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Canine and Feline Pain Market 2021

Animal Health Market Analysis

Animal Health | Special Report

REPORT SAMPLE

Animal Health

Special Report

Canine and Feline Pain Market 2021

Animal Health Market Analysis

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Chapter 1: Summary

Scope of the Report

The report breaks down the pain market[1] by species, application, duration, treatment and key geographies

By Species	By Application	By Duration	By Treatment	By Region
Dog Cat	Osteoarthritis pain Perioperative pain Other causes of pain	Acute Mixed Chronic	NSAIDs Opioids Local anesthetics Adjunctive drugs Innovation therapies Surgeries Other non-drug support	US EU-5[2] France Germany Italy Spain UK APAC-3[3] 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] The five European nations represent ~50% of the European animal health market;
[3] The three APAC nations amount to ~70% of the APAC animal health market.

Executive Summary (1/3)

The canine and feline pain market is forecast to grow at a CAGR of X% between 2020 and 2035

Overall

The pain market is forecasted to grow at pace over the next 15 years

Our analysis shows the global market for canine and feline pain 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 diseases causing pain and inflammation, 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 pain market is set to grow at pace in the coming years, as new innovative drugs come onto the market. At the same time, the CAGR will ramp up as diagnosis rates and diagnostic technologies improve.

Market by Application

Drive to meet unmet needs in osteoarthritis will shape the market

Osteoarthritis pain accounted for X% of the overall canine and feline pain market in 2020 and is expected to reach $X billion by 2035 at a CAGR of X%.

The largest share of this segment can be attributed to increasing geriatric pet population, increasing prevalence of osteoarthritis, improved recognition and diagnosis rate of osteoarthritis, improved treatment compliance of pet owners and increasing population of obese and overweight dogs.

Perioperative pain accounted for a smaller segment of the companion animal pain market with X% share in 2020 and is expected to grow steadily to $X million by 2035 at a CAGR of X%.

Other causes of pain, such as cancer, intervertebral disc herniation and gingivostomatitis, accounted for the smallest segment of the pain market with X% share in 2020. We believe this category is expected to grow steadily to $X million by 2035 at a CAGR of X%.

Market by Treatment Group

Innovation therapies will drive the next wave of growth in the market

The NSAIDs segment accounted for the largest share of the pain market in 2020 with X% and is expected to drop to X% by 2035. The drop in market share can be attributed to the increasing adoption of innovation therapies such as monoclonal antibodies (mAbs) and disease modifying osteoarthritis drugs (DMOADs).

With a CAGR X%, innovative therapies are expected to drive the bulk of growth in the pain market. Other treatment modalities are expected to grow at a slower pace, as they have been around for a long period of time with limited technological advancement.

The first generation of innovative animal-specific biological pain therapeutics have taken off in the form of anti-NGF mAb launches by XXXX. These assets are expected to become a blockbuster product (i.e., in excess of $X million in annual sales) and pave the way for other players to launch next-generation pain products.

While innovation should be forthcoming from large and small players alike, it is not clear who will create the blockbuster.

Executive Summary (2/3)

The canine and feline pain market is forecast to grow at a CAGR of X% between 2020 and 2035

Market by Duration

Growth will mainly be driven by addressing unmet needs in chronic pain

Mixed and chronic pain accounted for the largest segment of the market with X% share in 2020 and is expected to grow to $X billion by 2035 at a CAGR of X%.

Mixed and chronic pain are forecasted to grow faster than the acute pain market, given the numbers of pipeline assets that are geared towards addressing unmet needs in chronic pain management.

Market by Species

Unmet needs in cats will drive significant growth

The dog segment accounted for the largest segment of the canine and feline pain market with X% share of the market in 2020 and 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 drive growth. Such drivers include improved recognition of osteoarthritis pain by both owner and veterinarian, improved diagnostic methods and approval of greater range of treatments modalities.

Market by Region

APAC has the highest CAGR of any region

The US dominates the pain 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 is predicted to grow the fastest out of the three major regions. China and Japan are expected to provide significant growth opportunities for market players. This can be attributed to growing pet ownership, increasing medicalization rates and improved awareness of treatment options.

Innovation Pipeline

Innovation will come from start-ups and larger firms

The innovation therapies segment is likely to see new products from start-ups being purchased or licensed by the animal health industry's larger firms. This has already occurred between Elanco and Aratana Therapeutics, as well as Virbac and Animalcare. Notably, this plays on a wider trend seen in the animal health sector for companion animal specialty pharma innovation in areas such as dermatology.

The launch of two anti-NGF mAb products (Librela for dogs and Solensia for cats) by Zoetis represent the creation of a new therapeutic class in pain and the most exciting therapeutic advance in more than 20 years in veterinary medicine. Both these products are forecasted to become blockbusters by Zoetis.

There is also an increasing number of diagnostic companies looking improve ways to detect and categorize pain. Innovation in this area will lead to higher diagnosis and treatment rates, particularly in cats.

Upsides not reflected in baseline model

Plenty of other areas of unmet needs need to be addressed

Market growth will also come from:

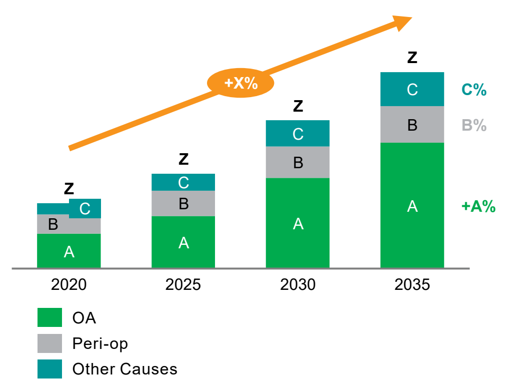
- Existing treatments that get approved for new indications (e.g., chronic pain in cancer patients) and formulations (e.g., sublingual delivery form).
- Improved diagnosis rates
- Earlier treatment and better compliance rates.

