describe how subject-matter experts and clinical resources are integrated into clinical instruction.

All clinical services are directly supervised by at least one faculty member, the majority of whom are board-certified. The health care teams consist of at least one clinical faculty member, house officers, technical nursing staff, and DVM students. When assigned to clinical service, faculty members are "on the clinic floor," directly participating in patient care with students, providing oversight of the service, and conducting daily case rounds. Diagnostic laboratory and clinical faculty members participate directly in laboratory teaching experiences and in the majority of the lectures in the didactic curriculum after the first year; thus, the professors who teach in the classroom, with few exceptions, are the same professors who provide clinical teaching.

12.4.7. Describe the adequacy of the medical records system used for the hospital(s), including field service and/or ambulatory and population medicine. Records must be comprehensive and maintained in an effective retrieval system to efficiently support the teaching, research, and service programs of the college.

Prior to 2019, the EMR system, VetPoint, was used by all service areas of the VTH except Dairy Field Service and the ERL. In 2019, a new EMR platform, StringSoft, was implemented. Both systems integrate(d) with registration, schedul-

ing, and billing systems to provide an effective and complete medical record. The EMR contains electronic forms for the master problem list, history, physical examination, SOAPs, surgery reports, dismissal instructions, medical summary, communication notes, and referring veterinarian letters. Daily progress notes for the patient use a problem-oriented medical record format. Additional external documents, images, and forms, including ancillary procedure reports and referral records, can be uploaded to the patient record and tagged to a specific patient visit. StringSoft also integrates with Clinical Pathology, the VDL, and VDI to optimize access and integration. Diagnostic imaging and endoscopy images are stored on a PACS system that is accessible through the EMR by patient identification number. Key medical record data are searchable using the tool Web-Focus; prior to 2019, the tool was eThority. This tool supports teaching and research through retrieval of case material based on simple and complex search criteria.

For field services, records can be created either for individual animals or for herds; the latter includes vaccinations, pregnancy diagnoses, and breeding soundness examinations. In the case of herd records, the medical summary allows for an overview of the observations and procedures performed. Additional reports can be uploaded to the visit record as PDFs, Word documents, or Excel spreadsheets, and tagged to the specific visit for future review. The EMR pertinent to the Dairy Field Service includes dairy-specific databases and are retained by the contract dairies. These records are searchable and available to faculty and students for teaching and research. The ERL uses a combined system of computerized and written records, Wise Option, which is a commercial product specific to equine reproduction that tracks animal board, billing, and clinical procedures. These records are searchable and are available to faculty and students for teaching and research.

12.4.8. Describe how the college has responded to increasing/decreasing clinical resources.

The CVMBS has seen growth in clinical resources over the past five years in terms of overall caseload and faculty positions. Many clinical services have seen moderate to significant growth in caseload and revenue. Key clinical faculty positions lost during the economic recession have been restored, and new positions strategically added, including small animal nutrition and reproduction. This growth contributes positively to DVM clinical training through increased core training opportunities and greater exposure to emerging areas of veterinary medicine.

In the expanded area of small animal reproduction, both third- and fourth-year students participate in all aspects of patient evaluation, including hormone assessment, vaginal cytology, semen assessment, pregnancy ultrasound, observation of transcervical insemination, and semen freezing and thawing. The students actively participate in neonatal recovery with elective and emergency C-sections. One-on-one tutorials and learning modules cover topics such as dystocia, pregnancy termination, and breeding management. This clinical rotation builds on didactic material presented in the third-year curriculum. Future growth of this clinical service is planned, dependent on new facility space to accommodate greater student numbers. The student Theriogenology Club is active and sponsored by the small animal reproduction faculty.

The new Clinical Nutrition service offers elective rotations for third- and fourth-year students. Third-year students develop foundational knowledge in energy requirements; diet history-taking, selection, myths, and planning; and patient monitoring. Fourth-year students participate in case preparation based on the referral documentation, initial consultation, and follow-up (e.g., calculation of energy requirements, diet assessment, nutritional management strategies). Students then develop a customized nutrition report for each patient.

The largest challenge to program growth is facility constraints. To address this need, a comprehensive plan is in place to renovate and build facilities on the VHC. This plan includes a phased master plan for renovating the specialty service space within the VTH, constructing a new livestock hospital, and building the combined PCC and VEC. As noted, the realization of these renovations and facilities will allow accommodation of all DVM students on the VHC in parallel with the curriculum renewal process.

12.4.9. Describe the means used to maximize the teaching value of each case across the curriculum.

Please see Standard 12.4.5 for information regarding the role of DVM students in clinical services. Clinical faculty members conduct at least once-daily clinical rounds with students and house officers to review current cases. Students have access to all current and past case materials through the EMR. Third-year students are assigned to clinical rotations for half days, typically participating in morning rounds discussions and partnering with fourth-year students to assist with case management. All fourth-year students are required to make a formal Grand Rounds case presentation to faculty, house officers, and colleagues; technical resources are provided to assist students in preparing their presentations. Small animal surgical suites are equipped with video cameras that provide live-streaming videos of surgeries to rounds rooms. When animals die, disposition forms request client permission to perform a necropsy. Faculty are encouraged to submit requests for teaching and capital equipment funds each spring; examples of items funded include necropsy cameras for display of images; ophthalmology equipment kits for individual student use; models; pathology teaching microscopes; ambulatory equipment; point-of-care ultrasound machines; endoscopes; and dental equipment to allow for service expansion and greater student engagement. Mid-cycle requests are accommodated when possible; this was particularly relevant to model and IT purchases in support of remote and hybrid instruction necessitated by the pandemic.

12.5.1. Describe and comment on the adequacy of information retrieval and learning resources.

With a combination of online and traditional learning resources, DVM students have multiple ways to gather and retrieve information. College faculty and staff are pioneering and developing information technology solutions to facilitate learning, including virtual reality simulators, adaptive technology, and real-time assessment tools.

Online course material: CSU uses the Canvas Learning Management System to provide course content, assessments, and communications for 51 veterinary medicine courses and 61 veterinary rotations. Canvas is overseen by a full-time College-level Coordinator who provides support and training to all faculty, staff, and students in the use of Canvas tools, including the CSU lecture capture system Echo360 and the end-of-course feedback and evaluation system. Relevant to Standard 12.5.2, the Canvas Coordinator has 15 years of experience in IT support and has a degree in speech communication with an emphasis in electronic media.

Virtual tools: The use of virtual learning tools in all years of the DVM program has increased significantly in recent years, including tools such as iSpring adaptive assessment, Padlet virtual collaboration, and Adobe Articulate adaptive instruction. Solutions aimed at improving audio and video capture in lecture halls, rounds rooms, surgical suites, and the field have included HD and 4K video cameras, GoPro cameras, and various camera-tracking solutions. Faculty have also invested in the development of virtual reality simulators. A variety of high-fidelity and low-fidelity models and simulators are being used to support student skill development, permitting self-paced, individualized learning and providing a focal point around which the instructor and student may exchange ideas and interpret course content. Interactive polling systems are being used in lecture and clinic settings to promote frequent formative assessment, individual accountability, and engagement. All summative assessments are being transferred to ExamSoft, providing students with a more dynamic test-taking platform and faculty and committees with more robust analytics and a more secure test-taking environment. Classroom projector systems are monitored and upgraded as needed.

An Instructional Design and Media Specialist supports faculty in the development of digital media projects (e.g., websites, eBooks, animations, prototype software applications) by providing management of projects and expertise in principles of graphic design. The position also oversees Computer Assisted Teaching Support, which provides imaging, video, computer expertise, technology resources, and direction to support faculty and staff in the development and deployment of digital tools. Relevant to Standard 12.5.2, the Instructional Design and Media Specialist has a degree in graphic design and four years of experience.

Technology resources: Computers and technology are an essential element of veterinary training. Students are not required to have a laptop computer. Students may choose to use on-campus computer labs and/or check out computers/iPads from the CSU Libraries; loaner computers are easily accessible for examinations. IT posts recommended computer specifications on the DVM Student SharePoint site. Technology support and computer repair for students is offered through CSU Libraries; the CVMBS IT group does not provide personal computer support for students. Computers available in key areas facilitate learning via both wired and wireless connections on the CSU campus. Connectivity may be established from most student training sites, with the exception of remote ambulatory destinations and some outdoor areas on the VHC; the IT team works to establish or strengthen connectivity where possible. Anatomy students have iPads at each dissection table in the gross anatomy laboratory. Pathology students may use virtual microscopy to examine specimens. Please see Standard 12.4.7 for information relevant to the VTH EMR.

The CVMBS IT Services Helpdesk provides support to several on-campus computer labs, including AZ W104 (9 computers), AZ W106 (53), Pathology 111 (28), and VTH A236 (6), and provides first-tier technical support for all general assignment classrooms.

The CVMBS IT Services Software Development Team works with the DVM program for any development needs. The team has implemented several key systems that support the DVM program. The practicum scheduling for both third- and fourth-year DVM students was tailored to specific requirements and characteristics of the DVM program at CSU. The paper task booklet was replaced with the electronic task booklet software system to better manage the individual student tasks to be performed and graded during clinical rotations. Along with the use of QR codes, the newly redesigned course evaluation system helps the College to collect critical feedback from DVM students for program improvement. All of the systems are built with responsive design to work on different screen sizes for easy access.

CSU Libraries: The CSU Libraries has an extensive collection of more than 2 million physical volumes and access to an abundance of electronic resources, available 24/7. The Libraries has an annual budget of more than $9.8 million for collections and purchases more than $9.3 million annually in electronic information resources, including electronic journals and e-books. The Libraries facilitates access to several hundred databases and more than 30,000 electronic journals from major scholarly publishers.

VTH Library: The VTH Library is open 64 hours a week and holds more than 11,000 print volumes, including both books and journals. The collection is a hospital-based specialized branch with holdings limited to veterinary and clinical medical subject areas. The library has heavily invested in an e-book collection, purchasing both print and online versions of key texts when available. The VTH Library provides students with access to a small computer lab and free printing. In

addition to traditional computers, 20 laptops and five iPads are available to be checked out for seven days at a time. The VTH Library facilities and resources are augmented by extensive learning and information technology services at Morgan Library.

Library consortia: CSU Libraries participates in the statewide Colorado Alliance of Research Libraries, the regional Greater Western Library Alliance, Coalition for Networked Information EDUCAUSE, Internet2, Lyrasis, and Association of Research Libraries. These collaborations enable the Libraries to leverage preservation, resource-sharing, and collection-development programs.

UAF: Student computers and printers are accessible in the gross anatomy laboratory and the student carrels. The computers are managed by the UAF Office of IT and are preloaded with customary software. On or off campus, the latter through Pulse Secure VPN connection, students have access to a web-based program for histology; Canvas; Virtual Canine; Virtual Equine; and the UAF server that hosts recorded CSU sessions. Students in the carrels have access to Wi-Fi and Ethernet. The classrooms and anatomy laboratory are equipped with large projection displays, video conferencing, lecture-capture, and various peripheral connection sources, such as laptops and document cameras.

12.5.2. Briefly describe the availability of learning and information technology resources support for faculty and students, including personnel and their qualifications.

Please see Standard 12.5.1 for qualifications and experience relevant to the Canvas Coordinator and Instructional Design and Media Specialist. The IT Services Helpdesk consists of seven full-time IT technicians who are the first point of contact for CVMBS students, staff, and faculty seeking assistance with technology-related issues. Librarians are available to help faculty integrate library resources and customized course material into their classroom instruction. Library employees also help instructors locate resources such as articles, books, and multimedia resources, and offer services to support data management, copyright, and citation management. Multiple options are available for library users with disabilities. Employees with backgrounds in library science and learning technology provide learning and instructional technology support for students and faculty. Two employees with backgrounds in library science and information resources provide learning and instructional technology support for students and faculty in the VTH Library.

UAF: Both the DVM Program Coordinator and a research and teaching technician provide assistance with basic technology (e.g., transfer from CSU to UAF server, smart classroom assistance). In-depth technical support is provided by the UAF Video Conferencing Systems and the CSU Canvas Coordinator.

12.5.3. Describe the reliability and methods of access, as well as security considerations, to library information resources for faculty and students when they are on and off campus.

The CSU Libraries comprises two physical locations and an extensive collection of resources that are available electronically to CSU affiliates anywhere in the world. When library users are off campus, they may access resources online with a CSU electronic ID and password and research assistance via a 24/7 chat service. The CSU Library onsite collection is supplemented by robust Document Delivery and Interlibrary Loan systems. Via these services, both on-campus and distance users can order items not available online or in the physical library at no cost to the patron.

UAF: All DVM teaching faculty have affiliate appointments with CSU, and UAF-origin students are registered CSU students. DVM faculty and students are thus eligible for both CSU and UAF library privileges. UAF-origin students may use two on-campus libraries; the Mather Library is in close proximity to the DVM teaching space and has a significant collection of biomedical holdings.

12.5.4. Describe the resources (training, support) provided and available to students for improving their skills in accessing and evaluating information from sources in any media relevant to veterinary medicine.

Staff in the VTH Library provide library services, research, and reference support to VTH students, faculty, and staff. General research assistance is also available via a 24/7 online chat service, and librarians are available for in-person appointments to help with research strategies and source evaluation. Library research skills are integrated into several classes (Standard 12.5.5), and students are introduced to evidence-based veterinary medicine through training in locating, critically evaluating, and applying data.

UAF: Students may access remote offerings from CSU Libraries and all resources and services offered by the UAF library system. Students meet IT staff upon program entry, and the UAF Office of IT offers full-time support including after-hours assistance. With identical student learning objectives between campuses, UAF-origin students also learn about retrieval and review of scientific literature and other information resources in VM 603 Veterinary Science: Research and Methods (Standard 12.5.5).

12.5.5 Describe assessment of students' skills in retrieving, evaluating, and applying information pertinent to veterinary medical science including clinical case management as preparation for lifelong learning.

Student skills in retrieving, evaluating, and applying information are assessed in a variety of ways and in a variety of courses throughout the curriculum. Examples include:

- VM 603 Veterinary Science: Research and Methods, History of Veterinary Medicine Project: Students select a disease or syndrome that occurs in animals and write a short essay of the syndrome, outlining how management and treatment of the condition evolved over time based on research findings, citing at least two references.
- VM 714 Preventive Medicine, Clinical Consult Project: Students are provided a clinical question from a professional colleague that they must answer by providing a series of resources that span the pyramid of scientific evidence.
- VM 721 Non-mammalian Vertebrate Medicine, Disease Pamphlet Project: Students use literature to prepare a pamphlet on a disease of their choice that could be used as a guide for pet owners.
- VM 731 Biology and Disease of Small Mammals, Journal Article Critique: Students write a critique of a peer-reviewed journal article. A link to the basics of article critique and an outline on journal article review are provided.
- During clinical rotations, students are frequently required to retrieve information from the literature and use this information in case presentations and case management. Students are assessed on their ability to successfully navigate the literature by faculty and house officers.
- Every fourth-year student is required to present a case within Grand Rounds, with the expectation that reference materials will be integrated into their presentation and cited. The number and quality of references are assessed as part of the faculty observation provided to each student.

UAF: All of the above are pertinent to UAF-origin students, with the exception of the specific assignment in VM 603. Similar to CSU-origin students, however, UAF VM 603 participants discuss manuscript publication, retrieval, and critical review of research. Two papers are discussed in class, then students evaluate one additional paper of their choosing.

12.5.6. Describe current plans for improvement.

CSU Libraries continues to work closely with VTH Library personnel to ensure that library space, services, and collections meet the evolving needs of students and faculty. Libraries staff will continue to actively engage with VTH personnel to ensure that a high level of service continues within this critical program.

On the collections front, an increasing number of library books and journals are now purchased in electronic format. This trend may ultimately decrease the need for large print monograph collections. Future plans include purchasing key titles in both print and electronic format to ensure maximum availability of critical texts. In addition, Libraries staff are currently developing an electronic reserve shelf to make these important titles available 24/7.

The IT department explored telehealth systems to support remote delivery of student instruction and patient care during the height of the pandemic. The Orthopedic Medicine and Mobility (OMM) service implemented limited telehealth services at that time, but discontinued that effort with resumption of full in-hospital care. The Community Practice service employed Microsoft Teams extensively to conduct consultations, with owners facilitating visualization of limited physical parameters. They, too, discontinued telehealth services with resumption of in-hospital care. Also during the time of limited in-person learning, communications faculty conducted simulated client interactions within the third-year laboratories using Microsoft Teams. Overall, a lack of time, hospital infrastructure, and clearly superior system led the OMM faculty and individuals within IT away from adoption of telehealth. The exception is the Nutrition service, which solely uses telehealth currently for outpatients, accomplished using Zoom or similar technology. Students participate in case preparation based on the referral documentation, and conduct the initial consultation via remote conference call. In partnership with the CVMA and the Department of Regulatory Agencies, it is anticipated that telehealth services will be offered as part of the primary care experience after implementation of curriculum renewal.

UAF: With the exception of ongoing updates, there are no plans for improvement.

12.6.1 Complete Tables A, B, C, and D, and analyze trends.

Please see Appendix 6.1 for Tables A, B, C, and D.

Table A: The number of students in the DVM program increased by 10 in 2015 with initiation of the UAF-CSU 2+2. Strong applicant numbers, student success, and existing capacity led to an increase in the number of UAF-origin students to a maximum of 14 with the class of 2024. In anticipation of increased attrition due to the pandemic, the number of students admitted to the CSU-origin classes of 2024 and 2025 was increased. Students leave and re-enter the DVM program as part of DVM/PhD pursuits and with approved one-year leaves of absence. CSU provides clinical training to 20 fourth-year students from Ross University annually.

Table B: Please see Standard 12.8.12.

Table C: The percentage of admitted underrepresented minority (URM) students ranged from 17%-25% over the last five years, with an average of 21%. There has been an increase in the percentage of URM students admitted since 2018, with 25% URM representation in the class of 2021.

12.6.2 Provide a listing of student services. These services must include, but are not limited to, registration, testing, mentoring (advising), counseling, tutoring, peer assistance, financial aid counseling programs, and clubs and organizations. Demonstrate that students are informed of and have ready access to academic counseling, personal wellness, financial aid, debt management, and career planning services.

General student support: Two DVM Student Coordinators, one assigned to years one and two, and one assigned to years three and four, along with the DVM student services administrative assistant, collectively assist admitted and enrolled students with orientation; registration; excused absences; leaves of absence; rabies vaccination and titers; access to resources and facilities; disability resources; exam scheduling; proctoring; course and rotation scheduling; track and practicum selection; externships; and ceremonies. Faculty are provided student advising resources in the DVM Faculty SharePoint site. Requirements for professional licensure are provided on the external DVM Curriculum page. Course add/drop deadlines and withdrawal periods are noted in the CSU calendar; information regarding University policies and procedures, student support, and financial services are found in the General Catalog.

Mentoring: During first-year orientation, students are introduced to faculty and administrators, and the College structure is highlighted with emphasis on the four departments serving as an academic home to faculty contributing to research, education, and clinical service. In the first semester, students hear from faculty researchers as part of the core course VM 603 Veterinary Science: Research and Methods. During years one and two, students engage a mentor as a requirement of the Foundations courses. As part of this experience, students identify professional goals and expectations for the mentor relationship, then instructors support students in identifying a mentor and learning how to be an effective mentee. Students spend two to four hours with their mentor(s) each semester, documenting activities and learning outcomes. Mentorship resources are located on the Foundations Mentorship Program page of the DVM Student SharePoint site.

Tutoring: The tutoring system was revised in 2018 to include peer-peer services and emphasize group learning and online tools (e.g., Canvas-based discussion boards and study halls). Students may request one-on-one tutors. Peer tutors are selected by the Tutoring Program Student Coordinator and faculty supervisor, based on an application highlighting interest, experience, and course performance. Tutors are paid and trained, interacting directly with faculty for oversight and guidance as required. Students report positive impacts of the program on study skills, confidence, and academic performance. Faculty view the program as beneficial. A page within the DVM Student SharePoint site provides details of the DVM tutoring program.

Academic counseling services: Particularly in the first semester but throughout the program, faculty proactively identify students experiencing academic challenges and provide notices to the student and the AD-DVM, as well as offer advisement for course success. The AD-DVM tracks student performance across courses and directly contacts students who are experiencing difficulties in more than one course or who are at risk for an "F" grade in a single course. During subsequent meetings, the AD-DVM seeks to identify factors precluding success and ensures awareness and mobilization of needed resources (e.g., tutoring, academic coaching, disability services, counseling, financial advising).

Disabled student resources: The CSU Student Disability Center provides student assessments and makes recommendations for accommodations. Policies and resources are located on the DVM Student and Faculty SharePoint sites. Center leadership is included in policy revisions and is consulted as needed regarding individual plans and process optimization. The number of students who secured accommodations steadily increased from an average of 24/year between Fall 2015 and Spring 2020, to an average of 36/year subsequently. In Fall 2021, in response to student and faculty feedback, room and proctor scheduling for examinations was assumed by DVM Services to improve efficiency and access. At the same time, at the suggestion of a student and in light of increased demand, a survey was disseminated to students throughout the program to identify areas in need of continued improvement; data will be used to inform future practices.

Peer support and student organizations: At orientation, students from second- and third-year classes serve as group leaders and peer resources. A "big sib/little sib" program, coordinated by students, connects first- and second-year stu-

dents. Wellbeing and DEI representatives in each class meet monthly with the AsD-DEI and the DVM Counselor and Manager of Health and Wellbeing Programs (CMHW), which facilitates support and idea exchange among all classes. Similarly, the AD-DVM meets monthly with class presidents and vice presidents. Information regarding student organizations may be found on the Clubs and Professional Organizations page within the DVM Student SharePoint site. The CVMA offers free membership to CSU DVM students, disseminates weekly newsletters and legislative updates, provides continuing education, promotes professional networking, and facilitates student participation in major legislative sessions.

Diversity, equity, and inclusion: Please see Standard 12.9.9 for DEI training, resources, and outcomes.

Mental health and wellness services: Wellbeing programming is integrated into orientation and continues throughout the program. A new DVM CMHW assumed their post in August 2021. This individual offers individual, couples, and group counseling at no charge to students. Since hire, the CMHW has seen 91 students, approximately 15% of the overall student population, with 274 individual appointments within the first semester. Additionally, the CMHW hosts a Wellbeing Wednesday email series focused on one dimension of wellness each week; the average read rate is 46%. As noted, the CMHW has joined the AsD-DEI in co-facilitating a Wellbeing and DEI Student Advisory Group, initiated by the AD-DVM in Fall 2021. The CMHW joined the curriculum renewal effort in August 2021, and in January 2022, the CMHW will assume co-facilitation of the College Committee On Resilience and Engagement (CORE).

University, program, and external resources are listed in the Health, Wellbeing, and Safety page of the DVM Student and Faculty SharePoint sites. Students may access University mental health resources through the CSU Health Network. Members of the classes of 2018-2021, within the fourth-year student survey, reported using the following wellbeing resources: DVM counselor, 19%-36%; University counselor, 14%-22%; private counselor, 3%-16%. Scheduling conflicts and lack of time were the most cited reasons for not seeking counseling. In years one through three, exams and studying were the key obstacles to achieving work-life balance; in year four, rotations and on-call duty were cited. Individuals may report concerns with any member of the University community through the CSU Support and Safety Assessment Tell Someone site. The College policy regarding students of concern may be found on the Health, Wellbeing, and Safety page.

Students may access medical services and health education (e.g., substance abuse, sexual health) through the CSU Health Network. The CSU Title IX Programs and Gender Equity office, Student Resolution Center, and Bias Reporting system allow students to report concerns and access resources. The fourth-year student survey reflects high satisfaction with the CSU Student Recreation Center and Health Network.

DVM student emergency loans: Students have access to several funding sources to assist in the event of unexpected financial hardship. A SAVMA interest-free loan of up to $1,000 has a repayment period of 90 days from issue date, with an extension available. Students may also apply for the CARES grant, which does not require repayment and is capped at $500 per year. Since inception in 2017, 12 students have utilized the CARES fund, totaling $6,000. Information on these and other resources is found on the DVM Student SharePoint Financial Resources page, and is also shared by DVM staff who counsel students on financial matters. In addition to assistance offered through the College, the Office of Financial Aid (OFA) offers several institutional loans to satisfy short-term needs. Information about these loans is available on the OFA website.

Financial aid and scholarships: Information regarding financial assistance and scholarships is available on the DVM Student SharePoint site under Financial Resources and Scholarships, respectively. A summary of scholarship activity in support of DVM students is provided in Appendix 6.2 Table E. The fourth-year student survey reflects high student satisfaction with the University OFA.

Financial education and advising: In 2015, the College hired a Financial Education Specialist (FES) dedicated to serving DVM students. The FES provides personal financial advising in the areas of debt, financial management, and budgeting; liaises with the OFA and loan repayment experts to best advise students; provides topical seminars; and designs and delivers curriculum (please see Standard 12.9.10 for curriculum details). Since 2017, between 54%-83% of fourth-year student survey respondents reported meeting with the FES. Top reasons for not doing so were lack of perceived need and lack of time. Students reported improved knowledge and skills and, importantly, altered behaviors as a result of the financial education program. Alumni cite access to financial advising as a program strength (Standard 12.11.1.d).

Legal services: Students may access the University Student Legal Services, funded by student fees and staffed by licensed attorneys.

UAF: As CSU DVM students, UAF-origin students may access CSU resources. Incoming students are introduced to CSU faculty, DVM Student Services, student leaders and organizations, and other relevant resources. UAF-associated fees are posted on the Veterinary Medicine Program page, and provided to the CSU FES and OFA representative. The CMHW applied for Alaska licensure to allow remote services and visits UAF annually. Students may see UAF counselors on site. Students are assigned faculty mentors within two months of matriculation; students are informally mentored by students in subsequent years. Academic performance is monitored with every exam, and students who experience difficulties meet with their instructor and mentor to ascertain potential causes and formulate plans for improvement. CSU and UAF tutors are available. UAF-origin students may access student support services at both campuses. The third- and fourth-year Student Coordinator visits UAF to assist second-year students with practicum planning and provide resources for the tran-

sition to Fort Collins. Prior to the pandemic, UAF-origin students attended first-year orientation in Fort Collins. During the pandemic, CSU-based orientation events were held remotely, and the UAF orientation was held on-site. A UAF-origin student is a member of SAVMA leadership and coordinates student organization events at UAF on behalf of the CSU chapter; previously, a hired student filled this liaison role. UAF-origin students elect two national SAVMA delegates who participate at the local and national levels. Second-year students may attend the Alaska Veterinary Medical Association annual conference at no charge.

12.6.3 Provide a list of tuition-related information available for prospective students. This information, as consistent with applicable law, must include estimated total educational cost, cost of living, considerations, and a description of financial aid programs. Make collected data on salaries, employment rates, and educational debt available to the public, as consistent with applicable law.

DVM tuition may be viewed on the Cost of Attendance site, maintained by the OFA. Information regarding professional salaries, employment data, and educational debt specific to CSU DVM alumni may be viewed on the Our Graduates page of the DVM Admissions site. Information regarding tuition and fees, scholarships, loans, grants, financial aid programs, and the FES may be found on the Financial Resources page of the DVM Admissions site and is also included as a link in the offer letter.

UAF: Students are directed to the CSU Financial Resources page from the UAF DVM program home page.

12.6.4 Describe how conflicts of interest regarding academic assessment of students are avoided with individuals who provide student counseling.

The CMHW does not grade assignments. The AD-DVM advises faculty according to existing policies. As an instructor within VM 618, the AD-DVM grades exams anonymously. The AD-DVM initiated a move from chair to adviser to the CSPS in 2014 and is a nonvoting member of that group.

12.6.5 Provide a summary of college activities in support of placement of graduates.

Information about internships, career exploration, resume writing, interviewing, networking, salary structures, employment benefits, contract negotiation, and contract review is provided within the core Foundations courses (VM 710, VM 711) and VM 772 Veterinary Professional Development. DVM career advising is provided through the Career Education Manager, veterinary club activities, hosted lectures, career and externship fairs, CSU Legal Services, and web-based resources.

Since Spring 2018, CSU has been a member of the AAVMC Veterinary Career Advisors Network (VetCAN); currently, the CSU Professional Resources Coordinator chairs that group. CSU students participate in biannual VetCAN-sponsored small animal predominant career and externship events. In Spring 2020, VetCAN hosted an inaugural public health and large animal-focused career event. Additionally, CSU co-hosted a virtual CDC day in Spring 2020. Within the fourth-year student survey, members of the classes of 2018-2021 were asked to list resources used for employment opportunities. Personal contacts and externships or previous work experience were listed as the most frequently used resources; other resources included CSU faculty, 11%-14%; list serve announcements, 10%-12%; DVM job board, 3%-10%; on-campus events, 4%-7%; and career counseling, 1%-2%.

When queried within the fourth-year student survey regarding postgraduation professional plans, members of the classes of 2018-2021 indicated the following: internship/residency/graduate program, 31%-45%; private practice, 47%-61%; government or industry, 1%-5%; other, 1%-8%. When asked if the DVM program inspired and equipped them for applying professionalism skills (e.g., ethical standards, excellence, advancement of the profession, compassion, integrity, accountability), 86%-99% of respondents in the classes of 2018-2020 responded affirmatively across skills; this number declined to 80%-93% with the class of 2021, consistent with overall more negative ratings and comments.

The DVM Pathways program was launched in Fall 2020 with the aim of providing resources and mentorship to students interested in careers outside of companion animal and livestock medicine; specifically, industrial livestock medicine, veterinary diagnostics, nontraditional species, and population health. The program website contains information regarding curriculum opportunities, relevant internal and external organizations, conferences, experiential opportunities, and faculty mentors. Since the launch in Fall 2020, more than 320 students have visited the website. Indications of postgraduation plans within the fourth-year student survey will be monitored to assess program impact.

12.6.6 Provide academic catalogue(s) (or an electronic address for this resource) and freshman/upper-class orientation materials.

The University General Catalog may be viewed, here. Course titles and credits, weekly schedules, and practicums specific to the DVM program may be accessed on the DVM SharePoint sites.

Before program entry, DVM students participate in a mandatory weeklong orientation that includes an overview of the College; information on scholastic standards, the honor code, and other policies; an introduction to Canvas; tips on financial planning and management; and information regarding student support resources, DEI, wellbeing, study skills, international learning opportunities, teamwork, and communication. The Ram Outdoor Leadership Experience is an interactive outdoor experience designed to develop professional skills and foster collegial relationships among incoming students. Along with faculty, staff, veterinary professionals, and existing student-facilitators, incoming students spend one to two days at the CSU Mountain Campus west of Fort Collins. This event was canceled in 2020 due to the pandemic, but resumed as a one-day event in 2021. Members of the classes of 2018-2021, within the fourth-year student survey, were asked to rate the value of the Mountain Campus experience using a 7-point scale, with 1 = no value, 4 = neutral, and 7 = great value. The average number of students assigning a rank of five or greater was: wellbeing, 56%-74%; opportunity to meet colleagues, 77%-87%; experience the outdoors, 79%-90%; communication skills, 35%-49%; teamwork, 50%-80%; opportunity to challenge self in new ways, 53%-72%. The orientation week culminates in an Oath and Passages (i.e., Coating) Ceremony.

Regarding third- and fourth-year practicums, students receive rotation descriptions, expectations, and grading rubrics from the third- and fourth-year Student Coordinator in the spring and fall prior to the start of the third and fourth years, respectively. The Coordinator offers individual advising to all students, particularly those with specific scheduling needs. Topics reviewed in the third- and fourth-year orientations include VTH policies and operations, radiation safety, biosecurity, medical records, student roles and responsibilities, scholastic standards related to rotations, and other topics pertinent to the clinical learning environment.

Tailored orientations are provided for the Vet Prep, DVM/MBA, DVM/MPH, and DVM/PhD students (program details provided in Standards 12.7.2 and 12.7.3). Each of the one-day orientations is conducted by faculty and staff representing both programs. The MBA, MPH, and PhD programs also require separate orientations. The Assistant Dean of Admissions oversees the Vet Prep orientation and serves as Program Director, as the individual overseeing combined and special programs.

UAF: Prior to the pandemic, after a week of UAF-specific orientation, UAF-origin students traveled to CSU and participated in all orientation activities there. In 2020 and 2021, UAF-origin students participated remotely in CSU orientation, with team building and networking activities duplicated in person at UAF as allowed.

12.6.7 Describe the system used on an ongoing basis to collect student suggestions, comments, and complaints related to the standards for accreditation.

Student comments on accreditation standards. Feedback regarding the College fulfillment of AVMA standards for accreditation is solicited within course surveys. The number of submissions by year is as follows: 2015/12; 2016/32; 2017/28; 2018/52; 2019/41; 2020/32; 2021/26. Of the 223 responses, 165 indicated that the College meets or exceeds accreditation standards, were neutral, or mixed. Between 2019-2021, five students expressed the view that the College failed to meet accreditation standards; four related concerns to pandemic-related restrictions. In 2021, there were four negative and six positive comments related to teaching modifications attributed to the pandemic. Overall, constructive feedback was offered on topics of facilities, specific courses, faculty, wellbeing, lack of large animal experiences, lack of hands-on training, responsiveness to student feedback, clinical experience, parking, task booklets, workload, online learning, tracking, exam scheduling, non-DVM faculty, grading, lack of ethnic diversity, tuition, and lack of dentistry training. Course-specific concerns were often addressed in response to feedback received through other mechanisms (e.g., course surveys, student representatives to the DCC). Other isolated issues had been or were in the process of being resolved to the extent possible.

Please see Standard 12.9.3 for a description of student assessments of courses, laboratories, and clinical rotations through course surveys and One45. Additional assessments relevant to accreditation standards are described in Standard 11: graduating fourth-year students and alumni, Standard 12.11.1.d; employers, Standard 12.11.1.e; general feedback mechanisms, Standard 12.11.3.c.

12.6.8 For student services that the college does not provide directly, describe how students have reasonable access to such services from the parent institution or from other sources that are relevant to the specific needs of students, and describe current plans for improvement in resources for students.

Please see Standards 12.6.2 and 12.6.5 for a complete listing of support services outside of the DVM program, listed according to topic, and planned improvements.

12.7.1. State the minimum requirements for admission.

Procedures and requirements for admission to the DVM program are publicly available. Requirements are reviewed annually for effectiveness as a selection tool, necessity to prepare candidates, and barriers to equal access. The CVMBS DVM admissions program complies with all federal, state, and University nondiscrimination statutes. The Veterinary Admissions Committee (VAC) employs a holistic process to evaluate objective and contextual data to admit a class of DVM students who will successfully complete the program and actively contribute to the current and future needs of the veterinary profession.

