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Canine & Feline Dermatology Market 2021

Animal Health Market Analysis



Animal Health | Special Report

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Chapter 1: Summary

Scope of the Report

The report breaks down the dermatology market¹ by species, disease, treatment², manufacturer³ and key geographies

 By Species	 By Disease	 By Treatment ²	 By Manufacturer ³	 By Region
Dog Cat	Atopic Dermatitis Otitis Externa	Small Molecule Inhibitors Biologicals Steroids (Systemic) Antimicrobials (Systemic) Topical Skin Therapies Topical Ear Therapies	Originator Generic	US EU-5 ⁴ France Germany Italy Spain UK APAC-3 ⁵ China Japan Australia

 Years of Interest	2020 to 2035
 Currency	The currency used in the report is United States Dollars (USD) , with the market size indicated in terms of USD million/billion.

¹ The report does not cover diagnostics or devices; ² Veterinary Medicinal Products only i.e., does not include OTC products; ³ Split made for Small Molecule Inhibitors and Biologicals only; ⁴ The five European nations represent ~50% of the European animal health market; ⁵ The three APAC nations amount to ~70% of the APAC animal health market

Executive Summary (1/3)

The Canine & Feline Dermatology Market is forecast to grow at a CAGR of +X% from 2020 to 2035

Overall

The companion animal dermatology market is forecasted to grow steadily over the next 15 years

Our analysis shows the market for canine and feline dermatology treatments is projected to reach \$X billion by 2035, growing by around X% between 2020 and 2035. This translates to a CAGR of X%.

Factors such as growth in companion animal ownership, increasing number of veterinary practitioners, rising income levels in developed economies, growing prevalence of atopic and other skin conditions, rising adoption of pet insurance and growing pet health expenditure are expected to drive the growth of the market.

However, we believe the increasing levels of pet care cost may restrain market growth to a certain extent.

The overall canine and feline dermatology market is poised to grow steadily in the coming years, with the greatest growth coming from innovative treatment groups like biologicals.

Market by Application

Atopic dermatitis will continue to dominate the companion animal dermatology space

Atopic dermatitis, known as feline atopic skin syndrome (FASS) in cats, accounted for X% of the canine and feline dermatology market in 2020 and is expected to reach \$X billion by 2035 at a CAGR of X%.

This growth can be largely attributed to the increasing pet population, rising prevalence of atopic dermatitis and an increasing willingness of owners to spend more on their animals.

Otitis externa accounted for the remaining X% of the companion animal dermatology market in 2020 and is expected to grow steadily to \$X million by 2035 at a CAGR of +X%.

In dogs, most otitis externa is secondary to atopic dermatitis. Therefore, the two problems are linked.

Market by Treatment Group

Innovative biologicals will drive the next wave of growth in the market

Small molecule inhibitors e.g., Atopica (ciclosporin) and Apoquel (oclacitinib), accounted for the largest share of the dermatology market in 2020 with \$Xmillion representing X% overall.

This group is expected to reach \$X billion by 2035 at a CAGR of +X%, with market share increasing to X%. The slow growth in share can be attributed to the adoption of more innovative therapies like monoclonal antibodies (mAbs).

With a CAGR of +X%, biologicals are expected to drive growth in dermatology. Other treatments are anticipated to grow at a slower pace e.g., systemic steroids and antimicrobials, as they have been around for longer with limited innovation.

Outside of small molecule inhibitors and biologicals, the next highest growth is expected in topical therapies. Topical steroids are a cost-effective anti-inflammatory that will reduce anti-microbial use (especially in ears) and are expected to be used alongside the newer narrow-spectrum biologicals – few products exist but this is expected to increase.

Executive Summary (2/3)

The Canine & Feline Dermatology Market is forecast to grow at a CAGR of +X% from 2020 to 2035

Market by Species

Dogs will continue to dominate the companion animal dermatology market

Dogs accounted for the largest segment of the pet dermatology market with X% share in 2020. The canine portion of the market is expected to grow to \$X billion by 2035 at a CAGR of +X%.

Cats are severely underserved in the market and attempts to address this will help to drive growth within this species segment. Such drivers include improved understanding of disease etiology (i.e., factors that initiate disease) and pathophysiology (factors that maintain disease), as well as growing the range of current and new treatments indicated for cats.

Market by Region

APAC-3 has the highest CAGR of the three regions

The US dominated the dermatology market in 2020 and is expected to retain the largest share in 2035, driven by the vast population in the region, high medicalization rates and willingness to treat.

However, APAC-3 is predicted to grow the fastest out of the three major regions covered in this report.

On an individual country level, China and Japan are expected to provide significant growth opportunities for market players. This trend can be attributed to growing pet ownership, increasing medicalization rates and improving awareness of available treatment options.

Innovation Pipeline

Innovation will come from start-ups and larger firms

The dermatology market is likely to see new products developed by start-ups being purchased or licensed by the animal health industry's larger and more established firms.

This has already occurred where XXX gained atopic dermatitis assets through its acquisition of XXX. Notably, this plays on a wider trend seen in the animal health sector for companion animal specialty pharma innovation.

Launched in 2017, Cytopoint (lokivetmab) from Zoetis was the first mAb to be approved for use in veterinary medicine and is indicated for canine atopic dermatitis. It has already reached blockbuster status (i.e., annual sales in excess of \$X million) and has paved the way for other players to develop next-generation dermatology products, examples include autologous vaccines, nano-antibodies, interferons and cell and gene therapies.