REPORT SAMPLE

Executive Summary (3/3)

The canine and feline pain market is forecast to grow at a CAGR of X% between 2020 and 2035

Canine and feline pain market ($m)



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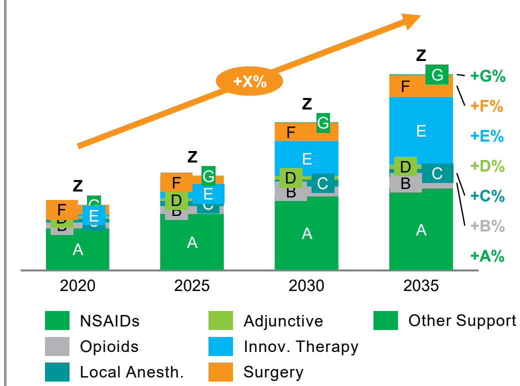
Canine and feline pain market ($m)



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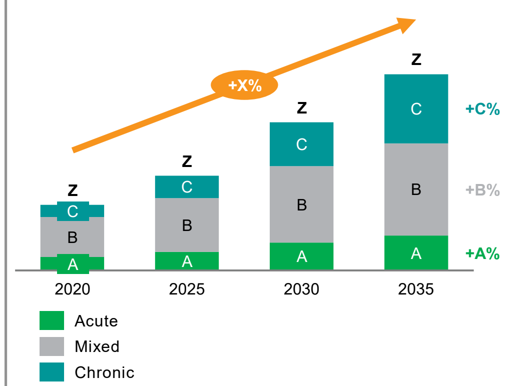
Canine and feline pain market ($m)



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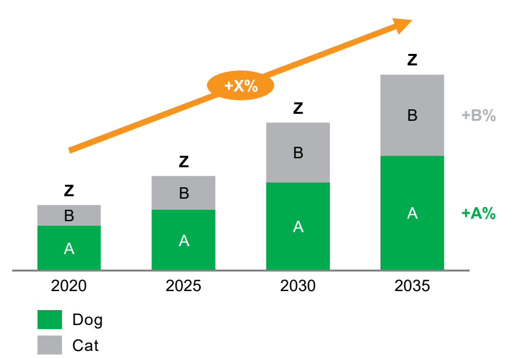
Canine and feline pain market ($m)



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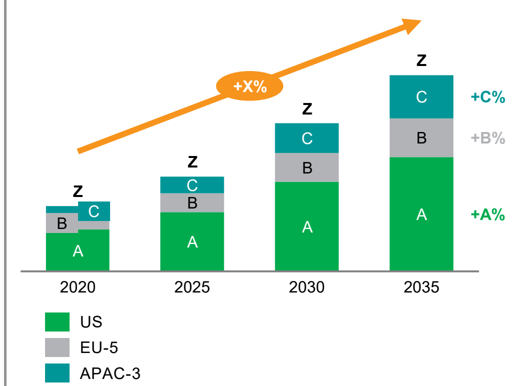
Canine and feline pain market ($m)



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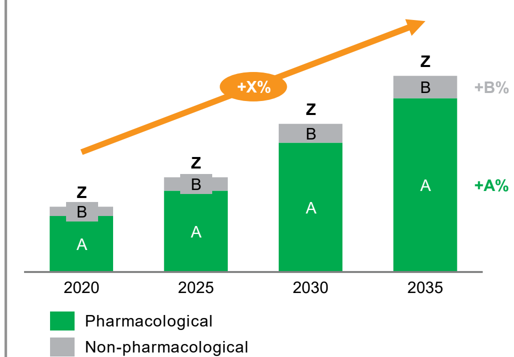
Canine and feline pain market ($m)



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Chapter 2: Regulatory Landscape

Regulations for Product Approval

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

Overall

No single organization can grant market authorization of veterinary medicines or devices at a universal level.

«More information about regulations for product approval»

US

The Center for Veterinary Medicine (CVM), operating under the US Food & Drug Administration (US FDA), provides regulatory approval for veterinary medicines, devices and feed, whereas The United States Department of Agriculture (USDA) reviews biologics.

Both the US FDA and USDA have recent experience reviewing and approving pet pain management products.

«More information about regulations for product approval in the US»

Europe

The Committee for Medical Products for Veterinary Use (CVMP), operating under the European Medicines Agency (EMA), regulates veterinary pharmaceuticals.

« More information about regulations for product approval in the Europe»

APAC

In China, the development and marketing approval of animal pharmaceutical products is governed by regulations set forth by the China's National Medical Products Administration (NMPA). The regulations for the development and marketing approval of animal pharmaceutical products in China are highly stringent compared to those of other APAC countries.

«More 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 World Small Animal Veterinary Association Global Pain Council (WSAVA GPC) can influence treatment protocol for pain 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»

REPORT SAMPLE

Chapter 3: Market Overview

Canine and Feline Population

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

Overall

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

Our data shows the consolidated canine and feline population will grow at a CAGR of X% from 2020 until 2035.

«Further information about growth in population»

Dog Population

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

Notably, the US dog population will grow by X% during this time period.

«Further information about dog population»

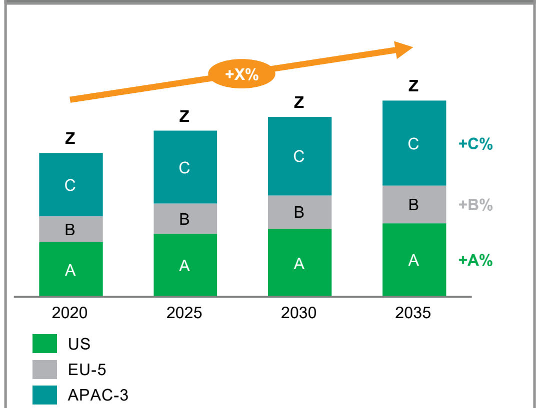
Cat Population

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

The US cat population will grow by X% during this time period.

«Further information about cat population»

Canine and feline population (m)



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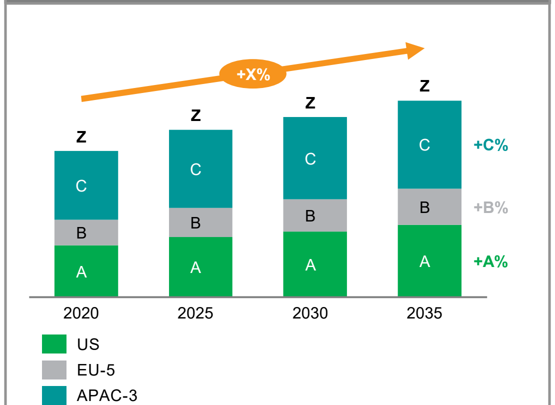
Canine population (m)



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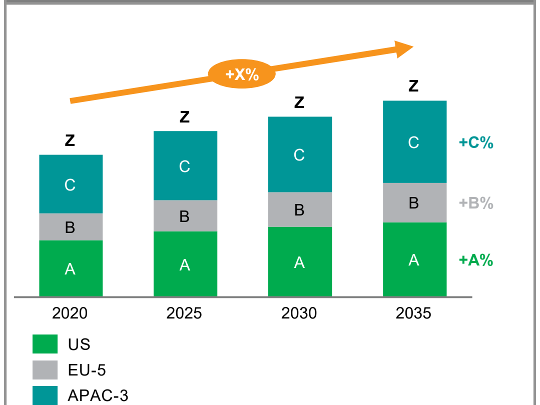
Feline population (m)



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Canine and 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.

