

The logo features a stylized white human figure with arms raised, set against a green circular background. This is positioned over the letter 'i' in the word 'ANIMALYTI' of the main title.

ANIMALYTI*X*

REAL DATA IN REAL TIME

An Overview of Key Metrics and Useful Insights for New Market Entrants in the Animal Health Industry _AUG 2015

Provided by Animalytix LLC & Axxiom Consulting LLC

Axiom
Consulting



Global Animal Health Industry Overview

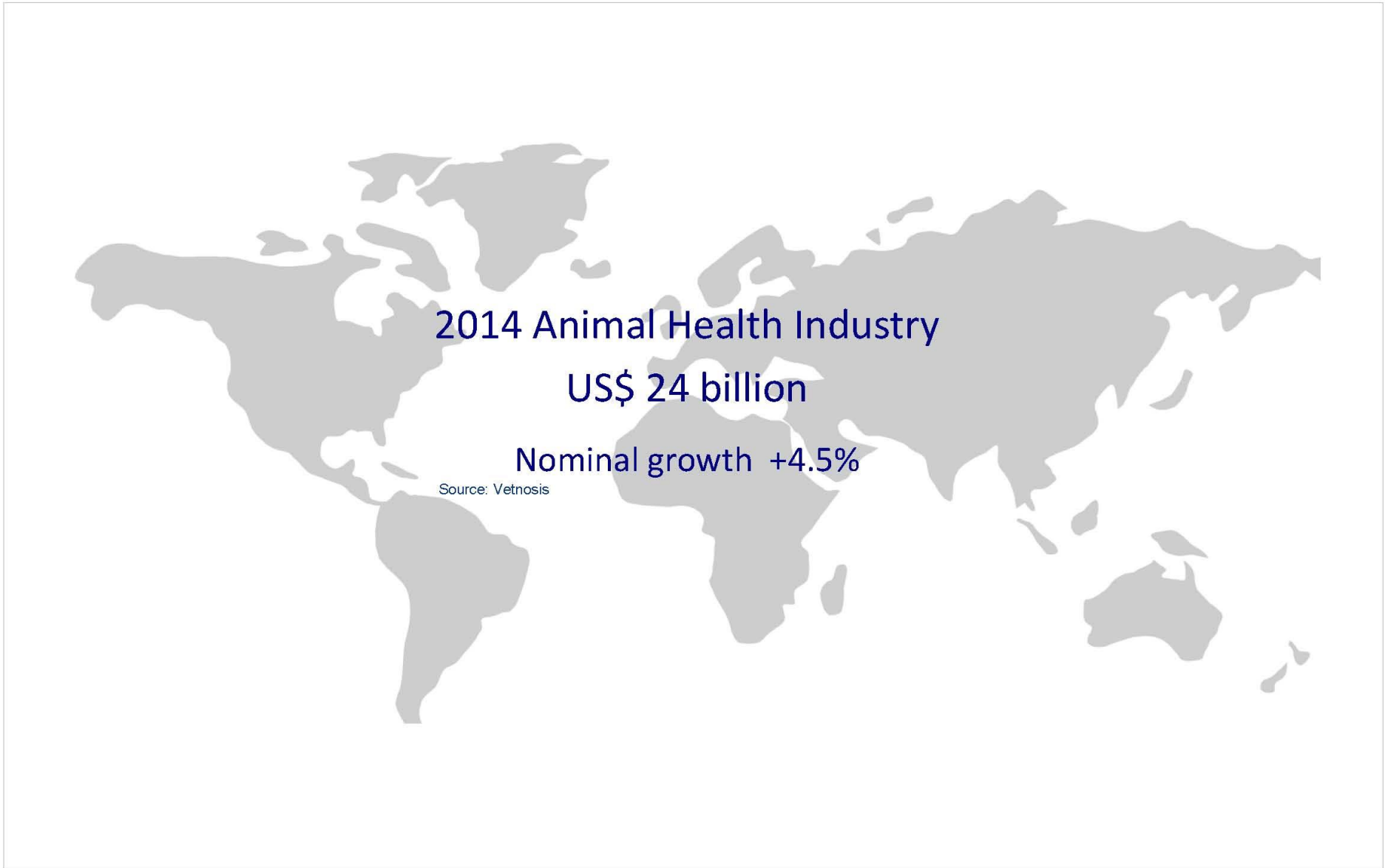
Data provided courtesy of Vetnosis Limited, the leading provider of global market insights for the animal health industry