Course work: DVM candidates are not required to complete a degree before matriculation. Required prerequisites and recommended course work are found within the Admissions Requirements page. All required courses must be completed for credit with a grade of C- or higher at a Council for Higher Education Accreditation-accredited institution, including online programs. Candidates are provisionally admitted if requirements are not met at the time of offer; all prerequisites must be completed by July 15 prior to matriculation. Recent, upward academic trends in upper-division biomedical sciences courses are associated with favorable admissions outcomes.

Standardized test: Beginning with the 2021 application cycle, no standardized tests are required or considered for admission to the DVM or combined DVM/MS programs. The DVM/PhD program requires the Graduate Record Exam (GRE) with no minimum score.

Application: Candidates must submit the Veterinary Medical College Application Service (VMCAS) application, including all official transcripts and three letters of recommendation; CSU supplemental application; and application fees by the September 15 national VMCAS deadline for full consideration.

Interview: The Multiple Mini Interview (MMI) requirement was instated for the 2017 cycle based on faculty requests for additional nonacademic, cognitive assessment, as well as research-based evidence. Although the MMI was found to be reliable, minimal impact on candidate outcomes and cost-associated barriers resulted in discontinuation by the VAC for the 2021 cycle. No interview is currently required.

Residency: One hundred and fifty-two candidates are admitted to the DVM program annually. Distribution of candidates based on residency is as follows: Colorado residents (70); WICHE-certified residents (~15); UAF-CSU 2+2 with preference for Alaska residents (14); and nonsponsored residents, including international and non-Colorado residents (~53).

Special programs: Candidates may request consideration for a position in one of five combined degree programs: DVM/MBA (5 positions); DVM/MPH (5); DVM/PhD (3); DVM/MS-AnSci (2); and DVM/MS-Tox (1, international applicants only). Candidates pay no additional fee to apply to these programs. Candidates completing the minimum requirements to be certified in the CSU undergraduate Food Animal Veterinary Career Incentive Program (FAVCIP) are considered for admission in the Colorado-sponsored pool regardless of the candidate's residency, up to five positions. Any candidates describing a disadvantaged background in their application are considered for admission to the Vet Prep program, with 10 positions, in addition to the DVM program. During the reporting period, the DVM/PhD program expanded by one position, the MS-AnSci program admitted the first class in Fall 2017, the first DVM/MS-Tox student was admitted in Fall 2020, and the Vet Start program for CSU undergraduates was discontinued with diversion of funds to the Vet Prep program.

12.7.2. Describe the student recruitment and selection process, including measures to enhance diversity.

Recruitment: Candidates access information about the DVM program and admissions processes through the DVM program website. This site includes contact information for admissions staff for advising, tours, and application assistance. Advising is provided by the Assistant Dean of Admissions to any candidate or group upon request. Pre-veterinary club recruitment and advisement occurs virtually and in-person in Colorado and Alaska, and primarily virtually elsewhere. CSU undergraduate recruitment and support is provided by CSU Health Professions Advising with support from DVM Admissions.

Admissions Committee Membership: The VAC is described in the College Code (please refer to Appendix 1.5). Membership currently includes 19 department-appointed full-time faculty members who retain voting rights as well as ad-hoc faculty members (8) and community members (11). Seventy percent of membership are faculty. All members hold professional degrees and represent broad veterinary career fields and identity demographics. Subcommittees for special programs are composed of members of the VAC and representatives from the focus area and admitting College. All VAC members undergo six hours of training annually on admissions processes, holistic selection philosophy, and unconscious bias in admissions prior to the start of an application reading window. The VAC meets once at the conclusion of each admission cycle to reflect and discuss potential changes in the admission process.

Candidate evaluation: The Office of Veterinary Admissions and VAC follow a phased admissions process. Phase one: After the submission deadline, candidates with incomplete applications are notified of denial. Phase two: All candidates with a completed application are moved forward for review. Phase three: Decisions are released notifying applicants of a deny status, alternate status, or an offer to the DVM, combined degree, or specialty program. Applicants who have been

denied admission to a combined degree program may be notified of the combined degree denial before DVM decisions are released.

In Phase two, applications are reviewed in two steps. First, applicants with ≤ 3.2 GPA are reviewed by an Early Academic Review (EAR) subcommittee. This committee evaluates candidates for recent academic improvement along with contextual information regarding past performance. On average, 10% of EAR candidates are moved forward for general committee review. Those who are deemed to be academically noncompetitive are issued an early deny decision. GPA is for office use only to designate applications for EAR and for outcomes reporting. GPA is not considered in any subcommittee or general committee review since it may inaccurately reflect academic readiness. WICHE, UAF-CSU 2+2, and combined degree applicants are not included in the EAR to allow for extended consideration of all special program applicants in these areas, which have relatively small pools.

Second, the general committee (i.e., Colorado, nonsponsored, and WICHE-residency pools) and special program reviews are used to evaluate candidates holistically. The VAC Selection Philosophy was implemented in 1997. A holistic review allows the VAC to consider values that align with the College mission and veterinary profession without creating complex mathematical models to fit the confines of a point system. Without ranking formulas, weights, or cutoffs, each candidate's unique profile is considered for career and program fit. Areas of evaluation include academic preparedness; veterinary-related experiences; non-veterinary experience and achievements; essay responses; letters of recommendation; service to various communities including underserved populations; overall fit and readiness; and special circumstances. This process has been endorsed by the College faculty and University legal counsel.

General application reviews are performed by pairs of VAC members with at least one seasoned reviewer in each pair. Reviewers assess applications independently, then work together to discuss and select a final ranked list of applicants. Two pairs of reviewers assess the Colorado-sponsored applicants. A representative from those pairs assesses and merges the ranked lists from the two reading pairs for a final list of Colorado candidates. Ten or more pairs of VAC members review the nonsponsored candidates, the larger pool of applicants. After all pairs have selected and ranked their top nonsponsored candidates, the Office of DVM Admissions merges these lists for a final ranked, nonsponsored candidate list. WICHE state pools are reviewed and selected by VAC members with respective WICHE Council State Representatives (i.e., Arizona, Hawaii, North Dakota, New Mexico, and Wyoming). Subcommittees review special and combined degree program applicants. These applicants are also reviewed for DVM-only entry based on residency. Top combined or special degree program candidates may receive a superseding offer to the combined or special degree program over the regular DVM offer except in the case of Vet Prep candidates, who may receive both a Vet Prep and a DVM offer. Candidates who are denied a combined or special program offer may receive a DVM offer. The criterion-based holistic review necessitates ongoing assessment and review of individual candidate data. Overall, this process stimulates the self-, pair-, and group-regulation of reviewers' explicit and unconscious biases through discussion of candidate application materials.

UAF: An Alaska student may indicate a preference to be considered solely as a CSU-origin student, in which case they are considered a nonsponsored applicant. Alaska residents who indicate their intention to be considered as a UAF-origin sponsored applicant are considered for both programs.

Measures to enhance diversity: During the reporting period, representation by URM students in the first-year cohort climbed from 16% to 25% (22% seven-year average). Incoming first-generation and rural students have a seven-year average of 24% and 33%, respectively. Success in these areas stems from improved VAC training on the holistic review process, greater awareness of the inclusive process among pre-veterinary advisers and candidates, and growth in diversity of applicant pools. Annual assessment of application requirements and review processes are aimed at removing barriers that impede program access by diverse candidates. Examples include removal of the standardized test requirement, discontinuation of the MMI, addition of VAC unconscious bias training, and lowering of the GPA for EAR designation. College reputation, actions of the DEI committee, and a robust student ambassador program have furthered candidate awareness of the CSU climate of inclusivity and advocacy.

Vet Prep Program: Since 1997, the Vet Prep Program has promoted recruitment and retention of diverse candidates. Any DVM applicant who claims an economic, social, learning, physical, or cultural disadvantage in their application is considered for the Vet Prep program. Vet Prep is a yearlong academic and professional preparatory program that offers up to 10 candidates the opportunity to earn a professional MS or to focus studies on foundational biomedical courses. Parallel programming supports academic, social, professional, and/or wellness development prior to DVM program entry. The CVMBS provides $10,000 of scholarship funds to each candidate, and program completion confers eligibility for Colorado resident status. Students are guaranteed admission into the DVM program if they maintain a 3.0 GPA and earn no lower than a C- in courses during the year. Since previous reporting, the selection of Vet Prep candidates has transitioned from a post-review of denied DVM candidates to a parallel review of disadvantaged candidates along with the residency-based DVM review. Candidates may receive both a DVM offer and a Vet Prep offer, with some candidates choosing the latter. Vet Prep has a 94% success rate with 155 students successfully enrolling or graduating from the DVM program. Vet Prep students contribute to a large portion of underrepresented students in the program, including URM, veteran, disabled, and first-generation students.

Vet Start: The Vet Start program was founded in 1989 and discontinued in 2015; the last cohort will graduate in 2023. This program focused on recruitment and retention of disadvantaged high school students who pursued a scholarship-supported bachelor's at CSU while preparing their DVM application. The retention rate to DVM conferment is 75%. Vet Start support funds have been redirected to Vet Prep.

12.7.3. List factors other than academic achievement used as admission criteria.

The holistic review takes into consideration unique life experiences, achievements, and readiness to enter the DVM program. In addition to recent, strong achievement in upper-division biomedical science course work, areas of nonacademic skills are considered when selecting top DVM candidates.

Veterinary-related factors: The VAC recommends 300-500 hours of veterinary-related experience in candidates' interest areas. No minimum quantity of hours is required; quality of professional interactions is emphasized over number of hours. Top candidates do not need experience with diverse animal species. Other considerations include consistency of experience or employment; alignment of interests with experience; understanding of the profession; knowledge of animals and their owners; the potential to serve unique communities; commitment to pursuing a career in veterinary medicine; and the diverse needs of the profession. Admitted candidates often have experience with animals outside the professional veterinary setting (e.g., animal husbandry, welfare, industry, handling, human-animal bond).

Non-veterinary experience and achievements: Consideration of employment history, volunteer activities, research experience, and extracurricular interests allows for assessment of skills related to communication, professionalism, service, business, leadership, wellness, and technical performance, as well as knowledge and perspectives relevant to veterinary medicine. There is much appreciation for candidates who seek experiences outside veterinary medicine. Honors and awards are considered.

Essays and letters of recommendation: VMCAS and Colorado Supplemental Application (CSA) essays are assessed for information related to a candidate's reasons for pursuing a DVM, communication skills, maturity, and understanding of the veterinary profession. Letters of recommendation provide data related to the candidate's suitability for the profession, academic ability, and important professional attributes. Credentials, establishment, and legacy status of referents are not considered by the VAC. Referents are not contacted outside the letter that is provided through VMCAS.

Special circumstances: The VAC members consider special circumstances related to academic performance, ability to obtain experience, or other factors. Performance in upper-division biomedical science courses is considered in the context of extracurricular demands such as financial restrictions, familial obligations, and personal health needs. The VAC members note candidates who reflect on growth, resilience, self-awareness, advocacy, and other attributes that may be beneficial in navigating professional demands. The Special Circumstances, Explanation Statement, and Disadvantage Essay opportunities in the VMCAS and CSA allow candidates to highlight these factors.

Special programs: Program cohorts are selected based on candidate readiness to enter the DVM program, as well as potential fit for the specialty degree or program. In addition to general veterinary application requirements, additional considerations by each program are highlighted below.

- **FAVCIP:** CSU undergraduates who achieve FAVCIP certification may submit a FAVCIP-specific narrative on the CSA for special consideration for admission to the DVM program. The FAVCIP subcommittee considers motivation for pursuing a career in food supply veterinary medicine and experiences relevant to animal health and welfare needs of the food animal industry.
- **Master of Animal Science (MS-AnSci) + DVM:** Candidates who seek careers in food animal medicine, industry, welfare, and production may submit an MS-AnSci-specific narrative on the CSA for admission to the DVM/MS-AnSci program. Faculty from the CSU College of Agricultural Sciences and members of the VAC consider interests and experiences in agricultural research, medicine, and industry, as well as the candidate's ability to thrive in a dual-degree program.
- **Master of Business Administration (MBA) + DVM:** Candidates interested in entrepreneurship, leadership, and business may submit an MBA-specific narrative on the CSA for admission to the DVM/MBA program. Administrators from the CSU College of Business and members of the VAC consider prior experience in the workforce and interest in veterinary-related business, as well as a candidate's ability to thrive in a dual-degree program.
- **Master of Public Health (MPH) + DVM:** Candidates interested in public health may submit an MPH-specific narrative on the CSA for admission to the DVM/MPH program. Administrators from the Colorado School of Public Health and members of the VAC consider interests, experience, and training in public health, epidemiology, regulation medicine, and similar fields.
- **Master of Toxicology (MS-Tox) + DVM:** International candidates may submit an MS-Tox-specific narrative in the CSA for admission into the DVM/MS-Tox program. Faculty from the ERHS department and VAC members assess interest and fit for studying toxicology, environmental health, pharmacology, and pathology. The MS-Tox program is uniquely suited to provide support to international candidates during their first year on the CSU campus.

- **PhD + DVM:** Candidates who seek admission to the DVM/PhD program must submit a DVM/PhD-specific narrative in the CSA as well as external application materials that include a curriculum vitae, letters of recommendation from research professionals, and GRE scores. Research faculty from the CVMBS and members of the VAC consider experience, achievements, research interests, academic performance, and ability to thrive in a demanding program.
- **UAF-CSU 2+2:** Alaska residents and nonresidents submit a UAF-specific narrative within the CSA. Qualified and competitive Alaska residents are given preference in an effort to address the need for veterinarians in Alaska. UAF and CSU VAC faculty consider candidates' relationship to Alaska; interest in serving Alaskan communities; knowledge of veterinary needs within Alaska; and interests in public health, wildlife disease, sled dog medicine, and/or marine animal sciences.
- **Vet Prep:** Any applicant to the DVM program who expresses a qualified disadvantage in the Disadvantage Essay in the CSA, or within any other essay, is considered for entry into the Vet Prep program by a subcommittee composed of members who are uniquely aware of challenges that individuals from underserved populations must overcome to have equal access to veterinary education. Please refer to Standard 12.7.2 for a detailed description of this program.

12.7.4. Complete Table A.

See Appendix 7.4

12.7.5. Describe current plans for assessing the success of the selection process to meet the mission of the college.

Annually, the Office of DVM Admissions analyzes outcomes of the application cycle, including applicant numbers, offer outcomes, and cohort demographics. These data direct analysis of recruitment and selection strategies in subsequent cycles. The VAC dedicates at least one meeting annually to reflect on the prior admissions cycle, current data, and admissions trends to inform future enhancements. Such changes included discontinuation of the standardized test and interview requirements, addition of bias training to VAC preparation, improvement of guidelines for the holistic review, and raising of academic standards for UAF and WICHE candidates to the level of Colorado and nonsponsored applicants. Although there is an extremely low rate of attrition in the DVM program, application materials of DVM students who interface with the DVM CSPS are often reviewed for trends that may influence future VAC considerations. The VAC also considers prerequisite course requirements that may better prepare students for success.

UAF: Key goals of the UAF-CSU 2+2 are to provide Alaska residents the opportunity to study veterinary medicine, offer training specific to Alaska culture and state needs, facilitate development of professional relationships with Alaska veterinarians and entities, and ultimately meet workforce needs in the state. Of 28 graduates, 11 have returned to Alaska to practice; this outcome to date is in accordance with stated goals.

12.7.6. Describe your policies and procedures for admitting transfer students who will receive a degree from your institution and state the number of transfer students admitted per year for the last five years.

The DVM transfer policy is available online. Transfer applicants must have successfully completed at least two semesters at an AVMA-accredited college of veterinary medicine, be in good academic standing, and not be assigned an academic warning, probation, or dismissal. Students who have withdrawn from their institution are not eligible. Candidates are assessed on current academic performance, reason for transfer, and alignment of completed curriculum with that of the class into which they are transferring. The decision on acceptability of the transfer candidate is made by the Assistant Dean of Admissions, Chair of the VAC, AD-DVM, and faculty relevant to any potential academic limitations. Transfer candidates may be required to take appropriate Capstone examinations and/or complete assigned review materials prior to entry. Six transfer students were admitted during the reporting period; three into the first year, and three into the second year.

12.8.1. Complete Tables A and B. Assess the strengths of the faculty and support staff in fulfilling the College mission.

Please see Appendix 8.1 for Tables A and B.

The CVMBS has a large, dedicated, and highly trained team of faculty and staff, many of whom are international leaders in their fields with significant contributions to science, teaching, and service. Faculty from all four CVMBS academic departments participate in the DVM program: BMS faculty provide a large portion of the curriculum in year one, including anatomy and physiology courses; MIP faculty are heavily involved in all four years of DVM training, providing expertise in infectious disease, immunology, pathology, and diagnostics; ERHS faculty provide training to third- and fourth-year students in diagnostic imaging and radiation therapy; CS faculty are involved in all four years of the DVM curriculum, with greatest emphasis during the clinically focused third and fourth years. Staff including veterinary technicians, lab coordinators, research technicians, and liaisons interact with students during the course of their clinical and laboratory training. These interactions involve one-on-one instruction typically surrounding basic skills such as venipuncture and positioning patients for diagnostic images, as well as high-level skills such as client communication and functional health care team dynamics. As noted in Standard 10, faculty from all four departments provide research opportunities through the DVM/PhD program and the Veterinary Summer Scholars Program (VSSP).

The clinical veterinary program has experienced significant growth in caseload and associated faculty and staff. Primary areas of growth include neurology, cardiology, dentistry, community practice, equine sports medicine, equine surgery, and oncology. In addition to new faculty and staff, several chairs have been endowed including the Stephen J. Withrow Presidential Chair in Oncology, the Leslie A. Malone Presidential Chair in Equine Sports Medicine, the Shipley University Chair in Comparative Oncology, the Van Dyke University Chairs in Cardiology and OMM, and the Jorgensen College Chair in Small Animal Emergency and Critical Care. Endowed chairs are managed by the chosen individual and reflect donor intent. These positions are advantageous in providing salary and supporting scholarly activity.

The DVM Services Team offers robust and broad support of students, as described in Standard 12.6.

12.8.2. State the current number of academic faculty (head count) who possess credentials as listed in Tables C and D.

Please see Appendix 8.2.

12.8.3. Assess the challenges for your College in maintaining faculty numbers and quality.

Overall, the CVMBS has experienced successes and challenges in recruiting and retaining high-quality faculty. Several areas have required additional resource investment to maintain excellence. While faculty salaries across the College continue to exceed the national average, total compensation packages are being reviewed and recalibrated to be more market-competitive with other highly ranked institutions. The pandemic has required innovation in recruitment and retention approaches as individuals reassess needs around health, wellness, and career directions. A high-quality student experience is prioritized but balanced with the need to ensure that faculty and staff are also appropriately supported.

The College employs both tenured and tenure-track faculty, along with non-tenure track contract, continuing, or adjunct (CCA) special appointment faculty. The definitions of basic types of faculty positions at CSU, terms of employment, and pathways to promotion can be found in the Faculty Manual. Post-tenure review is required every five years. There are pay discrepancies based on tenure versus non-tenure track. Per the latest AAVMC Institutional Data Report, CVMBS salaries for tenured or tenure track full, associate, and assistant professors are higher than those earned by CCA faculty in the same categories. These data must be interpreted, however, in light of a low number of CCA full professors and a more variable effort distribution assigned to CCA faculty.

Typically, CCA faculty are more focused on clinical service, research, or teaching versus involvement in all three. The standard for promotion of CCA faculty is included in the Code of each department as required by CSU. The University system allows one- to three-year contracts for contract faculty; however, even with three-year contracts and nearly identical benefits and privileges, a culture persists in which tenure positions are more desirable, due largely to the perception that they are more stable and prestigious and have greater earning potential. On rare occasions, the College has been unable to retain CCA faculty who are recruited for tenure-track positions at other institutions. With development of the VHS, models for incentivization of clinical work are being explored.

UAF: Recruitment, hiring, and retention of faculty are challenging, particularly individuals with specialty training. This is attributed to program location, high teaching load, and absence of a teaching hospital. In the last three years, four faculty have left the DVMed for reasons primarily related to family needs and professional opportunities. The CNSM has initiated several searches and through competitive offers has recently recruited new faculty to fill vacancies and meet instructional needs. This hiring activity, particularly given the current fiscal climate, reflects the commitment of UAF administration to the UAF-CSU 2+2. At the end of the reporting period, all DVM faculty held DVM and PhD degrees, and two of six were board certified.

12.8.4. Provide information on the loss (what discipline/specialty) and recruitment of faculty. (Table A).

Research position vacancies are filled when departmental faculty deem the focus area sufficiently important to the department and/or College mission so as to warrant replacement. Replacement of teaching talent is generally more straightforward according to curriculum needs, though flexibility occurs as existing faculty expand or shift teaching assignments. The aim is to hire proactively, in advance of need; with fewer applicants and more complex recruiting presently, however, this occurs less frequently. Please see Appendix 8.1 for Table A.

12.8.5. Provide a concise summary of promotion and tenure policies, and the policy to assure stability for non-tenured, long-term faculty.

The policies defining the types of faculty and governing tenure and promotion are detailed in the CSU Academic Affairs/Faculty Manual. Faculty are evaluated annually, providing a basis for compensation, promotion, and tenure discussions. The needs of non-tenured faculty are actively addressed by the CCA Task Force. Currently, faculty activity is recorded in Digital Measures, a software program that captures scholarly activity, service, and teaching as part of the annual review process. The College and University continue to evaluate the effectiveness of this program with ever-evolving faculty needs and activity complexity.

UAF: Faculty have tenure lines in the CNSM rather than the DVMed. Tenure and promotion criteria specific for the department have been developed due to the unique teaching roles of DVM faculty and are currently awaiting final faculty senate approval.

12.8.6. Provide an estimate of the weight assigned to promotion/tenure and or compensation for teaching, research, service, or other scholarly activities.

All faculty are evaluated annually by their respective Department Heads; junior (i.e., non-tenured) faculty are also evaluated at least annually by a mentoring committee consisting of tenured faculty who are selected by the faculty member in partnership with the Department Head. Productivity and effectiveness in teaching, research, and service, in alignment with position descriptions and effort distribution, are the basis for annual evaluations. The weight assigned to promotion/tenure and compensation is directly related to effort distribution across the areas of activity for each faculty member. The College values of transparency, accountability, collaboration, respect, and innovation are incorporated into a reflection exercise that is encouraged for use by all faculty and staff in the annual performance review process. These values are also incorporated in the recognition platform of the College, which includes faculty awards, annual faculty/staff Living Our Values awards, and daily peer-nominated SPOT awards.

UAF: Tenure, promotion, and compensation are based on effort distribution.

12.8.7. Briefly describe faculty professional development opportunities available in the College/university, including, but not limited to learning theory and instructional practices.

College faculty and staff are encouraged to continue lifelong learning through a variety of professional development opportunities. Examples include junior faculty mentorship programs; grant-writing training sessions; scientific and teaching seminar series; faculty sabbaticals; and leadership training opportunities. Individuals within the College have partnered with the University to encourage participation in DEI and social justice professional development opportunities as well as leadership training through the CSU Supervisor Development Program. Workshops on an array of topics are regularly provided for faculty throughout the College and University (e.g., TMI Talks, Professional Development Institute hosted by the University Institute for Learning and Teaching, annual Diversity Symposium, Crucial Conversations training, Healthy Boundaries facilitated discussions, 7 Habits for Highly Effective Leaders). College leadership strongly encourages and supports participation in national and international professional organizations and scientific conferences.

College-level professional development in learning theory and instructional practices is supported by the CVMBS Assistant Dean of Teaching and Learning (AsD-TL) and the CVMBS Academy for Teaching and Learning. Opportunities are scheduled and located for accessibility, and include approximately eight lunchtime seminars annually on selected education topics, three full-day education workshops annually, one education book club every semester, one-on-one instructional preparation sessions, and peer observations of didactic and clinic-based instruction. Topics of seminars and educational offerings include innovative instruction, curricular alignment, assessment best practices, and strategies for teaching diverse learners. More than 130 faculty have received at least one peer observation from the AsD-TL since 2015.

There is an identified need for leadership within the veterinary profession. To identify and support emerging leaders and to progress succession planning within the College, resources have been invested in consultants in leadership development, including the LAK Group, Kris Boesch from Choose People, Betsy Charles from the Veterinary Leadership Institute, the AsD-TL, and the CVMBS Human Resources team.

In addition to the College, the University offers an array of professional development opportunities through the CSU

Office of Equal Opportunity, The Institute for Learning and Teaching, the Vice President for Inclusive Excellence, and CSU Talent Development. Training offered through these University offices is free and available to faculty and staff at all employment levels; some training is available online.

The College Research Council provides seed money for intramural pilot projects to generate preliminary data in support of larger, extramural grants. In 2021, the CRC expanded support to include pedagogical research to strengthen the teaching mission and its integration with the research mission. This support also rewards faculty for increasing teaching effectiveness through research, innovation, and scholarly activity.

UAF: Faculty development is provided by a team of faculty through Faculty Accelerator. In addition, the DVMed has supported participation by faculty in the postgraduate certificate in veterinary education at the Royal Veterinary College. One faculty member is a graduate of this program and one is currently enrolled. UAF faculty have access to CSU resources and, as noted, are supported by the CSU AsD-TL.

12.8.8 Describe the college's processes to annually monitor equity in compensation and advancement.

College leadership, including Department Heads, continually monitor salary ranges, equity, compression, and advancement opportunities due to the impact of these factors on the ability to recruit and retain high-quality faculty. The CSU Office of Institutional Research, Planning, and Effectiveness evaluates salary equity in relation to tenure-track faculty, while the Office of Equal Opportunity conducts a similar evaluation for non-tenure track faculty and staff. Annually, these data are provided to the College and Department Heads to highlight any outlier salaries that must be addressed, while also informing salary ranges for recruitment as well as merit, equity, and promotions during the annual salary exercise. College leadership also evaluates information within the annual AAVMC Institutional Data Report. Data observed in 2020-2021 prompted a more intense review and recalibration of the total compensation philosophy in an effort to recruit and retain top talent. While salaries in the College are above the national average in almost all categories/ranks, there is continual exploration of methodologies for building competitiveness in today's market and ensuring that all feasible retention mechanisms are engaged. The 2018 University Climate Survey was completed by 75.5% of individuals within the College. The data revealed ways to increase leadership opportunities, enhance work-life balance and wellbeing, and ensure that advancement is inclusive of all desiring to grow in their careers.

UAF: Faculty are part of a union; the collective bargaining agreement between the faculty and UAF governs compensation and advancement, including equity.

12.8.9. Describe current plans or major changes in program direction that would be affected by faculty retirements, recruitment, and retention.

Work within the TMI, part of the VHS, is focused on stem cell and regenerative medicine therapies for both animals and humans. The TMI includes state-of-the-art surgical, imaging, research, and training facilities. The institute allows expansion of current orthopedic and regenerative medicine programs and increases endowed faculty positions.

The CVID, completed in October 2020 on the CSU Foothills Campus, builds on existing strengths in zoonotic disease, wildlife reservoirs, and One Health solutions targeting animal, human, and environmental health. It provides a Biosafety Level 2 open laboratory. As senior faculty pillars in this area of research retire, the CVMBS reputation and unique facilities have provided opportunities to retain and grow world-class faculty.

The CVMBS has led a campuswide One Health Initiative (OHI) that continues to gain momentum, and is supported by all eight colleges and three schools including Biomedical Engineering, the School of Public Health, and the School of Global Environmental Sustainability. Two recent enhancements to the OHI have been a seed-grant program and the hiring of a One Health Director, Dr. Sue VandeWoude, a veterinarian and member of the National Academy of Sciences.

Please refer to Standard 12.1.6 for information regarding the VHS; Standard 12.3.1 for information regarding the JFEH; and Standard 12.9.7 for information regarding curriculum renewal.

UAF: There are no plans for major changes.

12.8.10. Describe measures taken to attract and retain a diverse faculty.

Please refer to Standards 12.1.7 and 12.9.9 for a description of DEI training, resources, and outcomes; the College DEI Committee; and the recent hire of an AsD-DEI. At the University level, the Office of the Vice President for Inclusive Excellence "strives to foster an inclusive environment that promotes and nurtures diversity" by recruiting and retaining faculty, staff, and students from historically excluded groups; promoting a welcoming and inclusive campus climate; and engaging in educational outreach and community-building. From a College recruitment and hiring perspective, search committee members and chairs undergo DEI training aimed at ensuring a fair and equitable search process, and specific guidance is provided by the Office of Equal Opportunity representative assigned to each search committee. Members work to write inclusive position descriptions, and advertise with journals and organizations that reach large and diverse

audiences. It should be acknowledged, however, that a recent paucity of applicants for critical positions has necessitated hiring from severely reduced and minimally diverse applicant pools.

As per the Office of Equal Opportunity, "CSU does not discriminate on the basis of race, age, creed, color, religion, national origin or ancestry, sex, gender, disability, veteran status, genetic information, sexual orientation, gender identity or expression, or pregnancy. The University shall promote equal opportunity and treatment in employment through a positive and continuing affirmative action program for ethnic minorities, women, persons with disabilities, and veterans." The College partners with the Office of the Vice President for Inclusive Excellence for professional development and training. For example, Department Heads and Chairs participate in an eight-hour hour workshop conducted by the Office titled "Chairs and Heads Institute of Inclusive Excellence." Search chairs must undergo training conducted by the Office of Equal Opportunity that includes a recently expanded emphasis on DEI in the search process.

CSU was recently awarded a National Science Foundation ADVANCE Award, contributing to the goal of developing a more diverse and capable science, technology, engineering, and math (STEM) workforce. Aimed at the nationwide problem of inequity among faculty members in these disciplines, this project aims to improve equity in recruitment, retention, and promotion, with a focus on gender equity but also recognizing other types of cultural, ethnic, physical, and economic backgrounds.

UAF: All search committee members are required to participate in DEI training, specifically pertaining to unconscious bias.

12.8.11. Describe programs for on-campus delivery of curricular content by individuals not employed full time by the institution (other than occasional guest lecturers), including subjects taught. Estimate the percentage of core curricular content delivered in this way.

With the exception of guest lecturers in select classes, the DVM curriculum is predominantly taught by College employees. Two individuals fall outside of this categorization. Dr. Kathleen Cooney, an affiliate faculty member in the Department of CS and local veterinarian, co-coordinates VM 735 Animal Welfare and provides 10 hours of core euthanasia training. Dr. Chris Pachel, an outside consultant, provides 20 hours of small animal behavior training in the third-year practicum. Student questions on behavior topics that cannot be answered by Community Practice faculty are directed to Dr. Pachel, who is responsive. Students evaluate these individuals, including guest lecturers, through course evaluations as with permanent faculty instructors.

UAF: Non-UAF faculty and regional veterinarians conduct laboratories and coordinate distance-delivered courses based on expertise. In Fall 2021, Fairbanks-based practitioner Dr. Joanne McCrea provided large animal Foundations laboratories, and Dr. Benjamin Barst from the UAF Institute of Northern Engineering coordinated VM 751 Veterinary Clinical Toxicology.

12.8.12. Describe the role of interns, residents, and graduate students in teaching and evaluating veterinary students.

Please refer to Appendix 6.1 Table B for intern, resident, and graduate student numbers. These individuals are integral to the College operation and mission. In clinical education, faculty strive to realize a team approach in case management, with students working closely with clients, staff, interns, residents, and faculty. Point-in-time and summative feedback is provided to students, and house officer engagement in the evaluative process is encouraged. Residents, and less commonly interns, are queried by faculty to provide input for end-of-rotation comments and grades. In general, interns, residents, and graduate students are not directly responsible for delivering DVM curriculum content. Prior to the pandemic, the Supporting Residents in Teaching program offered a series of in-person training opportunities in communication and teaching (e.g., SOAPs as teaching tools, teaching culture at CSU, effective clinical teaching). This program was suspended due to the pandemic, with the intent of reinstating and growing it when feasible.

UAF: Previously, qualified graduate students with a DVM and pertinent expertise coordinated or delivered courses (e.g., VM 722 Veterinary Pharmacology, VM 751 Veterinary Clinical Toxicology, VM 737 Principles of Anesthesia). Currently, no such activities are ongoing.

12.9.1 State the overall objectives of the curriculum and describe how those objectives are integrated into individual courses.

Please see Appendix 9.1.

12.9.2. Describe major curricular changes that have occurred since the last accreditation.

Please see Appendix 9.2.a.

DVM Steering Committee: Core Competency Work. The DVM Steering Committee was created in 2013 at the direction of the Dean and AD-DVM to serve in an advisory capacity to the AD-DVM, and develop and oversee overarching DVM program initiatives. In 2018, the DVM Steering Committee engaged faculty within discipline (e.g., Anatomy, Physiology) and section (e.g., Cardiology, Anesthesia) groups in identifying core competencies for their areas. This work was initiated both as a comprehensive curriculum review and as the foundation for curriculum renewal. Educational and professional literature, as well as input from practitioners, professional organizations, and colleagues outside of CSU, were used to inform the competency lists. Content was reviewed in the context of the entire curriculum so that flow of information, gaps, redundancies, and omissions could be identified. A total of 27 discipline groups and sections engaged in this process. Each group developed a list of core competencies that were mapped to existing learning objectives and occurrence in the curriculum.

At the completion of that work, representatives from each group were asked to report their findings to the Steering Committee. In addition to reviewing the competencies, the Steering Committee engaged the groups in discussion of the following questions:

- How is your content integrated across the DVM program?
- What are the teaching methodologies for your discipline/section across the program?
- Where did you identify curriculum gaps?
- Where did you identify unhelpful curriculum redundancy?
- Where did you identify content beyond Day 1 competencies?
- What recommendations do you have for curricular revisions?

Each group presented the Steering Committee with a written report. A summary of each of these meetings and identification of next steps was captured by the Steering Committee. At the conclusion of the process, each of the reports was saved in a shared folder so faculty and committees could access the reports as needed for short-term and future curriculum revision and renewal. A summary of changes that were made in the short term (i.e., not all disciplines or proposed changes are listed) is provided in Appendix 9.2.b. The Steering Committee transitioned to ad hoc status in 2020 after completion of key tasks and assumption of future program design and oversight by the Curriculum Renewal Committee.