Upsides not reflected in baseline model

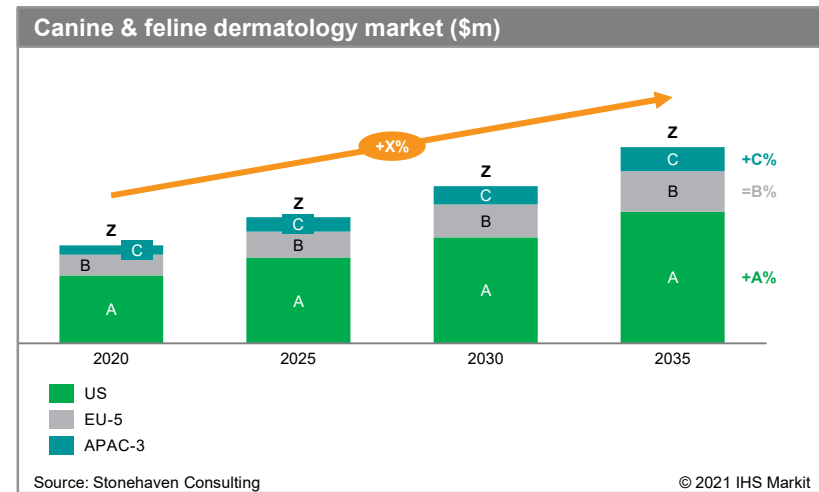
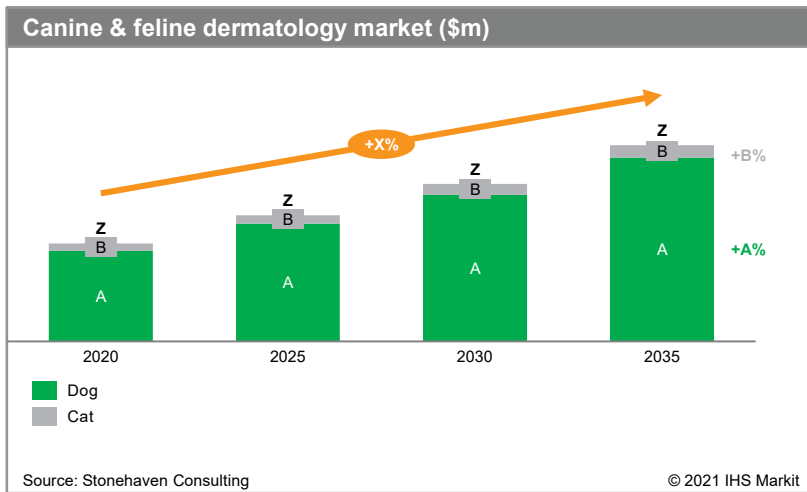
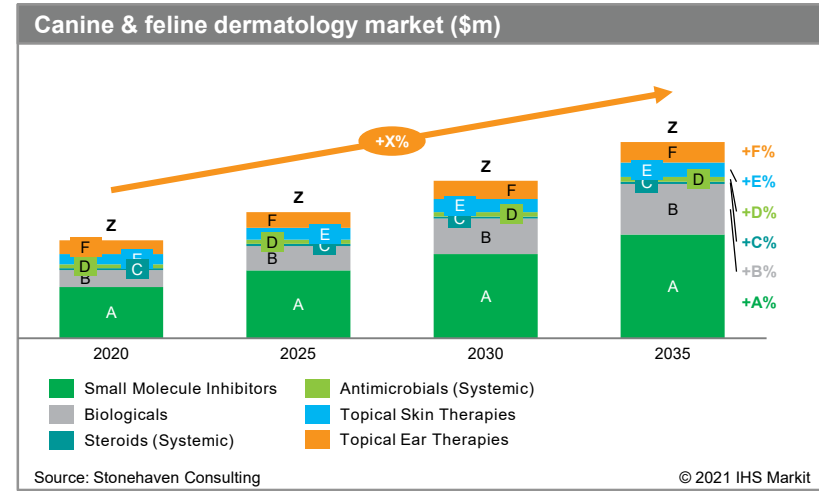
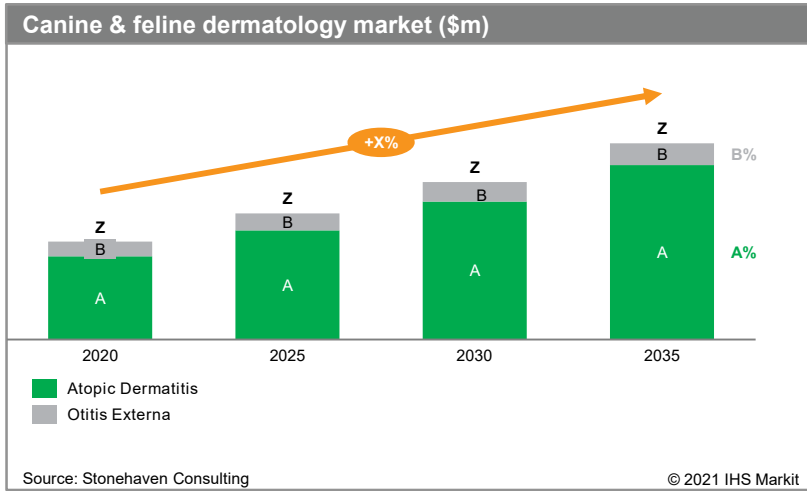
Plenty of other areas of unmet needs need to be addressed

Market growth will also come from:

- Existing treatments being approved for long-term use (e.g., topical steroids), being brought out in new formulations (e.g., topical antibiotics) and being indicated for new species (e.g., cats)
- Improved vet and pet owner education leading to better treatment programs (i.e., long-term, multimodal programs) and improved compliance
- Better allergy testing

Executive Summary (3/3)

The Canine & Feline Dermatology Market is forecast to grow at a CAGR of X% between 2020 and 2035



Chapter 2: Regulatory Landscape

Regulations for Product Approval

Manufacturers have the opportunity to work in tandem with regulators to shape future guidelines

Overall

«More information about regulations for product approval»

US 

«Information about regulations for product approval in the US»

Europe 

«Information about regulations for product approval in the Europe»

APAC 

«Information about regulations for product approval in the APAC»

Regulations for Drug Use

Impact of international guidelines should not be underestimated, particularly on emerging markets

Overall

International guidelines set out by organizations such as the International Committee on Allergic Diseases of Animals (ICADA) can influence treatment protocols for atopic dermatitis, and other allergic conditions affecting the skin, and thus prescribing behavior of veterinarians, particularly those in emerging economies.

«Further information about regulations for drug use»

US

Vets can freely use drugs or biologics that are fully approved (versus conditionally authorized) by the FDA's Center for Veterinary Medicine and the USDA for off-label indications.

«Further information about regulations for drug use in the US»

Europe

«Information about regulations for drug use in Europe»

APAC

«Information about regulations for drug use in APAC»

Chapter 3: Market Overview

Canine & Feline Population¹

Pet ownership will continue to increase with notable growth in EU-5 and APAC-3 markets

Overall

There has been an ongoing increase in the ownership of pets globally and this trend is expected to continue through to 2035.

Our forecasting predicts the consolidated canine and feline population in the focus regions will grow at a CAGR of +X% from 2020 until 2035.

«Further information about growth in population»

Dog Population

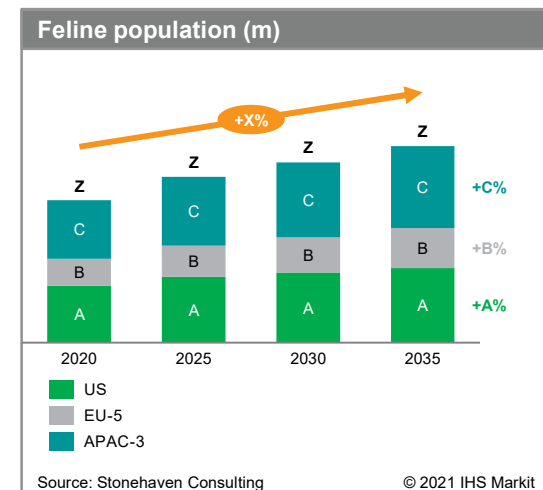
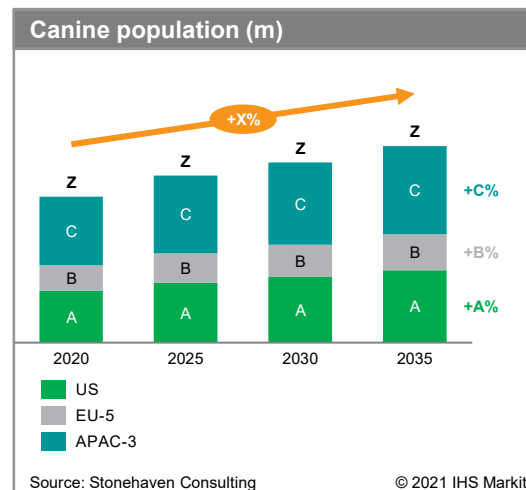
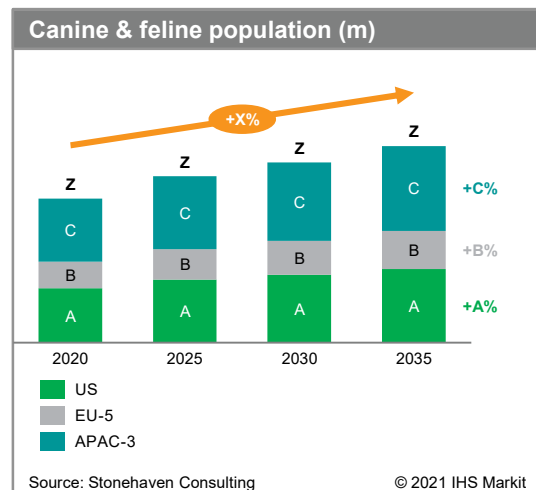
Our forecasting predicts the dog population in the focus regions will grow with a CAGR of +X% from 2020 until 2035.