«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).

«More market background information»

Market Barriers

Over the past few years, pet care costs have increased significantly.

«More market barriers information»

Canine and Feline Pain Market (1/3)

Established sector but technological advancements and sociocultural changes will spur next growth wave

Overall

The companion animal pain market is well established and is still dominated by certain products: opioids and local anesthetics for presentation of acute pain and NSAIDs for chronic pain management.

«More market background information»

Market Drivers

With rising levels of obesity, longer pet lifespans and an increase in popularity of pure-breeds predisposed to joint conditions (e.g., Labrador Retrievers and German Shepherds) and prevalence of conditions that cause pain and inflammation, prevalence of chronic pain will continue to increase.

«More market drivers' information»

Market Barriers

A market barrier related specifically to prescription behavior is ….

«More market barriers information»

Canine and Feline Pain Market (2/3)

Established sector but technological advancements and sociocultural changes will spur next growth wave

Market Opportunities

A growing understanding of the molecular underpinnings and drivers of pain could inform new therapy opportunities, as well as diagnostics.

«More market opportunities information»

Market Challenges

The price of more advanced pain management treatments can be high as manufacturers often over-estimate the market size and need to recoup investment.

«More market challenges information»

Canine and Feline Pain Market (3/3)

Established sector but technological advancements and sociocultural changes will spur next growth wave

Overall

In 2020, dogs accounted for the largest segment of the pain market with X% share. This segment is projected to reach $X billion by 2035 from $X million in 2020, representing a CAGR of X%.

«More market background information»

Canine Pain Market

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

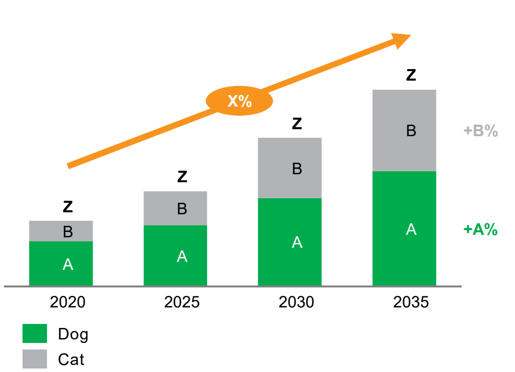
«More canine market background information»

Feline Pain Market

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

«More feline market background information»

Canine and feline pain market ($m)



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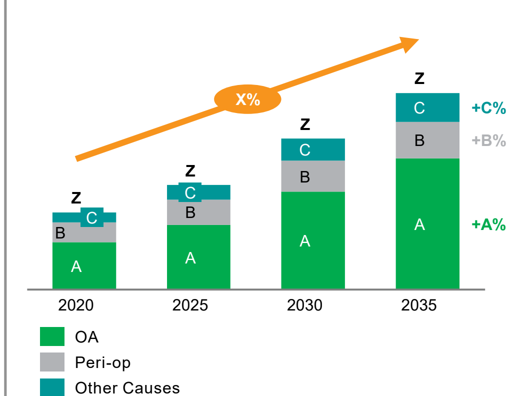
Canine pain market ($m)



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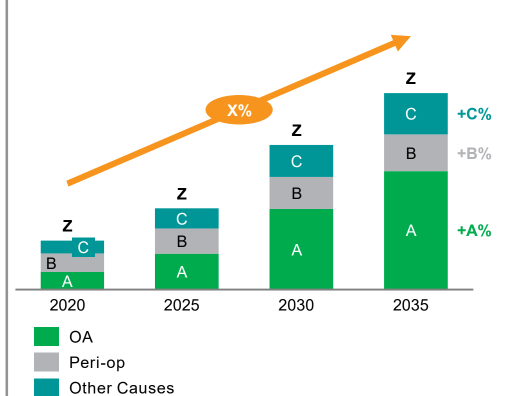
Feline pain market ($m)



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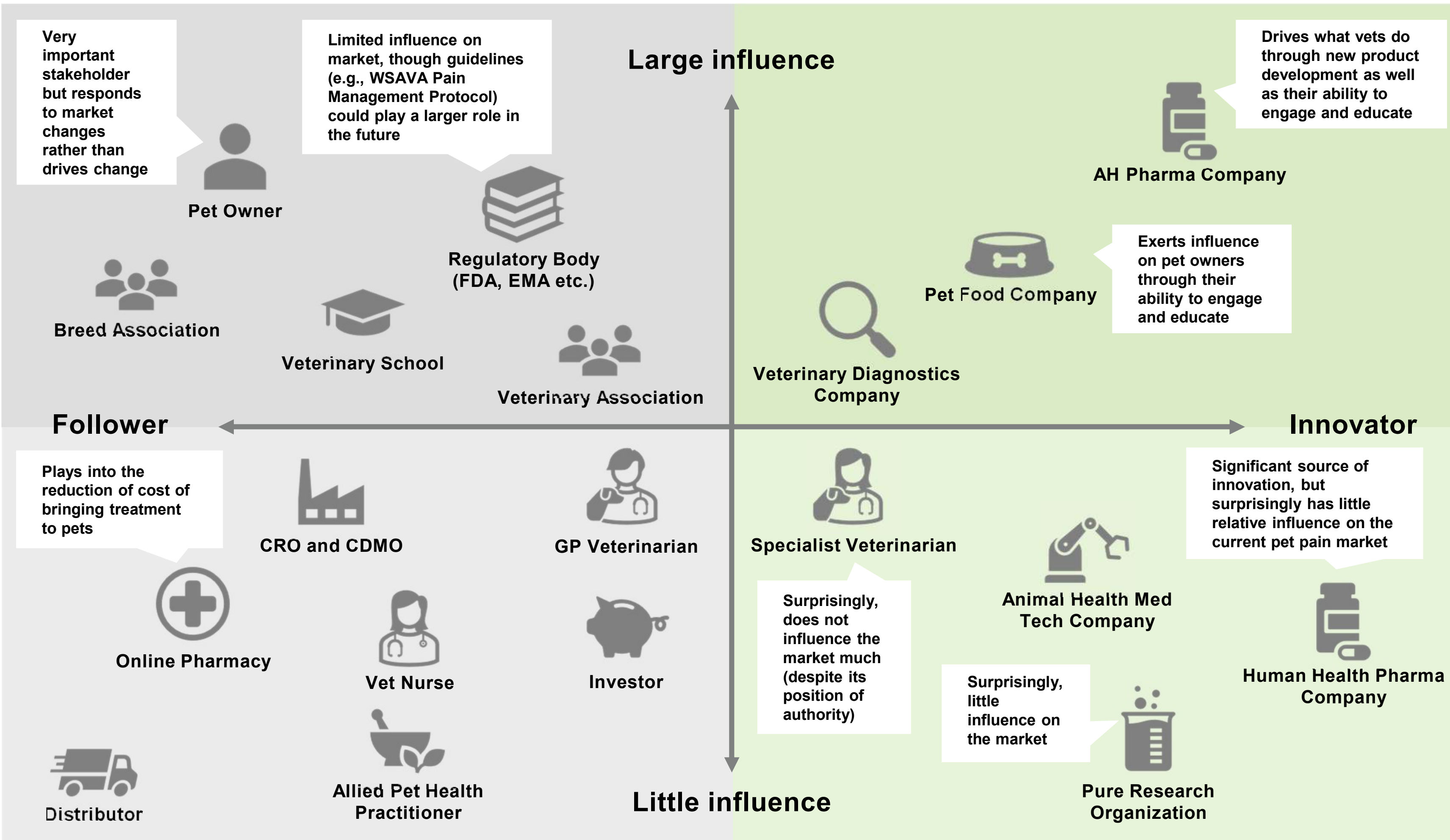
Stakeholders of the Canine and Feline Pain Market