12.9.3 Describe the process used for curriculum assessment (including course/instructor evaluation) and the process used to assess curricular overlaps, redundancies, and omissions.

The structure, membership, and objectives of the DCC are described in the CVMBS College Code (please see Appendix 1.5). The committee meets twice monthly during the academic year and as needed. Continuous programmatic review by the committee is achieved by two principal mechanisms. First, a high-level review of the program is conducted every seven years. During the reporting period, this was accomplished twice through the systematic course review conducted by the DCC, detailed in Appendix 9.2.a, and by the core competency work completed by the DVM Steering Committee, outlined in Standard 12.9.2 and Appendix 9.2.b. Additionally, a targeted systems review is conducted as needed in accordance with student and/or faculty feedback, principal instructor turnover, or curricular reorganization. The DCC considers new curriculum offerings on emerging topics proposed by students and faculty.

Student evaluations of course content, delivery, and instructor effectiveness are available to students throughout the semester, in response to student feedback indicating a preference for evaluation of course sections point-in-time. As noted, these evaluations were revised in 2016-17. An online evaluation form is used to manage these data confidentially. Quantitative and qualitative feedback are provided to course coordinators and individual instructors; coordinators may view the entire report, while instructors are limited to information relevant to the course and their section(s). Additionally, the AsD-TL and/or the AD-DVM review student evaluations as indicated, based on student or instructor feedback. Pre-tenure faculty are encouraged to solicit teaching observations by peers and/or the AsD-TL annually. The AsD-TL also provides individual faculty coaching and workshops in support of faculty development.

Student evaluations of clinical rotations, including assessment of faculty, house officers, and employees, are solicited online through One45. Student response rates averaged 93% during the reporting period. Student assessment data are sent to clinical section heads quarterly for review and subsequently distributed to relevant individuals. Summaries are

routinely reviewed by the faculty Assistant Department Head for Clinical Education and/or the third- and fourth-year Student Coordinator. The AD-DVM reviewed and summarized feedback relevant to each course and practicum as part of the systematic course and practicum review conducted by the DCC, and reviews summary reports when needed in accordance with student, house officer, staff, or faculty feedback. Opportunities for improvement are addressed through section meetings and/or with individuals as appropriate. Course and instructor evaluations are incorporated into the annual review process. Effectiveness and innovation are rewarded, while individuals with limitations are assisted through provision of resources. The CVMBS Academy for Teaching and Learning, led by the AsD-TL, offers an array of educational support services.

UAF: Core course work and student learning objectives at UAF are identical to those at CSU. UAF-origin students complete course evaluations at the end of each semester. Students may also provide feedback confidentially through their class representatives to instructors or administration. Some instructors solicit feedback specific to changes in course delivery or structure. The small class size and strong faculty engagement lend themselves to informal dialogue. At least once yearly, as allowable in the context of the pandemic, the CVMBS AsD-TL visits UAF and provides teaching observations. The AsD-TL and the AD-DVM meet with UAF-origin students during annual visits and as needed; perspectives are shared with the CNSM Dean, the AD-DVM-UAF, and UAF faculty, and action plans devised. UAF is represented on the CSU DCC by the AD-DVM-UAF and a UAF student. Courses offered at UAF are reviewed and approved by the UAF CNSM Curriculum Committee and University Curriculum Committee, then routed to the CSU DCC for final approval.

12.9.4 Describe the strengths and weaknesses of the curriculum as a whole.

Curriculum strengths

Dentistry and Oral Surgery. Led by two boarded dentists, expansion of the Dentistry and Oral Surgery suite has enabled realization of a core Dentistry rotation for all students in the small animal track. When capacity falls below demand for elective Dentistry rotations, students are directed to DFL, Community Practice, and local clinics that provide this experience. The Equine Dentistry and Lameness elective, along with a clinician specializing in equine dentistry, provide training to students with equine interests.

Equine clinical and research opportunities. Equine clinical services include medicine, surgery, reproduction, sports medicine, emergency and critical care, and ambulatory/primary care. Partnerships with regional nonprofit organizations offer all students opportunities in high-volume dental, primary, and preventive care (please see "Regional, national, and international experiential opportunities" below). New podiatry programming brings national experts to provide hands-on interactive learning experiences within third- and fourth-year clinical rotations. Clinical and translational research in equine orthopedics informs curriculum, provides research experience to students, and draws exceptional equine faculty.

Oncology clinical and research opportunities. The FACC is a world leader in the treatment of dogs, cats, and other pets with cancer, having four decades of experience in providing cutting-edge, comprehensive, and compassionate care. The FACC is also home to an array of basic science and clinical research programs, informing clinical practices, providing research opportunities to students, and drawing exceptional faculty, staff, and house officers to CSU.

Basic, clinical, and translational research. Please see Standard 10.

Professional communication. The Veterinary Communication for Professional Excellence curriculum is one of the most progressive in the nation, incorporating simulated clients, observational learning, feedback and self-evaluation, individual video review, and progressive skill advancement, all of which ultimately improve patient care and foster the human-animal bond. Student and alumni feedback indicate that this is one of the most valued components of the CSU DVM program.

Combined-degree options. The DVM/MPH, DVM/MBA, DVM/MS-AnSci, DVM/MS-Tox, and DVM/PhD programs address varied student interests and identified needs for veterinarians in unconventional and specialized roles. Please see Standard 12.7.3 for detailed information.

Vet Prep Program. Please see Standards 12.7.2 and 12.7.3 for more details regarding Vet Prep.

Instructional excellence. Teaching is a high priority for faculty, evidenced by robust engagement in curriculum and assessment committees and in the Teaching Academy of the Consortium of Western Region Colleges of Veterinary Medicine, of which 13 CSU faculty are members. The AsD-TL has led critical improvements such as implementation of ExamSoft, initiation of the DVM Assessment Committee, innovation in individual courses, teaching observations of faculty, and individual and group pedagogical support.

Clinical faculty resources. All clinical sections, with the exception of Nutrition, are normally represented by at least two specialists, providing depth and breadth of experience as well as ample availability to trainees. Student surveys indicate that CSU DVM faculty are highly valued contributors to their professional education.

Spanish-language education. The CSU DVM program provides robust and innovative Spanish-language training. In partnership with faculty within the CSU Department of Languages, Literatures, and Cultures, the Director of DVM Outreach and International Student Experiences created courses and practicums designed for veterinarians. Electives include

VM 620 Introduction to Spanish for Veterinarians; a four-part online series of modules titled Spanish for Rural Veterinarians I-IV; and two third-year practicums focused on large and small animal client communications. Additionally, 24 fourth-year DVM students annually are supported in traveling to Todos Santos, Mexico, for an intensive spay/neuter and community outreach experience, advancing language and surgical skills as well as cultural competence.

Regional, national, and international experiential opportunities. Under the leadership of the Director of DVM Outreach and International Student Experiences, students are led to expand their global perspective and develop professional skills by experiencing veterinary medicine in diverse cultures and locations, and working with veterinarians in general and specialty practice, public health, and government. Examples include a one-day health outreach campaign in partnership with the CSU-based UC SOM, to provide human and veterinary wellness care in urban Denver. The Community Practice service supports the Inclusive Health Collaborative, a partnership between Community Practice, the UC SOM, and the CSU Social Work program to offer broad support to individuals experiencing homelessness and their pets. As part of the Equine Field Service, students from all four years of the program travel to the DFL Harmony Equine Center and other ranches and rescue organizations to provide preventive, wellness, and general medical and surgical services. Approximately 135 students have participated in Harmony Equine Center opportunities alone.

Opportunities available to first- and second-year students include experiences in the Navajo Nation (4-6 students); Alaska (12 students); and Italy (2 students). Opportunities available to fourth-year students include experiences in Japan (4 students); Scotland (5 students); Mexico (24 students); the Navajo Nation (3 students); and Alaska (10-20 students). Additionally, the Director of DVM Outreach and International Student Experiences has created or participated in the following unique learning opportunities that operated on a limited basis: Practical Introduction to Wildlife Health and Conservation (12 students); Wildlife Health and Conservation in Africa (12 students); Livestock Health in Mexico and the U.S. (2 students); Navajo Nation Rabies Vaccination campaign (8 students); and Monument Valley High School Science Camp (4 students).

Financial education and advising. The FES leads a strategic program of financial education and offers no-cost individual student advising to entering and current students. A manuscript describing the CSU DVM financial education program was recently published: Jones C, Fouty JR, Lucas RB, Frye MA. Integrating individual student advising into financial education to optimize financial literacy in veterinary students. JVME 2019; 46:562-572.

UAF: Strengths unique to the UAF DVM program include a small class size, allowing for continuous small-group learning with personal instructor-student interactions and greater engagement. Beginning in the second semester, students participate in necropsy examinations with a boarded pathologist to improve integration and application of knowledge gained in the classroom. The Center for One Health Research creates access to elective courses emphasizing introductory concepts and community engagement. DVM students at UAF may enroll in the One Health MS program.

Curricular weaknesses

Clinical and herd livestock experiences. Please see related commentary in Standard 12.11.1.d. Current plans include a new livestock building of modest size to support ambulatory caseload (i.e., emergency referrals, receipt of cases not amenable to field management) and referrals. Education and training will focus on primary care through curated laboratory experiences and broader, more robust ambulatory training. Support of off-site experiential opportunities will continue, with development of partnerships offering experiences unavailable in the northern Colorado region.

Hands-on learning opportunities. Students cite a lack of hands-on learning as a program limitation, particularly in relation to surgery. Overall modifications to the Foundations curriculum in response to student feedback are reported in Appendix 11.1.d. Surgical faculty have modified training in the Foundations courses and in VM 733 Principles of Surgery to offer earlier exposure, more repetition, and introduction of more advanced skills to better prepare students for laboratory and clinical experiences in years three and four. Please see Standard 12.9.7 and Appendix 9.7.c.

Spatial separation of students. First- and second-year students are primarily on the Main Campus, while third- and fourth-year students are educated on the VHC. This separation limits peer-peer support and education and may preclude students from participating in activities offered on "the other" campus. Attempts to use space on the Main Campus for skills training have been largely unsuccessful due to inconvenience to VHC-based students and faculty. It is anticipated that the VEC and associated VHC renovations will allow all four classes to be based at the VHC.

Arrangement and integration of curriculum content. Curriculum renewal will capitalize on opportunities to optimize flow and integration of content through a systems-based approach. As each system is presented, related skills and cases will encourage students to view content holistically and apply knowledge to novel scenarios, ultimately deepening knowledge and improving retention.

Competing priorities. A 2021 survey of clinical faculty conducted by the VHS Instruction Working Group identified service demands/caseload, research, administrative tasks, and staffing limitations as factors that preclude them from optimizing clinical instruction. Faculty, clinical rotations, and opportunities to participate in team-based health care are cited as program strengths by fourth-year students. This is a testament to CVMBS faculty, who prioritize teaching and mentorship in the face of competing demands. Yet, this approach is ultimately not sustainable, and the VHS Instruction Working

Group has been tasked with identifying novel approaches to clinical education (e.g., parallel services, designated teaching faculty) and working with Department Heads to create space and reward for exceptional teaching.

UAF: Limitations include fewer on-site student organizations and associated activities. Please refer to Standard 12.6.2 for a description of UAF-origin student participation in SAVMA leadership and liaison roles. In addition to SAVMA, UAF-origin students are represented on the CSU DEI and Wellbeing Student Advisory Board and the CSU DCC. Continued reliance on distance delivery in some courses is an additional weakness unique to UAF. Administration are vigilant in hiring faculty in response to departures or emerging needs. Additional approaches to minimize the occurrence and impact of remote content delivery include on-site instruction by visiting CSU faculty; on-site UAF Course Coordinators even in the case of full remote delivery, to manage logistics, address questions, and guide student discussions; encouragement of strong collaborative partnerships between CSU and UAF Course Coordinators; and recruitment of regional veterinary professionals with appropriate expertise.

12.9.5 Describe preceptor and externship programs (including the evaluation process).

Students encounter contacts for preceptorships and externships through interactions with CVMBS faculty, guest lecturers, student organizations, and an externship database maintained by the Professional Resources Coordinator. The duration of CSU-sanctioned experiences ranges from one to eight weeks, and includes practice and nonpractice learning opportunities. Direct supervision and student grading is provided by a veterinarian or topical expert (e.g., MPH, PhD, attorney). Students are required to provide an evaluation of the learning experience to receive academic credit. Evaluations are recorded by the Student Coordinator; problematic experiences are reviewed by the Assistant Department Head for Clinical Education in consideration for exclusion.

12.9.6 Curriculum Digest.

Please see Appendix 9.6 Curriculum Digest. The first- and second-year core courses offered at UAF are identical to those offered at CSU, with identical student learning objectives. Content and delivery may differ based on the learning environment and faculty expertise. The AsD-TL and AD-DVM respond to student concerns regarding excessive out-of-class effort expressed through course reviews, student representatives to committees, anonymous feedback, and direct feedback. As noted in Appendix 9.2.a, out-of-class examinations were mostly eliminated in AY2016-17, partly due to student concerns over after-hours workload.

12.9.7 Describe current plans for curricular revisions.

The ad hoc DVM Curriculum Renewal Committee was formed in AY2018-19 to oversee development of a new curriculum slated for implementation in Fall 2023. Standard 12.11.2.c contains information related to committee process and inclusion. The curriculum goals listed in Appendix 9.1 were developed by this group and overwhelmingly approved by faculty. The proposed curriculum model for years one and two, approved by the DCC to move forward for faculty vote, may be viewed within the DVM Faculty SharePoint site. Overall themes include a systems design; curricularization of wellbeing, DEI, career exploration, professionalism, identity, leadership, and mentorship; integrated skills training for earlier exposure and more opportunity for repetition; and structured opportunities for integration and case application of knowledge. Orientations will occur at key transition times, and SWIM (i.e., Synthesis, Wellbeing, Identity, Mentorship) weeks will be integrated between some content blocks. Total contact time will be reduced, and alternative methods of student engagement will be favored over large lecture-style sessions. The current third year will be termed transition to clinics (TTC) and will feature training within the new PCC, communication training, laboratories, clinical reasoning using more advanced cases, selectives, and vacation. TTC goals include:

- Add depth of knowledge to build upon foundational material.
- Provide more authentic application of, and interaction with, clinical material.
- Maximize opportunities for productive failure in a safe environment.
- Encourage more independent-learning/knowledge-seeking behaviors.
- Contextualize knowledge in real-world applications of primary care.
- Prioritize engagement and minimize burnout due to information dumping/didactic loading.
- Encourage exploration of pathways in selected areas of interest.

It is anticipated that fourth-year changes will include increased primary care training within the PCC and specialty services and enhancement of the "student as doctor" role. Until curriculum renewal is realized, the DCC will continue to consider curriculum improvement proposals relevant to the current curriculum from students and faculty.

As of Fall 2022, the CSU DVM program will no longer include terminal procedures in third-year laboratories. This impacted the Junior Surgery, Equine Advanced Procedures, and Food Animal Diagnostics and Surgery laboratories. In Fall 2020, the Animal Use in DVM Education Committee was formed to redesign the surgical curriculum in accordance with

this action and with curriculum renewal. Extensive outreach to other colleges of veterinary medicine, alumni, referring veterinarians, and employers was conducted, partly through an IRB-approved survey disseminated through the CVMA. Core competencies were subsequently defined along with target timelines for milestones. Existing surgical education and training activities were then modified in accordance with the revised student learning objectives. Overall themes of the new surgical curriculum include earlier exposure to hands-on training, more opportunities for skill repetition, more advanced skill development by year four, and more opportunities to perform primary care surgery in authentic settings. Regarding the latter, the Director of DVM Outreach and International Student Experiences has developed new and existing partnerships (e.g., Todos Santos, DFL, Bethel, Alaska) and is overseeing the hire of both a veterinarian and technician surgical educator in support of student training. Please see Appendix 9.7.c for a current description of the revised surgical training program.

12.9.8 Provide a description of the testing/grading system (scoring range, pass levels, pass/fail) and the procedures for upholding academic standards.

At both CSU and UAF, letter grading is used in all years of the program with the exception of third-year practicums, which are designated pass/fail. Course Coordinators may use the grading scheme outlined in the DVM Grading policy but may also modify the scale or incorporate +/- designations. The grading scale must be defined in the course syllabus. Guidelines for item analysis, post-analysis adjustment, and student access to examinations developed by the AsD-TL are provided on the DVM Faculty SharePoint site. The DVM CSPS oversees policies related to academic standards and manages individual cases of academic and professional conduct (please see Appendix 1.5 for the committee description). Committee members approved a policy update in 2017, as well as template letters used by Course Coordinators to inform students of "D" or "F" grades during the semester. The third- and fourth-year Student Coordinator, along with a legal representative from the University, also participated in the 2017 policy review. A policy update was conducted in 2018 and included changes to guidelines around poor student performance within practicums, duration of leaves of absence, and a change in title and scope of the committee to include matters of professionalism. During the pandemic, the committee provided guidance regarding the option for P/F grading. In 2021, committee members conveyed support of a more formal process for viewing student ranking data and a change in Capstone remediation based on student feedback (please see Standard 12.11.1.a). Also in 2021, the CSPS supported a proposal to record all course sessions using Echo360 with a faculty opt-out option.

12.9.9 Describe the opportunities for students to learn how different cultural and other influences (e.g., ethnic origin, socioeconomic background, religious beliefs, educational level, disabilities and other factors) can impact the provision of veterinary medical services.

Within the Foundations of Veterinary Medicine course series, students in the spring of the first year are introduced to clinical bioethics through case-based problems incorporating cultural and religious diversity. The principles of respect for autonomy, nonmaleficence, beneficence, and justice are introduced in the context of client diversity, and students are led to consider the impact of their own biases and beliefs on client interactions and case management. Within the communication curriculum, students engage in interactions with clients of diverse ethnicity, age, and sexual orientation, as well as marital and socioeconomic status. Students work to discover and respond to clients' perceptions regarding affordability of services, value of veterinary care, role of pets within the family, and quality of life.

The Healer's Art is a 1-credit elective offered in the first three years of the curriculum; CSU was the first veterinary program to offer this distinctive learning opportunity. Students are encouraged to identify, strengthen, and cultivate the human dimensions of veterinary medicine while recognizing the inherent diversity in their colleagues, practitioners, clients, and patients. Students are led to make an active commitment to strengthening and preserving their own humanity and the humanity of all they serve.

Please see a description of "Spanish-language education" and "Regional, national, and international experiential opportunities" under Standard 12.9.4, and a description of required service at the Murphy Center for Hope under Standard 12.4.4.

As a regional and national referral center, the CSU VTH serves a multifaceted client population. Resources available to DVM students may be found on the DVM Diversity, Equity, and Inclusion Resources page within the DVM program SharePoint site. Relevant veterinary organizations include the Student Chapter of the American Holistic Veterinary Medicine Association, International Veterinary Students Association, One Health Club, PrideSVMA, VOICE, Jewish Association of Veterinary Students, Christian Veterinary Fellowship, and the Student Chapter of the Association of Shelter Veterinarians. CSU hosts an array of Student Diversity Programs and Services as well as a Bias Reporting System.

The DEI Committee, with faculty, staff, and student representation from across the College, has been active since 2017. The committee appointed a DEI representative to the Dean's Advisory Team, established DEI as a College strategic pillar, and realized a successful search for the first AsD-DEI in the CVMBS (please see Standard 12.1.7 for additional details).

Within the 2020 and 2021 fourth-year student surveys, respondents were asked to provide responses to the following

statements using a 7-point scale, with 1 = strongly disagree, 4 = neutral, and 7 = strongly agree. The percentage of students providing a rating ≥ 5 is listed in association with each question (2020/2021). The CSU program: understands the value of diversity (73/43); treats all students equitably (68/46); promotes respect for gender differences, including nonbinary identities (81/62); promotes respect for differences in sexual orientation (86/70); promotes respect for differences in religious beliefs (62/41); promotes respect for cultural differences (74/53). As noted, the class of 2021 survey reflected more negative perspectives generally, and this was partly attributed to changes and limitations necessitated by the pandemic. It is anticipated that more strategic and consistent programming in this area afforded by the expertise of the AsD-DEI will improve DEI-related experiences of those within the College community.

UAF: Exposure to, and understanding of, Alaska Native cultures is central to the UAF mission. Most UAF-origin students participate in outreach activities in the Yukon Kuskokwim Delta, a remote area of the state that is accessible only by airplane and river boats. Students contribute to UAF-CSU collaborative work to bring veterinary services to this underserved area and witness the challenges that individuals within this region face in caring for their pets. In this context, as part of the core course VM 735 Animal Welfare, CSU and UAF faculty lead discussions around animal welfare and cultural differences.

12.9.10 Describe opportunities for students to learn principles of business management skills in veterinary medicine, and opportunities to learn personal financial management (e.g., course work in financial literacy in the curriculum).

As noted, content in the core course VM 712 Practice Management and Professional Development was reallocated into a 2-credit core VM 772 Veterinary Professional Development course and a 1-credit elective VM 775 Veterinary Practice Management course, implemented in Spring 2019. Removal of practice management content from the core curriculum was done in response to objections from students who did not have practice aspirations. Enrollment in the spring elective offering was 75 in 2019, 35 in 2020, and 45 in 2021. Course reviews reflect a majority view that content is relevant and interesting and warrants inclusion in future years.

Regarding financial education, a dedicated DVM FES was hired in 2015. The FES provides individual student advising for entering and current students, as well as instruction within the Foundations and Veterinary Professional Development courses. Financial content within the curriculum is strategically placed so first-year students are educated on student loan basics, financial goal-setting, creating budgets, building habits, and managing credit. Second- and third-year students are informed of loan management and planning, loan payment and forgiveness options, money management, credit management, insurance, retirement planning, and taxes. The FES also disseminates updates relevant to financial aid and conducts extramural sessions (e.g., rural practice management, investment, home buying, loan consolidations, financial planning for postgraduation). A detailed description of the CSU DVM financial education program and outcomes are described in a 2019 JVME paper cited in Standard 12.9.4.

Should the educational program of a college be disrupted for more than two weeks (for example, closure of a hospital due to an infectious disease, loss of core course or rotation, etc.), the college must report in writing to the COE the cause of the disruption and remedies to minimize or to provide an alternative educational opportunity for students in response to the disruption.

Due to the pandemic, CSU went entirely online after the 2020 spring break. DVM educational activities unassociated with the VTH (i.e., course work in years one through three) were conducted in accordance with University health and safety guidelines. Remaining first-, second-, and third-year laboratories were successfully moved online, with the exception of the physical examination lab in the first-year Foundations course, which 80 students did not complete. The Foundations Course Coordinator rescheduled that laboratory for later completion. During Fall 2020 and Spring 2021, per CSU guidelines, only laboratory experiences requiring on-site instruction occurred in person. A full return to campus for all educational experiences was realized in Fall 2021, with mask and vaccination mandates in place. To avoid overreliance on prepared remote materials while encouraging innovation based on new technology mastered during the pandemic, the DCC elected to exercise oversight of courses having >30% remote delivery, with the AsD-TL serving as a faculty adviser to review justification and optimize online instruction. Only VM 620 Introduction to Spanish for Veterinarians retained a >30% online format

On March 18, 2020, third- and fourth-year practicums moved entirely online; the VTH transitioned to emergency-only status on March 23, 2020. Prior to this, all members of the class of 2020 exceeded the 30 weeks of required hands-on clinical training as CSU normally requires 40 weeks. Members of the class of 2021 began remote clinical rotations in mid-May. At that time, the VTH was accommodating elective procedures as all sections increased caseload. The class of 2021 returned to the hospital on June 1, 2020, to hybrid clinical experiences composed of clinic time and off-site experiences (e.g., remote case reviews and rounds, virtual reality, remote observation of streamed surgery footage, small-group gatherings, and simulator or model use outside the VTH). The DCC reviewed and approved practicum changes. Externships were approved based on

adherence to public health guidelines. Third-year practicums that were didactic or off-site were moved to fall so as to allow needed VTH capacity for fourth-year students, staff, and faculty. All services recovered to pre-pandemic caseload volumes by the end of 2020. In June 2021, the hospital welcomed clients back into the building at the discretion of individual services. In August 2021, all third- and fourth-year students were on-site for their clinical experience.

To oversee VHS activities, including VTH clinical training, on March 17, 2020, the Dean launched the VHS EMT composed of representatives from relevant academic, service, infectious disease/public health, and operational areas. The group met daily until March 23, 2020, then three times weekly, and eventually once weekly and as needed. Areas of focus were initially dictated by immediate need (e.g., procurement of PPE, policy development, determination of VTH capacity and client management, support of clinical educators). Later, discussions centered upon the return of students to clinics and the transition to provision of full hospital services. To define timelines, assess scenarios, identify needed resources, and support clinical training of members of the class of 2021, the AD-DVM formed the multidisciplinary Task Force for Clinical Education, which first met April 7, 2020. After the return of students to the hospital on June 1, the Task Force disbanded as remaining needs fell under the purview of the DCC.

The COVID-19 pandemic necessitated constant and strategic attention to student, staff, and faculty perspectives. Student feedback was solicited through committee representatives and class leadership, surveys, dedicated anonymous feedback sites, and fora. Faculty and staff feedback was provided through task forces, committees, individual and small-group meetings with the AD-DVM and AsD-TL, and bimonthly Course Coordinator meetings. As a result of student feedback, improvements in content delivery, course organization, and Canvas structure were made. In relation to clinical experiences, investments in models, simulators, and technology were made to enhance the student learning experience. The DCC considered student survey data when making decisions regarding grading and ranking; in Spring 2020, Fall 2020, and Spring 2021, student grades were included in class rank but each student was allowed an S/U grading option for individual courses. In response to faculty feedback, robust support of teaching (e.g., individual advising, group workshops, Canvas organizational assistance) was offered by the AsD-TL, considerable resources were invested in models and technology, and bimonthly Course Coordinator meetings began in Summer 2020 to share best practices, explore ideas, and promote consistency in fall instruction.

UAF: In Spring 2020, the UAF spring break was extended by one week, and classes and laboratories were moved online thereafter for the remainder of the semester. Research was initially limited to essential research and projects involving live animals; in Summer 2020, research resumed in laboratories with appropriate infection control measures. The Fall 2020 semester was characterized by online classroom teaching and on-site laboratory teaching with appropriate safety measures. In Spring 2021, UAF partly transitioned to modest on-site teaching; however, most courses were still delivered online. In Fall 2021, the campus returned to on-site instruction. For the Spring 2022 semester, a vaccine mandate with medical and religious exemptions will be implemented for staff and students of the DVM program.

12.10.1 Describe up to five programs of research emphasis and excellence and specifically focus on how these programs integrate with and strengthen the professional program.

The CVMBS emphasizes investigation and offers a diverse array of biomedical research programs in a strongly supported environment. World-renowned expertise in life sciences provides a foundation that uniquely positions the College to tackle local and global challenges. Particularly valuable are three approaches that define CVMBS research:

- **Translational medicine** translates insights gained from foundational research and novel clinical therapies of animals with naturally occurring disease into improvements in human medicine. The TMI and a new branch campus of the UC SOM support the growing impact of College translational medicine research.
- **The One Health framework** advances global public health and wellbeing by investigating pressing questions at the intersection of human, animal, and environmental health. Sue VandeWoude, CVMBS University Distinguished Professor and National Academy of Sciences member, is the director of the OHI; a key partner is the Colorado Clinical and Translational Sciences Institute at the UC Anschutz Medical Campus. The newly formed UAF Center for One Health Research, directed by the former AD-DVM-UAF, coordinates significant efforts under this framework, including a One Health MS administered jointly with the DVMed. The Center for One Health Research offers educational opportunities to DVM students.
- **A commitment to team science** facilitates collaboration with fellow researchers intramurally, extramurally, and worldwide. Interrelated, interdisciplinary approaches strengthen and synergize CVMBS research programs. DVM students play a critical role and help define our team science approach.

The CVMBS provides Universitywide concentrations of excellence in infectious disease, cancer, neurobiology, epidemiology/diagnostics, musculoskeletal research, and reproduction. Please refer to Standard 12.9.4 for descriptions of oncology and equine research impact on DVM students. CVMBS faculty run five of 21 University Programs of Research and Scholarly Excellence (PRSE). Five research areas of specific relevance to the CSU DVM program are:

Infectious disease. Infectious disease foundational and translational research directly impacts both animal and human medicine, informs DVM students about state-of-the-art research that impacts clinical outcomes, and integrates into instruction of DVM students (e.g., VM 603 Veterinary Science: Research and Methods; VM 637 Veterinary Bacteriology and Mycology; VM 638 Veterinary Parasitology; VM 639 Veterinary Virology). Additionally, this research creates opportunities within the VSSP, the DVM/PhD Medical Scientist Training Program (MSTP), and resident and PhD programs.

- *Infectious Disease Research Center.* Emerging from the former Infectious Disease Supercluster, the Center provides secure, state-of the-art facilities for University investigators, government scientists, and industry representatives to collaboratively research the basic biology, biochemistry, molecular biology, and epidemiology of bacteria and viruses that cause human and animal diseases.
- *Infectious Disease Research and Response Network.* Established as a PRSE in 2016, the Network synergizes research in infectious and neurodegenerative diseases with expertise in disease transmission and pathogenesis; development of diagnostics, vaccines, and therapeutics; vector biology; epidemiology; bioengineering; human-animal bond; and team dynamics. The Infectious Disease Research and Response Network recently earned a new NIH T32 training grant that may fund combined DVM/PhD and/or resident/PhD students.
- *CVID.* Formerly the Arthropod-borne Infectious Disease Laboratories, the CVID is a longstanding multidisciplinary research and training center that serves as a cornerstone for infectious disease research and education. New, world-class facilities, opened in 2020 and including Biosafety Level-3 laboratories and large insectary complexes, provide an outstanding scientific environment for researchers inside and outside CSU wanting to manipulate pathogens in vertebrate hosts and arthropod vectors. Investigators house one of the only bat-breeding colonies for experimental research in bat-borne viral diseases.
- *Mycobacteria Research Laboratories.* The lab works to fully understand Mycobacterium infections to find new treatments and vaccines for tuberculosis. CSU is home to 170 experts in tuberculosis and related diseases, the world's largest group of university researchers investigating wide-ranging features of the disease in humans and animals.
- *Prion Research Center.* The Center investigates prions, misfolded proteins that cause neurodegenerative diseases, also known as transmissible spongiform encephalopathies. CSU scientists were the first to identify chronic wasting disease, a prion infection in deer. Their investigations are central to understanding human and animal prion diseases, as well as related disorders in people, including Alzheimer's, Parkinson's, Lou Gehrig's, and Huntington's disease.

Cancer Biology and Comparative Oncology (CBCO). A PRSE established in 2016 that evolved from more than three decades of CSU excellence in cancer research and the Cancer Supercluster, the CBCO brings interrelated and internationally recognized programs in cancer biology and comparative oncology together into one comprehensive program, with the unified goal of strengthening and expanding graduate and professional education. The CBCO strives to enrich cancer-focused graduate education by providing support for not only PhD students but also for DVM student participation in the NIH-funded CVMBS VSSP. CBCO faculty are currently funded by NASA, the NIH, the National Cancer Institute,

the Morris Animal Foundation, and the U.S. Department of Energy. Specialized centers within this unit include the FACC and the Radiation Cancer Biology and Oncology program.

Animal Reproduction and Biotechnology Laboratory (ARBL). The ARBL is an interdepartmental PRSE that includes 25 faculty focused on research, teaching, and service in reproductive biology. The ARBL has been recognized as a PRSE since 1989. The ERL is a program within the ARBL and is an internationally recognized leader in assisted reproduction technologies. Many of these techniques developed by the ARBL are used commercially worldwide in humans and animals. DVM students complete laboratories and clinical rotations at the ERL. Other research areas include sperm, egg, and early embryo development; healthy baby/healthy mother; and translational reproductive medicine.

Musculoskeletal Research Program. The Musculoskeletal Research Program is recognized as a PRSE and consists of four units, including the ORC; Orthopaedic Bioengineering Laboratory; Preclinical Surgical Research Laboratory; and Orthopedic Oncology at the FACC. Faculty who conduct research work with students on clinical rotations and students observe clinical application of research findings.

Molecular, Cellular, and Integrative Neurosciences. This University PRSE involves 30 faculty studying neuronal differentiation, degeneration and regeneration; ion channels and membrane physiology; synaptic mechanisms; neuronal circuitry; sensory biology; artificial neural networks; cognitive neuroscience; and protein misfolding diseases. Associated laboratories host DVM student researchers.

12.10.1.a Provide a description (one page or less) of measures of faculty research activity, apart from publications and grants enumerated in Tables 12.10.3.b and 12.10.3.c (e.g., faculty participation and presentation of original research in scientific meetings; involvement of faculty in panels, advisory boards or commissions; and national and international research awards received).

CVMBS faculty are heavily involved in research activities as evidenced by publications and grants enumerated in Tables 10.3.b and 10.3.c. Additionally, faculty serve as both reviewers and editors for scientific journals, present extensively at both national and international scientific meetings, and serve on advisory boards and commissions spanning the entirety of the biomedical sciences. Notable research awards over the past seven years include: Fellows in the National Academy of Sciences – Drs. George Siedel (2015) and Sue VandeWoude (2019); AAVMC Excellence in Research Award – Dr. Sue VandeWoude (2015); AVMA Lifetime Excellence in Research Award – Drs. C. Wayne McIlwraith (2019) and Richard Bowen (2020); AVMA Career Achievement in Canine Research Award – Dr. Rod Page (2019); and AVMA Clinical Research Award – Dr. Mike Lappin (2017).

12.10.2 Describe courses or portions of the curriculum where research-related topics are covered (for example – literature review/interpretation, research ethics, research methods or techniques, and study design).

In an effort to incorporate research elements in a focused curricular offering, VM 603 Veterinary Science: Research and Methods is offered to DVM students as a 1-credit core course in the fall semester of the first year. Dr. Sue VandeWoude, National Academy of Sciences member and University Distinguished Professor, created the course and served as course coordinator through the reporting period. Initiated in 2009 as an experimental elective and converted to a core course in 2011, VM 603 illustrates the role of research in furthering the practice of veterinary medicine by presenting a series of lectures from clinical and basic science investigators. Groups of 12-15 students attend lunchtime discussions with participating scientists. Course objectives include: orienting DVM students to elements of the research process, particularly where veterinarians may be involved; describing topical research investigations relevant to veterinary medicine; outlining the structure of clinical and basic science publications pertinent to veterinary medicine and providing a framework for critical analysis of published research; illustrating research career opportunities for veterinarians and externship/summer employment opportunities for veterinary students; and providing networking opportunities for students with research faculty. To date, more than 100 veterinarians engaged in a wide variety of research have spoken in this class. Content, assignments, and faculty participation continue to evolve to maximize impact for entering students. Pre- and post-course surveys have indicated improved understanding of the research process and increased interest in research as a career option. Please refer to Standard 12.5.5 for a description of additional training in information retrieval, evaluation, and application.