«Further information about dog population»

Cat Population

We predict the cat population in the focus regions will grow with a CAGR of +X% from 2020 until 2035.

«Further information about cat population»



¹ Since the publication of our Canine Oncology and Pet Pain reports, the European dog and cat numbers have been updated using new historical 2020 data, resulting in a slight uplift in the forecasted numbers for EU-5.

Canine & Feline Health Market

Burgeoning sector with numerous growth opportunities in both developed and developing markets

Overall

We forecast the global companion animal health market to grow at a CAGR of +X% from 2020 to 2035. The current core product segments of this sector are pharmaceuticals, biologicals and parasiticides.

«More market background information»

Market Drivers

The current and future growth rates in the pet health segment are being driven by:

- An increasing global pet population
- A rising spend on pet health products by owners

«More market drivers' information»

Many animal health companies have been stimulating growth in the pet health sector through the introduction of new drugs (e.g., XX, YY).

«More market background information»

Canine & Feline Dermatology Market (1/3)

Growing sector where new technologies and vet and pet owner education will drive continued growth

Overall

The pet dermatology market has grown significantly in the last 10 years, beyond the expectations of many within the industry. Atopic dermatitis and otitis externa are currently the largest and second largest markets, respectively. Both affect dogs and cats, with dogs being the biggest segment within each of these disease areas.

«More market background information»

Market Drivers

With rising levels of urbanization (meaning increased exposure to allergens such as house dust mites), longer pet lifespans and an increase in popularity of brachycephalic breeds predisposed to dermatological conditions (e.g., French bulldogs), prevalence of chronic dermatological conditions will continue to increase.

«More market drivers' information»

Market Barriers

A market barrier related specifically to prescription behavior is the push for antimicrobial stewardship to reduce overuse of antibiotics. Nevertheless, this could lead to the growth of targeted topical antimicrobials.

«More market barriers information»

Canine & Feline Dermatology Market (2/3)

Growing sector where new technologies and vet and pet owner education will drive continued growth

Market Opportunities

A growing understanding of the molecular underpinnings and drivers of skin conditions, especially atopic dermatitis, could inform new therapy opportunities, as well as diagnostics.

«More market opportunities information»

«More market background information»

Market Challenges

The price of more advanced atopic dermatitis treatments can be high due to the investment required to develop these advanced technologies, such as mAbs, as well as the requirement to take them long-term.

«More market challenges information»

Canine & Feline Dermatology Market (3/3)

Growing sector where new technologies and vet and pet owner education will drive continued growth

Overall

In 2020, dogs accounted for the largest segment of the companion animal dermatology market with X% share. The canine segment is projected to reach \$X billion by 2035 from \$X billion in 2020, representing a CAGR of X%.

«More market background information»

Canine Dermatology Market

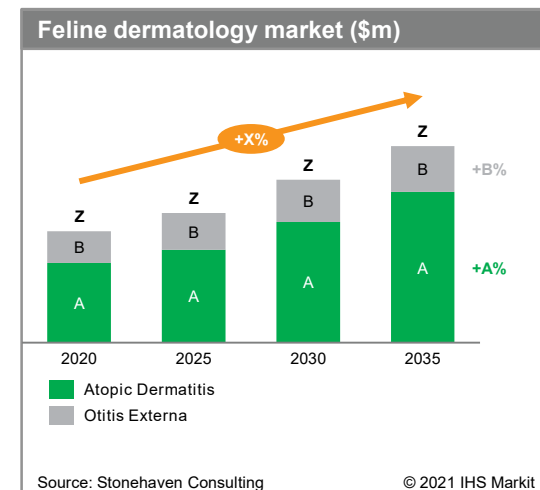
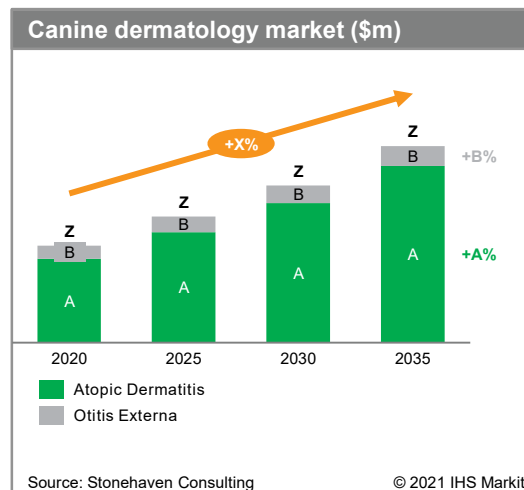
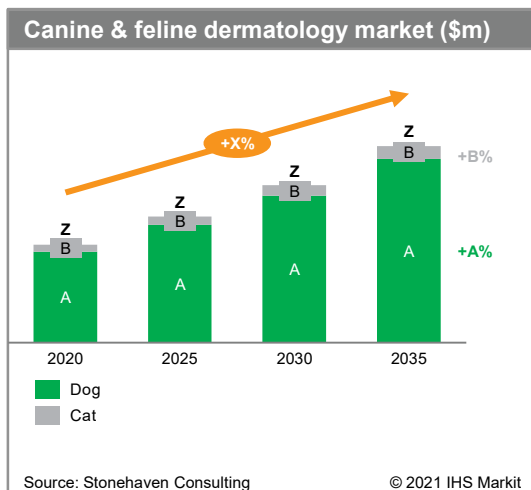
Our data shows the dog dermatology market will grow with a CAGR of X% from 2020 until 2035.

«More canine market background information»

Feline Dermatology Market

Our data shows the cat dermatology market will grow with a CAGR of X% from 2020 until 2035.

«More feline market background information»