Animal health pharma, pet food companies and pet owners exert greatest influence on the pain market



Chapter 4: Pain Market by Region

REPORT SAMPLE

Consolidated Market Size and Growth

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

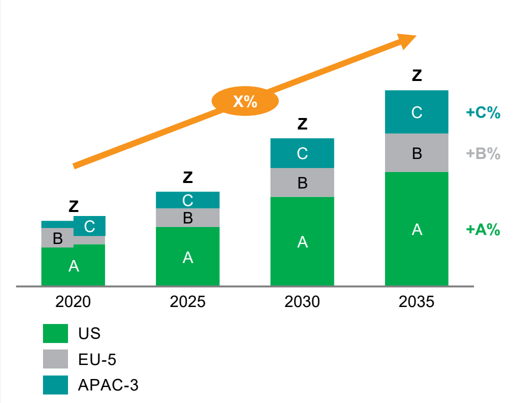
Overview

The pain 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% and then the US with CAGR of X%. The US is currently the largest market with X% share.

The osteoarthritis market size is expected to grow fastest with a CAGR of X% between 2020 and 2035, followed by 'other causes' with a CAGR of X% and then perioperative pain with a CAGR of X%. The growth rates of all market sizes by pain application are driven by ………..

«More market size and growth information»

Canine and feline pain market ($m)



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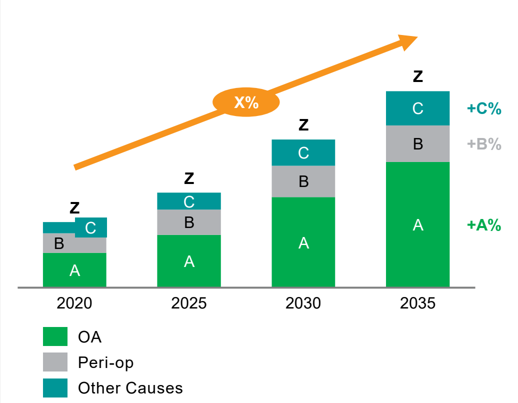
Canine and feline pain market ($m)



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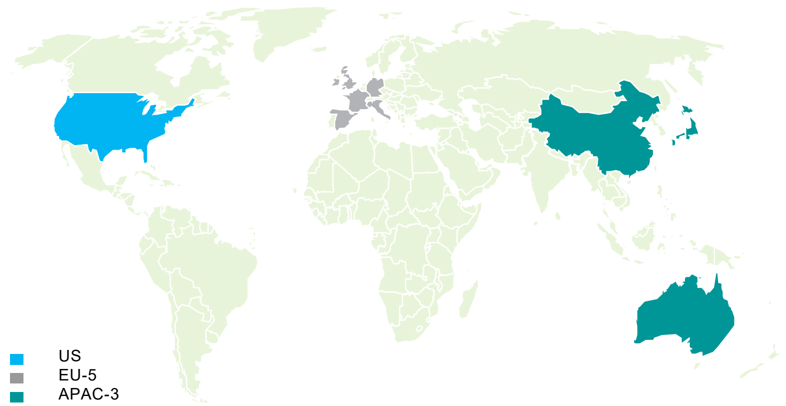

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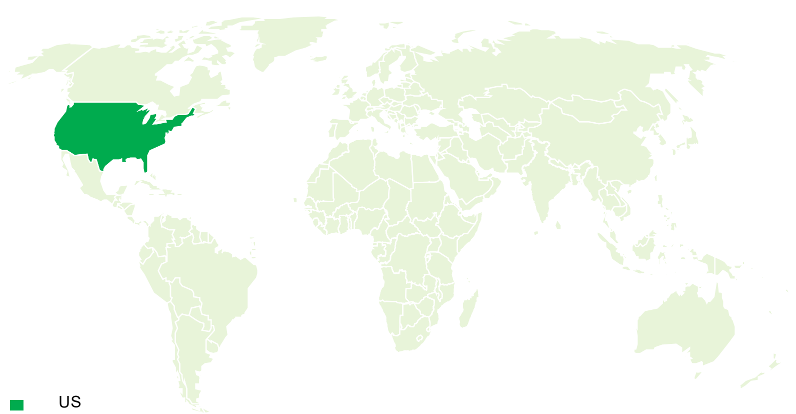
US Market Size and Growth

The US will be driven largely by influx of innovation therapies and improved standard of care

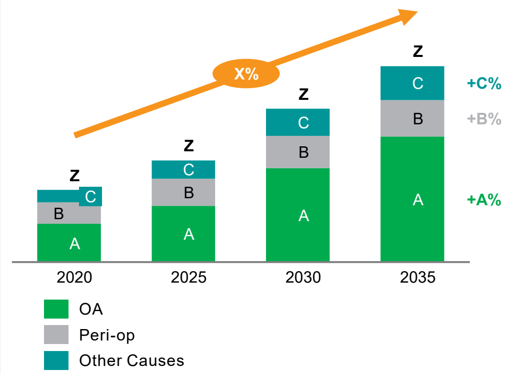
Overview

The US pain 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»