MIP 796 Translational Medicine Seminar introduces DVM students to translational research opportunities for veterinarians. The terms "translational research" and "biomedical research" are broad, and the combination of DVM and PhD degrees can take early career researchers down a seemingly unlimited number of paths. The purpose of MIP 796 is to help students define areas of interest and opportunities, as well as navigate the path toward their goals and recognize potential obstacles. Students also receive guidance regarding wellbeing and professional demands of research careers. Guest speakers have earned DVMs and PhDs, thereby serving as role models, mentors, and future colleagues.

12.10.2.a Describe/list the current opportunities for participation in research, including summer research programs (Merial, NIH, Howard Hughes, etc.), academic year programs (NIH fellowships, industry funded, curricular time allowed for research), student employment in research labs and projects, and individually mentored research experiences.

Approximately 70 faculty mentors have participated in supervision of pre- or postdoctoral veterinary researchers in the past five years. These faculty represent 12 areas of multidisciplinary research, including cancer biology; reproductive and cardiovascular physiology; infectious disease; and stem cell research.

Structured, short-term research training for DVM students was first offered at CSU in 1984 by industry partner Merial, now Boehringer Ingelheim. This program was expanded in 2012 to include support from an NIH T35 training grant. Additional funds for scholars are provided by the USDA, American Veterinary Medical Foundation, and Morris Animal Foundation. The CSU Center for Companion Animal Studies provides additional research funds for DVM students partnered with faculty mentors on short-term research projects, termed the Young Investigator Awards. The VSSP supports between 30-40 first- or second-year DVM students each summer. The program typically offers in-person seminars, research workshops, and field trips as part of the program. The experience culminates in a CSU poster session, with many of the students additionally presenting at the National VSSP Symposium located at rotating veterinary schools. The pandemic led the CVMBS AD-R to partner with Michigan State University and Johns Hopkins University in leading national efforts to develop a shared, collaborative online curriculum relevant to VSSPs nationwide. As part of this effort, a VSSP peer discussion forum attracted VSSP scholars from across the U.S. to form their own research and social affinity groups. The VSSP program will resume in-person programming starting in May 2022 but will retain several of the add-on virtual programming elements to allow DVM students nationwide access to program content. The VSSP has supported summer research experiences for CSU-origin students at UAF and, to a lesser extent, experiences for UAF-origin students at CSU.

UAF: Students are actively involved in research in the DVMed, the departments of Biology and Chemistry, and the Institute of Northern Engineering. Over each of the last five years, between 10%-30% of UAF-origin students participated in research projects during the first two years of their program.

12.10.2.b Describe college research seminars and presentation for veterinary medical students, including the number of internal and external speakers, endowed research lectureships, veterinary medical student research seminars, veterinary medical student poster presentations, and college research days and awards and presentations made by veterinary medical students at scientific meetings or seminars at external sites.

The CVMBS holds an annual Research Day, providing opportunity for student presentations and awarding of the CVMBS-Zoetis Early Career Research Award; more than 100 young investigators shared poster and oral presentations in January 2020, with DVM students accounting for 46% of participants.

All VSSP researchers present their summer research at the National VSSP Symposium, last held live in 2019. In 2020, the live poster session was converted to a virtual Science Slam, where students presented their work virtually to family, friends, peers, colleagues, and the local community. Due to the success of this event, the Science Slam will continue as part of the regular VSSP. VSSP students also presented at a virtual national meeting in 2020. Additional opportunities for student presentations occur in conjunction with mentor activities and discipline-focused conferences. Please refer to Appendix 10.2.b for a summary of opportunities.

UAF: The DVMed sponsors a One Health seminar typically offered weekly, but currently offered online every other week due to the pandemic. The Life Science seminar is offered by the Department of Biology and Wildlife to DVM students.

12.10.2.c. Describe efforts by the college that facilitate the link between veterinary medical student research and subsequent or concurrent graduate education, and that enhance the impact of college research on the veterinary professional program.

A formal DVM/PhD training program was established in 2004, funded primarily by CVMBS resources. Additionally, in 2020 the directors were awarded an NIH MSTP T32 to further support this DVM/PhD program with a 15-year history of translational clinician-scientist training. Twenty students have completed the program; 15 are currently enrolled. The program is directed by University Distinguished Professor and National Academy of Sciences member Edward Hoover, DVM, PhD. Each year, typically two to three new students are appointed from a pool of more than 50 applicants after a rigorous review and recruitment process. The combined program begins with a year of graduate studies, including rotations in potential laboratories, course work, and research in the home laboratory once it is chosen. During the second and third years, students enroll in the first- and second-year DVM program, while remaining engaged in their home laboratories. The next two or maximum three years are spent working toward the PhD thesis, which students are required to submit and defend before returning to the third year of the DVM program. Throughout the entire program, all DVM/PhD students register for the 1-credit course Translational Medicine. Fall semesters include Research in Progress, wherein students present their own research with an emphasis on translational relevance of their work.

Of the 20 DVM/PhD graduates, 75% are employed in academic, agency, or nonprofit research positions. Five students have received NIH F30 dual-degree training awards since the first year of eligibility in 2015. Over the last seven years, five of 13 recruits (38%) identify as URM students, and approximately 75% of all trainees are women. Trainee research projects span diverse fields across CVMBS, which has supported exemplary pre- and postdoctoral veterinary research training programs for more than four decades and has provided nearly $2.4 million in direct support for this program since 2004. New to the MSTP is instruction in data reproducibility and management; mentorship training provided by participating mentors in the CSU Center for Inclusive Mentorship; enhanced career development training during the DVM clinical years; and robust program evaluation and outcomes assessments provided by a senior evaluator from the CSU STEM center. An external advisory committee with experience in MSTP programs has been assembled to provide expert guidance in directing programmatic success and growth. The T32 MSTP funding leverages institutional funds to expand the program by enrolling four additional trainees by the end of the award period, thereby maximizing the impact of this MSTP in fulfilling the national need for translational biomedical scientists.

The CVMBS supports combined residency and research training opportunities, including Equine Diagnostic Imaging/MS, Veterinary Diagnostic Imaging/MS, Radiation Oncology/MS, Comparative Medicine/PhD or MS, Microbiology/PhD, Clinical Pathology/PhD, Anatomic Pathology/PhD, Clinical Sciences/MS, and Biomedical Research Training for Veterinarians. More than 120 graduates of the combined residency programs in pathology, microbiology, and comparative medicine have contributed to research at all levels of industry, government, and academics. Residency training for these programs is predominantly supported by the CVMBS. PhD training for these individuals is supported by a variety of sources, including an NIH Division of Program Coordination, Planning, and Strategic Initiatives Office of Research Infrastructure Programs T32 postgraduate training grant, currently in its 14th year. In 2020, the CVMBS partnered with the NIH National Cancer Institute Graduate Partnership Program to support resident/PhD students for up to seven years in the Comparative Biomedical Scientist Training Program.

Success in research training for combined students is rooted in the 50-year record of post-DVM graduate training in the CVMBS. In the three decades from 1980-2010, 115 DVMs received graduate degrees in the MIP department program alone. Trainees have been supported by NIH T32 and F32 National Research Service Awards; RO1 grants; K11, KO8, and KO1 Mentored Clinical Scientist Awards; and other extramural and intramural funding sources. Major indicators of success in the post-DVM NIH T32 training grant include successful recruitment and retention of 39 trainees since inception 19 years ago; attainment of the PhD by all 37 eligible trainees who have completed the program to date; employment of 35 (95%) in scientific careers including academic research appointments; and generation of more than 200 scientific publications. An external review of this program conducted in 2012 by eminent DVM/PhD scientists yielded laudatory comments.

12.11.1.a Student educational outcomes must include, but are not limited to: Evidence of direct observations of students performing and/or having attained entry-level competence in skills that demonstrate mastery of the nine competencies. Processes must be in place to provide remediation for any of the nine competencies in which students do not demonstrate competence.

Assessment of clinical performance: One45 is a web-based software tool used for individual student performance tracking as well as scheduling, curriculum management, and data reporting. Student performance within the fourth-year practicum is directly assessed by faculty using One45. Each rotation has distinctive learning objectives that are mapped to each of the nine clinical competencies, and all competencies are addressed repeatedly throughout the year. Faculty enter student assessments into One45 using a scale of 1 to 10, with 1-3 = below expectations, 4-8 = meets expectations, and 9-10 = exceeds expectations. Each performance category is associated with rubric definitions so that consistent and objective criteria are applied across faculty. It is the expectation that assessments are provided to students within two weeks of the rotation end. At any time, students may view a spider graph reflecting performance to date across AVMA competencies. The One45 data indicate students met or exceeded AVMA standards during the reporting period. The average grade assigned to fourth-year students over the reporting period was A- or 8.4 on a 10-point scale, where 1 = F, 5 = B-, 10 = A+, with little variation from year to year. A system exists within One45 that flags the third- and fourth-year Student Coordinator when a student performs below average in a given competency area. In these and other cases in which a student struggles to meet expectations on clinical rotations, the Student Coordinator engages needed resources that may include the Assistant Department Head for Clinical Education, AD-DVM, clinical faculty, communications faculty, and the CMHW. In the last seven years, two students were flagged and limitations addressed. Both students improved and ultimately succeeded.

Third-year practicum assessments were implemented and integrated into One45 in 2015. Students are assessed using a 3-point scale, with 1 = below expectations, 2 = meets expectations, 3 = exceeds expectations, in the areas of communication, content knowledge, participation/engagement, preparedness, and professionalism. Faculty assigned an average score of 2.4 during the reporting period, with little variation from year to year.

Clinical procedures task books: Third- and fourth-year students are required to complete tasks at a "meets" or "exceeds" proficiency level before a faculty member, intern, resident, private practitioner, or technician will approve the task(s). The observer must directly view the student performing the task and document completion as soon as they are reasonably able, not to exceed day's end. Third-year students must complete all of the "universal" tasks, while fourth-year students must complete "core" tasks in addition to those specific to their chosen track. The ability to perform core tasks is considered essential for entry-level veterinarians. An online task booklet was implemented in 2018, allowing students to approach raters to sign off on any device. This change was implemented to facilitate frequent and timely evaluations and to eliminate the problem of misplaced or damaged booklets. Furthermore, data can be tracked for completion, and reports can be generated to facilitate reminders to students.

Course mapping to competencies: Within One45, each course session (i.e., laboratory, lecture, recitation) has been mapped to the nine AVMA competencies and to AVMA keywords. The curriculum map, along with instructions on use, are maintained in the Curriculum Map portion of the DVM Faculty SharePoint site. Since inception, faculty have favored use of syllabi or direct dialogue with relevant faculty over the curriculum map to identify placement or flow of content within the curriculum. The map is used on occasion to support curriculum renewal work. It is anticipated that the map will be used more intensively during the granular stages of curriculum design associated with curriculum renewal.

Capstone examinations: DVM students complete a series of Capstone examinations after years one, two, and three. Goals for administration of Capstone examinations were generated by the Curriculum Committee using feedback from faculty and students and are detailed in the Capstone policy on the DVM SharePoint site. The Capstone examinations have the added benefit of allowing comparative assessment of students in the UAF-CSU 2+2. Capstones I and II, administered prior to years two and three respectively, include an open-resource, case-based examination completed over the summer, and a closed-resource, multiple-choice examination completed on the first day of the semester. Collectively, the Capstone examinations promote development of all nine clinical competencies. The Capstone questions are under continual review by the Assessment Committee and faculty coordinators associated with individual examinations. Students are asked to provide feedback regarding the Capstones after completion. Changes to the examinations (e.g., individual items, formatting, content) have been made in response to item validity data, student feedback, representation of core competencies, and opportunities to better develop clinical reasoning. In 2018, Capstone III was migrated into electronic format, and in 2021, Capstones I and II were integrated into ExamSoft to allow tagging of questions (e.g., to courses, species, cognitive level) and dissemination of individual student reports.

Capstone pass rates are provided in Appendix 11.1.a. Students who do not pass the Capstone examinations must remediate in order to progress in the program. In 2021, the remediation exercise was changed from a second multiple choice exam administered after Thanksgiving break to a holistic, individualized approach that incorporates interventions such as metacognition, study skills coaching, counseling, and targeted demonstrations of content knowledge. During the report-

ing period, three students were dismissed from the program either partly or entirely due to Capstone performance.

Fourth-year student survey respondents are asked to rate the degree to which various Capstone components helped with recall and application of previously learned information, integration, and application to novel scenarios, using a 7-point scale with 1 = did not help and 7 = helped. Over the past four years (2018-2021), in relation to the Capstone I/II in-class closed-resource examinations, 39%-61% of respondents assigned a number ≥ 5 to recall and application, 47%-61% to integration, and 31%-49% to application to novel scenarios. In relation to the Capstone I/II case-based open-resource examinations, 64%-80% of respondents assigned a number ≥ 5 to recall and application, 71%-80% to integration, and 64%-77% to application to novel scenarios. The same questions were asked about Capstone III; 42%-66% of respondents assigned a number ≥ 5 to recall and application, 50%-77% to integration, and 43%-66% to application to novel scenarios. When asked whether the Capstone examinations overall promoted retention and application of information, 48%-70% of respondents selected a response ≥ 5. A comprehensive review of the CSU Capstone examination program was published: Avery AC, Dowers KL, West AB et al. Student, faculty, and program outcomes associated with capstone examinations administered to veterinary students at Colorado State University. JAVMA 2020; 257:165-175. The authors suggest that the Capstone examinations may be associated with improved NAVLE performance.

12.11.1.b Describe how student progress is monitored in each academic year and how each student is given formative assessment for their further development or timely remediation.

Please see Standard 12.11.1.a. Course assessments in the first three years of the program include a combination of formative and summative assessments; most reflect individual student effort, while some reflect small-group or open-resource work. The type and frequency of assessment is at the discretion of the Course Coordinator in accordance with the DVM Examination Policy. Consistent with recommendations provided by the AsD-TL, administrative support is in place to allow students to view completed exams to provide students with timely feedback while ensuring exam security. Clinical and laboratory performance in year three has been formally assessed since 2015, using pass/fail grading. In fourth-year clinical rotations, a letter grade is assigned. If a student is found to be performing suboptimally during the rotation, in accordance with section III.D of the DVM Program Grading Policies and Procedures and Professional and Scholastic Standards, faculty will identify limitations promptly, and develop performance benchmarks for success. Third-year students are allowed one "F" grade per semester, and fourth-year students are allowed one "F" grade in one year. In all cases, the student must successfully repeat the laboratory or rotation in order to remain in the program. As noted, Capstone examinations serve as both formative and summative assessments between academic years, with a transition to an individualized, more constructive approach to remediation.

UAF: Student learning objectives within individual courses are identical between UAF and CSU. The UAF DVMed follows the same assessment and remediation policies and guidelines as CSU. Course coordinators and instructors align assessments so that a minimum of 50% of assessment items are identical. Small class size allows for more personalized assessment such as oral examination.

The small class size at UAF precludes strict application of statistical comparisons of student performance. Nevertheless, comparing average scores of UAF-origin and CSU-origin cohorts is useful to detect any large differences in academic performance. Measures of mean first- and second-year course scores at midterm and end-semester timepoints reflected no differences. The average and median scores earned by UAF-origin students in third-year courses were within one standard deviation of those earned by CSU-origin students, and no differences in mean practicum scores were observed. Examining individual third-year courses and all four student cohorts, the average scores earned by UAF-origin students were within one standard deviation of the average scores earned by CSU-origin students for every course and all cohorts; specifically, average scores of UAF-origin students were within 4 percentage points of CSU-origin students. Averaging the averages of third-year course performance for each of the four cohorts, UAF-origin students performed 2%, 2.5%, 1%, and 0.5% lower than their CSU-origin counterparts, for graduating classes of 2019 to 2022 respectively. Capstone examination outcomes were compared. With the exception of the first Capstone examination in which adjustments were made to account for administrative errors, average scores for all Capstone examinations and all cohorts were within one standard deviation of those achieved by CSU-origin students.

12.11.1.c NAVLE school score report data and passage rates over the past five years (Table A). Each college must submit a copy of the annual NAVLE School Score Report with the AVMA-COE Interim Report each year for those graduating students who sat for the examination.

CSU: See Appendix 11.1.c Table A.

UAF: Of 28 UAF-origin graduates, 100% passed the NAVLE. One student in the first cohort who did not pass NAVLE on the first attempt did pass the second examination. First-attempt NAVLE scores of UAF-origin cohorts are within one standard deviation of CSU averages. For UAF-origin classes of 2019 and 2020, average first-attempt NAVLE scores were 11 and 9 points lower, respectively, than average scores for CSU-origin students; class of 2021 performance averaged 34 points higher.

12.11.1.d Assessments of graduating seniors; and assessments of alumni at some postgraduation point (for example, three and/or five years postgraduation), assessing educational preparedness and employment satisfaction.

Assessments of graduating seniors: Annually in March, a survey is distributed to fourth-year DVM students. Response rates have increased from below 40% in 2015 and 2016, to 60%-70% in 2018-2020. The exception was the class of 2021 survey, with a 59% response rate and more negative feedback overall; a midterm survey was sent to members of the class of 2022 in November 2021 to help discern the extent to which the pandemic contributed to the class of 2021 responses. The fourth-year student survey contains questions regarding curriculum, preparedness, student services, the Capstone examinations, facilities, DEI, wellbeing, orientation, and more. Using a 7-point scale, with 1 = very dissatisfied and 7 = very satisfied, respondents indicated overall level of satisfaction with program features. During the reporting period, opportunities to "work effectively in team-oriented health care" (5.74), "interaction with faculty in clinics" (5.48), and "quality of instruction provided in the classroom" (5.45) scored highest, while "quality of classroom equipment" (4.86), "opportunity to provide feedback" (4.75), and "NAVLE preparation resources" (4.73) scored lowest. Following is information regarding the lowest scoring features:

Quality of classroom equipment has improved in response to student and faculty feedback (e.g., updated computer systems; improved sound and visual displays; more comfortable seating; more power outlets). Facilities are dated; construction of the VEC will address limitations in equipment, IT, and comfort.

Opportunities to provide feedback include course surveys, revised in 2017 and now available all semester per student request; practicum surveys; anonymous feedback mechanism; annual open fora with the AD-DVM; monthly AD-DVM meetings with class leadership initiated in 2020; monthly meetings of the CMHW, AsD-DEI, and class wellbeing and DEI representatives initiated in response to the class of 2021 fourth-year survey; focus groups and interactions with the AsD-TL; and topical student surveys (e.g., P/F grading option during pandemic, Grand Rounds, class ranking, Spanish-language training). Upon entering the program, students are introduced to members of the DVM Services Team and respective purviews, with outreach encouraged. The third- and fourth-year Student Coordinator is housed in the VTH and engages with individual students throughout any given day. Communications from the AD-DVM (e.g., pandemic policies, academic policy updates, additions or loss of faculty and staff, encouragement, curriculum changes, new resources) include invitations to provide individual feedback.

NAVLE preparation resources are included within the Registration, Curriculum, DVM Exam Information, and NAVLE Resources tab of the DVM Student SharePoint site. These resources were inadvertently omitted from the site after the migration to SharePoint and were updated and reestablished in 2021. With the opening of all Canvas sites of completed courses to students, including the oft-requested Swine Medicine elective, students have additional preparatory resources. As noted, the Capstone examinations may be associated with improved NAVLE performance. Emphasis on primary care cases within Grand Rounds, as well as two NAVLE test questions per presentation, provide additional resource material. Given these resources and the high pass rates of CSU students, additional support in this area has not been prioritized.

"Financial services" (4.10) and "Help received to negotiate employment salary/benefits" (4.09) were ranked low in 2015 and/or 2016, but are no longer included in lowest-scoring features since hiring of dedicated career and financial advising staff and development of associated programming. In 2016, 2017, and 2019 the "variety of elective options" was ranked low (5.02), but has not been included in lowest-scoring features in the past two years as elective courses and practicums have expanded.

The fourth-year student survey also asked respondents to rate how well the curriculum provided information and experiences to promote competence in an array of areas reflecting AVMA competencies. A 7-point scale was used, with 1 = very dissatisfied and 7 = very satisfied. During the reporting period, client communication was among the three highest-ranked each year (6.29), followed by anesthesia (5.88) and ethical conduct (5.72). Lowest scores were assigned to large animal emergency and intensive care case management (4.01), large animal basic surgery skills (3.98), and large animal basic surgery experience and case management (3.97). While student rotation evaluations highlight opportunities for improvement in both equine and livestock programming, these scores likely reflect a declining bovine ambulatory and in-house caseload, as well as limited breadth of livestock operations regionally.

Regarding the former, ambulatory calls and number of animals treated have declined during the reporting period. Though small ruminant and overall hospitalizations and visits have increased, the bovine caseload has decreased (please refer to Standard 12.4.1 and Appendix 4.1). Regarding breadth of cases, dairy contracts have declined, and the single non-dairy ambulatory clinician provides services to beef operations across a large region, in addition to modest equine and small ruminant work. Despite this, core rotations have been preserved and offerings have been added (please refer to Appendices 9.2.a and 9.2.b). Faculty numbers have remained low due to turnover, one unexpected loss, and transition of senior faculty into non-clinical roles. A comprehensive external review was conducted in 2018, and a member of that team was invited back to meet with livestock faculty in 2021 in anticipation of new facilities and curriculum renewal. The "quarterback" role described in the 2018 report has not been filled; this, along with faculty turnover, limitations in regional caseload, lack of faculty consensus around DVM instruction, and dated facilities, have limited but not prevented progress.

To address this reality in the short term, up to $2,500 of gift funds per student have been made available for travel to livestock externships. Since January 2019, 26 students have received support for 33 separate experiences. In addition, $750 of College funds are available to individual students annually for livestock-related travel support. Additionally, in July 2020 a decrease in charges for primary care cases was implemented in an effort to incentivize regional producers. Livestock faculty are cognizant of two student populations, one focused on general practice that includes an array of species, and the other more narrowly focused on one or two practice areas (e.g., dairy, beef, swine) with heavy population-level emphasis. Between 25% and 35% of fourth-year student survey respondents aspired to work in a rural community; it is estimated that fewer than 10 students per class seek to focus solely on livestock species. CSU was awarded a USDA NIFA grant in support of training and retention of livestock-oriented students. Completed in 2021, key programs of value reflected in the fourth-year student survey included Spanish-language training, externship opportunities, and enhanced awareness of funding support. Future educational offerings will emphasize robust laboratory training, development of external partners, a more strategic approach to ambulatory and emergency services, and continued efforts to recruit faculty. It is anticipated that continued external advisement, support of new leadership, and a dedicated Curriculum Renewal Committee liaison will progress work toward a unified vision for DVM livestock programming.

Within the fourth-year student survey, respondents were asked to list one beneficial and one unnecessary aspect of preclinical training. From 2018-2021, top beneficial aspects included communications training, clinical reasoning exercises, Clinical Sciences courses, and case-based learning. Top features perceived as unnecessary included Foundations courses, Capstone examinations, and the "ologies" (i.e., Parasitology, Bacteriology, Virology). When asked to list two strongest aspects of the overall program that should be continued, respondents cited clinical courses, rotations, communications training, hands-on laboratories, Junior Surgery Laboratory, and clinical reasoning exercises. Respondents listed hands-on experiences, surgical training, and time on clinics as features warranting expansion. Respondents recommended discontinuing Foundations courses, Capstone examinations, Radiology training, and time in class. Please refer to the Capstone examination section for justification and outcomes, and Standard 12.9 for information relevant to infectious disease courses, laboratories, surgical training, clinical rotations, and Imaging curriculum. Regarding Foundations, the Course Coordinator modifies the course annually in response to student evaluations (Appendix 11.1.d).

UAF: A fourth-year student survey specific to UAF-origin students will be implemented in Spring 2022. Please see Standard 12.11.3.c Additional Surveys, UAF.

Assessment of alumni: A standardized alumni survey is distributed nine and 18 months postgraduation, and is designed to assess professional preparedness according to AVMA competencies, retrospective views of the benefits and limitations of the CSU DVM program, financial health, professional satisfaction, and wellbeing. Response rates have increased during the reporting period, with a 25% increase in overall response rates and a 44% increase in 18-month response rates. This is attributed to internet verification of contact information, emphasis on the value of postgraduation feedback to existing students, electronic reminders, and vigilant oversight by the current DVM Data Analyst. Between 2015 and 2021, at both nine and 18 months after graduation, alumni reported greatest preparedness in the areas of client communication, ethical conduct, and patient welfare. Both cohorts reported least preparedness in the areas of food safety; basic surgery skills, experience, and case management; and emergency and intensive care case management. Only rarely did these ratings fall below average. In 2021, food safety was not cited by either the nine-month or the 18-month cohort. It is unknown whether the lower preparedness in food safety historically is attributable to the preponderance of small animal-focused students; this content is provided in VM 648 Animal Production and Food Safety. New content on food safety and data analytics was incorporated into the core curriculum in 2018-2019.

Alumni were asked to rate how well the program prepared them overall as an entry-level veterinarian, using a 7-point scale with 1 = very unprepared and 7 = very prepared. Scores have improved since 2015 but remain variable, with a range of 4.92 to 5.37 in the nine-month cohort, and a range of 4.91 to 5.59 in the 18-month cohort. Alumni identified program strengths as communications, medicine, anesthesia, and clinical reasoning training; faculty; hands-on experience; curriculum; clinical caseload; and financial advising. Program limitations included surgical experience, lack of case management, dentistry training, record management, livestock opportunities, and hands-on experience. Increasing numbers of alumni received financial advising with the hire of the FES, and both cohorts reported increasingly greater satisfaction with financial health and success over time, with 54 out of 61 responding affirmatively in 2021 surveys. Alumni were asked to rate their overall satisfaction with their current employment, using a 7-point scale with 1 = very dissatisfied and 7 = very satisfied. The average score from the nine-month cohort was 5.56, while the average score for the 18-month cohort was 5.86. Work-life balance and financial stress were cited as key challenges to wellbeing.

12.11.1.e Assessments by employers of graduates to determine satisfaction with the graduates.

Employer surveys are distributed annually in the spring. The number of respondents has increased over the reporting period from four in 2018 to 19 in 2021, attributed to increased presence at professional conferences pre-pandemic; em-

phasis of the importance of employer feedback to current students; use of the internet to validate/update contact information; abbreviation/refinement of the survey; inclusion of the survey in extern evaluation forms; and requests for employer contact information within the fourth-year student survey. These efforts will continue, with the aim of further increasing still low respondent numbers. Regarding CSU alumni preparedness relevant to AVMA competencies, employers assign highest scores to patient welfare, pain management, record management, comprehensive treatment planning, and anesthesia. Lowest scores were assigned to food safety; emergency and intensive care case management; and basic surgery skills, experience, and case management. In assessing overall satisfaction with CSU graduates, the score across competencies is averaged and normalized. This number has risen from 72% in 2018 to 85% in 2021, with 100% representing high satisfaction. Employers list communications training, diagnostic skills, and clinical knowledge as alumni strengths. Limitations observed include surgical skills and business knowledge.

Program Outcomes

12.11.2.a Student attrition rates with reasons (Table B). Each college must submit data on attrition every year. The Council on Education expects that an increasing (positive) trend in proportionate absolute attrition from the college will be explained, including the factors that are contributing to the trend, and that the college will implement steps and a timeline for arresting the trend. If proportionate absolute attrition over a five year average is greater than 20%, the Council may request a focused site visit.

During the reporting period, no student transferred to another institution. Relative attrition numbers include DVM/PhD and other students who leave and re-enter the program.

UAF: During the reporting period, two of 70 students who started the UAF-CSU 2+2 left the program and profession. One student was dismissed for academic reasons and one experienced health issues that precluded program completion. No student has transferred to another institution.

12.11.2.b Employment rates of graduates (within one year of graduation) (Table C). Annually each college must submit data on employment during the first year following graduation. The Council on Education expects that a declining (negative) trend in proportionate employment from the college will be explained. Colleges with an average employment rate over five years of less than 80% must provide an assessment of the factors that are impacting the trend.

Employment rates of CSU graduates have ranged from 88%-100% of respondents, without notable trends.

UAF: All 28 UAF-origin alumni were employed as veterinary practitioners within one year of graduation; 11 have returned to Alaska.

12.11.2.c Assessments by faculty (and other instructors, for example interns and residents) related to such subjects as adequacy of clinical resources, facilities and equipment, information resources, etc.; and preparedness of students entering phases of education, and

Routinely, faculty are invited to participate in open fora on timely topics (e.g., Capstone examinations, competency-based curriculum, fourth-year student survey feedback, committee updates, academic integrity). Faculty are routinely provided important updates electronically by the AD-DVM and invited to provide feedback. Faculty engagement in VHS development, facilities planning, and curriculum renewal has been robust, and there is faculty representation in leadership associated with this work. Multiple faculty and staff working groups (e.g., primary care, facilities, wellbeing, curriculum, mentorship) are active in support of these larger efforts.

Using curriculum renewal as an example, in 2018, a faculty survey was distributed to assess the perceived need for curriculum renewal, student skills/knowledge in need of development, interest in involvement, and preferred communication mechanisms. As noted, all disciplines interfaced with the DVM Steering Committee to define core competencies as a foundation for future curriculum development. Since inception of the curriculum renewal work, there have been seven faculty focus groups including 38 faculty, personal interviews of 101 faculty, open fora, 12 feedback sessions involving 78 faculty from 28 disciplines, and 84% faculty participation in a vote to define overarching goals for curriculum renewal. Non-faculty educators (e.g., pharmacists, technicians) were invited to participate in curriculum renewal and assume a more structured, active role in student education and training. Additionally, faculty are invited to submit requests for educational and equipment funding annually; each spring, approximately $1.5 million is awarded in support of teaching and approximately $284,000 is distributed for capital equipment. Please see Standard 12.4.9 for examples of funded resources.

UAF: UAF faculty receive CSU DVM faculty communications and participate in CSU surveys and fora. DVMed meetings occur monthly during the academic year; student progress and programmatic challenges are standing agenda topics. Annually and as needed, the AD-DVM-UAF requests faculty input regarding needed resources and improvements.

12.11.2.d Additional assessment that might assist the college in benchmarking its educational program.

The AAVMC Institutional Data Report is reviewed by College leadership annually; areas of concern or interest are formally presented to the College Executive Council. More informally, the AD-DVM and Dean have been active in AAVMC communities and on committees, both of which promote sharing of challenges, experiences, data, best practices, and solutions to problems. The AVMA Senior Survey is reviewed by the Dean, AD-DVM, and others as indicated, which allows comparison of CSU to national data.

UAF: In Summer 2021, UAF conducted a climate survey, the results of which are currently under analysis.

Institutional Outcomes.

12.11.3.a Describe the adequacy of resources and organizational structure to meet the educational purposes (dean should provide).

The CVMBS continues to build diverse and growing revenue sources. Predominately, the College is funded through tuition and outside revenues, such as the VTH, VDL, and philanthropy. Creation of the VHS has further enhanced capabilities in external revenue markets. This past year, the College has seen an increase in almost all external revenues. Although CSU has one of lowest state-funded veterinary institutions in the U.S., the static nature of this support over the past few years has benefited strategic planning efforts. Additionally, state support of the DVM program is now statutorily embedded along with the medical school, and it is believed that this will lead to future sustainability. College leadership continues to foster excellence by focusing efforts toward a robust, sustainable, and diverse revenue portfolio.

The DVM program has embarked upon the development of a new curriculum that will optimally prepare CSU students to be "day-one-ready veterinarians," equipped for success in an array of roles within a rapidly evolving professional landscape. This large effort includes curriculum redesign, new facilities that will accommodate an expanded primary care curriculum, and enhanced tertiary care services. As part of this effort, College leadership is considering an increase in class size to help fund ongoing and expanded teaching needs, as well as new facilities that will house students in all four years of the program. In addition to primary care, new clinical and teaching facilities will integrate concepts in wellbeing, community, and sustainability.

College leadership continually evaluates organizational structure to ensure that the appropriate personnel are in place to enhance strategic efforts in support of the DVM program. In 2019, the Executive Associate Dean position was created to allow the Dean capacity to focus on development of philanthropy and other external resources that enhance DVM programming and operational sustainability, as well as key initiatives within the DVM program, including the VHS. In 2021, the College created two additional positions that are key to the DEI strategic plan as well as outreach and engagement efforts. The AsD-DEI contributes dedicated focus and strategy to DEI efforts, allowing prioritization and execution of key initiatives. Additionally, an Associate Director of Outreach and Engagement has developed strategies and programs now in effect, and works closely with a Denver satellite campus (i.e., CSU Spur) to provide opportunities for the Denver community to engage at all levels with Fort Collins programs. A primary focus of this outreach position is engagement with all four CVMBS academic departments and the DVM program to ensure access to higher education opportunities for K-12 underrepresented constituents.

UAF: The resources, facilities, administrative support, and organizational structure have proven to satisfactorily meet the educational purposes of the program to date, as measured by the student performance data and other outcomes noted. Recruitment and retention of qualified faculty is the largest challenge to the program, as described in Standard 12.8.3.

12.11.3.b Describe how the college evaluates progress in meeting its mission (for example, benchmarking with other institutions, scholarly activity of the faculty, faculty awards, faculty and staff perception of teaching resources, student satisfaction with the educational program, teaching improvement benchmarks, and others, etc.).

A solid strategic plan provides the College with a roadmap to realize our vision, mission, and values through allocation of effort and resources and optimization of organizational structure. Two strategic priorities focus solely on the DVM program and development of the VHS, the latter providing facilities, funding, and personnel in support of veterinary education. Each strategic pillar is assigned to a senior leader within the College to ensure the proper value and attention is focused on these important objectives.

The CVMBS utilizes a number of external review tools, such as the AAVMC Institutional Data Report, to ensure the College is well-positioned as a leader within the veterinary education community. This feedback mechanism provides a benchmark from an external lens of comparison.

Additionally, the College continually seeks feedback from external stakeholders, including referring veterinarians, alumni, CVMA membership, and employers of CSU graduates. Along with perspectives from individuals within other colleges of veterinary medicine, professional organizations, and our own students and faculty, the CVMBS enjoys a rich and broad foundation for improvement and change.