Vetnosis Animal Health Industry Review 2014

1st September 2015

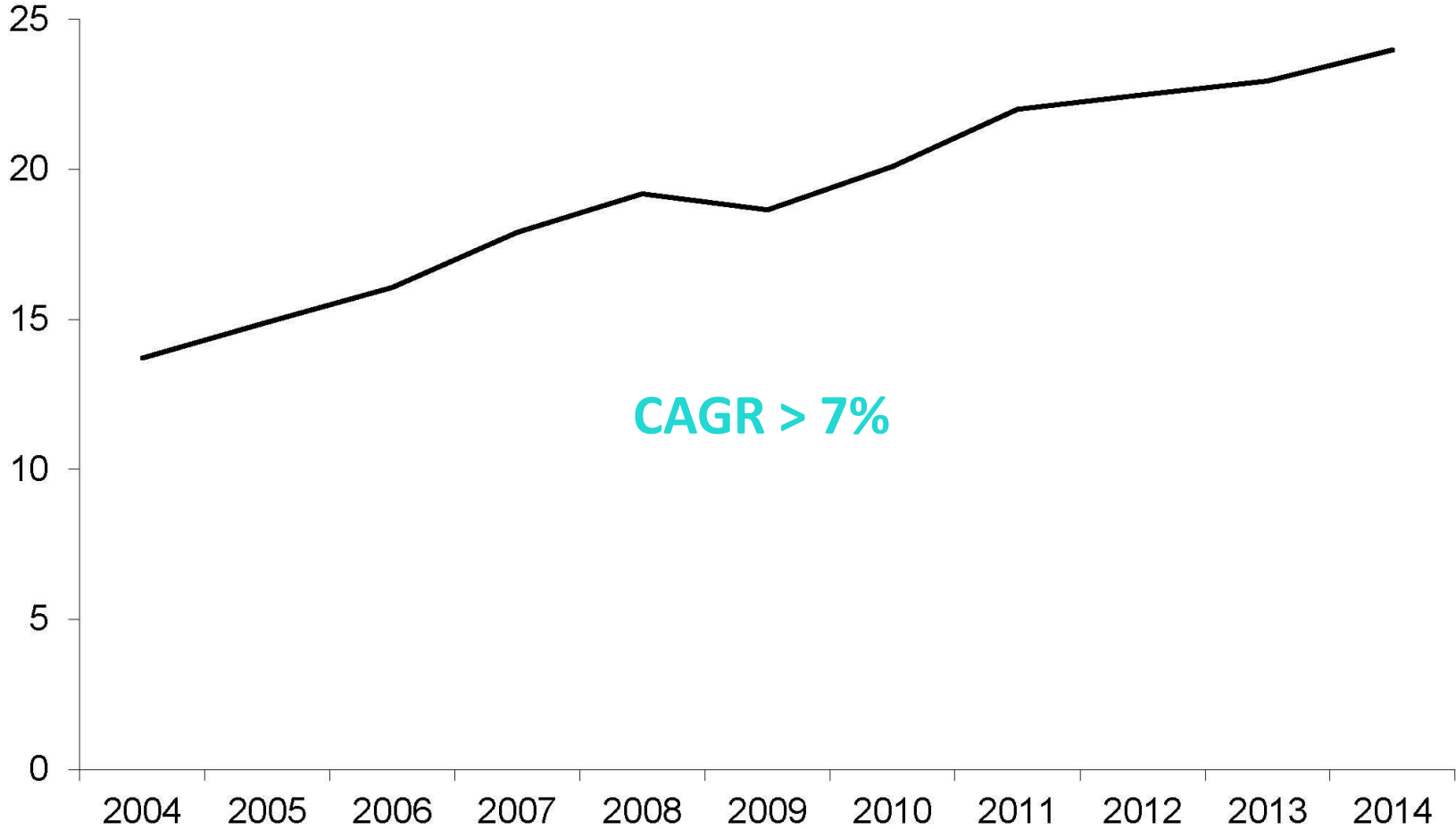


Delivering commercial insight to the global animal health industry
www.vetnosis.com