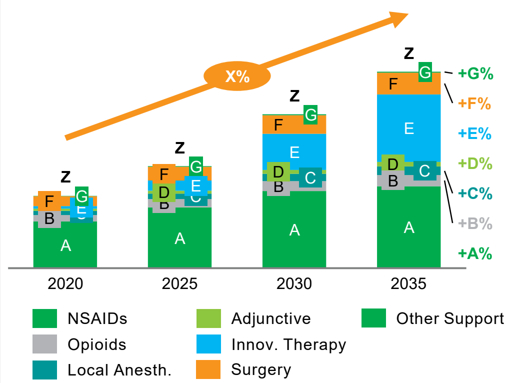


Canine and feline pain market ($m)



Source: Stonehaven Consulting

Canine and feline pain market ($m)



Source: Stonehaven Consulting

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EU-5 Market Size and Growth

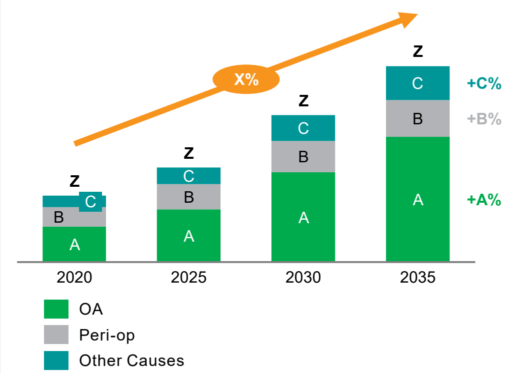
The EU-5 will be driven largely by influx of innovation therapies and improved standard of care

Overview

The EU-5 pain 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 EU-5 market size and growth information»

Canine and feline pain market ($m)



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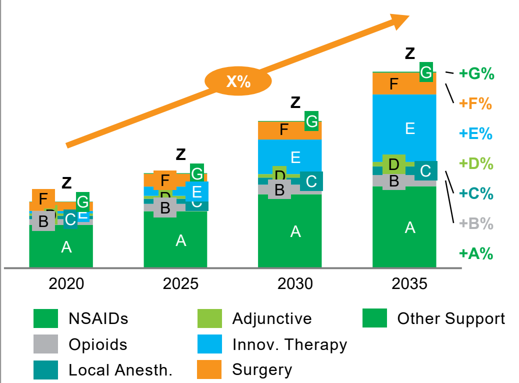
Canine and feline pain market ($m)



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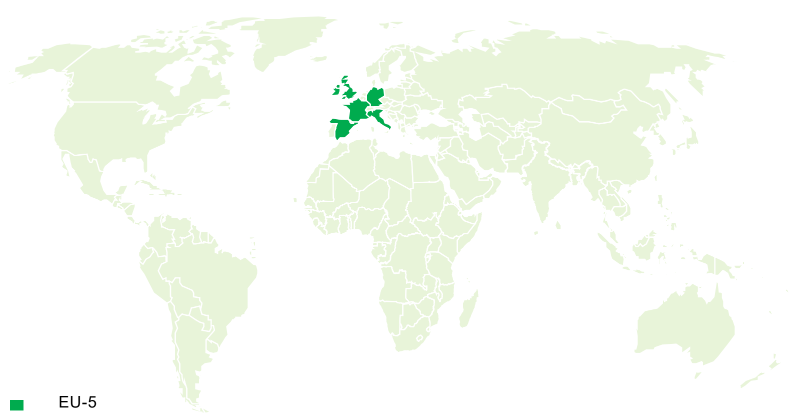

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APAC-3 Market Size and Growth

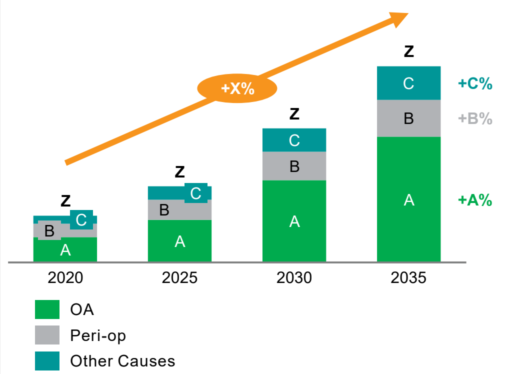
APAC-3 will be driven largely by increased 'humanization' of pets and improved medicalization rates

Overview

The APAC-3 pain 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»

Canine and feline pain market ($m)



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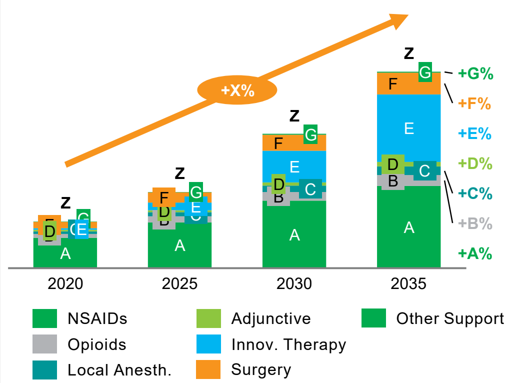
Canine and feline pain market ($m)



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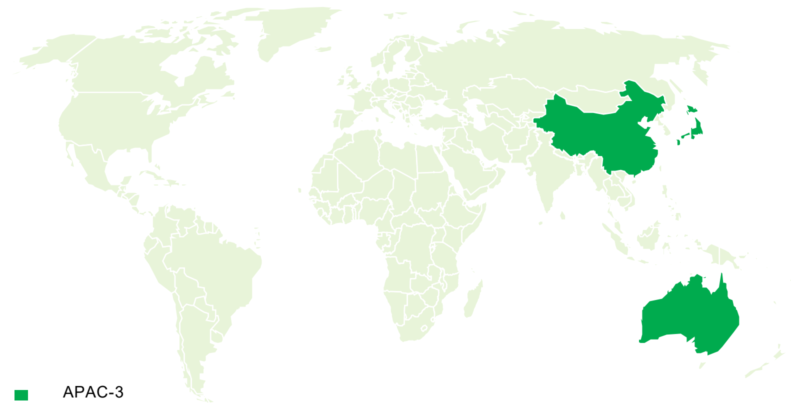

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Chapter 5: Current Standard of Care

Current Standard of Care (1/4)

Current standard of care is based on pharmaceutical approaches that were established decades ago

Overview

To date, there are a multitude of species-specific pain management drugs commercialized globally.

«More current standard of care information»

Human-use products

Most pain management drugs are veterinary approved low-cost generics.

