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Feline vaccine shortage: suggested reaction by the profession to optimise feline health and welfare

EXECUTIVE SUMMARY

Managing a short-term feline core vaccine supply issue

Due to complicated supply problems post-COVID, there is currently a shortage of feline vaccines in Australia, and this is expected to continue until early 2024. This has ALREADY had a major impact on shelters, with some having to close their doors to new cat and kitten admissions.

What can we do?

1. Veterinarians should endeavour to prioritise vaccination of previously unvaccinated kittens and cats wherever possible.
2. Adult cats that have had a series of 2-3 kitten vaccines and an annual booster are at much lower risk of vaccine preventable infectious disease as studies have demonstrated extended duration of immunity. Delaying boosters for adult cats until supply normalises in early 2024 is unlikely to have significant impact on their wellbeing, though this should be assessed on a case-by-case basis according to the individual cat's risk profile.
3. For kittens, consider giving 2 vaccines rather than 3 – and keeping kittens in a safe environment until they receive a final vaccine at 16 weeks.
4. Informed consent must be obtained from clients for any off-label use of vaccines – including explanation of any risk and documentation of this discussion with the client in the clinical record.
5. Boarding catteries may ask veterinarians for advice – notwithstanding point (2) above, there are mandatory Boarding Codes of Practice in several jurisdictions which do not permit admission of cats unless they are up-to-date with the vaccinations. Those catteries may have to approach their relevant government regulator and/or the PIAA for advice.

Without a collective approach, we risk outbreaks of respiratory viral disease and feline panleukopenia. Such outbreaks may then impact unvaccinated adult cats in the wider community. Until the supply chain is re-established, we need to prioritise vaccinating at-risk animals.

KEY MESSAGE: prioritise kittens and delay adult boosters if possible

Preamble:

We reached out to a variety of veterinarians with vaccine expertise, both from industry, private and university practice. Below are a series of comments germane to this issue. Our aim is to give clinicians technical advice on how to prioritise remaining doses of feline vaccines available. Hopefully, this will provide vets some owner-friendly wording for use in newsletters, emails and social media posts to acknowledge the challenge for the entire owned cat population. Additionally, we hope to highlight that a short delay in booster vaccinations is likely to have minimal impact on previously vaccinated adult cats, although this should be assessed by the veterinarian on a case-by-case basis depending on the individual cat's risk profile.

Veterinarians may be called on to provide information to boarding catteries on the issue. While we can provide some framework for reconsidering what a “fully vaccinated” cat is in the current environment, we also have to be aware that they are bound by mandatory codes of practice and we cannot directly advise them to ignore the law. Vets may have to direct their enquiries to their relevant state regulator and/or the PIAA.

The background to the supply situation is multifactorial and reflects the significant complexity and lead time involved in vaccine manufacture. The manufacturers are aware of the critical nature of the current issue from both an animal wellbeing and veterinary business perspective. Feedback from vaccine suppliers has confirmed the issue is being effectively managed with the highest priority, with some supply available in the latter part of 2023, before normalising in early 2024.

Duration of immunity

It is important to consider the expected duration of immunity of feline core vaccines when assessing the impact of delayed vaccination. All currently registered vaccines have a demonstrated duration of immunity and recommended revaccination interval that is reflected on the product label. For optimal immunity, all manufacturers strongly recommend vaccination as per the registered product label revaccination interval, as these intervals are based on clinical studies that demonstrate animals have appropriate level of protection throughout this period. Any use of vaccines outside of the recommended label protocol would be considered off-label use. While veterinarians are able to use products off-label, it is important to remain aware of their responsibilities and obligations as per the respective state and territory veterinary boards' guidelines. This includes obtaining informed client consent and advising the client of any associated risks. This discussion should be recorded in the animal's clinical record.

When considering overdue vaccination, it is important to remember duration of immunity on product labels is the **minimum period** demonstrated in clinical studies for which an animal will be protected. For some pathogens (e.g., canine core pathogens and feline panleukopenia) **published data supports a duration of immunity FAR greater than that reflected on product labels** (Scott et al, Am J Vet Res, 1999).