Chapter 4: Dermatology Market by Region

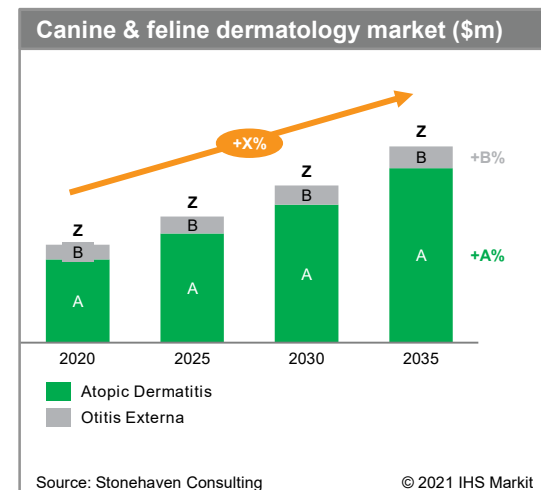
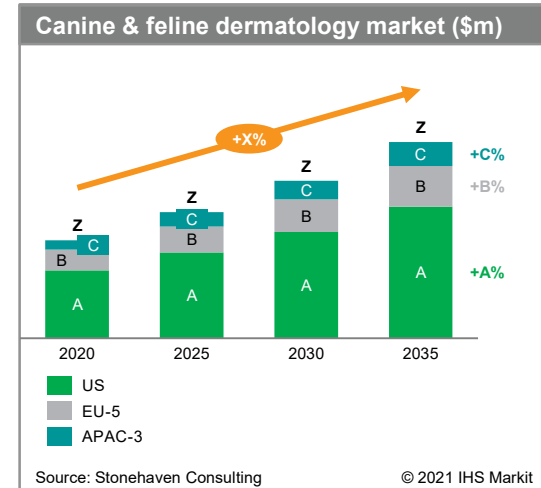
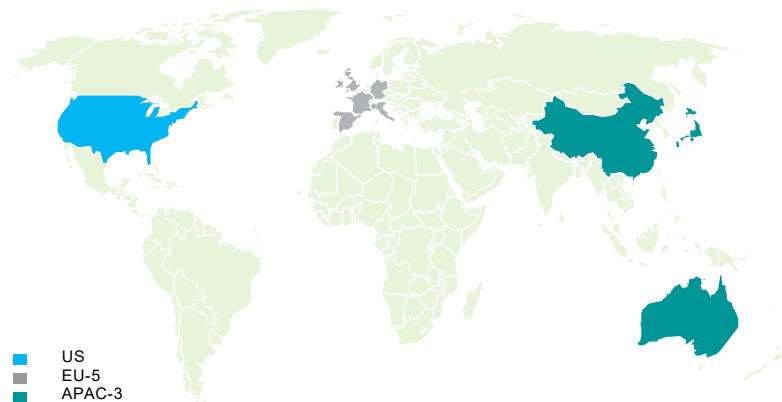
Consolidated Market Size and Growth

The US currently has the largest market segment while APAC-3 will experience the fastest growth

Overview

The dermatology market is anticipated to grow quickest in APAC-3 with a CAGR of X% between 2020 and 2035, followed by EU-5 with a CAGR of X%, then the US at a CAGR of X%. The US is currently the largest companion animal dermatology market with X% share.

«More market size and growth information»



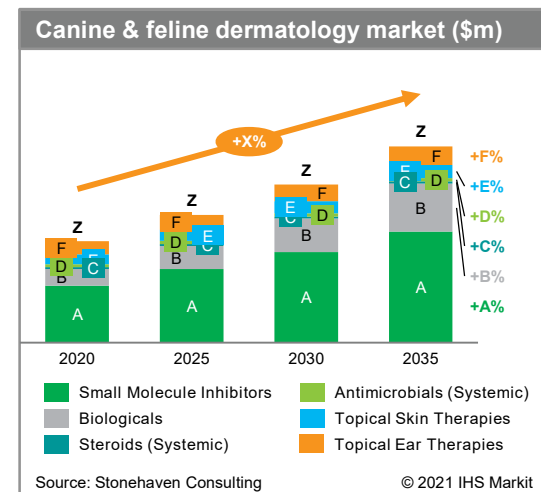
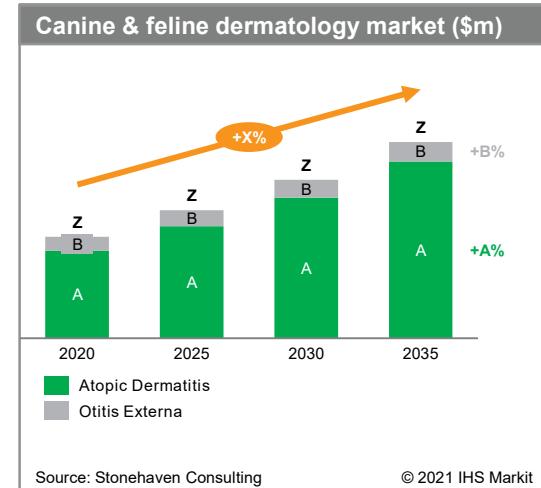
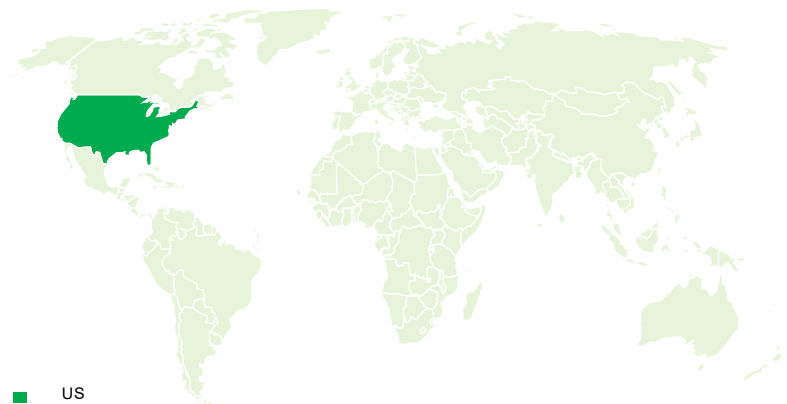
US Market Size and Growth

The US will be driven largely by an influx of innovation therapies and higher spend per pet

Overview

The US companion animal dermatology market is projected to reach \$X billion by 2035 from \$X million in 2020, representing a CAGR of X%. This can be largely attributed to the following drivers:

«More US market size and growth information»



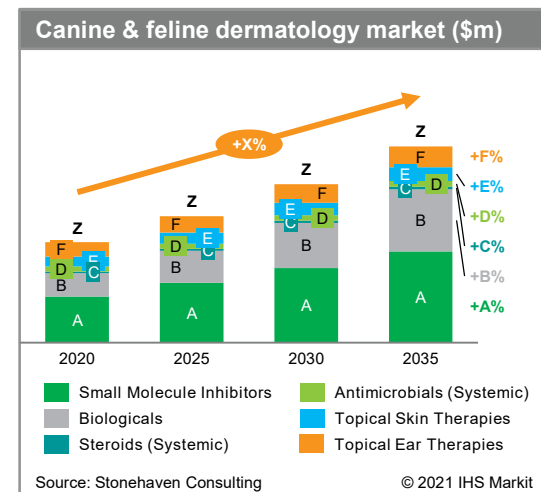
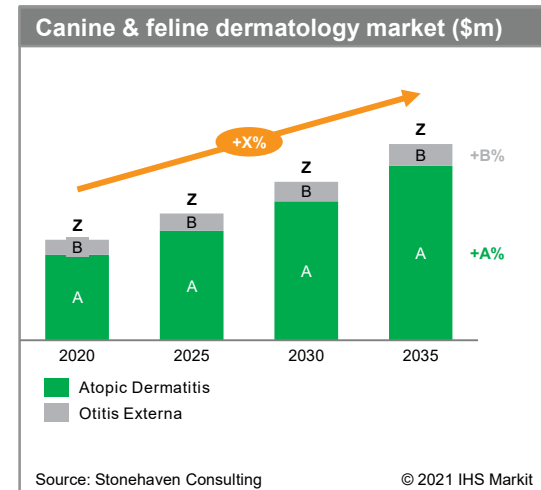
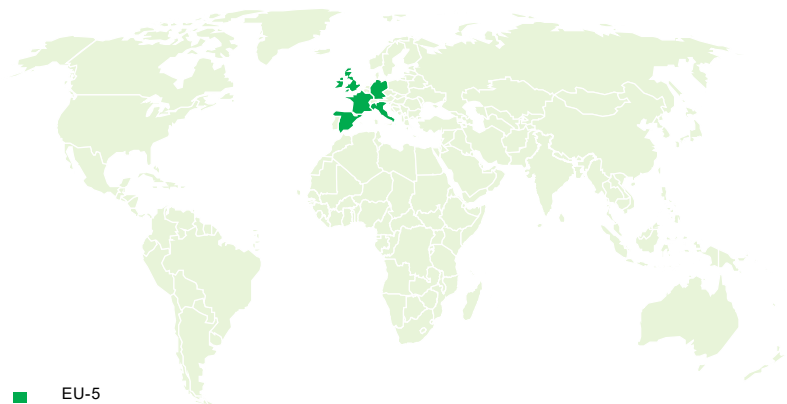
EU-5 Market Size and Growth