«More current standard of care information»

Near-term opportunities

There are several opportunities animal health players can leverage in the near-term to drive growth in the companion animal pain market:

«More current standard of care information»

Current Standard of Care (2/4)

Current standard of care is based on pharmaceutical approaches that were established decades ago

Breakdown by Treatment Group

NSAIDs

In 2020, NSAIDs accounted for X% share of the pain market. This segment is projected to reach $X million by 2035 at a CAGR of X%.

Opioids

In 2020, opioids accounted for X% share of the pain market. This segment is projected to reach $X million by 2035 at a CAGR of X%.

Local Anesthetics

In 2020, the segment for local anesthetics accounted for X% share of the pain market. This sector is projected to reach $X million by 2035 at a CAGR of X%.

Adjunctive Drugs

In 2020, adjunctive drugs accounted for X% share of the pain market. This segment is projected to reach $X million by 2035 at a CAGR of X%.

Innovation Therapies

In 2020, innovative therapies accounted for X% share of the pain market. This segment is projected to reach $X million by 2035 at a CAGR of X%.

«More current standard of care information»

Surgeries

In 2020, surgeries accounted for X% share of the pain market. This sector is projected to reach $X million by 2035 at a CAGR of X%.

Other Non-drug Support

In 2020, other non-drug support accounted for X% share of the pain market. This segment is projected to reach $X million by 2035 at a CAGR of X%.

Breakdown by Duration

Acute

In 2020, acute/chronic pain accounted for X% of the global veterinary pain management market. This market is projected to reach $X million by 2035 from $X million in 2020, at a CAGR of X%.

Mixed

In 2020, mixed pain accounted for X% of the global veterinary pain management market. This segment is projected to reach $X billion by 2035 from $X million in 2020, at a CAGR of X%.

Chronic

In 2020, chronic pain accounted for X% of the global veterinary pain management market. This market is projected to reach $X million by 2035 from $X million in 2020, at a CAGR of X%.

Current Standard of Care (3/4)

Current standard of care is based on pharmaceutical approaches that were established decades ago

Breakdown by Application

Osteoarthritic pain

In 2020, osteoarthritis pain accounted for X% of the global veterinary pain management market.

«More current standard of care information»

Perioperative pain

In 2020, perioperative pain accounted for X% of the global veterinary pain management market.

«More current standard of care information»

Other causes of pain

In 2020, other causes of pain accounted for X% of the global veterinary pain management market.

«More current standard of care information»

Common causes of pain and associated sites

Causes of pain not confined to specific sites:

2 3 5 13 15 16 17 18

1. xx; **2.** xx; **3.** xx; **4.** xx s; **5.** xx; **6.** xx; **7.** xx; **8.** xx; **9.** xx; **10.** xx; **11.** xx; **12.** xx; **13.** xx; **14.** xx; **15.** xx **16.** xx; **17.** xx; **18.** Other

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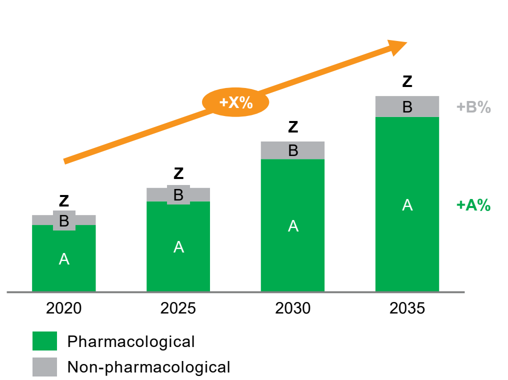
Current Standard of Care (4/4)

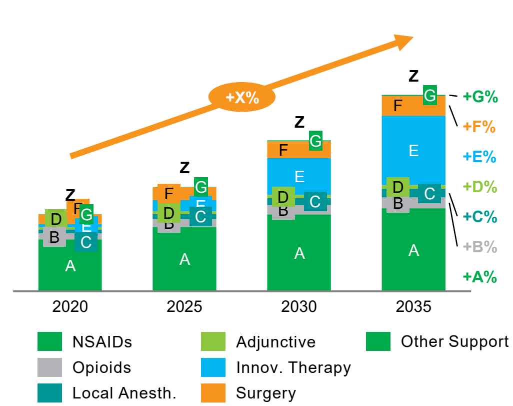
Current standard of care is based on pharmaceutical approaches that were established decades ago

Canine pain market ($m)



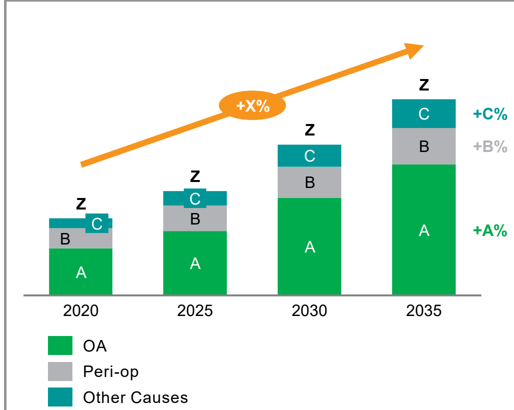
Source: Stonehaven Consulting

Canine pain market ($m)



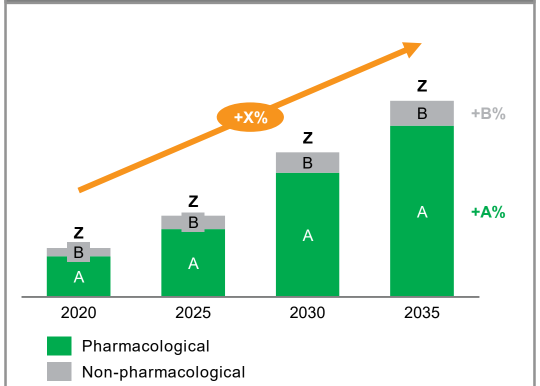
Source: Stonehaven Consulting

Canine pain market ($m)



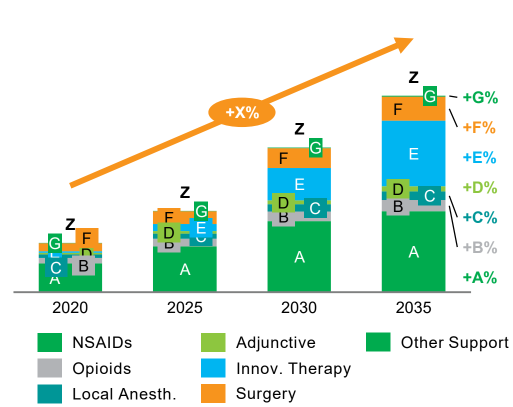
Source: Stonehaven Consulting

Feline pain market ($m)



