



One-Health Infrastructure – Project Completion

DSI Infrastructures & Labs

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Project overview

Digitalization holds great promise for improving both human and animal health. The University of Zurich (UZH) follows the «One Health» approach, which looks at human, animal, and environmental health as interconnected. However, there's currently no unified digital system to connect health data from humans and animals or to conduct studies involving pet owners and their dogs or cats.

This project aimed to identify the barriers to collaborative veterinary clinical research in a digital space. It also explored the views and concerns of key groups, including veterinarians and pet owners, while examining the ethical and legal challenges involved.

During discussions with key stakeholders, three main challenges emerged in advancing collaborative veterinary clinical research in companion animal health. This project aims to address these barriers and pave the way for more efficient and collaborative research in animal and human health.

- First, the process for obtaining pet owners' informed consent, especially when it comes to handling, sharing and protecting digital data has become increasingly complex. We focused on reducing the barriers, specifically amendments of informed owner consent process.
- Second, like human medicine, veterinary clinical research is evolving, especially in response to the so-called reproducibility crisis, i.e., challenges with reproducing study results. However, veterinary research is also regulated under animal welfare laws, which treat it as animal experimentation. This creates some difficulties, as not all aspects of clinical research fit neatly into the experimental guidelines meant for lab settings. We were able to incorporate the findings from our projects into two new prospective collaborative research projects: the Growing Dog Project, and an Atopic Dermatitis Dogs project, both with One Health potential.
- Third, unlike human medicine, there is no standardized system for classifying diseases and symptoms in animals, which makes it difficult to gather consistent clinical data for collaborative studies. We implemented the usage of openBIS, data collection infrastructure that could be used integrated with any electronic health record system, with a standardized nomenclature for the two prospective studies.

Project achievements

The goal of our project was to initiate the process of integrating health related human and animal data. We planned to map the existing barriers, examine concerns and attitudes of stakeholders including clinicians and pet owners, investigate ethical and legal aspects, map the healthcare IT landscape of potential IT solutions, define the criteria for selecting the appropriate potential IT solution, prepare a demo box of potential IT solution, and finally conduct a pilot study on feline hyperthyroidism to assess the feasibility.

- **Workshops**
We conducted several smaller and informal meetings with stakeholder, two larger workshops and a symposium. The first workshop was oriented towards technical aspects & solutions.
- **Mapping IT solutions to harmonize and link data from different sources**
We explored different IT solutions, presented them during the workshops and collectively decided to use openBIS infrastructure.
- **Collaboration**
Instead of hyperthyroidism in cats, we are involved with two prospective collaborative projects: the Growing Dog Project (led by Prof. Stefan Unterer), and an Atopic Dermatitis Dogs project (funded by swissuniversities, led by Prof. Claude Favrot).
- **Online Survey**
Development of an online survey targeting clinicians and members of ethical committees to define where the grey zone is regarding animal license in clinical research.
- **Interviews & Survey with pet owners**
We benefitted from a qualitative researcher, knowledgeable in UXdesign and observed the process of obtaining informed owner consent at Tierspital and conducted interviews both with clinicians and animal owners. The developed materials were used during Symposium and the proposition of changes to the current consent form process. Materials developed can also be used as a supportive material for the clinicians published on the Tierspital website.
- **Demo box**
Instead of a demo box – which would require some knowledge about which clinical software system would be used after discontinuation of the current Vetera system, we implemented the usage of openBIS for two prospective studies.
- **Presentations**
We presented our results at several conferences.

Future

A meeting will be scheduled In October/November 2024, with decision-maker at Vetsuisse and a representative of the Cantonal Veterinary Office to address the perceived difficulties in obtaining ethical clearance for clinical studies with companion animals - a clear barrier towards collaborative research.

We also aim to update the current owner consent forms and amend the process to incorporate aspects that foster digitalization.

Leaders of the supported two projects plan obtaining further funding to support future development of the initiated IT-solution (openBIS).

Currently, we are in the process of preparing two manuscripts: i) on the observational interviews, ii) process documentation including workshops and the symposium, highlighting legal and ethical aspects of collaborative research in companion animals to foster digitalization.