In 2018, CSU, in partnership with each college, developed a comprehensive and anonymous climate survey. The CVMBS had the highest response rate of any college at 75.5%. The responses from our community were frank and insightful, providing opportunities to celebrate our culture while also considering critical feedback around areas in need of improvement. There were four general areas or topics within the survey: leadership (e.g., accountability, transparency, communication, favoritism); work-life balance (e.g., work-related stressors); salary (e.g., security, retention, promotion, growth opportunities); and gender (e.g., workplace, disparate perceptions). Employee feedback related to each of these categories provided valuable insights into existing climate and culture. For example, employees indicated that supervisors recognized their skills and provided opportunities for professional development. Areas in need of work include salary and workloads. The College Executive Council is charged with oversight and implementation of new programs, processes, and training opportunities related to the Climate Survey. The ongoing cadence for this survey is every two-three years; it is anticipated that results from the 2021 dissemination will be available this spring.

UAF: The key benchmarks for the UAF program are academic performance, wellbeing, successful integration of UAF-origin students into the Fort Collins program, attrition, employment rates, and number of students returning to Alaska. In all of these categories, the program has progressed in meeting established goals. Growth of One Health research and education and, specifically, establishment of the One Health MS, have progressed associated missions at UAF.

12.11.3.c. If your program assesses other outcomes, briefly describe the results.

Anonymous student feedback. The number of anonymous feedback submissions by year are as follows: 2016/62; 2017/40; 2018/26; 2019/15; 2020/7; 2021/6. Major themes (i.e., submitted by ≥ 5 respondents in any year) in descending order include facilities, specific course comments, instructional resources, professionalism, Capstone examinations, faculty, and proctoring. In 2018, 2019, and 2021, no single topic received more than two associated comments. Students are introduced to the anonymous feedback site at orientation, and the portal is within the DVM program and DVM Student SharePoint sites. Contact information for relevant individuals is provided within the anonymous feedback site and on the DVM Student SharePoint site, and students are encouraged to reach out directly to those contacts to share feedback and express routine concerns that are not sensitive in nature. Given continued awareness of the anonymous feedback mechanism, it is likely that decreased use of the system reflects a growing DVM Services Team and timely response to concerns brought forth when feasible.

UAF: As noted in Standard 6, students are invited to confidentially provide feedback to the AD-DVM-UAF, faculty, and visiting CSU team members. Electronic and paper anonymous feedback systems are available. Electronic feedback, described above, is not defined by cohort unless the student so articulates. A total of 32 pieces of feedback were received by hard copy since inception of the program. Nine were submitted prior to 2018, 13 in 2018, none in 2019 or 2020, and 10 in 2021. Eighteen comments concerned specific instructors or courses, six related to facilities and general logistics, five related to the overall curriculum, and three were not relevant to the program. On occasion, comments on the same topic reflected opposite opinions. The AD-DVM-UAF conveyed this feedback to instructors and otherwise considered the information in program administration.

Student fora. Throughout the reporting period, the AD-DVM has conducted open fora for all students and for student leaders annually and as needed. The fora provide a venue in which to communicate key College and program updates to students, as well as to hear student concerns and ideas. Topics discussed included tuition, College budget, DEI, wellbeing, facilities, instructional technology, Capstone examinations, specific courses, professionalism, examinations/proctoring, and communication. Examples of improvements made in response to feedback received include posting of DVM tuition dollar distribution and sources of educational costs, integration of content into student orientation, technology updates, faculty incentivization for timely submission of clinical assessments, conversion to online delivery of Capstone III, funding in support of wellbeing programming, improved proctor training, and adjustments to pandemic protocols.

UAF: The AD-DVM-UAF meets with class representatives at minimum each semester and more often as needed to solicit feedback on all matters of the program; frequency of these sessions necessarily increased during the pandemic. Informal feedback opportunities are plentiful given the small size of the program. UAF-origin students receive all CSU DVM student communications, so are invited to CSU-based fora and meetings. The AD-DVM "visits" UAF annually, either in person or remotely, and conducts open fora with students during those times. Feedback is reviewed with the CNSM Dean, the AD-DVM-UAF, and UAF faculty, and strategies for follow-up defined. As noted, students are invited to provide formal feedback on each course at the end of each semester. This feedback is provided to individual instructors, and is integrated into the annual evaluation of faculty, and tenure and promotion, at UAF.

Additional surveys. With adoption of Qualtrics as a survey platform and the hire of a new DVM Data Analyst in June 2020, surveys are more commonly employed to strategically assess interest and impact.

- **Identification of core competencies (2018-2020).** Please refer to Appendix 9.2.b for a description of actions associ-

ated with identification of core competencies led by the DVM Steering Committee.

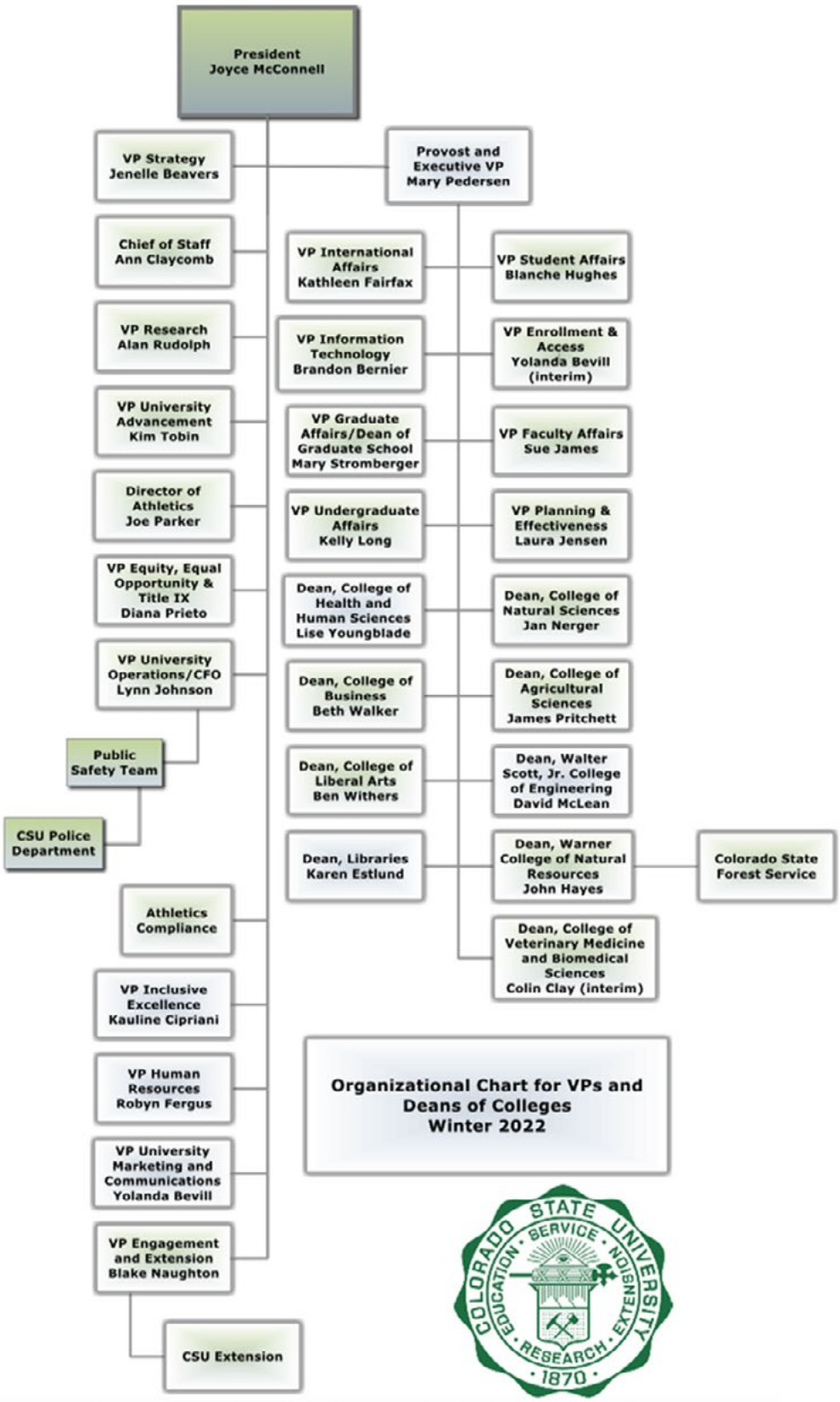
- **Class rank access (2020).** Students were queried as to how class rank data was used and the manner in which they preferred to access the information. As a result, class rank data no longer appears on the transcript; students must submit a request to view their class rank.
- **Grand Rounds (2020).** Students were asked to indicate benefits of participation and recommendations for improvement. As a result, students may now choose their cases for presentation, and a formal feedback structure has been implemented.
- **Surveys during the pandemic (2020-2021).** During the time of online instruction, students were queried regarding effectiveness of strategies, assessment, tools, time investment, and preferred grading strategies (i.e., conventional letter grade versus pass/fail). Resultant data informed policies and approaches adopted during the pandemic. Additionally, a survey was distributed to the College community by the CMHW regarding health and wellbeing, with 500 respondents. This information was used to identify challenges and implement change (e.g., pandemic-related policies and resources, improved communication, flexibility in work/school attendance).
- **Spanish-language training (2021).** Students were queried regarding Spanish-language offerings, postgraduation impact, and suggestions for future programming; data informed curriculum development.
- **Surgical curriculum and discontinuation of terminal procedures (2020, 2021).** Multiple surveys were disseminated to students, faculty, CVMA members, and regional veterinarians (i.e., alumni, referring veterinarians) for input regarding program goals, surgical competencies, recommendations, and concerns. This information has been used to guide development of the new surgical curriculum.
- **Miscellaneous surveys.** Surveys are strategically distributed to assess student interest in key initiatives (e.g., wildlife externship in Africa, on-campus dog day care).
- **UAF:** In Spring 2020, a 14-question survey was designed to gauge program satisfaction by fourth-year UAF-origin students. Responses were collected from six members of the class of 2020 and four members of the class of 2021. Half of the respondents indicated their intent to return to Alaska. Across both classes, cited programmatic strengths included small class size, quality relationships with faculty, community, flexibility, and hands-on experiences. Suggestions for improvement included enhancing visibility of the program within the CSU-origin cohorts, reducing distance learning, and providing additional assistance in navigating the transition to Fort Collins. Likert-style questions using a 5-point scale, with 5 denoting most favorable, reflected that communication within the program and preparedness for the third-year transition were strong, with mean scores > 4. Importantly, all respondents indicated that they would recommend the program to others. Data from these surveys, along with feedback obtained from ongoing sessions with UAF-origin students in Fort Collins, have been, and continue to be, used to refine and improve the program and transition.

12.11.4 Describe how outcomes findings at the student, programmatic, and institutional level are used by the college to improve the educational program (give examples)

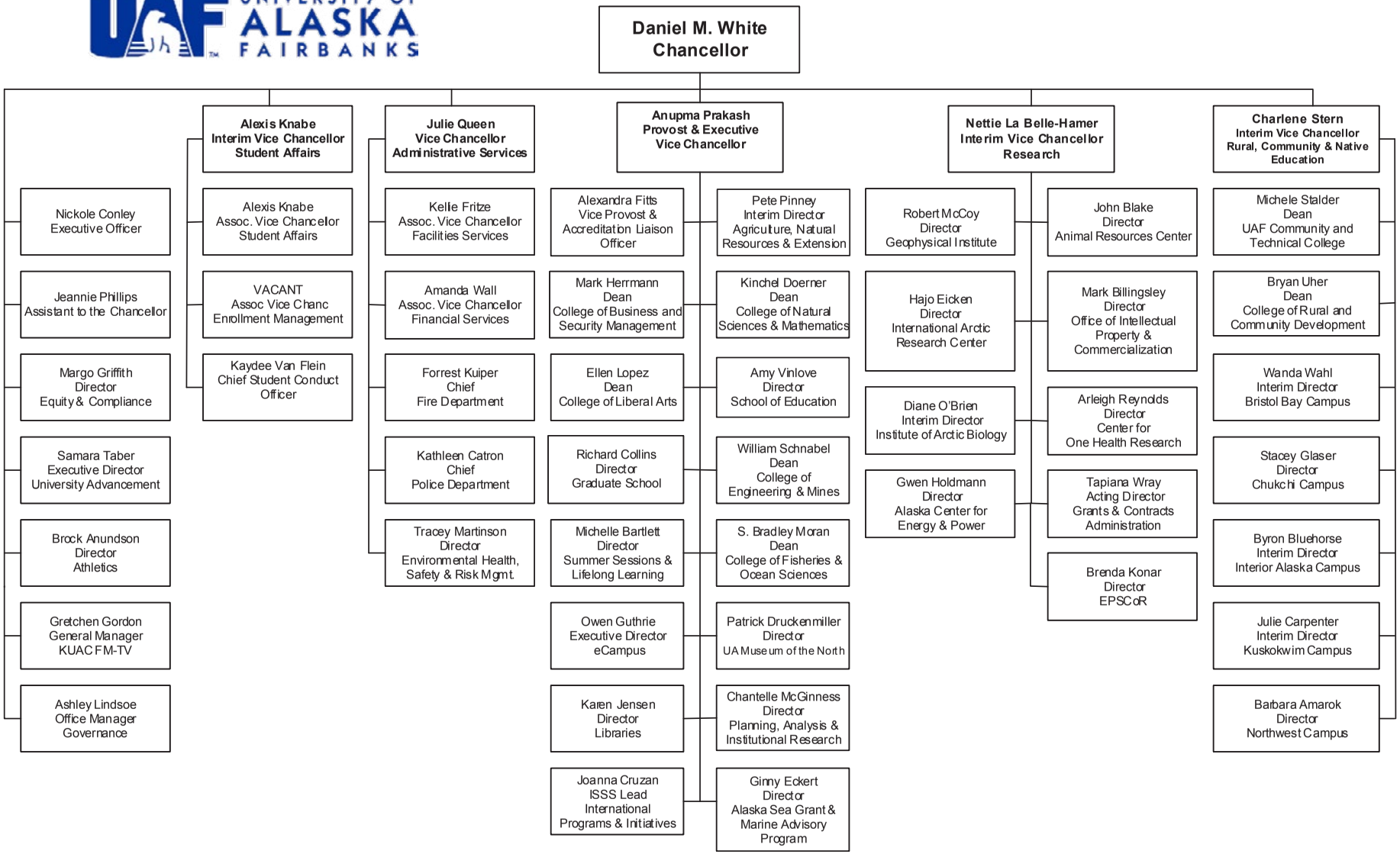
Student, programmatic, and institutional changes in response to outcomes measures are described throughout the report. Following is a brief summary of highlights. Changes initiated partly or wholly in response to **student** outcomes include facilities renovations, discontinuation of out-of-class examinations, implementation of proctoring, tutoring services, enhancement of financial and career services, wellbeing programming, addition of DEI expertise to College leadership, lecture capture, and unlimited student access to completed course materials. At the **program** level, identification of core competencies and subsequent curriculum renewal were implemented in response to faculty, employer, alumni, and student feedback, as well as evolving best practices in wellbeing, primary care, DEI, and overall health education. Expansion of dentistry services occurred in response to employer feedback. Changes to individual courses and practicums were made in response to student and faculty advisement (e.g., Applied Animal Behavior, Animal Welfare, euthanasia training, Imaging practicum, CCU and LAEM practicums, Rational Antimicrobial Therapy, Spanish-language training). In response to student practicum surveys, a major reorganization of the critical care rotation included changes to case responsibility, integration of days off, greater faculty presence, improved communication among critical care team members, daily rounds, hands-on laboratories, and improved online resources; these changes were well-received by students. Examples of initiatives informed by **institutional** outcomes include those relevant to the pandemic response, DEI, and IT, as well as development of a CVMBS branch of the UC SOM.

UAF: Changes implemented at UAF, when appropriate, have occurred in accordance with those at CSU. Based on student feedback and observation of subjects that prove particularly challenging to students, near-peer tutoring is now offered for immunology and anatomy topics, with plans to add tutors for physiology and infectious disease content. Also based on student feedback, coordination between UAF and CSU Course Coordinators has been intensified and structured, reflected in a formal UAF-CSU Guidelines for DVM Course Management document drafted and circulated in April 2021.

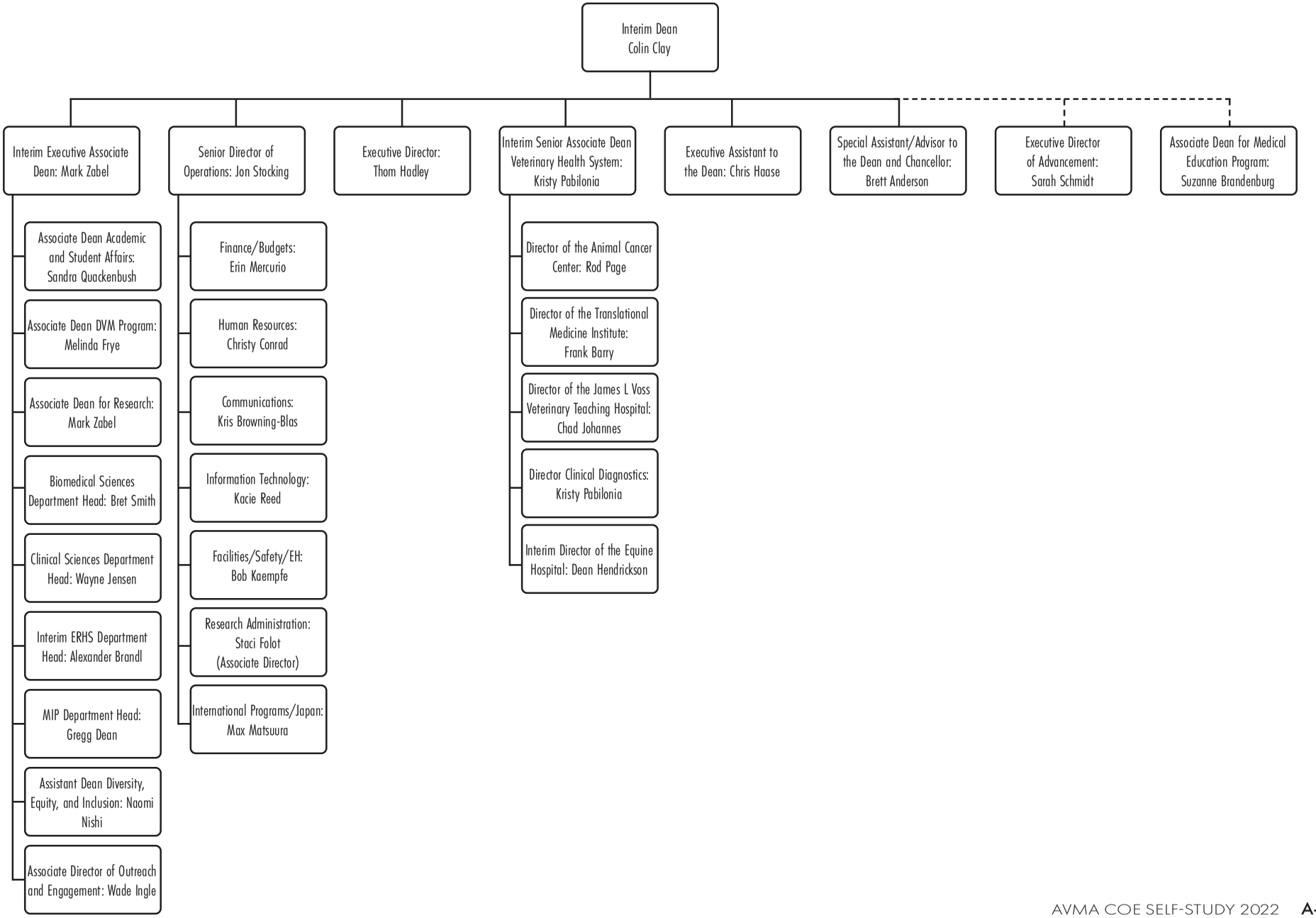
Appendix 1.3.a – CSU Organizational Chart



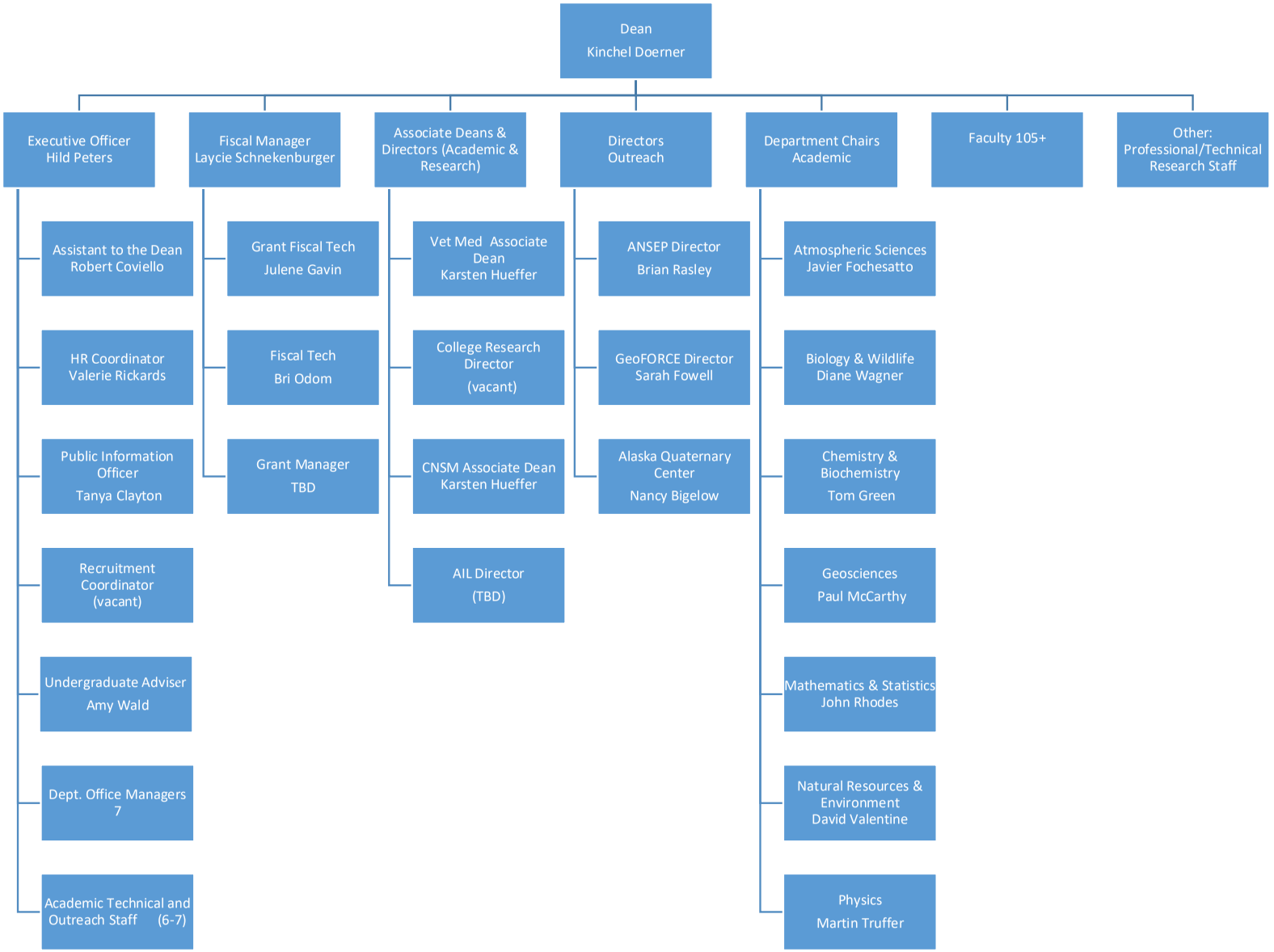
Appendix 1.3.b – UAF Organizational Chart



Appendix 1.4.a – CVMBS Organizational Chart



Appendix 1.4.b – CNSM Organizational Chart



Appendix 1.5 – DVM Committee Descriptions from the CVMBS Code

Doctor of Veterinary Medicine Admissions Committee. The DVM Admissions Committee evaluates applications, recommends candidates for admission to the DVM program, and establishes policy surrounding DVM candidate selection criteria, admissions, and student transfers. Additionally, the Committee collaborates with the DVM Curriculum Committee (DCC) and DVM Curriculum Renewal Committee in determining pre-veterinary academic requirements. It consists of at least nine members appointed by Department Heads, to include at least four college faculty, two members from the University of Alaska Fairbanks (UAF) Department of Veterinary Medicine (DVMed), an external practicing veterinarian, and a diversity representative. The number of Committee members will ultimately be determined based on the size of the applicant pool. Nonvoting, ex officio members include the Assistant Dean of DVM Admissions and the Manager of DVM Admissions Operations.

Doctor of Veterinary Medicine Committee on Scholastic and Professional Standards. The DVM Committee on Scholastic and Professional Standards makes recommendations to the CVMBS faculty, Associate Dean, and Dean regarding academic and professional standards, policies and procedures for the DVM program. It also serves as an appeals body for student grievances relating to academic or professional matters within the DVM program. The Committee may assume management of cases brought before the DVM student Honor Board if both entities deem such action appropriate. The Committee consists of five CSU DVM faculty members representing the preclinical and clinical DVM program, one faculty member representing the UAF DVM program, and two fourth-year DVM student representatives appointed by the Associate Dean for Veterinary Academic and Student Affairs (AD-DVM) each May. The AD-DVM serves in an advisory role, receives Committee recommendations, and incorporates Committee recommendations into determination of final actions. Student appeals of AD-DVM decisions are directed to the Dean of the CVMBS. The College DVM Scholastic Standards, Policies, and Procedures document contains material pertinent to academic standards, academic probation, dismissal from the DVM program, and appeals processes. Scholastic standards, policies, and procedures for undergraduate and graduate students in the college are those of the University, and are described in the "Scholastic Standards" section of the CSU General Catalog and in the Manual. The DVM Code of Honor, Veterinarian's Oath, and Essential Functions Policy contain material pertinent to professional conduct.

Doctor of Veterinary Medicine Curriculum Committee. The DVM Curriculum Committee (DCC) receives, develops, and negotiates recommendations to modify, add, or delete courses, and forwards approvals to the University Curriculum Committee. The Committee interfaces with the Dean and the DVM Curriculum Renewal Committee to consider curricular modifications in response to emerging industry and professional advances to ensure an efficient, relevant, and high-quality curriculum. The Committee conducts course and practicum reviews as needed for curriculum optimization and fulfillment of AVMA COE requirements. The DVM Admissions Committee establishes pre-veterinary academic requirements in collaboration with the DCC and the Curriculum Renewal Committee. Voting members of the Committee include two faculty representatives from each Department that are appointed by the Heads of those Departments, an "at large" faculty member appointed by the Associate Dean for Veterinary Academic and Student Affairs (AD-DVM), the faculty coordinator of the third- and fourth-year practicums, the chair of the DVM Curriculum Committee at UAF, five DVM student representatives (i.e., one from each class and one representing UAF-based students), and a Colorado Veterinary Medicine Association (CVMA) representative who is typically a local private practitioner. Nonvoting, ex officio members include an administrative representative of the James L. Voss Veterinary Teaching Hospital, the Assistant Dean of Teaching and Learning, and the AD-DVM. Courses offered to CSU DVM students at UAF must be reviewed and approved by the CNSM and University curriculum committees at UAF, then approved by the DCC.

Appendix 2.1.a – Table A: Expenditures for immediate past 5 fiscal years

CSU:CVMBS							
Q#	**Expenditure**	**Fiscal year**					**% change**
		2017	**2018**	**2019**	**2020**	**2021**	
1-DVM	Instruction, academic support, and student services	47,899,452	52,610,575	46,986,815	48,977,248	52,742,340	10%
1-Non DVM		468,690	507,601	705,797	788,438	1,074,219	129%
2-DVM	Research expenditures	1,647,026	1,925,035	1,963,338	1,976,530	1,778,858	8%
2-Non DVM		38,448,460	40,213,369	39,318,484	39,559,874	51,781,887	35%
3-Non DVM	Outreach/continuing education	83,601	947,990	1,016,006	833,605	563,854	574%
4-DVM	Teaching hospital	23,379,899	25,968,514	24,375,434	26,799,412	27,874,852	19%
5-DVM	Diagnostic lab and other clinical lab	10,278,250	9,142,788	8,849,975	9,191,031	2,003,948	-81%
5-Non DVM		1,488,994	1,446,196	2,951,445	3,566,055	1,078,553	-28%
6-DVM	Facilities operations and maintenance, utilities, and other expenditure for infrastructure	5,421,027	5,727,150	5,973,776	6,227,262	6,328,521	17%
6-Non DVM		277,867	265,002	601,328	422,610	300,109	8%
7-DVM	Capital expenditures (renovations and new construction)	2,152,528	2,297,615	2,159,028	2,556,288	2,471,326	15%
7-Non DVM		1,699,420	2,163,519	2,452,134	3,612,583	1,407,371	-17%
8.a-DVM	Student aid (extramurally sponsored grants to students selected by the institution)	573,646	530,454	445,914	405,470	407,193	-29%
8.b-DVM	Student aid (University-sponsored aid to students, inclusion of gifts and endowment income)	102,500	261,782	294,872	369,180	325,750	218%
8.b-Non DVM		1,104,075	998,354	1,344,440	1,266,853	1,367,830	24%
	Other expenditures	–	–	–	–	–	–
	Total expenditures	135,025,435	145,005,944	139,438,786	146,552,439	151,506,611	12%

Appendix 2.1.a_UAF

CSU:UAF-DVMed						
Expenditure	**Fiscal year**					**% change**
	2017	**2018**	**2019**	**2020**	**2021**	
Instruction, academic support, and student services	1,537,843	1,423,676	1,475,965	1,318,511	1,381,499	-10%
Research expenditures	4,366,098	4,249,328	4,525,878	3,061,750	3,158,650	-28%
Outreach/continuing education	1,304	660	7,102	2,973	442	-66%
Teaching hospital	–	–	–	–	–	–
Diagnostic lab and other clinical lab	–	–	–	–	–	–
Facilities operations and maintenance, utilities, and other expenditure for infrastructure	8,688	9,834	9,710	9,324	9,058	4%
Capital expenditures (renovations and new construction)	–	–	–	–	–	–
Student aid (extramurally sponsored grants to students selected by the institution)	606,598	726,923	743,954	523,663	583,136	-4%
Student aid (university-sponsored aid to students, inclusion of gifts and endowment income)	18,848	19,432	21,898	12,362	29,335	56%
Other expenditures	338,863	234,787	165,317	106,394	97,530	-71%
Total expenditures	6,878,242	6,664,640	6,949,824	5,034,977	5,259,650	-24%

Appendix 2.1.b – Table B: Revenue for immediate past 5 fiscal years

CSU:CVMBS							
Q #	**Revenue**	**Fiscal year**					**% change**
		2017	**2018**	**2019**	**2020**	**2021**	
1	Government appropriation to college	–	–	–	–	–	–
2-DVM	University appropriation to college (If veterinary student tuition is returned in this appropriation, subtract it and include it in line 3).	6,977,790	7,837,121	8,656,566	9,839,803	9,352,521	34%
2-Non DVM		15,054,143	15,419,002	17,514,392	16,887,783	17,334,443	15%
3-DVM	Revenue derived from students (tuition and other fees) that is available for college use. (Do not include any amount kept by or remanded to the University for central University use).	24,298,932	25,741,916	27,021,197	28,219,891	28,900,306	19%
3-Non DVM		55,372	153,485	1,593,343	1,645,913	1,587,838	2768%
4-DVM	Tuition and fee revenue paid by other entities on students' behalf (e.g., educational contracts & fees for clinical instruction)	838,000	800,000	932,712	909,909	922,910	10%
5-DVM	Teaching hospital revenue	24,243,978	26,097,179	27,117,842	25,962,020	31,281,064	29%
6-DVM	Diagnostic lab and other clinical lab revenue	11,166,462	11,028,628	10,526,010	10,351,767	10,360,805	-7%
6-Non DVM		1,856,659	1,863,436	3,424,180	1,983,031	2,389,299	29%
7-Non DVM	Extramural grants and contracts	33,775,260	34,947,800	34,597,688	33,523,454	47,485,291	41%
8-Non DVM	Overhead (indirect costs or F&A) returned to the college, department, or faculty member	3,520,754	3,574,229	3,592,077	3,572,985	4,569,915	30%
9-Non DVM	Current-year gifts and endowment income	11,264,029	39,339,064	16,857,520	20,947,126	12,440,080	10%
10-DVM	Other revenue (CE registration, certificate program enrollment, IP royalties, and other miscellaneous revenue)	806,872	581,261	655,832	471,177	644,202	-20%
10-Non DVM		2,199,251	8,530,376	1,677,070	1,924,738	2,828,743	29%
	Total revenue	136,057,502	175,913,497	154,166,429	156,239,597	170,097,417	25%
	Funds carried forward from previous year (college, department, and faculty)	–	–	–	–	–	–

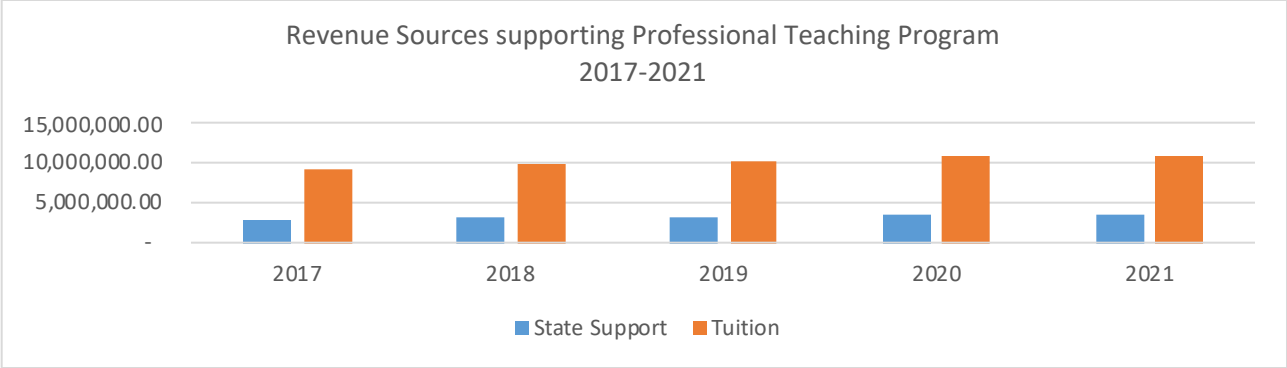
Appendix 2.1.b_UAF

CSU:UAF-DVMed						
Revenue	Fiscal year					% change
	2017	2018	2019	2020	2021	
Government appropriation to college	5,007,494	5,041,835	5,270,410	3,470,535	3,618,633	-28%
University appropriation to college (If veterinary student tuition is returned in this appropriation, subtract it and include it in line 3).	722,171	545,300	502,100	349,000	408,857	-43%
Revenue derived from students (tuition and other fees) that is available for college use. (Do not include any amount kept by or remanded to the university for central university use).	707,943	731,214	812,971	920,657	1,002,249	42%
Tuition and fee revenue paid by other entities on the students' behalf (e.g., educational contracts & fees for clinical instruction)	43,501	40,850	43,185	44,180	33,375	-23%
Teaching hospital revenue	–	–	–	–	–	–
Diagnostic lab and other clinical lab revenue	–	–	–	–	–	–
Extramural grants and contracts	–	–	–	–	–	–
Overhead (indirect costs or F&A) returned to the college, department, or faculty member	409,331	399,156	408,695	334,522	410,740	0%
Current-year gifts and endowment income	3,698	5,091	4,918	1,708	–	-100%
Other revenue (CE registration, certificate program enrollment, IP royalties, and other miscellaneous revenue)	–	–	–	–	–	–
Total revenue	6,894,138	6,763,446	7,042,279	5,120,602	5,473,854	-21%
Funds carried forward from previous year (college, department, and faculty)	–	–	–	–	–	–

Appendix 2.1.c – Table C

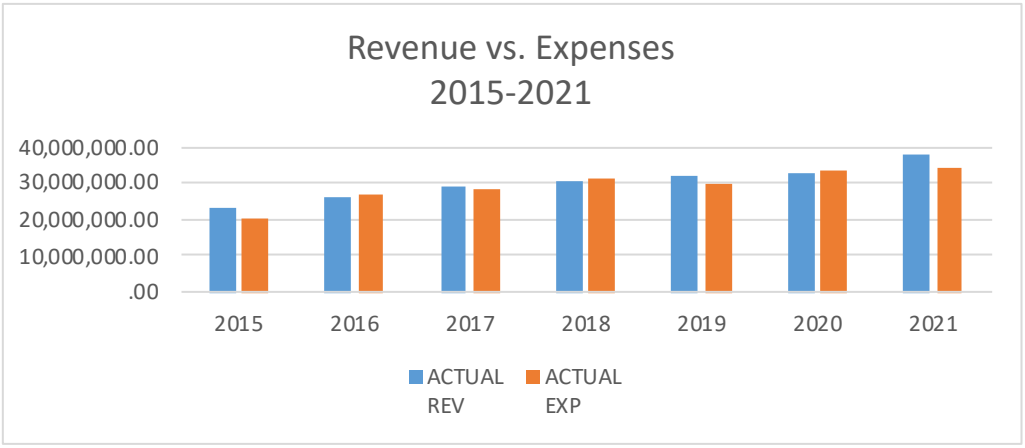
All gifts and endowments are received and held by CSU Foundation (CSUF). Interest earned on endowments is assessed a 1.75% administration fee by CSUF, and 4.25% is made available for use by CSU and realized as CSU revenue when expensed. The corpus of the endowment and any additional interest earnings remain in the Foundation and are otherwise not reflected on CSU (or CVMBS) financial statements.

