

RSPCA Australia Scholarships

Progress Report 2018

This form should be used for progress reports by recipients of the RSPCA Australia Alan White Scholarship for Animal Welfare or the RSPCA Australia Scholarship for Humane Animal Production Research.

Please **type** in the boxes provided. Completed reports should be forwarded by email (PDF format) to science@rspca.org.au.

If you require further information regarding your report please contact RSPCA Australia at science@rspca.org.au, phone (02) 6282 8300, fax (02) 6282 8311.

Reports are due by Friday 28 September 2018.

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Scholarship type (please tick)

<input checked="" type="checkbox"/>	RSPCA Australia Alan White Scholarship for Animal Welfare
<input type="checkbox"/>	RSPCA Australia Scholarship for Humane Animal Production Research

Project title

Can targeted communication and preventative vaccination programs for unvaccinated puppies and dogs lead to a decrease in new Canine Parvovirus cases in high-risk areas and during disease outbreak situations?

Project description

Aims

1. To engage with regions in Australia at high risk of or experiencing Canine Parvovirus (CPV) outbreaks.
2. To perform communication-and-vaccination strategies in these areas to protect puppies and dogs belonging to people in lower socioeconomic communities and disadvantaged areas who otherwise would not be vaccinating their dogs.
3. To demonstrate that by vaccinating these dogs, we can also stop NEW cases of disease.

4. Ultimately to create a workable model that can be replicated across Australia, region-by-region to dramatically reduce Canine Parvovirus disease cases nationally.

Methods

Regions were identified with high CPV risk and likely future disease case occurrence. Identification of high risk areas was made through examination of a previous disease surveillance database (source: www.diseasewatchdog.org, now closed), and through veterinarian reports of CPV cases in 2015 & 2016 in a national online CPV survey (conducted as part of the broader PhD research being conducted). A short-list of areas was compiled based on the highest previous CPV reporting suburbs and regions. The short-list was refined by those areas geographically more accessible by transport for researchers (e.g. Mt Isa was excluded for the initial pilot due to relative geographic isolation making transport to-and-from this area more costly and time-consuming.) The regions of Wagga Wagga (NSW) and Rockhampton (QLD) were chosen as the two initial regions for further examination.

Ethics approval application was made from University of Sydney Animal Ethics, for data collection, and advice received that for the scope of the project, approval was not required.

All veterinary clinics in both regions were contacted by telephone and email, and requested to provide data relating to the cases of CPV they had seen for the past 2-10 years. Data obtained included: CPV case date, street address (excluding street number), age of the patient, date and brand of last CPV vaccination the patient received, and case outcome.

As well as data collection, multiple meetings via telephone and face-to-face were carried out with veterinary clinics and local council staff in both regions, to discuss the facilitation of local vaccination events and communication strategies, aimed at trying to prevent future outbreaks.

Results (to date)

4/6 veterinary clinics from Rockhampton and 3/5 clinics from Wagga Wagga provided data for analysis. Those clinics that did not participate advised that they did not see many CPV cases, they were either small clinics or referred any suspect CPV cases to other clinics in their area, or both.

All participating clinics reported data from January 2016 - May 2018 for Rockhampton and from January 2015 - July 2018 for Wagga Wagga.

In total during these periods, 313 cases were reported for Rockhampton and 368 cases for Wagga Wagga. In both regions, 2016 saw the most cases however Rockhampton's outbreak in this year was from January to May, and Wagga Wagga's from September to December. Wagga Wagga appears to more consistently see CPV cases in the first half of the year, however Rockhampton has had outbreaks in both halves of the year, in different years.

Both regions reported seeing less cases from March to July 2018. At the time of writing this report, Rockhampton has just notified researchers that several cases have been diagnosed, which is possibly the start of the next 'Parvovirus season' for this region.

Next steps

Data reported still requires further statistical analysis and will provide the 'baseline' for determination of the success of vaccination strategies performed in both regions, as further data collection continues.

In Rockhampton, a discounted vaccination strategy and communication strategy has been planned and the first vaccination clinic for the area is scheduled for the first week in October 2018. Further vaccination clinics are scheduled for December (2) and January. It is hoped that this strategy will result in reduction of the seasonal CPV cases predicted to occur. In Wagga Wagga, discussions continue around vaccination strategy and it is possible that a discounted 'voucher system' might be trialled instead. Currently cases in Wagga Wagga are low.

A Parvovirus reporting-and-alerting system, named “Parvo ALERT” is currently under development and in alpha testing at the time of writing this report. This system will be used for veterinarians to log cases easily in real time, and will allow mapping, graphing, email alerts for outbreaks, and communication about CPV cases locally and with media.

Another project that one of our teams is also progressing is to establish if CPV case data can be identified from the “VetCompass” database (which automatically mines data from select Australian veterinary clinic computer systems). We are trialling using artificial intelligence software and machine learning for this process. This research work is a combination of Dr Kelman’s research and a DVM3 student research project at University of Sydney. The ultimate goal is to determine if CPV data from “VetCompass” can be integrated into Parvo ALERT, which would mean more clinics could report CPV cases, including those who don’t wish to manually enter data.

One journal article from the first part of this research (national veterinary CPV survey) has been accepted for publication in the journal, *Transboundary and Emerging Diseases*. A second journal article is still in revision. Further articles are in planning. Posters of the research work have been presented at the AVA conference in Brisbane 2018, ASAV conference in Melbourne 2018 (in the industry exhibit), at the WSAVA conference in Singapore 2018. Multiple talks have been given by Dr Kelman on the research including AVA conference (VetEd talk and Innovation and Research Symposium).

The next talk that will be given by Dr Kelman is the RSPCA Animals In Focus Conference in Brisbane in October 2018.

More talks are also planned.

Regions with high CPV case occurrence continue to be identified, and once these pilot vaccination strategies have been undertaken, the goal is for this work to be scaled up to other regions as well.