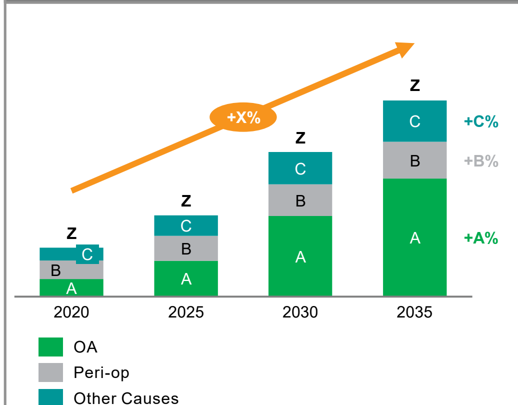
Source: Stonehaven Consulting

Feline pain market ($m)



Source: Stonehaven Consulting

Feline pain market ($m)



Source: Stonehaven Consulting

Selection of Established Products and Services (1/3)

Acute pain management options include opioids, local anesthetics and adjunctive drugs

Treatment Group	Duration	API	Product Example (Company Name)	DS	PO*	OI*		
Opioid	Acute	XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	CW	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
Alpha-2 Agonist	Acute	XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
NMDA antagonist	Acute	XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
Local Anesthetic	Acute	XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N
Anti-convulsant	Acute	XX	Company Name	XX	Y/N	Y/N	Y/N	Y/N

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

PO: Perioperative Pain; **OI:** Other Indication(s); **NMDA:** N-Methyl-D-aspartic Acid; **DS:** Data Source

REPORT SAMPLE

Selection of Established Products and Services (2/3)

Mixed and chronic pain management options include NSAIDs and adjunctive drugs

Treatment Group	Duration	API	Product Example (Company Name)	DS	Rep*	OA*	OI*		
NSAID	Mixed	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
	Chronic	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
NSAID + Corticosteroid	Chronic	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
DMOAD	Mixed	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Adamantane	Chronic	XX	Company Name	XX	XX	Y/N	Y/N	Y/N	Y/N
Tricyclic Antidepressant	Chronic	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**

OA: Osteoarthritis Pain; **OI:** Other Indication(s); **DS:** Data Source; **Rep:** Repeat interval;

Selection of Established Products and Services (3/3)

Non-pharmacological options include dietary modifications, supplements, physical therapy and surgery

Treatment Group	Duration	API	Product Example (Company Name)	DS	Rep*	OA*	OI*		
Diet and Supplements	Chronic	XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
		XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
Physical Rehabilitation	Mixed	XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
Surgery	Mixed	XX	XX	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**

OA: Osteoarthritis Pain; **OI:** Other Indication(s); **DS:** Data Source; **Rep:** Repeat interval;

Selection of Recently Approved Products and Services

Most are innovation therapies such as mAbs, piprant NSAIDs, DMOADs and intra-articular radiation

Treatment Group	Duration	Target	API	Product example	Company Name	Launch Year	DSS	Rep*	OA*	OI*		
Monoclonal antibody	Chronic	XX	XX	XX	XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
Monoclonal antibody	Chronic	XX	XX	XX	XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
NSAID	Chronic	XX	XX	XX	XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
Piprant NSAID	Chronic	XX	XX	XX	XX	XX	XX	XX	Y/N	Y/N	Y/N	Y/N
Intra-articular Radioactive Therapy	Acute/Chronic	XX	XX	XX	XX	XX	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**

OA: Osteoarthritis Pain; **OI:** Other Indication(s); **Rep:** Repeat Interval;

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Unmet Needs in Current Standard of Care

Players who can address such unmet needs can help grow the pain market by 4-6 multiples

Top factors influencing pet owner decisions

- XX
- XX
- XX
- XX

Other factors

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

Unmet needs in the canine and feline pain market

«More current standard of care information»

Canine and Feline Pain Treatment – Unmet Needs Matrix

	Top Factors	Top Factors	Top Factors	Top Factors	Top Factors
Osteoarthritis					
Perioperative					
Other causes					

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

Source: Stonehaven Consulting

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Chapter 6: Competition and Innovation

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Competitive Landscape

Competition and innovation

Overview

The top four animal health companies have developed their own products or have acquired/partnered with start-ups in the pain management space.

«More information on competitive landscape»

Key players

The pain management market is relatively fragmented. The top four animal health players are active in pain management via internal pipelines or through external partnerships.

«More information on competitive landscape»

Key technologies

«More information on competitive landscape»

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

Every top player is active in the pain 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 Portfolio (2/2)

Every top player is active in the pain 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»

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Emerging Players and their Product Pipeline

Start-ups are very active in the AH pain market with many technologies coming from HH

Company	AH	HH	Treatment Group	Product(s)	Description
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***
Company X	Y/N	Y/N	Treatment Group X	Product Y	***"Information on product pipeline"***

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

Next-Generation Therapeutic Targets

Next-generation products will come from close collaboration between animal health and human pharma

Key technologies

The current wave of innovation in the companion animal sector is currently in its infancy. The first sub-segment of this industry to experience rapid growth is ……….

«More information on next-generation therapeutic targets»

As in other areas of the companion animal health sector, mAbs will play an increasingly important role in the management of osteoarthritis pain.

«More information on next-generation therapeutic targets»

Examples of receptor targets under investigation

«More information on next-generation therapeutic targets»

REPORT SAMPLE

Chapter 7: Definition and Methodology

Market Definition (1/3)

Definition and categorization of pain in companion animals

Definition of Pain

Pain is defined as a complex, multi-dimensional process involving unpleasant sensory and emotional experience associated with actual or potential tissue damage.

«More information on definition of pain»

Categorizing Pain by Duration

The distinction between acute pain and chronic pain is …….

Acute Pain: Acute pain is generally associated with ….

«More information on definition of acute pain»

Chronic Pain: In contrast, chronic pain persists beyond the expected course of an acute disease process, …..

«More information on definition of chronic pain»

Categorizing Pain by Application

«More information on categorizing pain by application»

Categorizing Pain by Severity

«More information on categorizing pain by severity»

Severe-to-excruciating: Clinical examples can include …….

XX: ***«Information on this category»***

XX: ***«Information on this category»***

XX: ***«Information on this category»***

XX: ***«Information on this category»***

Market Definition (2/3)

Definition and categorization of pain in companion animals

Categorizing Pain by Treatment

«More information on categorizing pain by treatment»

For perioperative pain, opioids such as buprenorphine are ………

«More information on perioperative pain»

Non-pharmacological interventions

For osteoarthritic pain, NSAIDs are usually first-choice drugs.

