Abstract
Effective Compliance and Animal Facility Administration Software (CAFA) can enable significant operational efficiencies and cost savings for animal research facilities.

The University of Colorado Denver | Anschutz Medical Campus recently implemented new CAFA software as the old system was no longer meeting departmental needs. The transition impacted all aspects of IACUC and IBC protocols, financial and administration management, and animal inventory management. Each module was manually converted from one proprietary software platform to an entirely new one in a condensed time-frame.

Researcher’s feedback for the new software continues to be positive. Investigators can now create and amend their protocols with ease, review their cage census and invoices at any time, and correct any financial discrepancies. This has allowed billing processing time to be reduced from five days to one.

Impacted
- 23,000+ Animal Cages
- 150,000+ sf Vivarium Space
- 500+ Active IACUC Protocols
- 5 Vivariums
- 350+ Principal Investigators

Background
Our protocol database was no longer meeting departmental needs and users were having a difficult time working in the system. We solicited bids for a new CAFA. Animal care software is a very niche market with few developers aware of the genre’s existence. We were limited to three systems that could meet our requirements, since most were either geared toward pharmaceutical companies or were not complex enough for our program. There was an option to have a developer build a custom system, but customization is a lengthy and expensive process and our timeline did not allow for that.

The need for complete replacement within eight months from the time of signing the contract to full implementation was met by our migration challenges. To prepare for the migration, a team of three temporary employees and seven existing employees developed data lists and methods to validate the new platform. Once the system was delivered and validated, approximately thirty OLAR and IACUC staff manually transferred all data into the new system over a six-week period.

Addressed Prior to Going Live
- Took physical inventory of all cages to assure that cage card info matched new software
- IACUC Dept. revised 500+ protocols to assure all satisfied submission criteria
- Manually migrated all protocols and data-lists into the new system module
- Prepared and/or upgraded computer software for cage card printers, upgraded barcode scanners and installed Adobe Acrobat to view/print cage cards supporting the conversion
- Trained IACUC, IBC, OLAR and research staff on the new CAFA software
- Tested all billing reports and service charges to ensure accurate information was captured
- Tested links between IBC protocols and IACUC protocols
- Worked with selected company to fix any coding issues found

Implementation Timeline

2017
Project Kickoff
- 10/23 - 10/27
- Selected company begins working on software training for OLAR staff
- Created all-purpose training documents and conducted training for internal staff for protocol migration (paper training documents and in-class sessions)
- Master-lists include: Strains, rooms, housing rooms, personnel, vendors, room capacity, and billing accounts
- OLAR and IACUC staff entered IACUC protocols with active cages, with a deadline of January 1, 2018
- OLAR tested software to ensure each aspect is working properly

2017
Master-lists
- 11/6 - 12/22
- Transferred master-lists and dictionaries into software
- Last day to receive animals in old software allowing animal numbers to be recorded on IACUC protocols
- All new animal orders are received on paper forms

2017
Protocols
- 12/11/17
- IACUC module goes live
- Testing
- Bills

2018
Research Staff Training
- 1/15/18
- New financial & administration modules go live

2018
Financial & Administration
- 1/15/18
- Last billing run in old software
- Small group of OLAR & IACUC staff arrived at 2 AM to create new cage cards, placed them and conducted a physical audit

Perks of new software:
- Intuitive and responsive layout
- Handles large data-load well
- Functions on multiple platforms:
  - Desktops, laptops, mobile phones, and tablets
- Can be used on multiple operating systems:
  - Microsoft Windows and Macintosh iOS
- Increases regulatory compliance and the ability to more easily report animal numbers to NIH
- Easier to update, maintain, and amend IACUC protocols
- Trial invoices can be run weekly
- Research staff can view invoices in real-time
- Animal inventory process has eased the reconciliation time and improved accuracy
- Barcode scanners are more responsive and faster

Software Highlights

Contains the following modules:
- Animal Procurement
- Animal Inventory Management
- Vet Care Management

Ongoing Development
- Developing the Vet Management System. This will greatly reduce the amount of paper used for medical records and improve communication between OLAR and research staff.
- Finalizing the IBC Protocol Management module
- Developing customize reports and maintaining our software
- Continue working with our vendor to resolve issues and/or make improvements with our software

Summary
The successful CAFA data migration resulted in more accurate census and billing allowing a reduction in labor cost with an approximate value of $120,000 annually. Integration of the IBC allowed for the IBC and IACUC protocols to be linked, helping with compliance. We currently have prioritized vendor support for issue resolution. For issue resolution it is essential to report issues as early as possible to get immediate responses. Overall our customer satisfaction has improved as evidenced by positive feedback from research staff.

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