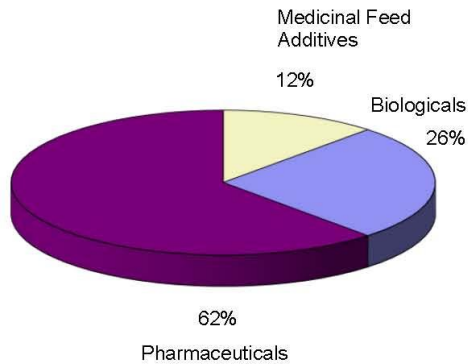
Global Animal Health Market (ex-manufacturer net sales in Nominal US\$ terms)

US\$bn

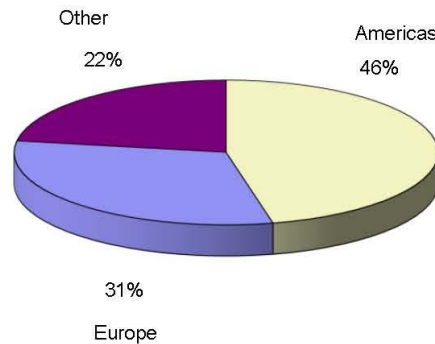


CAGR > 7%

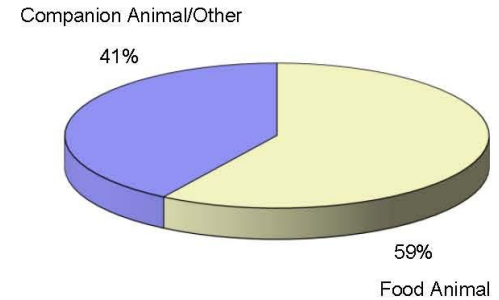
Animal Health Market by Product Group, Region & Species



Source: Vetnosis



Source: Vetnosis



Source: Vetnosis

Parties interested in securing additional insight on the global animal health market should contact Tim Evans, Managing Director, Vetnosis Limited at <http://www.vetnosis.com>

US Animal Health Industry Overview

*Data provided courtesy of Axxiom Consulting, LLC
A leading provider of US animal health related consulting services*

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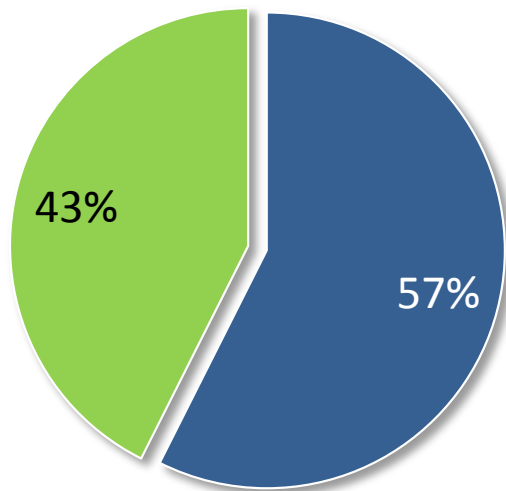
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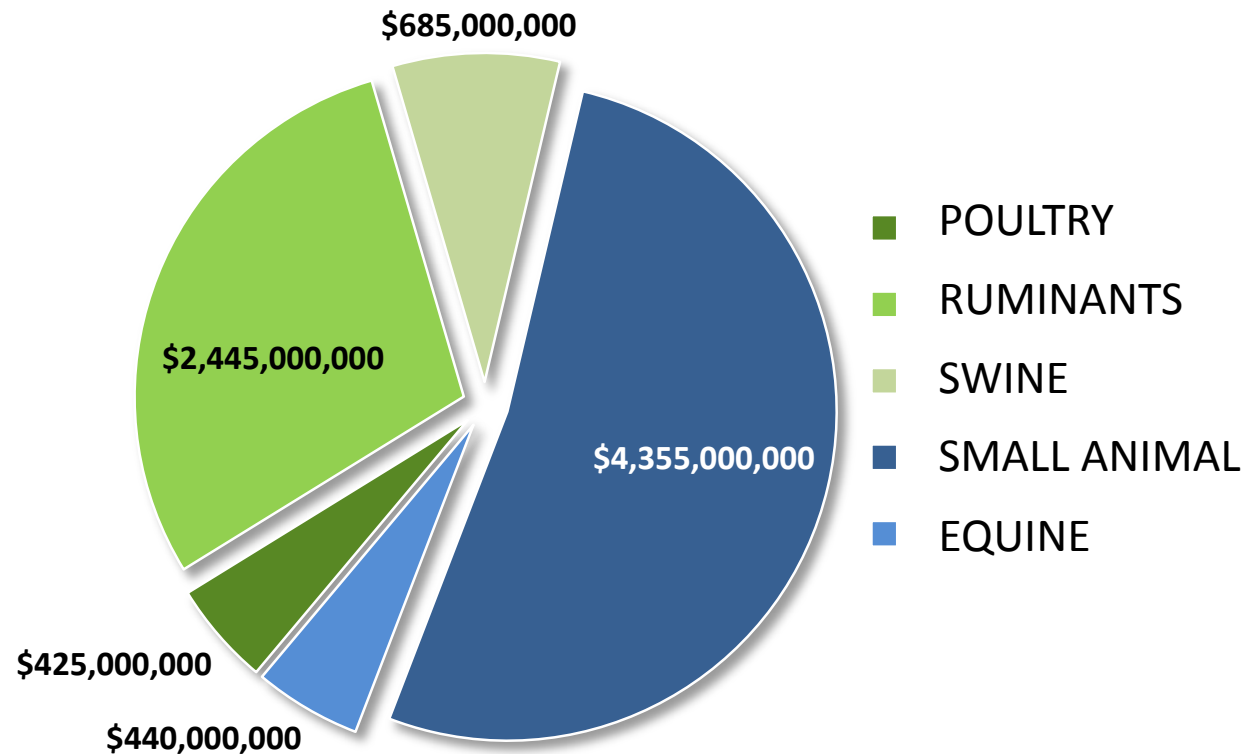
Food & Companion Animal Health Sales are Reversed in the US versus the Global Market