Appendix 2.3 – CSU



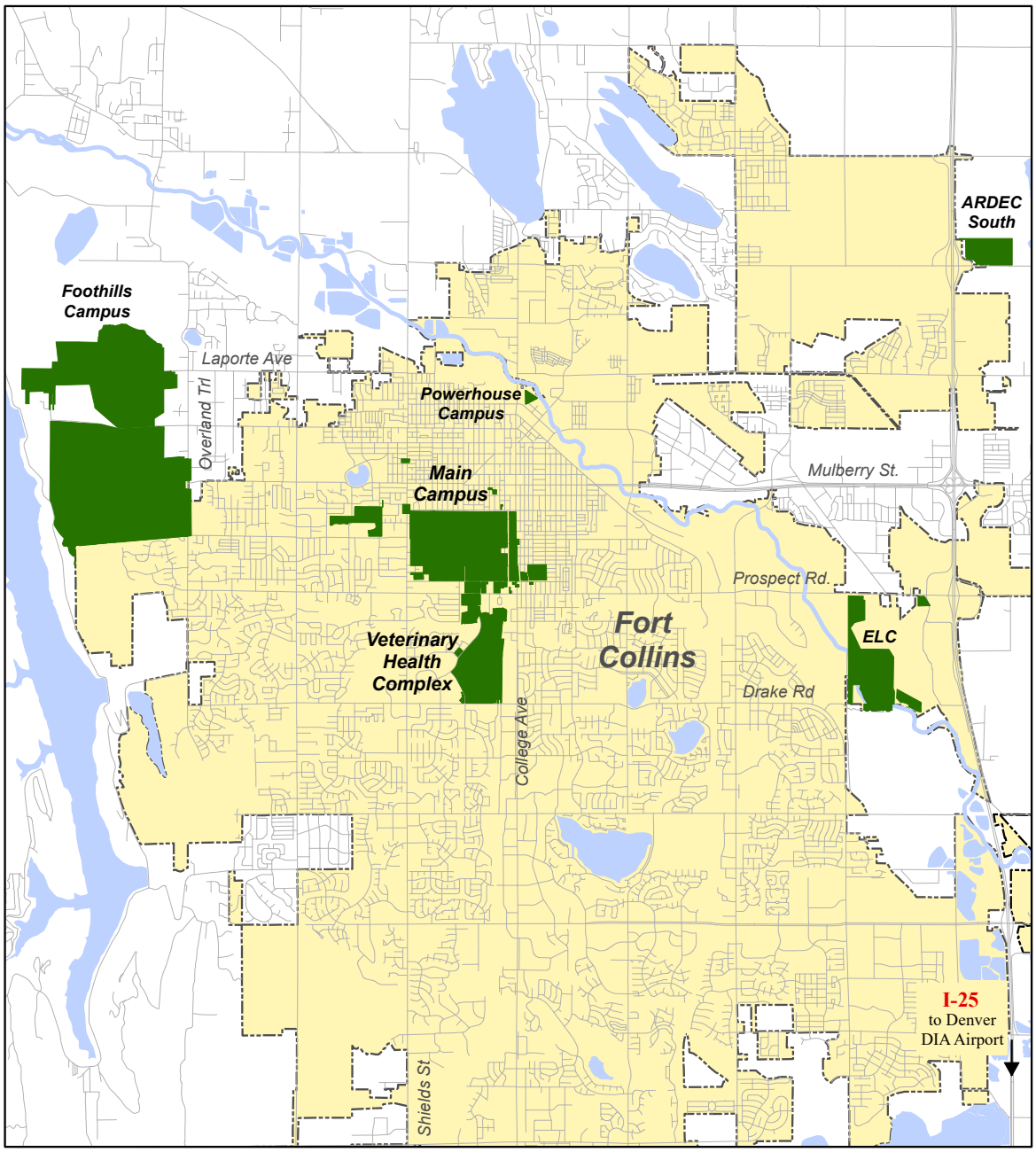
Year	State Support	Tuition
2017	2,952,103.18	9,186,688.72
2018	3,155,636.35	9,887,747.44
2019	3,285,854.06	10,336,275.08
2020	3,426,736.93	10,821,538.32
2021	3,490,889.37	11,042,507.82

Appendix 2.5 – CSU



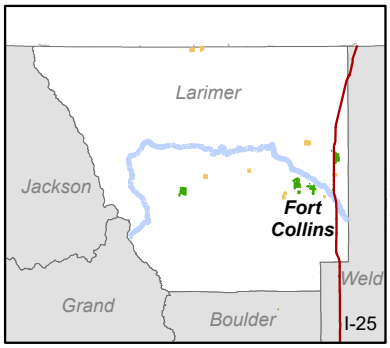
FY	ACTUAL REV	ACTUAL EXP	Annual Revenue % Change	Annual Expense % Change
2015	23,158,533.16	19,965,222.04	–	–
2016	26,187,927.60	27,123,471.65	13%	36%
2017	28,829,052.46	28,362,118.29	10%	5%
2018	30,587,548.81	31,133,028.34	6%	10%
2019	32,300,570.02	29,716,873.87	6%	-5%
2020	32,721,398.08	33,783,934.63	1%	14%
2021	37,892,225.68	34,492,521.16	16%	2%

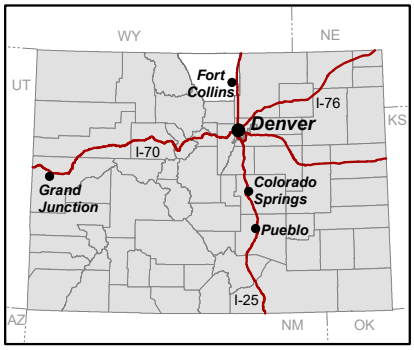
Appendix 3.2.a – Fort Collins Vicinity



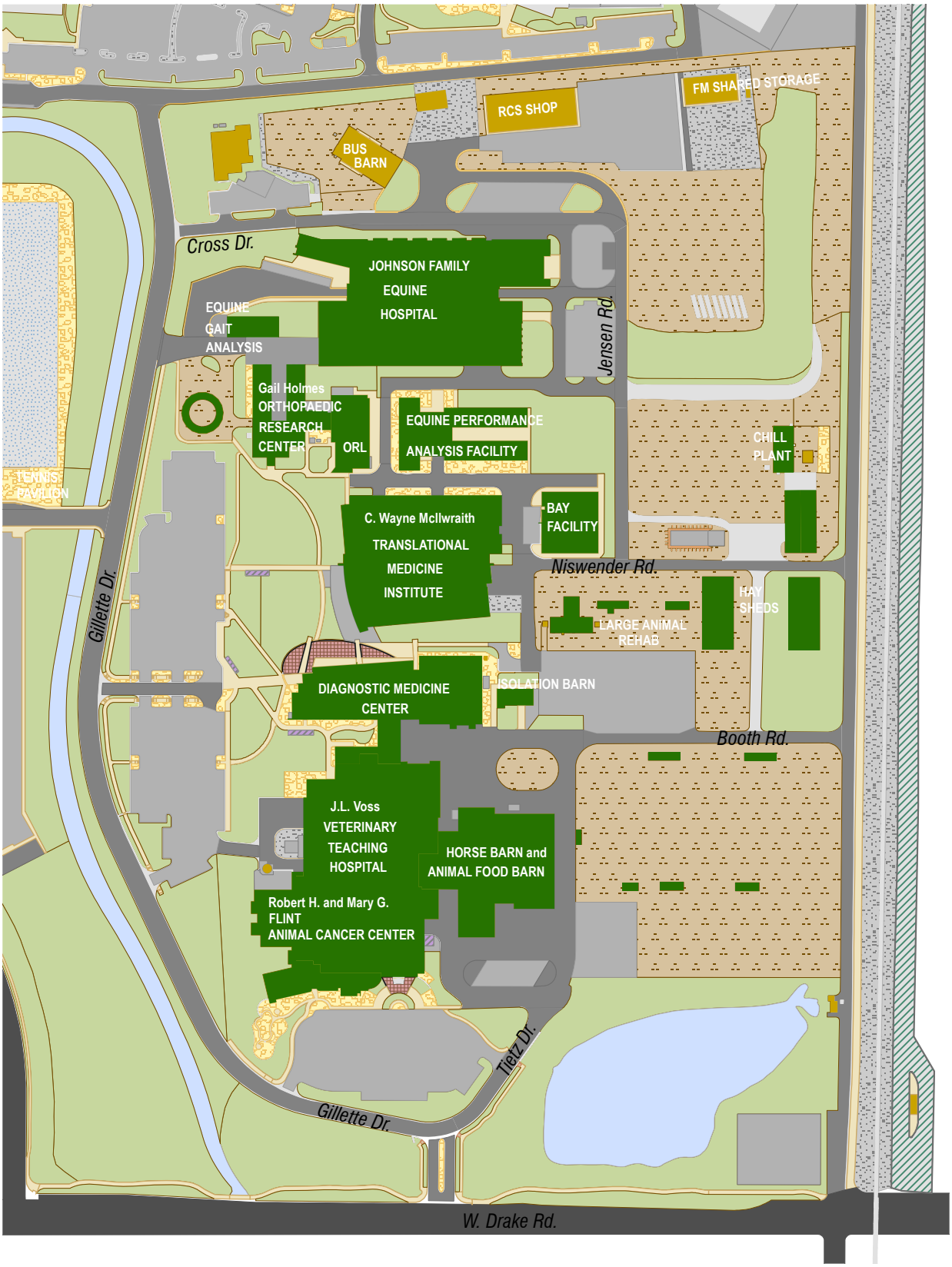
CSU Campuses

City Limits for Fort Collins, Wellington, and Timnath

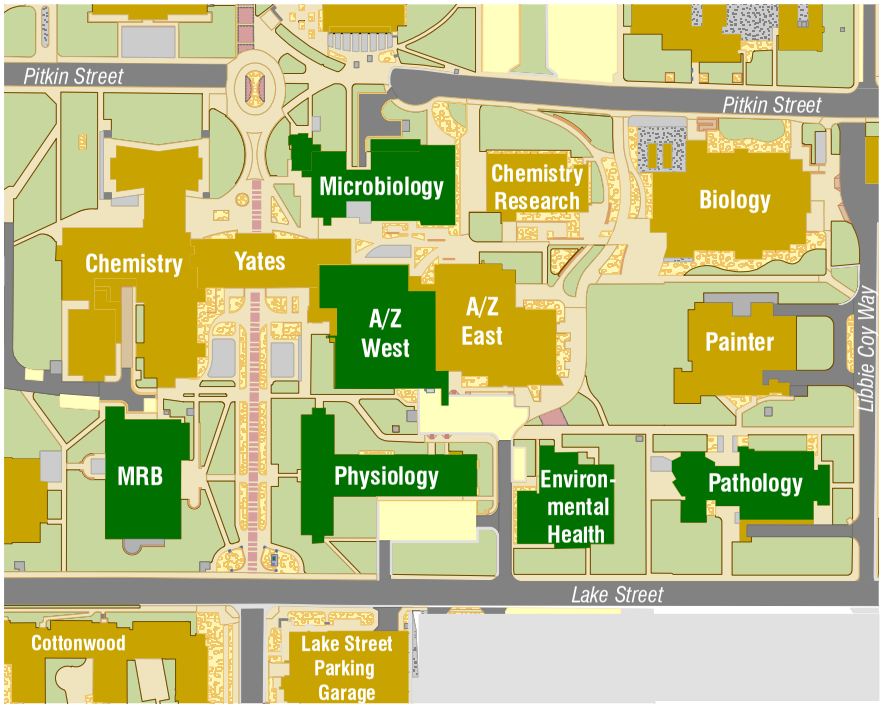




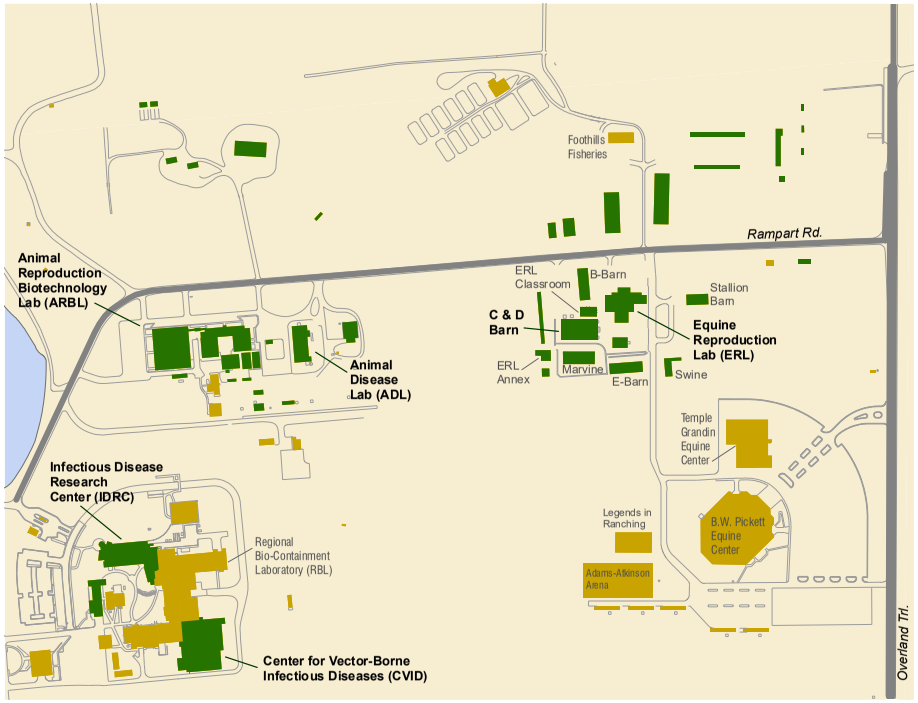
Appendix 3.2.a – Veterinary Health Complex



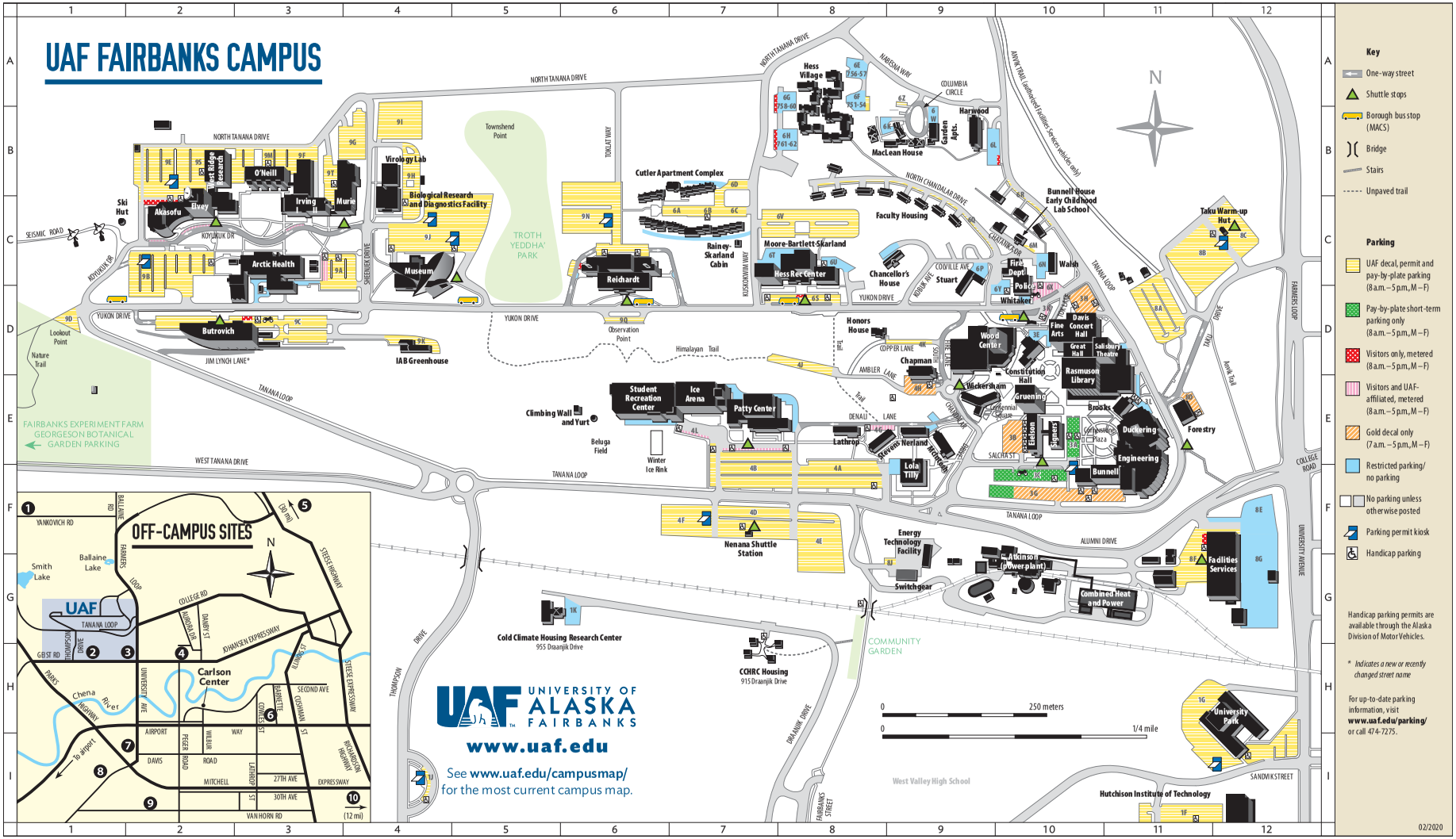
Appendix 3.2.a – Main Campus



Appendix 3.2.a – Foothills Campus



Appendix 3.2.b – UAF and surrounding area



Appendix 4 – Clinical Resources

Tables C and E not included, as there are no required rotations at privately owned and operated facilities.

Appendix 4.1 – Table A: Clinical Resources – on-campus facilities

Species	2020-2021		2019-2020		2018-2019		2017-2018		2016-2017	
	Visits	Hosp	Visits	Hosp	Visits	Hosp	Visits	Hosp	Visits	Hosp
canine	27584	4813	27121	3286	28950	4481	28001	3930	27676	3877
feline	4270	830	4321	537	4447	801	4328	586	4242	596
bovine	158	46	196	68	341	115	342	133	438	189
small ruminant	714	174	913	151	370	115	328	106	396	108
equine	2433	952	2416	1025	3188	992	3324	1031	3296	975
porcine	225	32	219	57	177	41	163	40	127	22
caged birds	579	63	637	78	621	66	579	62	460	34
caged mammals	1291	78	979	108	1190	153	1137	137	895	96
wildlife	13	–	3	–	–	–	–	–	–	–
zoo animal	68	5	147	10	23	5	33	2	33	2
other	405	23	342	26	318	34	265	23	243	20

*Companion zoo species (e.g., birds, reptiles, small mammals) and occasional "large exotics" (e.g., big cats, bears, primates, hoofstock, wild equids) are received at the VTH. Students travel with a CS faculty member to the Cheyenne Mountain Zoo in Colorado Springs once per rotation to see on-site cases, and on opposite weeks travel to the Rocky Mountain Raptor Program.

Appendix 4.1 – Table B: Clinical Resources – college owned and operated off-campus facilities

Species	2021		2020		2019		2018		2017		2016	
	Visits	Hosp	Visits	Hosp	Visits	Hosp	Visits	Hosp	Visits	Hosp	Visits	Hosp
canine	–	–	–	–	–	–	–	–	–	–	–	–
feline	–	–	–	–	–	–	–	–	–	–	–	–
bovine	–	–	–	–	–	–	–	–	–	–	–	–
small ruminant	–	–	–	–	–	–	–	–	–	–	–	–
equine	358	458	303	230	286	319	191	308	–	310	–	353
porcine	–	–	–	–	–	–	–	–	–	–	–	–
caged birds	–	–	–	–	–	–	–	–	–	–	–	–
caged mammals	–	–	–	–	–	–	–	–	–	–	–	–
wildlife	–	–	–	–	–	–	–	–	–	–	–	–
zoo animal	–	–	–	–	–	–	–	–	–	–	–	–
other	–	–	–	–	–	–	–	–	–	–	–	–

Appendix 4.1 – Table D: Clinical Resources – college owned and operated ambulatory services

Species	2020-2021		2019-2020		2018-2019		2017-2018		2016-2017	
	No. Farm Calls	No. Animals Treated	No. Farm Calls	No. Animals Treated	No. Farm Calls	No. Animals Treated	No. Farm Calls	No. Animals Treated	No. Farm Calls	No. Animals Treated
Bovine	407	20943	322	15990	491	27468	541	34277	546	27851
Caprine	8	16	8	8	58	58	20	20	71	71
Equine	2136	4317	1863	3913	2435	–	2530	–	2238	–
Ovine	11	24	7	7	54	54	4	4	51	51
Porcine	7	35	4	4	23	23	10	10	4	42
Other	21	35	–	–	19	19	45	45	2	2

Appendix 4.1 – Table F: Herd/Flock Health Program

	Describe your clinical resources for production medicine training by production group below
Dairy	The Dairy Field Service provides contracted clinical service for two commercial dairy farms milking 1,630 and 1,070 cows. The service provides reproductive management; diagnosis and treatment of sick cows and calves; consultation on disease outbreaks and control measures; and treatment and management protocols. Other services include monitoring of herd health parameters, including fresh cow and calf colostrum programs and calfhood processing (e.g., vaccinations and disbudding). Dairy Herd Health Management is a rotation for third-year students that utilizes these dairies and several others in the area. Contract dairies provide access to their cattle for research.
Beef Feedlots	The Livestock Medicine and Surgery (LMS) service provides comprehensive herd care for the CSU Agricultural Research, Development, and Education Center (ARDEC). The ARDEC has multiple beef cattle feeding units and houses from 500 to 1,000 beef cattle at any time. The fourth-year clinical rotation associated with this service includes weekly visits to the ARDEC. Fourth-year students may also participate in the elective Livestock Field Service rotation. Students accompany a livestock faculty member to feedlots in Nebraska and Colorado to perform routine feedlot work as well as pulmonary arterial pressure testing for steer/beef selection, tracking of cardiac death, and research. Students also participate in herd health management, data compilation and review, and necropsy. Feedlot visits are also included in seasonal elective rotations that include out-of-state or extended regional travel.
Cow-Calf	The ARDEC maintains a resident instruction beef herd consisting of approximately 115 breeding cows, six herd bulls, and annual offspring, with a total herd size of approximately 300 head. Weekly visits to the ARDEC that occur as part of the LMS fourth-year rotation (see "Beef Feedlots" above) include herd management, preventive care, and sick animal care. The LMS service also performs pulmonary arterial pressure field testing for cow-calf herds in the local Front Range area, through approximately 70 herd visits per year allowing testing of more than 2,000 animals. The LMS service also provides services to a variety of local cow-calf herds that include bull breeding-soundness examination, pregnancy diagnosis, vaccinations, and sick animal care. Fourth-year students may also participate in the elective Livestock Field Service rotation, where they visit large cow-calf operations in Colorado, Wyoming, Nebraska, and Idaho. Students take part in activities including but not limited to pulmonary arterial pressure testing, breeding soundness examinations, calving, herd health management, and vaccine protocol development and implementation. More than 50 ranches are available for this rotation, totaling more than 20,000 bulls, heifers, and cow-calf pairs.
Small Ruminants	Lambing Management Rotation is a fourth-year, one-week elective offered four to five times annually. Students travel from the VTH to a 4,000-head sheep ranch just north of Cheyenne, Wyoming. Under direct supervision of a CS faculty member, students participate in periparturient health management for the flock, including medical and surgical treatments, dystocia management and postpartum care, immunizations, and neonatal lamb care. Students also participate in year-round flock health management (e.g., nutrition, toxicologic exposures, infectious disease, castration, tail docking, individual animal health). Each day, 20-25 individual animals are treated by three to four students, a technician, and the faculty veterinarian; students make medical decisions and perform treatments. Sheep Management Rotation is a fourth-year, one-week elective offered one to two times annually. Students travel to regional sheep ranches including niche farm-to-table, feedlot, and range producers. Under direct supervision of a CS faculty member, students participate in routine herd health and flock management, including physical examination, venipuncture, semen collection and evaluation, classification of breeding stock, individual sick animal management, and other activities (e.g., foot trimming, tail docking, necropsy). Students also examine grazing practices, nutrition, predator management, breeding strategies, point-in-time herd problems, and preventive medicine practices (e.g., vaccination protocols, parasite management). Visits to pharmaceutical retailers, goat operations, and slaughter facilities are included when possible. Typically, 130 to 170 ram breeding soundness exams are performed annually.
Swine	The majority of swine herds are in Eastern Colorado. Due to this and the relatively low number of CSU students with interests in swine herd health, no structured herd experiences are offered, though students may apply for funding to support travel expenses (Standard 12.11.1.d). Individual swine cases, primarily dystocia, castrations, and other primary care issues, are managed in the field and at the VTH.

Poultry	N/A
Fish	N/A
Equine	As part of the Equine Field Service, students travel to the Dumb Friends League (DFL) Harmony Equine Center and other rescue organizations to provide preventive, wellness, and general medical and surgical services. From June 2018 to present, approximately 135 students have cared for 950 horses at Harmony Equine alone. Additional opportunities include dental trips (e.g., C Lazy U Ranch, Sombrero Ranches, Drowsy Water Ranch) and castration trips (e.g., Nebraska, BLM wild horses). While these opportunities primarily involve fourth-year students, every effort is made to include first- through third-year students who express interest, as space allows. The Equine Field Service also provides clinical veterinary care and herd management services to approximately 70 University-owned horses housed at the University Equine Teaching and Research Center. These horses are also used for Equine Field Service wet labs that include dental exams and procedures; eye exams; lameness exams including perineural anesthesia and joint injection techniques; upper airway endoscopy; radiology; ultrasonography; foot evaluation and care; colic examination; and diagnostics. These practical opportunities are also available to third-year students on independent study and members of the Student Chapter of the American Association of Equine Practitioners. Please see Standard 12.4.3 for a description of student opportunities at the ERL.
Other	N/A

Appendix 4.1 – Table G: Necropsy – Number of necropsies involving students

Species	**2020-21**	**2019-20**	**2018-19**	**2017-18**	**2016-17**
Canine	97972	90529	98043	104037	93737
Feline	22823	20106	20919	21532	19727
Bovine	25756	19927	19174	24725	16315
Caprine	3447	4859	3951	5092	4286
Equine	15587	16560	17594	15699	18146
Ovine	7408	8136	9518	9257	9502
Porcine	353	276	451	1570	4252
Poultry and Avian	10546	7613	11182	13299	12697
Other Birds	–	–	–	–	–
Non-Avian Exotics	44920	66757	48144	53219	49228

Appendix 4.4 – Table H: Clinical Resources – off-campus facilities

HOSPITAL, CLINIC, SHELTER	REQUIRED ROTATION FULFILLED	ROTATION DURATION (WEEKS)	AVG NO. STUDENTS PER YR.	SURGERY Y/N	NECROPSY Y/N	CLIN PATH (Y/ON SITE, Y/ OFF SITE, N)	RADIOLOGY Y/N	ICU Y/N	ISOLATION Y/N	MOST RECENT ANNUAL CASELOAD BY SPECIES FOR THE FACILITY						NEW OR REINTRODUCED SITE
										CANINE	FELINE	EQUINE	BOVINE	SM RUM	OTHER	
Pet Aid 2015	Elective	2 weeks	30	Y	Y	Y/Y	Y	N	Y	7280	1920	–	–	–	–	–
Pet Aid 2016	Elective	2 weeks	21	Y	Y	Y/Y	Y	N	Y	9173	2421	–	–	–	–	–
Pet Aid 2017	Elective	2 weeks	27	Y	Y	Y/Y	Y	N	Y	10573	2664	–	–	–	–	–
Pet Aid/DFL SVH 2018	Elective	2 weeks	27	Y	Y	Y/Y	Y	N	Y	–	–	–	–	–	–	–
DFL SVH 2019	Elective	2 weeks	15	Y	N	Y/Y	Y	N	Y	17788 *	4457 *	–	–	–	–	–
DFL SVH 2020	Elective	2 weeks	14	Y	N	Y/Y	Y	N	Y	6719	2336	–	–	–	–	–
DFL Yuma 2021	Elective	2 weeks	26	Y	N	Y/Y	Y	N	Y	8904	2841	–	–	–	–	–
Larimer Humane Society	4th-year Community Practice	2-4 weeks	120	Y	N	N	Y	N	Y	2512	2533	–	–	–	1426	N
Larimer Humane Society	3rd-year shelter rotation	1 week	20	Y	N	N	Y	N	Y	2512	2533	–	–	–	1426	N
Larimer Humane Society	1st-year animal handling	2 days	144	Y	N	N	Y	N	Y	2512	2533	–	–	–	1426	–

*DFL = Dumb Friends League, SVH = Solutions Veterinary Hospital. The hospital, previously known as PetAid and operated by the CVMA, underwent a change in ownership to DFL (DFL SVH) then a name change to DFL Yuma.

Appendix 4.4 – Table I

Off-campus site: Number & educational experience	Duration of rotation	Number of students per year	Faculty mentor approved		Off-site Evaluator	Written educational objective(s)		Educational outcomes assessed & student evaluations reviewed	
			Yes	No		Yes	No	Yes	No
Pet Aid 2015	2 weeks	48	Y		Dr. Heather Hergert	Y		Y	
Pet Aid 2016	2 weeks	48	Y		Dr. Heather Hergert	Y		Y	
Pet Aid 2017	2 weeks	48	Y		Dr. Heather Hergert	Y		Y	
Pet Aid/DFL SVH 2018	2 weeks	48	Y		Dr. Heather Hergert	Y		Y	
DFL SVH 2019	2 weeks	48	Y		Dr. Rose McDonough	Y		Y	
DFL SVH 2020	2 weeks	48	Y		Dr. Jodi Boyd	Y		Y	
DFL Yuma 2021	2 weeks	48	Y		Dr. Jodi Boyd	Y		Y	
Larimer Humane Society: year 4	Component of 2-4 week Community Practice rotation	120	Y		–	Y		Y	
Larimer Humane Society: year 3	1 week (20 hours)	20	Y		Dr. Lindsay Gapstur and Margaret Garcia	Y		Y	
Larimer Humane Society: year 1	Component of VM610/611 Foundations (1.5 hours with dogs; 1.5 hours with cats)	144	Y		–	Y		Y	
Murphy Center	Component of 2-4 week Community Practice rotation (2.5 hours per 2-week rotation)	120	Y		–	Y		Y	

*DFL = Dumb Friends League, SVH = Solutions Veterinary Hospital. The hospital, previously known as PetAid and operated by the CVMA, underwent a change in ownership to DFL (DFL SVH) then a name change to DFL Yuma.