The EU-5 will be driven largely by an influx of innovation therapies and higher spend per pet

Overview

We project the EU-5 dermatology market to reach \$X million by 2035 from \$X million in 2020. This represents a CAGR of X% and can be attributed to the following drivers:

«More EU-5 market size and growth information»



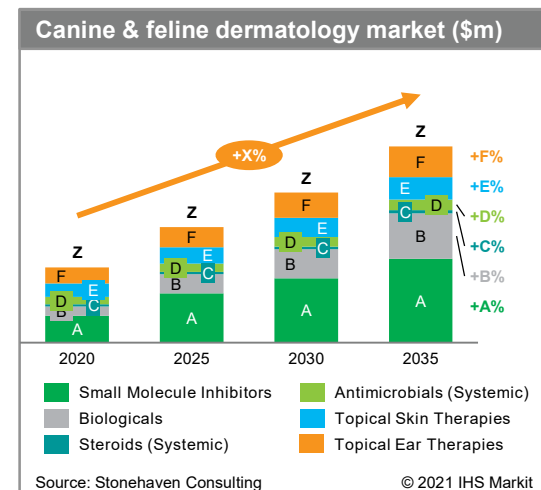
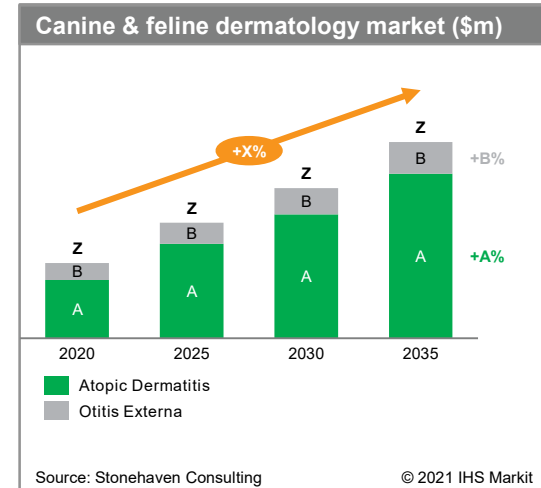
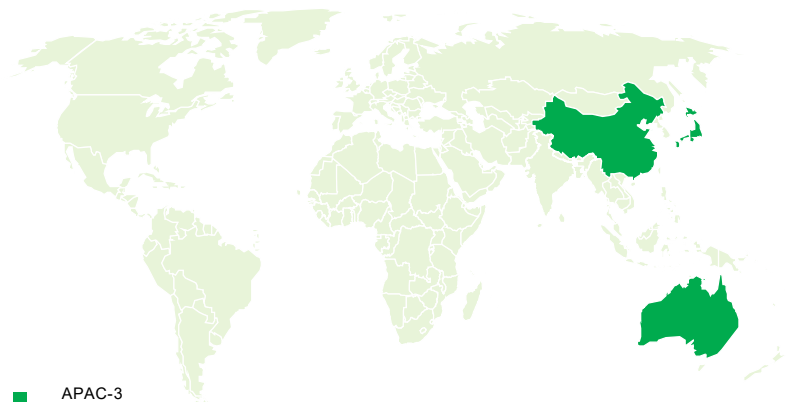
APAC-3 Market Size and Growth

APAC-3 will be driven largely by increased ‘humanization’ of pets and improved medicalization rates

Overview

The APAC-3 dermatology market is projected to reach \$X million by 2035 from \$X million in 2020, representing a CAGR of X%. This can be largely attributed to the following drivers:

«More APAC-3 market size and growth information»



Chapter 5: Current Standard of Care

Current Standard of Care (1/3)

Current standard of care is based on the use of immunomodulators, steroids and antimicrobials

Overview

To date, there is a range of drugs commercialized in dermatology, yet they are mainly indicated for use in atopic dermatitis, dogs and in the US and Europe.

«More current standard of care information»

Human-use products

The dominant atopic dermatitis treatments, in terms of absolute value, are animal health-registered immunomodulators, such as

«More Human-use products information»

Off-label use of animal drugs

In atopic dermatitis, topical steroids are only indicated for use in dogs. This means use in cats is off-label.

«More off-label use of animal drugs information»

Near-term opportunities

The near-term opportunities for animal health players to drive growth in pet dermatology are:

«More near-term opportunity information»

Current Standard of Care (2/3)

Current standard of care is based on the use of immunomodulators, steroids and antimicrobials

Breakdown by Treatment Group

Small Molecule Inhibitors

In 2020, small molecule inhibitors (e.g., calcineurin and JAK inhibitors, like ciclosporin and oclacitinib, respectively) accounted for X% share of the pet dermatology market.

«More small molecule inhibitors information»

Biologicals

In 2020, biologicals (e.g., lokivetmab) accounted for X% share of the companion animal dermatology market.

«More biologicals information»

Steroids (Systemic)

In 2020, the segment for systemic steroids accounted for X% share of the pet dermatology market.

«More steroids (systemic) information»

Antimicrobials (Systemic)

In 2020, systemic antimicrobials (e.g., antibiotics and antifungals) accounted for X% of the companion animal dermatology market.

«More Antimicrobials (systemic) information»

Topical Skin Therapies

Topical skin therapies include steroids, antibiotics and antifungals (plus combination products) indicated for atopic dermatitis.

«More topical skin therapies information»

Topical Ear Therapies

Topical ear therapies covers combination products containing a steroid, antibiotic and antifungal, indicated for otitis externa.

«More topical ear therapies information»

Breakdown by Application

Atopic Dermatitis

In 2020, atopic dermatitis accounted for X% of the global veterinary dermatology market.

«More atopic dermatitis information»