«More information on Non-pharmacological interventions»

Non-pharmacological interventions

Exercise and physical rehabilitation, dietary modification and nutraceutical supplementation..

«More information on Non-pharmacological interventions»

Categorizing Pain by Mechanism

Nociceptive Pain: Caused by stimulation of sensory nerve fibers that respond to stimuli approaching or exceeding harmful intensity (nociceptors).

«More information on Nociceptive Pain»

Neuropathic Pain: Caused by damage or disease affecting any part of the nervous system.

«More information on Neuropathic Pain»

Mixed Profile Pain: Caused by a mix of nociceptive and neuropathic mechanisms.

«More information on Mixed profile pain»

Market Definition (3/3)

Definition and categorization of pain in companion animals

Treatment Classes

NSAIDs

- NSAIDs are first line treatments for many inflammatory conditions.

«More information on NSAIDs»

Opioids

- Opioids are critical for acute and moderate to severe pain management.

«More information on Opioids»

Local Anesthetics

- Local anesthetics are highly cost-effective, short-term analgesics with a high therapeutic margin when used correctly.

«More information on Local Anesthetics»

Adjunctive Drugs

Adjunctive drugs include corticosteroids, alpha-2 agonists, gabapentin, amitriptyline, amantadine and ketamine.

«More information on Adjunctive Drugs»

Innovation Therapies

Anti-NGF mAbs such as …..

«More information on Innovation Therapies»

Osteoarthritis Pain

Definition and characterization of osteoarthritis pain

Overview

- Osteoarthritis in dogs and cats is a non-inflammatory degenerative disorder of the joint, primarily associated with degeneration and loss of cartilage and proliferation of bone in the form of osteophytes around the joint.

«More information on overview of osteoarthritis pain»

Most common types

«Information on osteoarthritis pain types»

Epidemiology

- Osteoarthritis is very common affecting X% of dogs across all ages and X% of cats across all ages.

«More information on epidemiology of osteoarthritis pain»

Clinical signs

«Information on epidemiology of osteoarthritis pain»

Diagnosis

«Information on diagnosis of osteoarthritis pain»

Current standard of care

«Information on diagnosis of osteoarthritis pain»

- Osteoarthritis at different 'life stages' requires different approaches to optimise care. For example, …
- First-line pharmacological intervention is usually ……..
- Salvage surgery by joint fusion, replacement or excision, ……..
- ***«Information on this topic»***

Perioperative Pain

Definition and characterization of perioperative pain

Overview

- Perioperative pain management should encompass pre-emptive and multimodal postoperative analgesia.

«More information on overview of perioperative pain»

Most common types

- Castrations and ovariohysterectomies are one of the most common surgical procedures performed in veterinary practice.

«More information on most common types of perioperative pain»

Many dogs are also put under the knife for cosmetic surgeries to cure eye problems, infections and breathing disorders.

Epidemiology

- The number of companion animals undergoing surgery has increased in recent years.

«More information on epidemiology of perioperative pain»

Diagnosis

«Information on diagnosis of perioperative pain»

Current standard of care

Short-term analgesics such as opioids are widely used in practice –

«More information on current standard of care for perioperative pain»

Other Causes of Pain

Definition and characterization of other causes of pain

Overview

- A variety of non-joint conditions cause pain in dogs and cats.

Most common types

Common causes of non-joint related pain include gingivostomatitis and dental pain, acute and chronic otitis,……..

«More information on most common types of other causes of pain»

Clinical signs

«Information on clinical signs of other causes of pain»

Diagnosis

«Information on diagnosis of other causes of pain»

Current standard of care

- Treatment regime varies depending on the cause of the pain.

«More information on current standard of care of other causes of pain»

REPORT SAMPLE

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% +X% CAGR	X%~Y% X~Y% CAGR

Treatment Type 1	XX~YY	**Average price per course ($)** 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	
Treatment Type 7	XX~YY	

Estimates in 2020 (estimates built from academic papers and expert interviews)
Change from 2020-2035 (CAGR)

REPORT SAMPLE

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.
Pain Type 1	**X%~Y%** Z% CAGR	**X~Y%** Z% CAGR	**X~Y%** Y%~Z% CAGR
Pain Type 2	**X%~Y%** Z% CAGR	**X~Y%** Z% CAGR	**X%** Z% CAGR
Other Causes	**≈X%** Z% CAGR	**≈X%** Z% CAGR	**≈X%** Z% CAGR

Estimates in 2020 (estimates built from academic papers and expert interviews)
Change from 2020-2035 (CAGR)

REPORT SAMPLE

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.

Andre Knuchel-Takano
Senior Analyst
Stonehaven Consulting AG

Andre qualified as a veterinary surgeon from the Royal Veterinary College and later obtained an MSc in International Health Management from Imperial College London. As an analyst at Stonehaven Consulting AG, he worked on several strategy projects for animal health companies, human health companies and start-up clients, including the analysis of analgesics generics in pets. He is also a fully qualified Chartered Management Accountant and previously worked at a FTSE 100 Human Pharma and Vaccines company, focusing on strategic finance and accounting across Consumer Healthcare, Respiratory Franchise and Japan Pharmaceuticals. He also has experience delivering disease burden forecasting projects in human public health.

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 pain management in the making of this report

Duncan Lascelles
Specialist in Surgery and Pain Management

Duncan is Professor in Small Animal Surgery and Pain Management at North Carolina State University. His research program develops methods to measure pain associated with spontaneous disease in animals and seeks to understand the underlying neurobiology. His work improves pain control in companion animals and facilitates analgesic development in human medicine. He is director of the Comparative Pain Research and Education Centre (CPREC) and the Translational Research in Pain [TRiP] Program. He has authored over 200 peer reviewed research papers and reviews and 300 research abstracts, as well as over 30 book chapters.

Kazuto Yamashita
Specialist in Anesthesiology

Kazuto is Professor of Veterinary Anesthesiology in Rakuno Gakuen University (RGU), Japan. He graduated from Tottori University in 1989 and Graduate School of Hokkaido University in 1992. He has operated the anesthesiology department in the Veterinary Teaching Hospital of RGU since 2004. He acted as the chairperson in the Japanese Society of Study for Animal Pain (2008-2016) and the Anesthesia and Analgesia Committee of Japanese Society of Veterinary Anesthesia and Surgery (2007-2013) and organized the 12th World Congress of Veterinary Anesthesiology (WCVA) in Kyoto (2015). He acts as the treasurer of the Asian Society of Veterinary Surgery (AiSVS) and part of the World Small Animal Veterinary Association (WSAVA) Global Pain Council.

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