SALES BY SEGMENT - 2014

2014 Sales

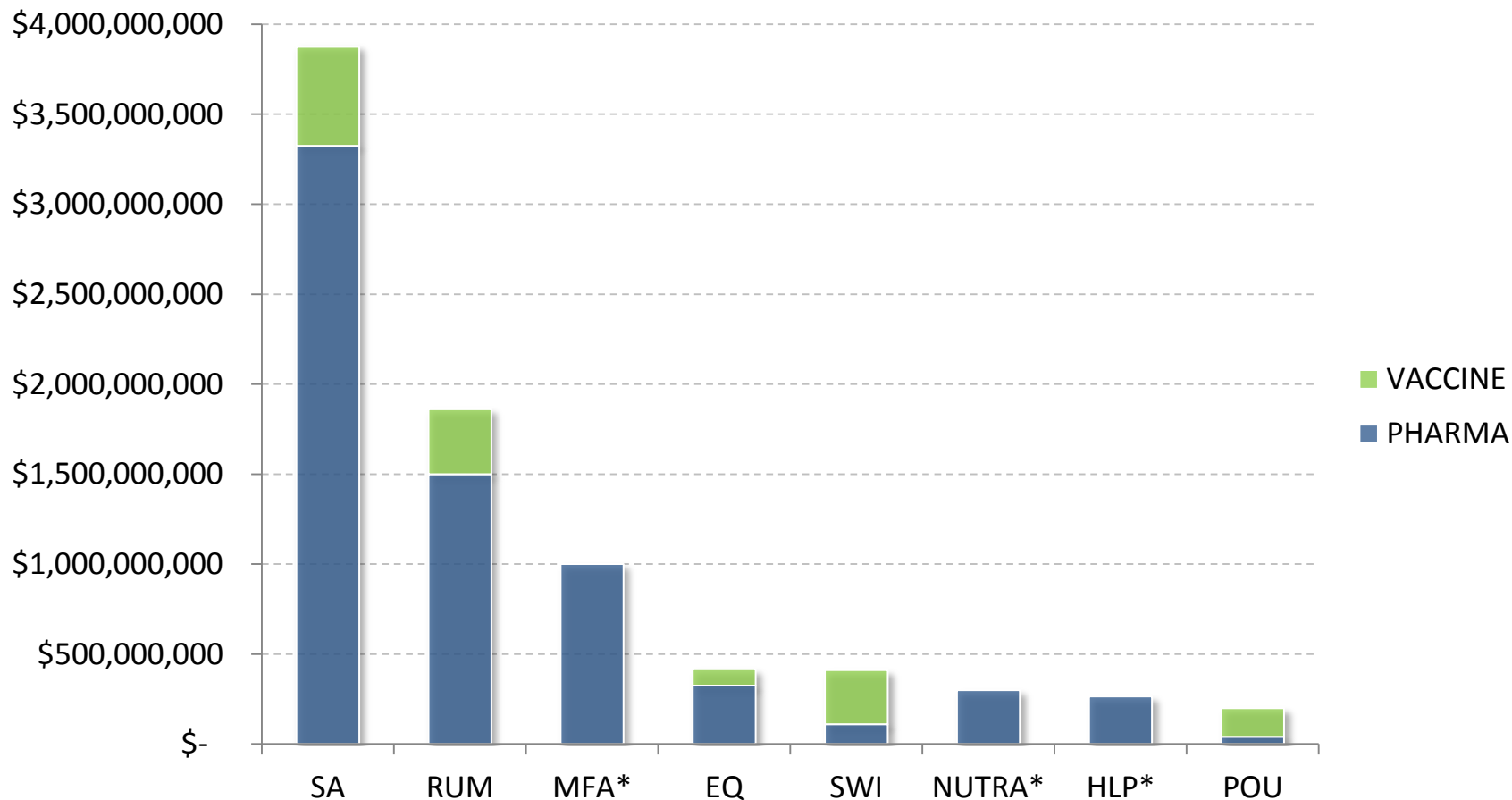


- COMPANION ANIMAL
- FOOD ANIMAL



- POULTRY
- RUMINANTS
- SWINE
- SMALL ANIMAL
- EQUINE

US Sales Across All Segments Estimated to Approach \$ 8.35 billion in 2014



SA – Small Animal
 RUM – Ruminant
 EQ – Equine
 SWI – Swine

MFA – Med. Feed Additives
 NUTRA – Nutraceuticals
 HLP – Human Labeled Pharmaceuticals