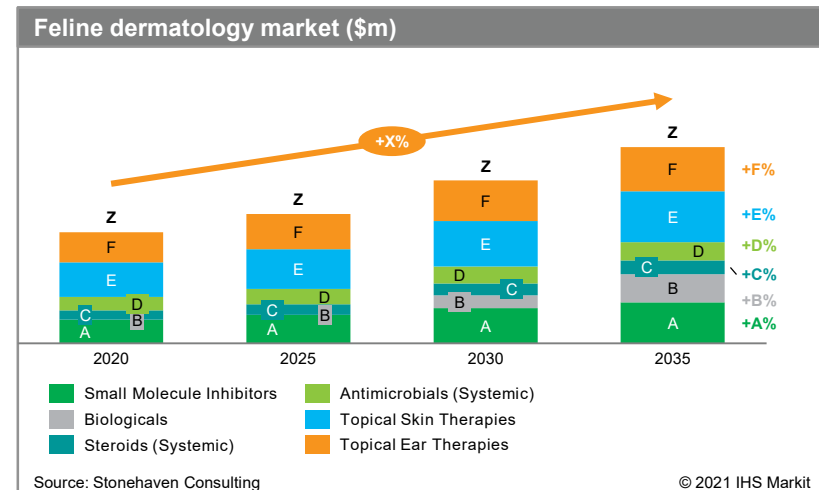
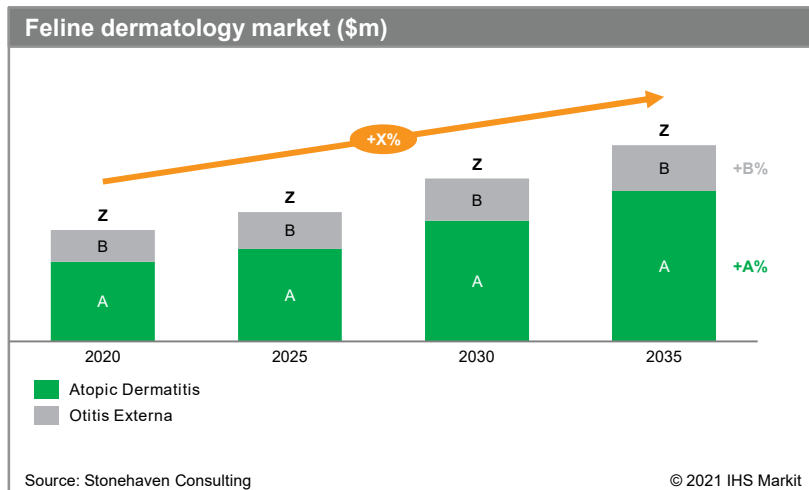
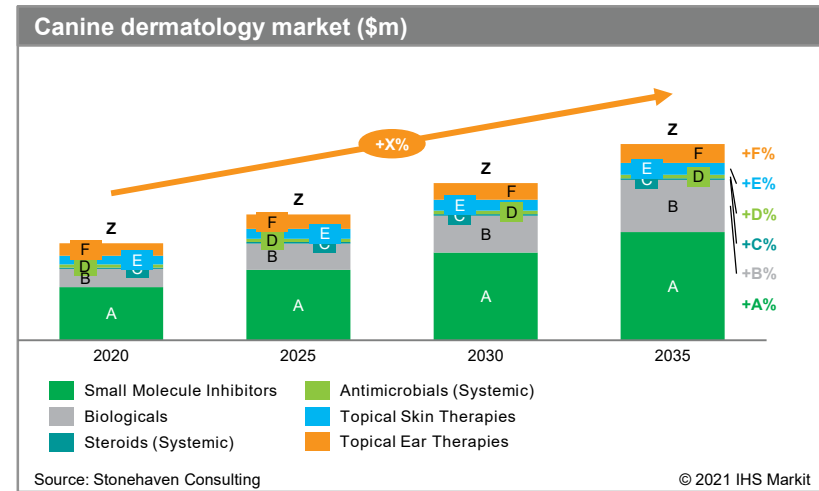
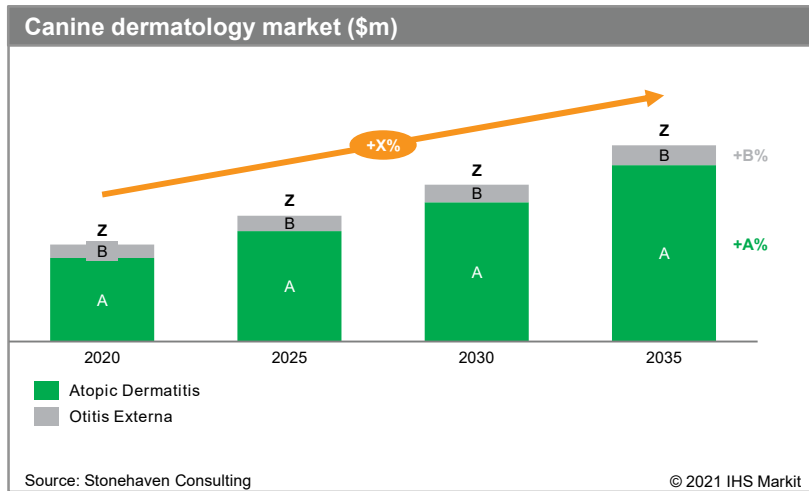
Otitis Externa

In 2020, otitis externa accounted for X% of the global veterinary dermatology market.

«More otitis externa information»



Current Standard of Care (3/3)

Current standard of care is based on the use of immunomodulators, steroids and antimicrobials



Selection of Established Products and Services (1/2)

Pharmacotherapy for atopic dermatitis and otitis externa includes immunomodulators, anti-inflammatories and antimicrobials



Treatment Group*	Route of Administration	API	Product Example (Company Name)	DS	Rep*	AD*	OE*		
Immunomodulator – Small Molecule	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Immunomodulator – mAb	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Anti-inflammatory – Steroid	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Anti-inflammatory – Antihistamine	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Antimicrobial – Antibiotic	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Combination – Antifungal + Antiseptic	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Combination – Antibiotic + Antifungal + Steroid	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Anti-inflammatory – Steroid	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N

* Categorizations have been generalized for demonstrative purposes; SPC conditions apply; please refer to country datasheet

AD: Atopic Dermatitis; **OE:** Otitis Externa; **DS:** Data Source; **Rep:** Repeat Interval; **NOAH:** National Office of Animal Health; **EMA:** European Medicines Agency; **FDA:** Food and Drug Administration; **CW:** Company Website; **Gx:** Generic

Selection of Established Products and Services (2/2)

Non-pharmacological options¹ include dietary modifications, supplements and surgery

Treatment Group*	Route of Administration	API	Product Example (Company Name)	DS	Rep*	AD*	OE*		
Diet and Supplements	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Shampoos and Mousses	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Ear Cleaners	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Total Ear Canal Ablation (TECA) Surgery	XX	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N



* Categorizations have been generalized for demonstrative purposes; SPC conditions apply; please refer to country datasheet

1. Non-pharmacological options are not included in the market sizing analysis for this report

AD: Atopic Dermatitis; **OE:** Otitis Externa; **DS:** Data Source; **Rep:** Repeat Interval; **NOAH:** National Office of Animal Health; **EMA:** European Medicines Agency; **FDA:** Food and Drug Administration; **CW:** Company Website; **Gx:** Generic

Selection of Recently Approved Products

Recent approvals are for generics of antibiotics, steroids and ciclosporin, including new formulations

Treatment Group*	API	Originator (Company Name)	Generic (Company Name)	Route of Administration	Approval	DS	Rep*	AD*	OE*		
Antibiotics	XX	Company Name	Company Name	XX	XX	XX	XX	XX	XX	Y/N	Y/N
Antibiotics	XX	Company Name	Company Name	XX	XX	XX	XX	XX	XX	Y/N	Y/N
Antibiotics	XX	Company Name	Company Name	XX	XX	XX	XX	XX	XX	Y/N	Y/N
Antibiotics	XX	Company Name	Company Name	XX	XX	XX	XX	XX	XX	Y/N	Y/N
Small Molecule Inhibitors	XX	Company Name	Company Name	XX	XX	XX	XX	XX	XX	Y/N	Y/N
Small Molecule Inhibitors	XX	Company Name	Company Name	XX	XX	XX	XX	XX	XX	Y/N	Y/N
Steroids	XX	Company Name	Company Name	XX	XX	XX	XX	XX	XX	Y/N	Y/N

* Categorizations have been generalized for demonstrative purposes; SPC conditions apply; please refer to country datasheet

AD: Atopic Dermatitis; **OE:** Otitis Externa; **DS:** Data Source; **Rep:** Repeat Interval; **NOAH:** National Office of Animal Health; **EMA:** European Medicines Agency; **FDA:** Food and Drug Administration; **CW:** Company Website; **Gx:** Generic

Unmet Needs in Current Standard of Care (1/2)

Players that can address unmet needs can help grow the dermatology market by 2-4 multiples

Treatments

Topical steroids

While Cortavance (hydrocortisone aceponate) is widely used in atopic dermatitis and added by vets to ear drops for otitis externa, these uses are off-label as it is only indicated to treat itchy skin disease in dogs for the short-term (use in cats is also off-label).