Appendix 6.1 – Table A: Veterinary Medical Program

Class	2021	2020	2019	2018	2017
First-year CSU/UAF	142/14	144/14	138/11	137/10	138/10
Second-year CSU/UAF	142/14	137/11	136/10	140/10	127/9
Third-year CSU/UAF	147	148	149	144	144
Fourth-year CSU/UAF	148	148	144	142	138
# Graduated	147	144	142	138	137
Students from other institutions enrolled for entire clinical year only*	20	20	20	20	20

*represents student or students admitted for only the clinical year from other accredited and non-accredited schools

Appendix 6.1 – Table B: Interns, Residents, and Graduate Students (enter each person in only one category) per year for last five years

Department	# Interns	# Residents	# Resident-MS	# Resident-PhD	MS	PhD
CS 2021	9	55	21	1	4	7
CS 2020	6	53	23	1	8	8
CS 2019	9	50	20	2	7	1
CS 2018	11	48	21	1	7	7
CS 2017	6	51	21	1	7	8
VTH 2021	9	–	–	–	–	–
VTH 2020	11	–	–	–	–	–
VTH 2019	9	–	–	–	–	–
VTH 2018	10	–	–	–	–	–
VTH 2017	9	–	–	–	–	–
BMS 2021	–	–	–	–	83	34
BMS 2020	–	–	–	–	89	45
BMS 2019	–	–	–	–	87	37
BMS 2018	–	–	–	–	81	37
BMS 2017	–	–	–	–	83	32
MIP 2021	–	24	3	21	5	60
MIP 2020	–	25	4	21	8	49
MIP 2019	–	26	5	21	12	43
MIP 2018	–	27	5	22	11	40
MIP 2017	–	27	5	22	7	44
ERHS 2021	1	13	13	–	1	2
ERHS 2020	1	13	12	–	1	1
ERHS 2019	–	12	11	–	1	1
ERHS 2018	–	11	10	–	1	–
ERHS 2017	–	10	10	–	–	–

*The VTH funds small animal rotating interns.

Appendix 6.1 – Table C: DVM students per year for the last five years who identify as members of historically underrepresented racial and ethnic groups

Academic Year	CSU:Fort Collins		
	Total	*Min	% Min
2021	607	129	21.25%
2020	602	119	19.77%
2019	588	113	19.22%
2018	583	113	19.38%
2017	566	124	21.91%
	CSU:UAF		
2021	28	3	10.71%
2020	25	2	8%
2019	21	2	9.52%
2018	20	3	15%
2017	19	2	10.53%

Appendix 6.1 – Table D: Other educational programs

Year	ACTIVITIES		
	Veterinary Technician Program Number enrolled	Undergraduate Programs Number enrolled	Other Number enrolled
2021	0*	928	–
2020	0*	922	–
2019	30	914	–
2018	30	891	–
2017	30	857	–

*Veterinary technician training temporarily discontinued due to pandemic-related space limitations in the VTH.

Appendix 6.2 – Table E: Scholarship activity

Award Year	# of applications submitted	# of Scholarships awarded	# of Students awarded	Average amount per recipient	Average amount per award	Total amount awarded
AY 20-21	313	242	204	$6,222	$5,244	$1,269,199
AY 19-20	320	238	206	$5,406	$4,679	$1,113,620
AY 18-19	328	249	217	$5,513	$4,805	$1,196,380
AY 17-18	369	234	203	$4,442	$3,853	$901,670
AY 16-17	379	276	236	$4,224	$3,612	$996,925
AY 15-16	347	291	258	$3,505	$3,107	$904,210

Appendix 7.4 – Table A

CSU:Fort Collins								
YEAR	STATE RESIDENTS		NON-RESIDENTS		CONTRACT STUDENTS		TOTAL	
	A/P*	O/A**	A/P	O/A	A/P	O/A	A/P	O/A
2021	269 / 70	78 / 70	3161 / 57	158 / 57	147 / 15	36 / 15	3577 / 142	272 / 142
2020	235 / 70	74 / 70	2084 / 63	180 / 63	122 / 10	30 / 10	2441 / 143	284 / 143
2019	216 / 70	76 / 70	1928 / 51	177 / 51	129 / 17	36 / 17	2273 / 138	289 / 138
2018	218 / 70	80 / 70	1836 / 53	179 / 53	134 / 14	31 / 14	2188 / 137	290 / 137
2017	206 / 71	76 / 71	1799 / 51	145 / 51	137 / 16	34 / 16	2142 / 138	255 / 138
2016	192 / 69	75 / 69	1272 / 52	206 / 52	118 / 17	41 / 17	1582 / 138	322 / 138
2015	208 / 76	81 / 76	1219 / 40	164 / 40	140 / 22	52 / 22	1567 / 138	297 / 138

CSU:UAF								
YEAR	STATE RESIDENTS		NON-RESIDENTS		CONTRACT STUDENTS		TOTAL	
	A/P*	O/A**	A/P	O/A	A/P	O/A	A/P	O/A
2021	10 / 7	8 / 7	207 / 7	29 / 7	–	–	217 / 14	37 / 14
2020	14 / 9	9 / 9	68 / 5	11 / 5	–	–	82 / 14	20 / 14
2019	11 / 4	6 / 4	109 / 7	17 / 7	–	–	120 / 11	23 / 11
2018	7 / 4	4 / 4	131 / 6	25 / 6	–	–	138 / 10	29 / 10
2017	9 / 5	6 / 5	96 / 5	19 / 5	–	–	105 / 10	25 / 10
2016	14 / 6	9 / 6	77 / 4	13 / 4	–	–	91 / 10	22 / 10
2015	20 / 7	9 / 7	72 / 3	14 / 3	–	–	92 / 10	23 / 10

Appendix 8.1 – Table A: Loss and recruitment of faculty (both tenure track & clinical track/equivalent); provide data for past five years:

CSU:Fort Collins				
Department	**Lost, number**	**Discipline/Specialty**	**Recruited, number**	**Year**
ERHS	1	Radiation Cancer Biology	–	2015
ERHS	1	Occupational and Environmental Health	–	2015
MIP	1	Diagnostic Virology	1	2015
MIP	1	Virology	–	2015
MIP	1	Bacteriology	–	2015
MIP	1	Mycobacterium Tuberculosis	–	2015
BMS	–	Neuroendocrinology	1	2015
BMS	–	Neurology	1	2015
ERHS	–	Epidemiology	2	2015
ERHS	–	Veterinary Diagnostic Imaging	1	2015
ERHS	–	Toxicology	1	2015
MIP	–	Bioinformatics	1	2015
MIP	–	Clinical Pathology	1	2015
ERHS	1	Radiation Therapy	–	2016
ERHS	1	Radiochemistry	1	2016
MIP	1	Prion Immunology	–	2016
MIP	1	Associate Provost for Program Planning	–	2016
MIP	1	Bacteriology	–	2016
MIP	1	Environmental Microbiology	–	2016
ERHS	1	Industrial Hygiene	1	2016
BMS	2	Molecular Neurobiology	–	2016
MIP	–	Medical Entomology	1	2016
ERHS	–	Medical Physics	1	2016
MIP	–	Bioinformatics, Statistics & Microbiome Analysis	1	2016
CS	–	Cardiology	1	2016
BMS	–	Cardiovascular Physiology	1	2016
MIP	–	One Health	1	2016
MIP	1	Retrovirus & Prion Infections	–	2017
MIP	1	Immunology/Therapy of Tuberculosis	–	2017
MIP	1	Oncology Pathology	–	2017
CS	1	Cardiology	–	2017
CS	1	Livestock	–	2017
UAF	1	Physiology	–	2017
CS	1	Dairy	–	2017
UAF	1	Immunology	–	2017
BMS	–	Molecular Neurobiology	3	2017
ERHS	–	Industrial Hygiene	1	2017
ERHS	–	Veterinary Diagnostic Imaging	1	2017

ERHS	–	Veterinary Radiation Therapy	1	2017
MIP	–	Infectious Disease	1	2017
BMS	1	Molecular Neurobiology	–	2018
ERHS	1	Occupational & Environmental Health	–	2018
CS	1	Dairy Population Health Management	–	2018
CS	1	Dentistry & Oral Surgery	–	2018
CS	1	Small Animal Emergency/Critical Care	–	2018
MIP	–	Anatomic Pathologist	2	2018
ERHS	–	Diagnostic Bacteriology	1	2018
ERHS	–	Veterinary Diagnostic Imaging	1	2018
CS	–	Neurology/Neurosurgery	1	2018
CS	–	Ophthalmology	2	2018
CS	–	Zoological Medicine	1	2018
CS	–	Livestock Medicine & Surgery	1	2018
BMS	–	Cardiovascular Physiology	1	2018
BMS	–	Animal Gross & Virtual Anatomy	1	2018
BMS	1	Cardiovascular Physiology	–	2019
BMS	1	Cellular Endocrinology	–	2019
CS	2	Small Animal Emergency/Critical Care	1	2019
CS	1	Oncology	–	2019
CS	1	Livestock Medicine & Surgery	1	2019
CS	2	Population Health	–	2019
CS	1	Education	1	2019
CS	1	Integrative Pain Management	–	2019
ERHS	2	Radiation Cancer Biology and Oncology	–	2019
ERHS	1	Veterinary Diagnostic Imaging	1	2019
MIP	1	Retrovirus and Prion Infections	–	2019
MIP	2	Anatomic Pathology	–	2019
CS	–	Dentistry & Oral Surgery	1	2019
CS	–	Equine Surgery	1	2019
CS	–	Veterinary Communications	1	2019
CS	–	Small Animal Medicine	2	2019
CS	–	Ophthalmology	1	2019
ERHS	–	Epidemiology	3	2019
MIP	–	Pedagogy	1	2019
CS	1	Small Animal Internal Medicine	–	2020
CS	1	Emergency Critical Care	–	2020
CS	3	Livestock	–	2020
CS	1	Equine Surgery	–	2020
CS	1	Ophthalmology	–	2020
CS	1	Nutrition	–	2020
CS	1	Oncology	–	2020
CS	1	Equine Theriogenology	–	2020

ERHS	1	Toxicology	1	2020
MIP	1	Biosafety Officer	–	2020
BMS	–	Reproductive Physiology	1	2020
BMS	–	Infectious Diseases	1	2020
CS	–	Small Animal Theriogenology	1	2020
CS	–	Emergency/Critical Care	2	2020
CS	–	Livestock	1	2020
CS	–	Surgical Oncology	2	2020
BMS	–	Physiology Instruction	1	2020
ERHS	–	Exotics	1	2020
ERHS	–	Epidemiology/Environmental Health	1	2020
ERHS	–	Veterinary Radiation Therapy	1	2020
MIP	–	Anatomic Pathology	2	2020
MIP	–	Pedagogy	1	2020
CS	1	Cardiology	1	2021
CS	1	Small Animal Theriogenology	1	2021
CS	1	Small Animal Surgery	1	2021
CS	2	Dermatology	–	2021
CS	1	Small Animal Internal Medicine	–	2021
CS	1	Small Animal Orthopedic Surgery	–	2021
ERHS	1	Health Physics	–	2021
ERHS	1	Toxicology	–	2021
ERHS	1	Occupational & Environmental Health	–	2021
MIP	1	Bacteriology/Immunology	–	2021
MIP	1	Prion Immunology	–	2021
MIP	2	Mycobacterium Tuberculosis	–	2021
BMS	–	Infectious Diseases	1	2021
BMS	–	Medical School Human Anatomy Instruction/ Curriculum Development	1	2021
CS	–	Oncology	2	2021
CS	–	Canine Sports Medicine & Rehabilitation	1	2021
CS	–	Veterinary Communications	1	202`
CS	–	Livestock Medicine & Surgery	2	2021
CS	–	Community Practice	1	2021
CS	–	Undergraduate Education	1	2021
ERHS	–	Veterinary Diagnostic Imaging	1	2021
MIP	–	Anatomic Pathology & Clinical Immunology	1	2021
MIP	–	Pedagogy	1	2021
MIP	–	Bacteriology/Immunology	1	2021
CSU TOTAL	**70**		**82**	
CSU:UAF				
Veterinary Medicine	1	Clinical /Surgery	–	2015
Veterinary Medicine	–	Immunology	1	2019
Veterinary Medicine	1	Neurology	–	2019

Veterinary Medicine	1	Toxicology	–	2020
Veterinary Medicine	1	Anatomy	–	2020
Veterinary Medicine	–	Physiology	1	2020
Veterinary Medicine	–	Anatomy	1	2021
Veterinary Medicine	1	Large animal medicine	–	2021
UAF TOTAL	**5**		**3**	

Appendix 8.1 – Table B : Staff support for teaching and research

CSU:Fort Collins			
AREA	**FTE CLERICAL**	**FTE TECHNICAL**	**OTHER**
CLINICAL TEACHING	14.6	9.3	–
NON-CLINICAL TEACHING	45.5	4	21.5
RESEARCH	59.15	175.30	2.0
TOTAL	**119.25**	**188.6**	**23.5**
CSU:UAF			
CLINICAL TEACHING	–	–	–
NON-CLINICAL TEACHING	1	2	–
RESEARCH	–	0.5	–
TOTAL	**1**	**2.5**	**0**

Appendix 8.2 – Table C: Non-Veterinarians

Title	**MS**	**PhD**	**Board Certified**	**Board Certified & MS**	**Board Certified & PhD**
Administrator	2	4	0	0	0
Professor*	9	33	1	1	1
Associate Professor*	7	22	0	0	0
Assistant Professor*	1	14	0	0	0
Instructor	5	4	0	0	0
Lecturer	0	0	0	0	0
Part-time Faculty (less than 75% time)	1	2	0	0	0

*include clinical track

There are no non-veterinarian faculty at UAF.

Appendix 8.2 – Table D: Veterinarians

CSU:Fort Collins						
Title	**DVM (only)**	**MS**	**PhD**	**Board Certified**	**Board Certified & MS**	**Board Certified & PhD**
Administrator	1	0	3	2	0	2
Professor*	29	1	9	37	6	23
Associate Professor*	18	6	11	36	13	17
Assistant Professor*	35	0	9	50	16	11
Instructor	4	1	0	2	1	0
Lecturer	0	0	0	0	0	0
Part-time Faculty (less than 75% time)	–	–	3	1	0	2
CSU:UAF						
Administrator	–	–	1	–	–	–
Professor*	–	–	–	–	–	1
Associate Professor*	–	–	–	–	–	1
Assistant Professor*	–	–	3	–	–	–
Instructor	–	–	1	–	–	–
Lecturer	–	–	–	–	–	–
Part-time Faculty (less than 75% time)	–	–	–	–	–	1

Appendix 9.1 – Curriculum Goals

Promote a guided, inquiry-based approach to stimulate application of knowledge. A faculty survey suggested that students require stronger training in critical thinking, clinical reasoning, problem-solving, lifelong learning, and resource acquisition. Setting early expectations and providing time for students' self-directed learning creates opportunities for meaningful discussion, application of material during contact time, and development of a foundation for future learning.

Approaches:

- Team-based and/or case-based learning systems, which provide structured guidance and readiness assessments prior to larger group interactions.
- Self-directed learning to actively engage students.
- Early, consistent, and intentional teaching/modeling of critical thinking and clinical reasoning.

Provide students with a roadmap for successful progression through the curriculum. Define, teach, and assess stage-appropriate competencies to ensure students are reaching the appropriate professional and curricular milestones. These stage-specific competencies will allow individual students the opportunity to identify how they are progressing relative to expectations.

Approaches:

- Integration of preclinical concepts with ultimate applications.
- Promotion of long-term retention via timely, intentional repetition.
- Employment of assessments of and for learning via:
    - Frequent, low-stakes assessments.

    - Cumulative assessments to reinforce previously learned material.
    - Objective Structured Clinical Examinations to assess skill mastery.
    - Student self-reflection of learning guided by longitudinal coaching and mentoring.
- Integration of the AAVMC Competency-Based Veterinary Education framework.

Foster/model a growth mindset. Learning from errors or misconceptions is a powerful and necessary lifelong skill. Educational data show that guided struggle leads to better contextualized learning for long-term retention. Encouraging educational risk-taking and curiosity identifies students' strengths and weaknesses and increases resilience.

Approaches:

- Create a culture in which giving and receiving constructive feedback is expected, welcome, and comfortable.
- Teach and model "productive failure" where mistakes inform learning.
- Provide early exposure to scientific ambiguity/variance in clinical cases and data interpretation.
- Help students to critically review information and challenge accepted wisdom and/or practices.
- Foster lifelong learning and habits of inquiry.

Develop and promote a sense of community and professional identity. A sense of belonging and community within the DVM program and the profession are critical to effective learning, self-care, and ability to meet challenges, as well as professional fulfillment. This is true for both students and faculty.

Approaches:

- Integrate periodic "checkpoints" for self-care and wellness strategies.
- Establish longitudinal mentor programs. Stakeholders may include faculty, DVM students, house officers, staff, and community veterinarians.
- Incorporate peer-to-peer and near-peer educational opportunities.
- Allow greater flexibility for students to explore individualized career pathways.
- Emphasize the role of ethical and professional behavior in fostering a positive learning environment.

Incorporate more and earlier clinical exposure, skill acquisition, and clinical relevance. Faculty and student surveys reveal that students require more opportunities to acquire clinical skills. This extends beyond technical skills (e.g., venipuncture), to clinical skills (e.g., physical examination, surgical skills, radiographic interpretation), and higher-order thinking (e.g., case management and clinical reasoning). Early, regular exposure to hands-on or in-clinic learning provides motivation and context for learning.

Approaches:

- Create a well-staffed simulation laboratory for professional and technical skill development.
- Provide opportunities for primary care case involvement, including client and team interactions, in early years. Integrate additional external clinical opportunities.
- Adjust the timing of full-time clinical exposure.

Provide resources to support educators in the development of new teaching methods/skills and recognize professional development efforts. Modifications to curricular and assessment practices require educator (e.g., faculty, staff, house officers) competence in novel learning theories, educational pedagogy, and teaching and assessment methods. The development of these competencies requires time, effort, and resources beyond what is captured in current teaching distributions. Utilizing experiential learning can increase student interaction and engagement as well as teacher satisfaction.

Approaches:

- Incorporate partner facilitators (e.g., technicians, community practitioners, students).
- Provide dedicated time for professional development activities and curricular innovations.

- Expand professional development workshop and seminar offerings.
- Support and train for educational scholarship. Redefine how veterinary educators are assessed in performance evaluations. Create funding models to support national and international networking and partnerships.
- Recruit, retain, and support teaching-focused faculty.

Appendix 9.2.a – Curriculum Changes

2014-2015

A systematic review of courses and practicums was initiated in 2014. Led by course coordinators and using the curriculum map, overviews were followed by considerations of gaps, omissions, and redundancies across the program. First-year course reviews were completed in Spring 2015. Resultant changes included:

- Replacement of redundant content in VM 623 Veterinary Nutrition and Metabolism and tighter alignment of anatomy and physiology topics.
- Identification of the need for improved student learning objectives, a task assumed by then-Education Development Manager Dr. Andrew West.
- Adoption of a grading policy reflecting University policy, allowing a modified letter grading scheme (e.g., +/-) at the discretion of each course coordinator.
- Discontinuation of the in-class Capstone III examination due to redundancy; the case-based practical examination, deemed more relevant to higher-order clinical reasoning, was expanded.

2015-2016

The systematic review of second-year courses was completed. A common request by course coordinators was increased Canvas support; additional personnel were subsequently added to offer on-site support at both campuses. The Education Development Manager responded to requests for assistance with peer review, instructional design, and assessments. Additional changes resulting from the reviews include:

- Enhanced coverage of foundational theriogenology material to optimize student preparation for a more clinically focused VM 744 Theriogenology in the spring of year two.
- Consultation of clinical faculty by the VM 722 Pharmacology course coordinator regarding student preparation for clinical rotations and retention of fundamental concepts.
- Movement of equine GI surgery content from VM 745 Clinical Sciences I to VM 733 Principles of Surgery.
- Replacement of advanced orthopedic surgery content in VM 733 with material more relevant to primary care.
- Completion of a small, informal survey of regional veterinarians to identify commonly encountered small animal intoxicants and frequently encountered reproductive case types, to inform content provided within VM 751 Veterinary Clinical Toxicology and VM 744 Theriogenology, respectively.

New offerings included two fourth-year electives, Equine Dentistry and Lameness and Livestock Field Services.

Discontinued offerings included elective courses in alternative and complementary medicine, due to departure of the faculty member with relevant expertise.

Additional activities

- Support of a recommendation that Capstone learning objectives be provided to students by course coordinators and instructors. The recommendation was conveyed to faculty and support provided by the Education Development Manager.
- Dissemination of a survey to faculty and house officers to identify opportunities for improvement in the fourth-year student Grand Rounds experience.

2016-2017

The systematic review of third-year courses was completed. Changes in assessment, content delivery, and student resources were made in multiple courses in partnership with the Education Development Manager.

New offerings included a DVM/MS in Animal Sciences, offered in partnership with the CSU College of Agricultural Sciences. VM 735 Animal Welfare, a 2-credit course, was added to the core curriculum. VM 781A Clinical Diagnostic Microbiology was initiated as a 2-credit elective. An adjunct faculty member was hired to provide a 1-credit elective, VM 719 Integrative Pain Management. A new fourth-year elective, Clinical Theriogenology, was initiated to offer hands-on experience across species.

Changes to existing offerings included an organizational change to the third-year elective Food Animal Anesthesia, Surgery and Diagnostics, to better accommodate high student demand while maintaining functional student:animal and student:faculty ratios, and to manage costs and biosecurity risks associated with reliance on cattle. To reduce anxiety associated with the Capstone examinations, designation as a course was removed and the examinations no longer appeared on transcripts. Successful completion of the Capstones was still required for program progression. The course coordinator for VM 730 Applied Animal Behavior, a non-DVM, was replaced by a Community Practice clinician in collaboration with a non-CSU ACVB-boarded practitioner.

Additional activities

- Adoption of a new proctoring policy, consistent with University guidelines. By definition, this disallowed most out-of-class examinations, consistent with the DVM Guidelines for Examination Procedures.
- Formation of a working group in response to results of the Grand Rounds faculty survey. The AD petitioned the state board to designate Grand Rounds as continuing education to promote practitioner attendance; the request was denied.
- Approval of an ad hoc Assessment Committee, to be led by the Education Development Manager.
- Approval of the Pillars of Professionalism, based on definitions of medical professionalism by Dr. Herbert Swick, MD, and developed by the DVM Professionalism Group. Questions regarding professionalism were integrated into the fourth-year student survey.
- Revision and streamlining of student course surveys in place since 1990.

2017-2018

The systematic review of third- and fourth-year practicums was initiated. Resultant changes included:

- Committee approval of private practitioner, student, and Dentistry faculty recommendation that Dentistry become core for students in the small animal track. Due to space restrictions within the Dentistry service, a short-term solution was identified in growing elective external opportunities with the DFL, in anticipation of making Dentistry a core requirement upon completion of space renovations.
- Elimination of the Large Animal Emergency Medicine and Small Animal Critical Care overnight student assignments. This change was made in response to consistent student feedback; subsequent feedback was overwhelmingly positive.
- Modification of the conventional Orthopedic Surgery rotation to offer one week of orthopedic medicine (e.g., lameness evaluation, rehabilitation, sports medicine). Subsequent student feedback was very positive.

New offerings included VM 735 Animal Welfare as a core course, offered for the first time in Spring 2018 to third-year students. Based on student feedback, the course was subsequently moved to the fall of the second year. A new elective, VM 620 Introduction to Spanish for Veterinarians, was initiated in Fall 2018. The DCC approved as core 10 hours of advanced euthanasia training through The Companion Animal Euthanasia Training Academy.

Additional activities

- With Echo360 technology available in all DVM lecture halls, encouragement of all instructors to implement lecture

recording, with an opt-out option. This was based on student survey data on use of recorded sessions; students were overwhelmingly in favor of this.
- Solicitation of faculty feedback after implementation of revised student course surveys in Fall 2017. Modifications to the surveys were implemented to optimize actionable feedback for educators.

2018-2019
The systematic review of third- and fourth-year practicums was completed. Resultant changes included:

- Formation of parallel tertiary and primary care services within Small Animal Internal Medicine to more effectively engage students in appropriate case management.
- To promote growth of the DFL capacity as a primary care and dentistry training opportunity, hiring of an on-site clinical instructor for CSU DVM students with input from Community Practice and Dentistry faculty. Budget opinions were obtained for renovations of the then-existing Dentistry suite within the VTH. Student elective requests were fully accommodated, with anticipation of conversion to a Dentistry core in AY2021-2022.

Due to planned curriculum renewal, restarting a second cycle of comprehensive course and practicum reviews was not deemed to be an optimal use of DCC time. Recognized as a valuable, high-level curriculum review to optimize the existing curriculum, this practice was nevertheless discontinued.

New offerings: VM 777 Feline Medicine was approved as an elective. The first two of four 1-credit Spanish for Rural Veterinarians (VM 717/718) elective online modules were approved.

Changes to existing offerings: With a new Course Coordinator, VM 637 Veterinary Bacteriology and Mycology was reduced from 3 to 2 credits. This same individual, a veterinary diagnostic bacteriologist, developed the 1-credit core course offered in year three, Rational Antimicrobial Therapy. Under advisement of Imaging faculty, the DCC approved merging content from the second-year VM 726 Principles of Imaging Interpretation I and third-year VM 728 Principles of Imaging Interpretation II, to be offered as a 3-credit VM 728 Principles of Imaging Interpretation in the fall of year three. In response to student feedback, content in the core course VM 712 Practice Management and Professional Development was reallocated into a 2-credit core VM 772 Veterinary Professional Development course and a 1-credit elective VM 775 Veterinary Practice Management, implemented in Spring 2019.

Additional activities
- Review of the AAVMC webinar on Competency-Based Veterinary Education (CBVE) milestones by the DCC, and provision of feedback to the AAVMC CBVE Working Group.
- Modification of fourth-year student Grand Rounds through more formal communication of goals and guidelines, and implementation of a consistent program of feedback on both communication and clinical reasoning. Each student presenter now receives two pieces of faculty or administrator feedback at minimum. Observation forms are available in the lecture hall and audience members are encouraged to provide additional feedback.
- Expansion of regional, national, and international opportunities under the leadership of the Director of DVM Outreach and International Student Experiences (e.g., Inclusive Health Collaborative serving pets of individuals experiencing homelessness; Navajo Nation rabies vaccination campaign; rural outreach in Bethel, Alaska, with a grant-supported on-site veterinarian; small animal externship in Osaka, Japan; expansion of existing externship in Todos Santos, Mexico).
- Formation of the ad hoc DVM Assessment Committee, led by the Education Development Manager. Initial efforts focused on integration of assessment items into ExamSoft, establishment of guidelines for writing multiple-choice questions, and continued support of faculty in developing strong student learning objectives.
- Formation of the ad hoc DVM Curriculum Renewal Committee. Initial work focused on literature reviews, communication with colleagues at external veterinary and medical programs, establishment of timelines, and development of internal communication strategies.

2019-2020

New offerings include the final two 1-credit Spanish for Rural Veterinarians (VM 781A7, VM 781A8) online electives, to total four. The DCC approved requirement of the Fear Free Level One Certification of all incoming students.

Changes to existing offerings included elimination of the Imaging course offered in the fall of the first year, with integration of radiographic anatomy into VM 616 Functional Anatomy. The fourth-year Imaging rotation was reduced from three to two weeks, with associated restructuring. This change was made in response to student feedback through One45 rotation surveys, and supported by Imaging faculty. The newly available week was offered as an externship during AY2020-2021, with planned future use for the Dentistry core rotation previously approved. Previously reported changes to bacteriology, professionalism, and practice management curricula were well-received by students.

Additional activities

- Review and approval of all changes in timelines, content delivery, and grading necessitated by the pandemic.
- Additional expansion of regional, national, and international opportunities for students (e.g., Bethel, Alaska, experiential opportunities; expanded Navajo Nation programming; Veterinary Action for Consulting in the Americas course pilot in Todos Santos, Mexico; Wildlife Conservation and Medicine summer experience in Africa). These opportunities, along with established programming in Scotland, Japan, and Mexico, were interrupted due to the pandemic, impacting a total of 51 students.
- Progression of Curriculum Renewal Committee aims through faculty workshops, individual interviews, and focus groups, faculty approval of curriculum goals, and meetings with external academic partners.
- Transition of the DVM Steering Committee to ad hoc status, given completion of core competency work and strong progress by the Curriculum Renewal Committee.
- Development of an ExamSoft assessment platform for selected courses by the DVM Assessment Committee. In preparation for the Fall 2020 pilot, the group documented best practices for writing assessment items and for analyzing item performance. An individual was hired to support item review, data input, and ExamSoft administration.

2020-2021

Changes to existing offerings include conversion of VM 730 Applied Animal Behavior to a third-year practicum to allow more hands-on training and greater emphasis of small animal and large animal content. Dr. Chris Pachel, a boarded behaviorist in private practice, will continue to actively participate in content delivery through an on-site presence for each of the two small animal practicums.

Additional activities

- Approval of the addition of a UAF student representative to the DVM Curriculum Committee. The Student Roles and Responsibilities guidelines were updated accordingly, also incorporating edits recommended by current student representatives
- Two updates of the DCC on proposed models developed by the Curriculum Renewal Committee.
- Continued review and approval of all changes in timelines, content delivery, and grading necessitated by the pandemic. Individual faculty proposals for rotation modifications were reviewed and approved.
- Approval, for the third semester, of elective S/U grading for individual courses and practicums that would not be calculated into GPA, and retention of course point integration into class rank. This was intended for students remarkably impacted by the pandemic.
- Denial of a faculty request to offer Communications practicums remotely, given the return to in-person learning throughout the University.
- Review of faculty and student responses for preferences on Fall 2021 instruction. Ultimately the DCC elected to exercise oversight of courses having more than 30% remote delivery, with the AsD-TL serving as a faculty adviser to review justification and optimize online instruction. Only VM 620 Introduction to Spanish for Veterinarians retained a ≥ 30% online format.
- With input from students through a targeted survey, approval of maintaining student access to Canvas course sites

after course completion. The DCC also approved unlimited access to elective courses regardless of enrollment, and access to Canvas sites associated with rotations in which students are not enrolled. In all cases, access is granted after the course is offered to any given class, and students do not have access to course assessments.

- Review of Wellbeing competencies developed by the Teaching Health Resilience in Veterinary Education (THRIVE) Committee.
- Consideration of integration of the CBVE competencies into clinical assessments.
- With opening of the new Dentistry suite in Fall 2020, Dentistry and Oral Surgery became a required fourth-year clinical rotation for small animal track students in May 2021.

Appendix 9.2.b – DVM Steering Committee Recommendations

Discipline/Section	Description of Proposed Change	Action Taken
Bacteriology	• Add a third-year, 1-credit core didactic course in practical antibiosis and clinical microbiology.	• A required, 1-credit course, Rational Antimicrobial Therapy, was added to the third year of the curriculum.
Exotics, Wildlife, and Zoological Medicine	• Integration of foundational information about exotics (e.g., appropriate/safe antimicrobial use, euthanasia techniques) into core curriculum; currently, almost all this information is offered in electives. • Update VM 721 and VM 731 to cover important emerging diseases in exotics, and review content every three years. • Update course syllabi for DEO (exotics portion) and the fourth-year practicum in accordance with defined competencies.	• Euthanasia techniques were added to rabbit lectures (VM 731) and birds (VM 721).
Cardiology	• Engage relevant faculty to ensure what is taught in foundational courses (e.g., anatomy, physiology, pharmacology, pathology) aligns with clinical teaching. • Expand and motivate self-directed learning during the clinical rotation. • Teach cardiac examination earlier in curriculum.	• One-on-one meetings with physiology and pathology faculty completed. • A self-directed learning exercise is now required. • Online resources expanded and made available to all third- and fourth-year students.
Communications	• Assessment of communications and public speaking skills into Grand Rounds. • Integrate communication coach alongside simulated clients in Foundations Wellness History and Ethical Dilemma. • Move Foundations client perspective to year one fall semester (VM 610), to allow the addition of Foundations problem-oriented history in year two fall semester (VM 710).	• Communication evaluation forms implemented for Grand Rounds, communication faculty provide student feedback. • Communication faculty coach in VM 611, VM 710, VM 711 alongside simulated clients. • Foundations curriculum was modified as follows: VM 610, client perspective; VM 611, wellness history; VM 710, new module clinical reasoning; VM 711, ethical dilemma.
Dentistry and Oral Surgery	• Secure larger space. • Revert DOSS to core fourth-year rotation for students in the small animal track. • Recruit second, then third VIRMP resident. • Expand number of lecture hours in small animal core curriculum. • Add applied veterinary dentistry to the first-year curriculum.	• Larger space completed in 2020. • In-house small animal core rotation started in May 2021. • Second VIRMP resident started in 2019; third resident added 2021. • Added four hours of preventive medicine dentistry in 2020. • Applied dentistry lecture/lab added to first year in 2020.
Equine Medicine and Surgery	• Consolidate critical care and colic in VM 763 to create space for preventive medicine/vaccination and farrier lab. • Consolidate reproductive lectures.	• A new, one-week farrier elective was added to the curriculum. • Critical care and colic were modified to exclude two, one-hour lectures and adopt a two-hour interactive TBL session.