 POU - Poultry

** Can be further segregated by species & category*

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US Animal Health Industry Estimated Sales by Drug Class Reflect \$ 8.35 b in 2014

AP – Anti-parasitics including flea, tick, heartworm, flies, worms, lice, grubs, and mange

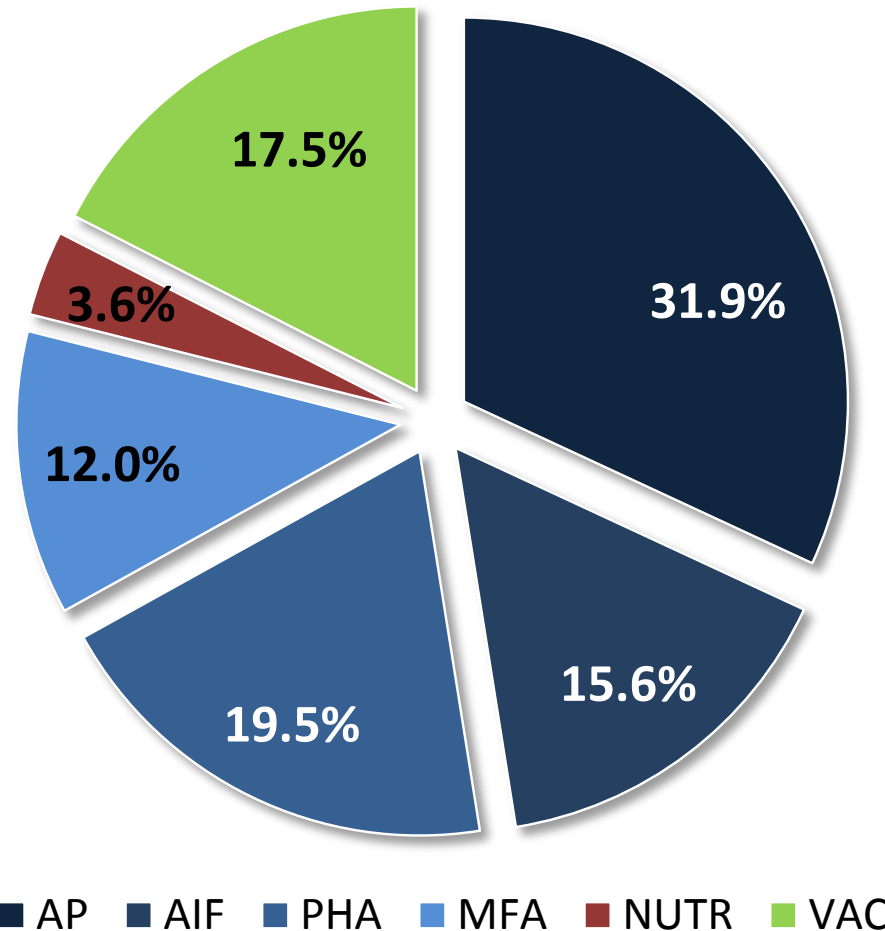
AIF – Anti-infectives including oral, injections, infusions, and topicals