«More topical steroids information»

Topical antibiotics for the skin

With increasing rates of antimicrobial resistance, there is a greater need for targeted antibiotics.

«More topical antibiotics for skin information»

Diagnostics

Allergy tests

There are currently no good allergy tests. Allergic reactions to food or environmental allergens are most commonly mediated by

«More allergy tests information»

Veterinary Education

Multimodal Treatment Programs

Most vets will see current products as alternatives to each other, rather than giving them at the right times or in combination.

«More multimodal treatment programs information»

«More multimodal treatment programs information»

Missed Symptoms and Diagnoses

Current immunomodulator products, such as Apoquel and Cytopoint, are very specific and therefore good at dealing with the itch and mild inflammation associated with

«More missed symptoms and diagnoses information»

Unmet Needs in Current Standard of Care (2/2)

Players that can address unmet needs can help grow the dermatology market by 2-4 multiples

Top factors influencing pet owner decisions

- XX
- XX
- XX
- XX

Other factors

- YY
- YY
- YY
- YY
- YY
- YY

Unmet needs in the canine & feline dermatology market

«More current standard of care information»

Canine & Feline Dermatology Treatment – Unmet Needs Matrix					
	Top Factors	Top Factors	Top Factors	Top Factors	Top Factors
Atopic Dermatitis					
Otitis Externa					

= satisfactory for majority of patients
 = satisfactory for ~50% of patients
 = satisfactory for minority of patients

Source: Stonehaven Consulting © 2021 IHS Markit

Chapter 6: Competition and Innovation

Competitive Landscape

Competition and Innovation

Overview

The companion animal dermatology market has developed dramatically over the last 10 years. Its growth has surprised many in the industry and outperformed their expectations regarding the market's potential size.

«More information on competitive landscape»

Key players

XX is by far the largest player in the dermatology category and expects its sales in the space to exceed \$X in 2021. YY also has its own dermatology portfolio, including ZZ and BB.

«More information on competitive landscape»

Key technologies

Due to the more advanced nature of technologies in the space, innovation in this area may come with higher R&D costs than some animal health companies are used to.

«More information on competitive landscape»

Top Animal Health Players and their Portfolios (1/2)

Every top player is active in the dermatology market with most adopting inorganic growth strategies

Company X

«Information on company and products»

Company X

«Information on company and products»

Company X

«Information on company and products»

Top Animal Health Players and their Portfolios (2/2)

Every top player is active in the dermatology market with most adopting inorganic growth strategies

Company X

«Information on company and products»

Company X

«Information on company and products»

Company X

«Information on company and products»

Other Companies

«Information on company and products»

Emerging Players and their Product Pipelines

Start-ups are very active in pet dermatology, developing various technologies new to the indication area

Company	AH	HH	Treatment Group	Product(s)	Description
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>
Company X	Y/N	Y/N	Treatment Group X	Product Y	<i>“Information on product pipeline”</i>

AH: Animal Health; **HH:** Human Health

Next-Generation Therapeutic Targets

Next-generation products will likely come from research and technology pioneered in human health

Key technologies

The current wave of innovation in the companion animal sector is in its infancy. Dermatology was the first sub-segment of this industry to experience rapid growth and has evolved immensely in recent years due to

«More information on key technologies»

«More information on next-generation therapeutic targets»

Examples of targets under investigation

- XX
- XX
- XX
- XX
- XX
- XX
- XX
- XX
- XX
- XX

«More information on targets under investigation»

The current key innovations in canine and feline dermatology include:

- XX
- XX
- XX
- XX

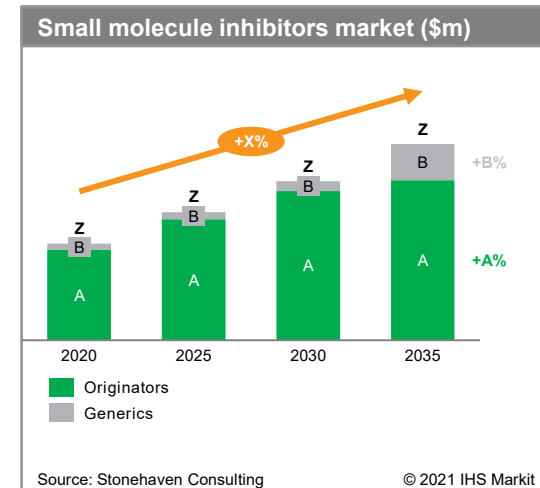
Generic Impact on Canine Atopic Dermatitis

Generic competition has started strong for small molecule inhibitors, but is a while away for biologicals

Small Molecule Inhibitors

In 2020, we estimate generics accounted for X% share of the small molecule inhibitors market. Generics are projected to reach \$X million by 2035 at a CAGR of X%. This would represent an X% share of the overall market.

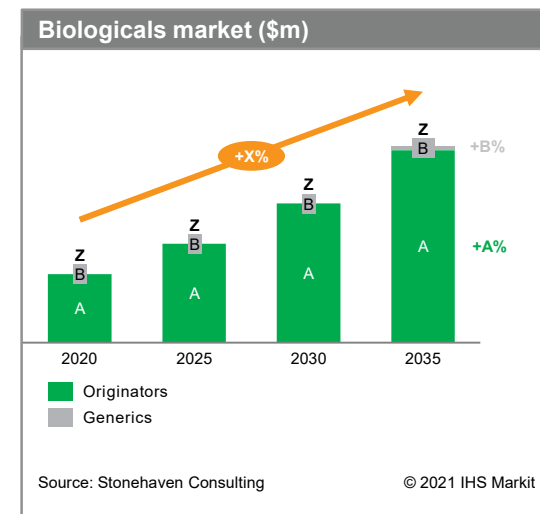
«**More information on small molecule inhibitors**»



Biologicals

XXX is currently the only biological indicated for use in canine atopic dermatitis. First approved in the US during 2017, we estimate the earliest that biosimilars of YY can enter the market is XX.

«**More information on biologicals**»



Chapter 7: Definition & Methodology

Market Definition

Definition and categorization of dermatology in companion animals

Overview

Dermatology is the branch of medicine concerned with the diagnosis and treatment of skin disorders. There are many skin disorders that affect companion animals, but the key ones affecting both dogs and cats, and which are the focus of this report, are atopic dermatitis and otitis externa.

Atopic dermatitis can be categorized as XX XX XX

Otitis externa is inflammation of the passage of the outer ear. In otitis externa, XX XX XX

Other Dermatology Conditions in Companion Animals (not exhaustive; out of scope for this report)

Parasitic infections of the skin are considered XX XX XX

Autoimmune skin diseases vary from the extremely rare (mostly systemic conditions) to more common conditions, however, XX XX

Skin cancer (melanoma), also called malignant melanoma, XX XX

Other dermatological conditions include XX XX

Atopic Dermatitis

Definition and characterization of atopic dermatitis

Overview

Canine atopic dermatitis can be described as a genetically predisposed, chronic, pruritic (itchy) and inflammatory skin disease which involves a poor skin barrier and abnormal skin inflammation.