Food Animal	• Integrate Livestock External Advisory Group recommendations into planning/development. • Integrate a greater number of on-farm visits with structured instructional goals into the core first-year veterinary curriculum, with similar experiences later in the program as appropriate for core and advanced skills training (e.g., milking parlor audits, bulk tank sampling, colostrum quality analyses). • Consider changing the structure of selected courses to enable a planned, sequential, and integrated food animal curriculum. Consider modification of clinical sciences courses currently taught by body system in favor of species-based courses (e.g., livestock/companion small animal/equine). Diseases and interventions would then be integrated into this "timeline" template, with intent this structure will reinforce understanding of the relationship between stage of production, farm management, and the occurrence of common livestock diseases. • Expand third-year practicum core and elective offerings to include more structured hands-on training, clinical reasoning exercises, and clinical problem-solving through use of teaching animals, cadaver laboratories, mannequins, case simulations, and simulated field disease investigations. Increase use of OSCEs in food animal courses and rotations to document student proficiency. • Because rural/mixed and advanced graduates require competency in data analysis of populations, more effectively integrate fundamental principles of epidemiology and advanced analytic techniques across the four years of the curriculum. • Add a year four surgical laboratory to elective offerings available to students according to track. • Continue to secure funding support for livestock-oriented students to travel offsite for experiences unavailable in northeastern Colorado. • Establish a central database of externship/summer employment opportunities for students across all four years of the curriculum.	• Addition of Livestock Field Service fourth-year elective. • Up to $2,500 of gift funds per student has been made available for travel to livestock externships, in addition to $750/student annually. • Additional changes to be developed in parallel with curriculum renewal.
General Surgery	• Restructure cadaver and live surgery labs • Senior clinical rotation changes to include Friday afternoon labs and interactive topic rounds. • Institute restructured surgery didactic program, to include more interactive format with curricular gaps eliminated. Consider SAS elective course. • Develop skills laboratory, integrate simulators, create tutorials. Increase shelter and elective surgery experience and expand Community Practice.	• Junior Surgery Lab restructured to include cadaver laboratories. • Equine Lameness and Surgery fourth-year rotation now includes surgical skills laboratory. • Foundations curriculum redesigned to integrate purposeful building block process. • Improvements made to recitations in VM 733; didactic lectured reformatted to focus on principles instead of procedures. (Please refer to Appendix 9.7.c Surgical Skills Curriculum.)
Oncology	• Consider skills training in the second or third year, either as part of a skills lab or within the third-year rotations. • Provide more consistent feedback during rotations. • Provide more case-based exposure earlier in curriculum. • Redesign topic rounds. • Consider when content is optimally delivered. • Develop a bank of educational videos. • Develop a pre-/post-test for both the third- and fourth-year rotations.	• Skills lab with surgical models implemented for third-year students. Faculty now meet with each fourth-year student mid-rotation to provide and receive feedback. • New teaching modules developed.
Parasitology	• A new faculty member assumed responsibility for the DVM parasitology curriculum, and implemented needed changes previously identified.	• Course reevaluated, topics removed. • Topics organized by host and then body system. • Integrated cases with virology and bacteriology added in cooperation with UAF. • Low-stakes assessments added.

Physiology	• Implement more low-stakes, applied modules throughout the course to provide opportunity for knowledge application. • Divide the class into team-based learning groups for intentional integration and application. • Consider a systems approach integrating anatomy, histology, physiology, pathology, diagnostic imaging, and clinical cases.	• A series of low-stakes, applied modules have been added throughout the course. • TBL sessions occurred in the remote environment as Zoom breakout rooms. TBL was not implemented in Fall 2021 due to pandemic-related constraints. • Topics across anatomy, physiology, histology, and immunology were synchronized and integrated to the extent possible.
Small Animal Orthopedics	• Launch Orthopedic Medicine and Mobility (OMM) clinical service. • Integrate interactive orthopedic trauma case simulations with hands-on bandaging experiences to foster training in orthopedic emergency case assessment and treatment. • Use video demonstrations for development of lameness evaluation skills and to augment hands-on training. • Initiate canine lameness examination as part of year one Functional Anatomy and/or year two Foundations. • Introduce nuances of feline lameness examination.	• OMM service was launched in 2019. • Video and virtual reality experiences were developed to support students' training in lameness detection.
Imaging	• Reduce didactic content by eliminating VM 625. • Reduce senior practicum from three weeks to two weeks, and restructure the practicum for efficiency and focus.	• The first-year imaging course was discontinued, and radiographic anatomy was integrated into VM 616 Functional Anatomy. • The second-year imaging course was eliminated, with content shifted to VM 728 in the third year; accordingly, a credit was added to that course. • The senior practicum was reduced to two weeks and restructured.
Virology	Integrate all of the "ologies" with team-based learning and case-based problem-solving.	• Integrated, case-based discussions of virology, parasitology, and bacteriology were added to the curriculum in Spring 2021, in collaboration with UAF.

Appendix 9.6 – Curricular Digest: DVM Program Course Work

The prerequisite for all VM courses is admission to the DVM program and completion of preceding course work. Unless otherwise noted, all other courses do not have prerequisites. The distribution of credit for lecture-laboratory-discussion or recitation class periods per semester is as follows: in the example 04(2-2-1), the figure outside the parentheses indicates the number of credits assigned to this class. Inside the parentheses, the first figure indicates the number of clock hours spent in lectures each week, the second indicates the number of clock hours spent in laboratory each week, and the third indicates the number of clock hours spent in discussion, recitation, seminar, or internship/practicum each week.

FIRST YEAR – FALL SEMESTER
REQUIRED COURSES

VM 603 01(1-0-0). Veterinary Science: Research and Methods.
Conduct of responsible research, contributions of research to the practice of veterinary medicine, and career opportunities.

VM 606 03(3-0-0). Veterinary Immunology.
Infectious agents, immune-mediated diseases, immune deficiencies, and principles of vaccination.

VM 610 01(0.5-1.5-0). Foundations of Veterinary Medicine I.
Development of professional skills (ethics, communication, physical exam, surgical skills) necessary for the practice of veterinary medicine.

VM 616 09(5-8-1). Functional Anatomy.
Intensive study of the gross anatomy of domestic animals. Anatomy studied comprises canine, feline, bovine, equine, small ruminant, and porcine species. Emphasis is on canine and equine anatomy. Comparative understanding of the anatomy of organ systems will support clinical instruction in the professional curriculum.

VM 618 07(6-2-0). Veterinary Physiology and Histology.
Physiology and microscopic anatomy of endocrine, hemopoietic, lymphatic, cardiovascular, respiratory, gastrointestinal, and urinary systems in selected domestic animals.

ELECTIVE COURSES

ACT 205 03(3-0-0). Fundamentals of Accounting.
Understanding of financial statements to support financial and managerial decision-making.

FIRST YEAR – SPRING SEMESTER
REQUIRED COURSES

VM 611 01(0.5-1.5-0). Foundations of Veterinary Medicine II.
Development of professional skills (ethics, communication, physical exam, surgical skills) necessary for the practice of veterinary medicine.

VM 619 04(3-3-0). Veterinary Neurobiology.
Structural and functional foundations of nervous system activity; introduction to clinical neurology.

VM 623 02(2-0-0). Veterinary Nutrition and Metabolism.
Intermediary metabolism, nutrients, and animal nutrition.

VM 637 02(2-0-0). Veterinary Bacteriology and Mycology.
Biology of bacterial and fungal pathogens of animals with emphasis on common infectious diseases encountered in veterinary practice.

VM 638 02(2-0-0). Veterinary Parasitology.
Biology of helminth, arthropod, and protozoan pathogens of animals with emphasis on common infectious diseases encountered in veterinary practice.

VM 639 02(2-0-0). Veterinary Virology.

Biology of viral pathogens of animals with emphasis on common infectious diseases encountered in veterinary practice.

VM 640 05(4-0-1). Biology of Disease I.

Introduction to mechanisms of subcellular, cellular, tissue, and organ response to injury and associated pathological processes.

VM 648/VS 648 02(2-0-0). Food Animal Production and Food Safety.

Basic orientation to food animal production units, herd health concepts, and issues of food safety from preharvest through processing and distribution.

ELECTIVE COURSES

VM 612 01(0-0-1). The Healer's Art.

Exploration of student experiences, beliefs, and values related to their work as veterinary medical professionals.

VM 621 02(1-2-0). Exotic Animal Anatomy and Husbandry.

Applied veterinary anatomy and husbandry of birds, reptiles, amphibians, and fish.

VM 717 01(1-0-0). Spanish for Rural Veterinarians I.

Develop basic communication skills in Spanish for practicing veterinary medicine in rural settings. Focus on the specific terminology and the basic linguistic skills necessary to communicate veterinary care and proper livestock treatment practices. All targeted linguistic forms, communicative activities and assessments are task-based and practical in nature.

VM 718 01(1-0-0). Spanish for Rural Veterinarians II.

Continue developing basic communication skills in Spanish for practicing veterinary medicine in rural settings. Using field-specific terminology, develop the linguistic skills for elaborating the 'why' of treatment and preventive care recommendations. Builds ability to communicate anticipated potential developments of animal health conditions and future treatment plans. All targeted linguistic forms, communicative activities and assessments are task-based and practical in nature.

FIN 305 03(3-0-0). Fundamentals of Finance.

Role of finance in management of the firm; role, structure of financial markets and institutions, valuation of basic securities. Prerequisite: ACT 205 or ACT 210; ECON 204.

SECOND YEAR – FALL SEMESTER
REQUIRED COURSES

VM 710 01(.5-1.5-0). Foundations of Veterinary Medicine III.

Development of professional skills (ethics, communication, physical exam, surgical skills) necessary for the practice of veterinary medicine.

VM 714 04(4-0-0). Veterinary Preventive Medicine.

Principles of health promotion and disease prevention in populations.

VM 722 04(4-0-0). Veterinary Pharmacology.

Basic and clinical pharmacology, therapeutic practice, and pharmacy management.

VM 724 06(4-0-2). Bioanalytical Pathology.

Mechanisms, interpretation, and applications of laboratory analyses for solving diagnostic problems.

VM 735 02(2-0-0). Animal Welfare.

Animal welfare key concepts, including both science and ethics; sociological/cultural influence on animal welfare; animal welfare assessment; role of veterinarians in animal welfare; contemporary challenges in animal welfare.

VM 741 04(3-0-1). Biology of Disease II.

Pathogenesis of organ system diseases and integrated systemic pathology.

VM 751 02(2-0-0). Veterinary Clinical Toxicology.

Common toxicants and poisonous plants encountered by companion and farm animal species, their pathophysiological effects, and clinical treatments.

ELECTIVE COURSES

VM 620 02(2-0-0). Introduction to Spanish for Veterinarians.
Focus on basic Spanish structures and lexicon relevant to small and large animal veterinary communication with Spanish-speaking pet owners and livestock workforces. Familiarizes the fundamental grammatical functions and vocabulary necessary for productive communication in Spanish in the veterinary care language domain.

VM 707 01(1-0-0). Emerging Issues in Animal Health.
Important topics in veterinary medicine and public health.

MGT 305 03(3-0-0). Fundamentals of Management.
Managerial process of planning, directing, and controlling inputs of an organization. Analysis, decision-making, and survey of research literature.

VM 796J 01(0-0-1). Swine Medicine.
An overview of swine production, economics, welfare issues, and environmental concerns. This will lend critical context to understanding the framework, or context, in which swine health and disease issues occur.

SECOND YEAR – SPRING SEMESTER
REQUIRED COURSES

VM 711 01(.5-1.5-0). Foundations of Veterinary Medicine IV.
Development of professional skills (ethics, communication, physical exam, surgical skills) necessary for the practice of veterinary medicine.

VM 733 02(2-0-0). Principles of Surgery.
Principles and concepts of general and orthopedic surgery.

VM 737 03(2-0-1). Principles of Anesthesia.
Integration of physiological and pharmacological principles in clinical anesthesia.

VM 742 03(2-0-1). Biology of Disease III.
Pathogenesis of disease in organ systems, systemic pathology.

VM 744 03(2-2-0). Theriogenology.
Reproductive function and disease, including mammary gland and endocrine regulation of reproduction and lactation.

VM 745 05(5-0-0). Clinical Sciences I.
Diagnostic approaches to common medical problems of the gastrointestinal tract (including dentistry), liver / pancreas, and endocrine systems in small animal, food animal, and equine species are covered. A clinical reasoning process for approaching clinical problems is reviewed and reinforced.

VM 747 05(5-0-0). Clinical Sciences II.
Diagnostic approaches to common medical problems of organ systems.

ELECTIVE COURSES

ANEQ 445 02(1-3-0). Foaling Management.
Management of the foaling mare and newborn foal; monitoring techniques, preventive and emergency care procedures. Prerequisite: ANEQ 344 or DVM sophomore standing.

BUS 205 03(3-0-0). Legal and Ethical Issues in Business.
Ethical, legal, and regulatory issues in the U.S. business environment. Prerequisite: ACT 205 or ACT 210;

ECON 204 03 (2-0-1) Principles of Macroeconomics.
Determinants of national output, employment, and price level; inflation and unemployment; fiscal and monetary policy.

VM 612 01(0-0-1). The Healer's Art.
Exploration of student experiences, beliefs, and values related to their work as veterinary medical professionals.

VM 716 01(1-0-0). Principles of Shelter Veterinary Medicine.
Introduces the principles of veterinary shelter medicine. Emphasis on management of small animals with herd health concepts.

VM 717 01(1-0-0). Spanish for Rural Veterinarians I.

Develop basic communication skills in Spanish for practicing veterinary medicine in rural settings. Focus on the specific terminology and the basic linguistic skills necessary to communicate veterinary care and proper livestock treatment practices. All targeted linguistic forms, communicative activities and assessments are task-based and practical in nature.

VM 718 01(1-0-0). Spanish for Rural Veterinarians II.

Continue developing basic communication skills in Spanish for practicing veterinary medicine in rural settings. Using field-specific terminology, develop the linguistic skills for elaborating the 'why' of treatment and preventive care recommendations. Builds ability to communicate anticipated potential developments of animal health conditions and future treatment plans. All targeted linguistic forms, communicative activities and assessments are task-based and practical in nature.

THIRD YEAR – FALL SEMESTER
REQUIRED COURSES AND PRACTICUMS

VM 728 03(3-0-0). Principles of Imaging Interpretation.

Review and practice radiographic anatomy and interpretative skills of diagnostic imaging with emphasis on the small animal abdomen and thorax, equine and small animal musculoskeletal systems, and small animal axial skeleton and skull.

VM 749 05(5-0-0). Clinical Sciences III.

Diagnostic approaches to common medical problems of organ systems.

VM 753 05(5-0-0). Clinical Sciences IV.

Diagnostic approaches to common medical problems of organ systems.

VM 786A Variable (6 to 8). Junior Practicum.

Training in clinical procedures for the diagnosis and treatment of animal diseases.

ELECTIVE COURSES

VM 721 02(2-0-0). Non-Mammalian Vertebrate Medicine.

Diagnosis and treatment of diseases of non-mammalian vertebrates.

VM 732 01(1-0-0). Veterinary Sports Medicine and Rehabilitation.

An introduction to the principles and practice of sports medicine and rehabilitation in veterinary medicine.

VM 781A7 01(1-0-0). Spanish for Rural Veterinarians III.

Continue developing basic communication skills in Spanish for veterinary medicine in rural settings. Using field-specific terminology, develop the linguistic skills for elaborating the 'why' of treatment, preventive care recommendations, and anticipating likely hypothetical developments. Introduction to past frame descriptions and basic narratives to obtain animal health histories and discuss and compare evolving conditions.

VM 796J 01(0-0-1). Swine medicine.

Major infectious, nutritional, and toxic diseases of swine; overview of swine production and marketing.

VM 796R 03(0-0-3). Food Animal Clinical Problems.

Diagnostic, therapeutic, management, and monitoring tools used to deal with food animal health problems.

MKT 305 03(3-0-0). Fundamentals of Marketing.

Overview of marketing activities involved in provision of products and services to consumers, including target markets and managerial aspects. Prerequisite: AREC 202 or ECON 101 or ECON 202.

THIRD YEAR – SPRING SEMESTER
REQUIRED COURSES AND PRACTICUMS

VM 772 02(2-0-0). Veterinary Professional Development.

Topics include euthanasia training, contract and animal law, resumes, CVs and cover letters, career development, personal wellness and leadership, and personal finance and debt management.

VM 779 01(1-0-0). Rational Antimicrobial Therapy.

Learn a process of rational antimicrobial drug selection and generate diagnostic and therapeutic plans for patients with bacterial and fungal infections. Integrate clinical data that includes history, physical exam, and sometimes laboratory reports with basic knowledge of microbiology, pharmacology, and principles of antimicrobial stewardship.

VM 786A Variable (6 to 8). Junior Practicum.

Training in clinical procedures for the diagnosis and treatment of animal diseases.

TRACK SELECTIVES

Small Animal Practice Track (Required courses)

VM 773 04(4-0-0). Small Animal Medicine and Surgery I.

Health management, and diagnosis and treatment of diseases of dogs and cats.

VM 774 04(4-0-0). Small Animal Medicine and Surgery II.

Health management, and diagnosis and treatment of diseases of dogs and cats.

Large Animal Practice Track (Required courses)

VM 757 03(3-0-0). Bovine Herd Medicine.

Health management, and diagnosis and treatment of diseases of food animals.

VM 763 05(5-0-0). Equine Medicine and Surgery.

Health management, and diagnosis and treatment of diseases of horses.

General Practice Track (Required courses)

Choose a minimum of 7 credits from VM 773, VM 774, VM 757, and VM 763

ELECTIVE COURSES

VM 612 01(0-0-1). The Healer's Art.

Exploration of student experiences, beliefs, and values related to their work as veterinary medical professionals.

VM 717 01(1-0-0). Spanish for Rural Veterinarians I.

Develop basic communication skills in Spanish for practicing veterinary medicine in rural settings. Focus on the specific terminology and the basic linguistic skills necessary to communicate veterinary care and proper livestock treatment practices. All targeted linguistic forms, communicative activities and assessments are task-based and practical in nature.

VM 718 01(1-0-0). Spanish for Rural Veterinarians II.

Continue developing basic communication skills in Spanish for practicing veterinary medicine in rural settings. Using field-specific terminology, develop the linguistic skills for elaborating the 'why' of treatment and preventive care recommendations. Builds ability to communicate anticipated potential developments of animal health conditions and future treatment plans. All targeted linguistic forms, communicative activities and assessments are task-based and practical in nature.

VM 731 02(2-0-0). Biology and Diseases of Small Mammals.

Diagnosis and treatment of diseases of small mammals. (VM 731 credits cannot be counted to fulfill Track Selective requirements.)

VM 775 01(1-0-0). Veterinary Practice Management.

Introduction to management of veterinary practice finances, marketing, personnel, and client relations.

VM 777 01(1-0-0). Feline Medicine.

Emphasizes the historical and examination findings, diagnostic evaluation, therapeutic approach, and prognosis relevant to common diseases of cats.

VM 780A6 01(1-0-0). Veterinary Mobility and Pain Management.

Provides a basic overview of the available strategies to reduce pain and improve mobility in veterinary patients (the emphasis is on canine and equine patients, however, examples from all species will be provided and the information provided applies to all species).

VM 781A8 01(1-0-0). Spanish for Rural Veterinarians IV.

Continue to develop past time-frame communication in Spanish. Students are able to use preterit verbs embedded in

complex contexts involving event sequencing. Using field-specific terminology, it develops the linguistic skills for elaborating a sequence of past events that reflect the evolving status associated with relevant health conditions. Introduction to basic future tense forms; continue to elaborate on treatment and preventive care.

MIP 766 01(0-0-1). Cytopathology-Clinical Pathology.

Discussion of cytology cases that are diagnostically challenging, medically interesting, or classic case examples. Discussions and microscopic reviews of the cases will be led by a clinical pathologist.

FOURTH YEAR – SUMMER-FALL-SPRING

VM 786B Variable (1 to 22). Senior Practicum.

Training in clinical procedures for the diagnosis and treatment of animal diseases.

UAF-CSU 2+2 ELECTIVE COURSES

FIRST YEAR – SPRING SEMESTER

DVM 777 01 (1-0-0). Strategies for Establishing and Maintaining Wellbeing in the Veterinary Profession.

Methods for maintaining wellbeing while managing the stress associated with membership in the veterinary profession.

SECOND YEAR – SPRING SEMESTER

DVM 621 04 (4-0-0) One Health Colloquium.

Engagement of stakeholders, gathering of data, proposal of solutions, and presentation of management plans for One Health issues.

DVM 694 02 (2-0-0) Aquatic Animal and Environmental Health.

Major diseases of fish and other aquatic animals as well as introduction to aquatic ecosystem health and sampling techniques.

SECOND YEAR – FALL SEMESTER

DVM 615 02 (2-0-0) One Health Concepts.

Introduction to the One Health paradigm with emphasis on its application in the circumpolar North.

DVM 620 03 (3-0-0) One Health Challenges in the Circumpolar North.

Various tools and techniques to use a constructionist approach through a One Health lens to address significant issues in the circumpolar North.

Appendix 9.7.c – CSU DVM Surgical Skills Curriculum

FIRST-YEAR EXPERIENCES

610 – First year-fall

Instrument handling
Simple interrupted Suture Pattern
Cruciate Suture Pattern

611 – First year-spring

Instrument handling
Simple continuous Suture Pattern
Ford interlocking Suture Pattern

SECOND-YEAR EXPERIENCES

710 – Second year-fall

Instrument handling
Hand tie
Horizontal Mattress Suture Pattern
Vertical Mattress Suture Pattern
Near-far-far-near Suture Pattern
Ligature

711 – Second year-spring

Instrument Handling
Incision into stuffed animal without balloon and with balloon
Hand ties/Ligations with long balloons filled with air, possibly complex knots
"Body Wall" closure

THIRD-YEAR EXPERIENCES

Surgical Principles Laboratory – unchanged from previous years
Small Animal Surgical Anatomy – unchanged from previous years
Equine Surgical Anatomy – unchanged from previous years
Equine Advanced Procedures Lab – Friday lab on cadaver legs performing limb procedures, joint injections, and nerve blocks
FAX – Still under development

Junior Surgery Laboratory: All students will be at CSU on Day 1 and Day 2. Starting Day 3, 1/3 of students will be at the DFL doing spays and neuters while the other 2/3 will be at CSU working on cadavers or models.

a) **Experience 1/Day 1 – Everyone at CSU**
   i) Aseptic technique – Scrubbing, Gowning, Gloving
   ii) Skin procedures – cadaver or model
   iii) Body wall open and close (model)
b) **Experience 2/Day 2 – Everyone at CSU – Prep for Live Animal Surgery (models)**
   i) Body wall opening
   ii) Ovariectomy Model
   iii) Castration Model
   iv) Body wall closure
c) **Experience 3 – GI/otomies (models)**
   i) Body wall opening
   ii) Gastrotomy
   iii) Gastropexy
   iv) Enterotomy
   v) Resection/Anastomosis
   vi) Cystotomy
   vii) Body wall closure
d) **Experience 4 – Ectomies/amputation (models and cadaver tails)**
   i) Body wall opening
   ii) Ectomy requiring ligation (balloon, ball, etc.)
   iii) Body wall closure
   iv) Other ectomies
      (1) Digit amputation on cadaver (dog/sheep/cat)
      (2) Tail on cadaver (dog/sheep/cat) one vertebra at a time
   v) Lump removal (create lumps on cadaver legs)

e) Experience 5

i) Live animal experience (Spay/Neuter at DFL)

ii) Procedures

(1) Ovariectomy

(2) Castration

iii) Need 150 cases per year (1/2 ovariectomy + 1/2 castration/student)

FOURTH-YEAR EXPERIENCES

Equine Lameness and Surgery – All students perform the following tasks (along with general surgical experiences) every two weeks: simple interrupted suture pattern, simple continuous suture pattern, hollow organ inverting pattern, small intestinal anastomosis, balloon ligation, hand tie

Appendix 10.2.b – College research seminars and presentations for veterinary medical students

Program/Organization/Participants	Description
Local Seminar Opportunities/Guest Lecturers	
CSU Veterinary Summer Scholar Program; pre-doctoral veterinary students	Ten weekly seminars on research-related topics including grantsmanship, abstract/manuscript writing, responsible conduct of research, and various research topics.
Student organizations including SCAVMA, Wildlife Disease Association, One Health Club	Approximately 10 seminars/semester presented by internal/external guest speakers.
CVMBS Departmental Seminars	Approximately three seminars/week each semester on discipline-specific topics in cardiology, infectious disease, reproductive physiology, radiology, and other areas.
Student Presentations/Research Events	
CVMBS Research Day	Annual half-day meeting each January, featuring approximately 140 CVMBS student oral and poster presentations.
VSSP Poster Presentation	Poster session featuring work of veterinary students, occurs every summer.
VSSP Science Slam	Community-based science outreach event; VSSP students present their work virtually to family, friends, peers, colleagues, and the local community.
National Veterinary Student Scholar Symposium	National meeting sponsored by Merial and NIH in August; approximately 20 students attend annually.
National SAVMA convention	National student AVMA meeting featuring platform and poster sessions.

Appendix 10.3 – Table 10.3.a

CSU:Fort Collins					
Fiscal Year	Total college DVM enrollment	DVM students involved in research	Peer-reviewed pubs with DVM student as author or co-author	DVM/PhD students enrolled	DVM/MS/MPH students enrolled
2015	545	104	25	15	20
2016	552	90	21	15	23
2017	548	92	52	15	23
2018	556	102	41	14	22
2019	583	101	54	16	24
2020	588	79	77	15	19
2021	602	90	73	15	20
CSU:UAF					
2017	20	4	–	–	–
2018	20	5	–	–	–
2019	20	3	–	–	–
2020	21	2	–	–	–
2021	25	10	–	–	–

Appendix 10.3 – Table 10.3.b

CSU:Fort Collins								
		Number Faculty*	Total Faculty FTE	Faculty in Research **	Total Research FTE	Research Faculty teaching in DVM curr**	No. unique peer-reviewed pubs	No. book chapters including original findings
BMS	2015	41	38.3	28	12.6	6	47	4
	2016	40	36.9	27	11.7	6	43	2
	2017	42	38.9	29	13.2	6	30	3
	2018	42	38.4	27	12	6	52	6
	2019	42	38.4	27	11.9	7	56	3
	2020	42	38.9	27	12	7	55	2
	2021	44	40.9	27	12	7	70	1
CS	2015	94	90.7	70	21.3	69	104	18
	2016	98	93.2	72	26	75	127	56
	2017	92	86.7	69	23.3	85	116	30
	2018	93	86.3	63	21.2	75	124	47
	2019	90	85.2	63	20.4	70	175	31
	2020	90	85.2	65	20.7	65	175	28
	2021	93	86.3	66	20.9	67	138	42
ERHS	2015	41	34.8	32	12.7	4	80	3
	2016	47	43.1	33	16.4	6	76	11
	2017	45	41	32	14.9	5	75	4
	2018	42	38.5	30	13.7	6	56	5

	2019	42	40.2	30	13.6	5	87	5
	2020	43	41.2	31	14.1	3	93	2
	2021	41	38.9	29	13.7	2	89	3
MIP	2015	80	74.2	62	32.3	19	194	8
	2016	80	74.4	61	31.8	19	325	12
	2017	78	73.3	61	31.8	21	360	10
	2018	84	76.8	63	31.4	22	395	5
	2019	83	75.7	62	31.1	23	388	8
	2020	82	75.1	58	27.4	18	391	2
	2021	80	74.4	57	25.9	18	433	14
TOTAL CVM	2015	256	238	192	78.9	98	425	33
	2016	265	247.6	193	85.9	106	571	81
	2017	257	239.9	191	83.2	117	581	47
	2018	261	240	183	78.3	109	627	63
	2019	257	239.5	182	77	105	706	47
	2020	257	240.4	181	74.2	93	714	34
	2021	258	240.5	179	72.5	94	730	60
CSU:UAF								
DVMed	2017	8	7	5	1.75	5	18	1
	2018	8	7	5	1.75	5	19	2
	2019	8	7	5	1.5	5	10	–
	2020	9	6.5	5	1.5	5	9	1
	2021	8	7	5	1.5	5	8	–

*All faculty, including full- and part-time faculty. **Research faculty are defined as faculty with ≥ 20% time devoted to research activity.

Appendix 10.3 – Table 10.3.c

CSU:Fort Collins								
		Extramurally Sponsored Federal Grants		**Extramurally Sponsored State Grants**		**Extramurally Sponsored Private Contracts**		**No. Patents**
		Number	$ Value*	Number	$ Value*	Number	$ Value*	–
BMS	2015	21	$4,652,529	1	$2,995	6	$458,160	–
	2016	25	$4,469,653	2	$85,597	8	$962,522	–
	2017	23	$5,083,037	2	$120,470	6	$339,218	–
	2018	27	$3,168,271	1	$16,659	10	$793,678	–
	2019	31	$5,882,317	2	$71,219	11	$691,657	–
	2020	29	$8,246,170	2	$83,398	13	$814,725	–
	2021	36	$7,416,915	1	$125,000	33	$1,263,731	–
CS	2015	16	$2,456,470	2	$55,659	40	$2,510,891	–
	2016	19	$2,602,406	0	$0	44	$5,809,705	–
	2017	15	$2,801,557	6	$587,292	43	$4,223,140	–
	2018	18	$4,292,411	4	$392,784	51	$4,792,837	–

	2019	21	$4,205,971	3	$2,036,342	33	$2,554,233	–
	2020	18	$2,351,198	2	$117,228	38	$4,903,824	–
	2021	20	$4,323,536	4	$872,760	45	$4,707,804	–
ERHS	2015	31	$10,266,682	2	$64,628	7	$157,295	–
	2016	29	$10,738,156	2	$75,000	6	$169,339	–
	2017	27	$9,792,597	0	$0	7	$400,662	–
	2018	25	$9,045,628	3	$76,898	3	$76,898	–
	2019	24	$8,609,584	0	$0	5	$200,159	–
	2020	41	$11,549,180	3	$87,580	5	$641,782	–
	2021	35	$9,660,475	1	$18,004	6	$672,486	–
MIP	2015	71	$18,823,469	4	$536,173	21	$3,911,735	–
	2016	72	$23,783,204	3	$203,269	22	$4,149,874	–
	2017	75	$21,617,720	5	$160,754	23	$2,317,282	–
	2018	68	$18,109,875	3	$159,115	33	$2,862,245	–
	2019	83	$20,683,736	4	$166,384	22	$3,912,595	–
	2020	91	$26,629,693	0	$0	44	$3,645,735	–
	2021	90	$29,821,382	11	$16,093,624	44	$11,423,682	–
Dean's Office	2015	3	$377,392	0	$0	0	$0	–
	2016	2	$58,862	0	$0	0	$0	–
	2017	4	$477,915	0	$0	0	$0	–
	2018	6	$532,218	0	$0	2	$35,000	–
	2019	3	$453,840	0	$0	3	$273,600	–
	2020	3	$369,120	0	$0	3	$248,500	–
	2021	2	$314,032	0	$0	2	$332,500	–
TOTAL CVM	2015	142	$36,576,542	9	$659,455	74	$7,038,081	–
	2016	147	$41,652,280	7	$363,866	80	$11,091,440	–
	2017	144	$39,772,826	13	$868,516	79	$7,280,301	–
	2018	144	$35,148,402	11	$645,456	99	$8,560,658	–
	2019	162	$39,835,448	9	$2,273,945	74	$7,632,243	–
	2020	182	$49,145,361	7	$288,206	103	$10,254,566	–
	2021	183	$51,536,340	17	$17,109,387	130	$18,400,202	–
CSU:UAF								
DVMed	2017	3	$584,100	–	–	–	–	–
	2018	4	$215,500	1	14,000	–	–	–
	2019	–	–	–	–	1	$290,000	–
	2020	3	$16,359,000	–	–	–	–	–
	2021	2	$79,600	–	–	–	–	–

*Include only the component of the total budget awarded to the college

Appendix 11.1.a – Capstone Examination Pass Rates

Capstone Passing Rates							
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Capstone I	98%	97%	88%	96%	96%	97%	96%
Capstone II	96%	96%	100%	99%	100%	100%	98%
Capstone III	100%	99%	100%	100%	100%	100%	100%

Appendix 11.1.c – Table A: NAVLE

Year	Students taking exam(s)	Students passing exam(s)	Average scores
2021	141	140	522
2020	144	141	515
2019	142	139	528
2018	138	136	527
2017	137	130	529
2016	130	128	517
2015	128	117	503

Appendix 11.1.d – Changes to Foundations Courses

Content	When implemented	When it happens currently	Notes
Equine lab	VM 711, Spring 2016	VM 711, spring	Implemented based on student feedback
Injections lab	VM 611, Spring 2021	VM 610, fall	Implemented based on student feedback
Fluid and syringe pumps lab	VM 711, Spring 2021	VM 711, spring	Implemented based on student feedback
Cooperative care lab	VM 611, Spring 2022	VM 711, spring	Implemented based on student feedback
Intubation lab	VM 711, Spring 2019	VM 710, fall	Implemented based on student feedback
Venipuncture lab	VM 611, Spring 2018	VM 611, spring	Implemented based on student feedback
Ultrasound lab	VM 711, Spring 2019	VM 711, spring	Implemented based on student feedback
Bandaging lab	VM 710, Fall 2018	VM 710, fall	Implemented based on student feedback
Finance	VM610 & VM710, Fall 2016	VM 610 & VM 710	Implemented based on student feedback
Career Development	VM 610, VM 710, VM 711, Fall 2017	VM 610, VM 710, VM 711	Implemented based on student feedback
Case Discussions – removed	2011	–	Removed due to the inability of faculty to agree upon how SOAPs should be taught and written.
Literature search – removed	2011	–	Removed based on student feedback: redundant with research course
Wellness – removed	VM 710, Fall 2016	–	Removed based on student feedback
Cultural Synthesis team project – removed	VM 711, Spring 2017	–	Removed based on student feedback

Appendix 11.2.a – Table B: Attrition

		Relative Attrition					Absolute Attrition					
Graduating Cohort	Cohort Enrollment at the Time of Matriculation	Academic Reasons	Personal Reasons	Transfer to Another DVM Program	Total Relative Attrition	Percent Relative Attrition	Academic Reasons	Personal Reasons	Total Absolute Attrition	Percent Absolute Attrition	Total Attrition	Percent Attrition
2024	158	0	0	0	0	0%	1	1	2	1.27%	2	1.27%
2023	149	0	2	2**	4	2.7%	0	0	0	0%	0	0%
2022	148	0	2	2**	4	2.7%	2	3	5	3.4%	5	3.4%
2021	149	1	1	3**	5	3.4%	1	3*	4	2.7%	4	2.7%
2020	148	3	2	2**	7	4.7%	1*	4	5	3.4%	5	3.4%
2019	148	5	2	5**	12	8.1%	3	0	3	2.0%	3	2.0%
2018	141	0	0	4**	4	2.8%	1	1	2	1.4%	2	1.4%
Total	1041	9	9	18**	36	3.5%	9	12	21	2.0%	21	2.0%

*Includes one UAF-CSU 2+2 student

Internal transfer to CSU DVM combined graduate programs; no students transferred to other DVM programs during the reporting period - ***This was clarified during the on site visit and corrected after the initial publication of this document.*

Appendix 11.2.b – Table C: Employment Rates

Graduating Class	Total # graduates (number of respondents)	# Employed in field related to veterinary training	# Graduates in advanced clinical training (internships/residencies)	# in advanced academic training (Masters/PhD)
2014	119	49	43	0
2015	107	42	39	0
2016	85	48	30	1
2017	95	54	30	1
2018	104	54	37	2
2019	91	46	32	2
2020	91	62	28	1
2021	84	46	29	1

COLLEGE OF VETERINARY MEDICINE
AND BIOMEDICAL SCIENCES

COLORADO STATE UNIVERSITY