In a well-vaccinated adult animal, a short delay in revaccination against these pathogens is unlikely to have any significant effect on the animal's level of immunity.

Based on an understanding of the nature of the immune response against these pathogens and principles of vaccinology, a delay in revaccination of less than three months beyond the labelled interval for these pathogens is unlikely to result in a significant reduction in the level of protection.

As a medical procedure, vaccination should always be based on an informed risk-benefit analysis.

In prioritising the use of the limited supply of feline core vaccines available, the following provides a useful guide.

High risk – Essential vaccinations

Cats undergoing their primary vaccination course. This includes kittens up to and including their first adult booster (adult booster defined as a vaccine given at 6 months of age or older). Animals in this group are immuno-naïve and therefore at considerable risk from vaccine preventable infectious diseases. Vaccination of these animals is a priority.

Cats and kittens in shelters are also in this category because so many are housed in close proximity and previous vaccination status in many cases is unknown.

Moderate risk – Recommended vaccination if sufficient stock available

Cats entering high challenge environment (e.g., boarding facilities/catteries/shelters/cat shows). Given the increased risk of exposure in these environments, in addition to stress associated with such environments, vaccination with both core and non-core vaccines might be recommended. In light of the current extreme supply limitations, it may be necessary to re-educate catteries that adult cats given a complete course of kitten vaccines should be allowed into a cattery under the present circumstances.

Low risk – Consider delaying re-vaccination; revaccinate when vaccine supply is normalised

Most other adult cats have low risk associated with delaying revaccination for a short period of time. *Delay vaccination until vaccination supply has normalised.* Veterinarians however should make this decision on a case-by-case assessment, based on the cat's individual risk profile. Informed client consent must be obtained, including discussion of the risks, and this discussion should be documented in the clinical record.

Stated another way

During this vaccine shortage – we should **definitely focus on kittens.**

Vets may be concerned that the label statement “provides protection for at least 12 months” means adults will be at significant risk if late for a booster. It is important to understand and communicate to cat owners that this reflects the minimum duration of immunity rather than being a cut-off after which immunity suddenly ceases.

It is important to recall the KEY STUDIES of Freddy Scott's investigations from the 1990's – primary course of 2 doses of inactivated vaccine in kittens at 8 and 12 weeks – no further boosters or natural exposure – and all cats had “protective” antibody titres against all three core antigens (parvo, calici and herpes) for at least 3 years, and when challenged at 7 years, 100% protection against panleukopenia, and 50-60% reduction in clinical signs against herpesvirus and calicivirus. The key message is – there is SOLID immunity after even just 2 vaccinations!

We would recommend reserving all available doses for kittens wherever possible. To further conserve available vaccines, altered primary vaccination protocols may also be necessary. For example, if currently vaccinating kittens at 8, 12 and 16 weeks you may consider dropping the 8-week vaccine (if

the kitten is client owned, there is little risk of exposure if cat can be contained in a safe environment) and complete a primary course of two doses. In extreme circumstances, a single dose primary vaccination protocol may provide sufficient protection if the cat can be isolated at home (given at 16 weeks to minimise risk of interference from maternal antibodies (Fischer *et al*, JAVMA 2007).

The duration of immunity from a single dose may be shorter than from a primary course of two or three doses but would likely provide protection until stock becomes available again. In shelters and where kittens are exposed to other adult cats, we would recommend a dose on intake and another 4 weeks later for kittens and consider anything beyond that a bonus if there was short supply. We would also try to get the kittens out of the shelter after vaccination and into forever homes/foster homes ASAP. For adult cats entering a shelter, we would recommend administering a single dose (live or killed) as an off-label regimen.

We are currently not convinced about the efficacy of partial doses (splitting a vaccine into halves or thirds) – particularly for killed vaccines. Even for live virus vaccines, the efficacy of partial doses is unknown, and there is a risk of protecting zero cats rather than the two we hoped for and causing further wastage. Therefore at this stage, splitting doses is not recommended.