«More information on atopic dermatitis»

Most commonly affected areas

«Information on atopic dermatitis diagnosis»

Clinical signs

«Information on atopic dermatitis clinical signs»

Diagnosis

«Information on atopic dermatitis diagnosis»

Epidemiology

Atopic dermatitis is very common affecting approximately 10-20% of dogs and cats across all ages.

«More information on epidemiology»

Current standard of care

It is common for atopic dermatitis patients to go through recurring cycles of flare-ups and infections.

«More information on current standard of care»

Otitis Externa

Definition and characterization of otitis externa

Overview

Otitis externa is an inflammatory disease affecting the external ear canal, as well as the external part of the ear (pinna).

«More information on otitis externa»

Diagnosis

«Information on otitis externa diagnosis»

«More information on otitis externa current standard of care»

Epidemiology

«Information on otitis externa epidemiology»

Clinical signs

«Information on otitis externa clinical signs»

Current standard of care

Like atopic dermatitis, treatment of otitis externa should involve identification and elimination of factors which led to the development of the disease in the first instance.

«More information on otitis externa current standard of care»

Treatment Classes

Definition and categorization of different treatment classes used in companion animal dermatology

Immunomodulators

An immunomodulator is a substance that stimulates or suppresses the immune system. They are currently all indicated for use exclusively in atopic dermatitis.

«More information on Immunomodulators»

Steroids

Steroids are important hormone signaling molecules, many of which have anti-inflammatory properties.

«More information on steroids»

Antimicrobials

Antimicrobials are used to treat infections associated with atopic dermatitis and otitis externa.

«More information on antimicrobials»

Innovation Therapies

Innovation therapies in development include nano-antibodies

«More information on innovation therapies»

Market Sizing Assumptions (1/2)

Bottom-up disease models were combined with treatment rates to estimate market size

	Average Medicalization Rate (%)	Average Insurance Coverage Rate (%)	Average Insured Treatment Rate (%)	Average Uninsured Treatment Rate (%)
Description	Triangulated from expert input, academic sources and Stonehaven Consulting estimates. Variations in estimates driven by species and country.	Triangulated from expert input, academic sources and Stonehaven Consulting estimates. Variations in estimates driven by species and country.	Triangulated from expert input and Stonehaven Consulting estimates. Variations in estimates driven by species and country.	Accounts for treatment cost benefit, cultural acceptance and other factors influencing pet owner decisions. Variations in estimates driven by species and country.
Overall	X%~Y% X%~Y% CAGR	X%~Y% X%~Y% CAGR	X%~Y% X%~Y% CAGR	X%~Y% X%~Y% CAGR

Treatment Type	XX~YY	Average spend per patient per year (\$)
Treatment Type 1	XX~YY	Triangulated from online Rx prescription websites and Stonehaven Consulting estimates. Variations in estimates driven by species, country and treatment regime. Accounts for weighted share and price of different treatments as well as treatment compliance rate.
Treatment Type 2	XX~YY	
Treatment Type 3	XX~YY	
Treatment Type 4	XX~YY	
Treatment Type 5	XX~YY	
Treatment Type 6	XX~YY	

Estimates in 2020 (estimates built from academic papers and expert interviews)

Change from 2020-2035 (CAGR)

Market Sizing Assumptions (2/2)

Bottom-up disease models were combined with treatment rates to estimate market size

	Average Incidence Rate (%)	Average Prevalence Rate (%)	Average Diagnosis Rate (%)
Description	Triangulated from expert input, academic sources and Stonehaven Consulting estimates. Variations in estimates driven by species and country.	Triangulated from expert input, academic sources and Stonehaven Consulting estimates. Variations in estimates driven by species and country.	Triangulated from expert input and Stonehaven Consulting estimates. Variations in estimates driven by species and country.
Otitis externa	X%~Y% X%~Y% CAGR	X%~Y% X%~Y% CAGR	X%~Y% X%~Y% CAGR
Atopic dermatitis	X%~Y% X%~Y% CAGR	X%~Y% X%~Y% CAGR	X%~Y% X%~Y% CAGR

Estimates in 2020 (estimates built from academic papers and expert interviews)

Change from 2020-2035 (CAGR)

Chapter 8: Report Authors and Expert Panel

Report Authors



Joseph Harvey
Head of Animal Health
IHS Markit

As head of animal health, Joseph provides news and analysis regarding the global animal health market across a range of species and products. He conducts exclusive interviews with the sector's biggest companies and experts, as well as start-up firms. He also hosts webinars and gives talks on the industry. Having gained many years of experience in business journalism, Joseph started writing about animal health in 2012. He previously built his experience by reporting on the human med-tech and diagnostics sector. Joseph is a well-known figure in the animal health sector through his articles, interviews, podcasts and webinars. His specialist areas include analysis of business trends, M&A, industry rankings, IPOs, company strategy and R&D across the animal health industry.



Ross Mulford
Consultant
Stonehaven Consulting AG

Ross received his BSc (Hons) in Pharmacology and joint MSc in Stratified Medicine & Pharmacological Innovation from the University of Glasgow. Following graduation Ross spent around two years in a business role with an Animal Health start-up developing a novel ectoparasiticide for the aquaculture industry.

During his time at the start-up, Ross interned with Stonehaven Consulting AG where he then transitioned to and has now spent the last three years working as a Consultant on strategy projects in Animal Health.

Most recently, Ross advised his former start-up on the sale of their intellectual property to a global agricultural conglomerate.



Arthur Redpath
Senior Global Marketing Expert
Stonehaven Consulting AG

Arthur is a senior marketing executive with over 30 years of experience in the animal health, pharmaceuticals and agricultural industries, after graduating from Edinburgh University Royal Dick Veterinary College as a veterinary surgeon in 1987. He joined Novartis Animal Health in 2000 where he progressed to global leadership roles. In 2015, he joined Elanco, where he assumed the leadership positions of EMEA Chief Marketing Officer and leader of the Global Marketing Excellence team.

Expert Panel

We consulted several world-leading experts in veterinary dermatology in the making of this report



Dr Tim Nuttall
Senior Lecturer in Veterinary Dermatology

Tim leads the dermatology clinic at the University of Edinburgh Royal (Dick) School of Veterinary studies, with interests in atopic dermatitis, otitis, pododermatitis and antimicrobial stewardship. Tim has authored or presented over 100 papers and over 150 lectures throughout the world. He has worked with RCVS, BSAVA and ESVD committees, the International Committee on Atopic Diseases in Animals, the Bella Moss Foundation, and has been a co-editor of Veterinary Dermatology. He sits on the Scottish Veterinary Antimicrobial Prescribing Group and was recently appointed Vice-Chair of the Scottish One Health Antimicrobial Use and Antimicrobial Resistance (SONARR) Oversight Committee. In 2014, he received the BSAVA Woodrow Award.



Dr Michael Rossi
Director of Research and Clinical Studies in Veterinary Dermatology

Dr Michael Rossi obtained his Doctor of Veterinary Medicine degree and Master's degree in equine allergic airway disease from Louisiana State University. After completing a three-year veterinary dermatology internship and residency with North Carolina State University and the Veterinary Referral Center of Colorado, he became a diplomate of the American College of Veterinary Dermatology. He is Director of Research and Clinical Studies at Coastal Veterinary Dermatology & Ear Clinic in Houston, Texas. He remains active in clinical research and has been on the advisory board for both veterinary industrial and non-profit organizations. Dr Rossi has authored/co-authored several articles published in peer reviewed journals and has lectured both nationally and internationally.

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