PHA – Pharmaceuticals including all other FDA approved tablets, injections, topicals, fluids, and inhalants

MFA – Medicated feed additives for use in poultry, swine & cattle

NUTR – Nutraceuticals including all non-regulated supplements for pets, horses and cattle

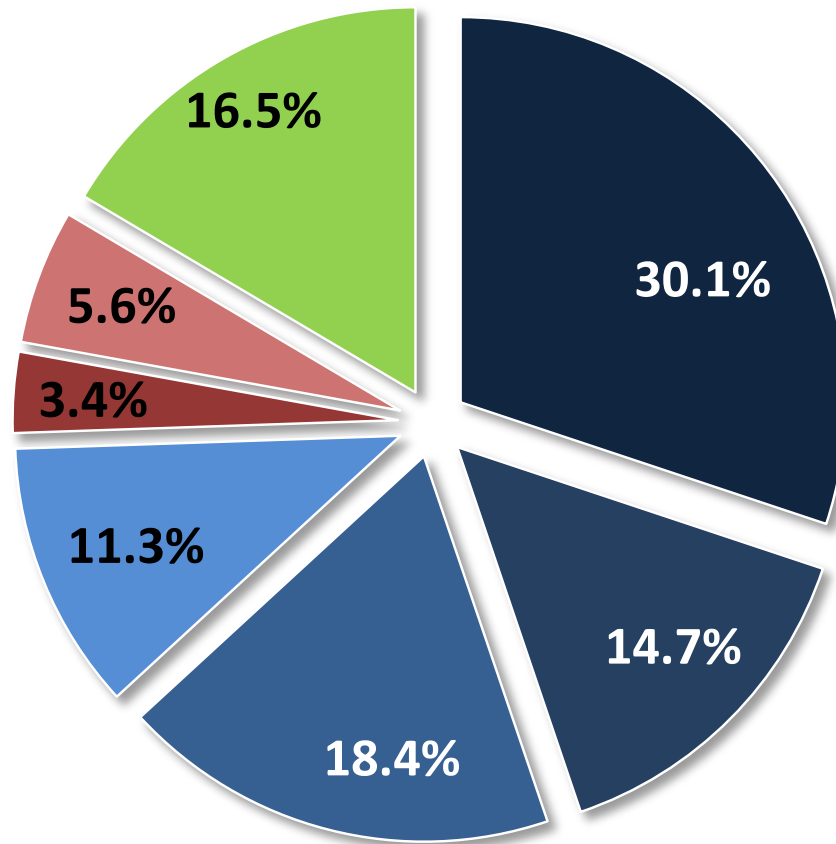
VAC – Vaccines for all species



Total US AH Market Sales Expands to \$ 8.85 b w/ \$500m in Additional Nutraceuticals Sales

Animal health sales of nutraceuticals is a “black box” with projections for annual sales as high as \$ 1.5+ billion offered by some market research firms.

Axxiom Consulting uses a sales estimate of \$ 800m ex-manufacturer for this category. When added to existing revenues from other categories, the total market expands to nearly \$9.0 billion.



■ AP ■ AIF ■ PHA ■ MFA ■ NUTR ■ NUTR ??? ■ VAC



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US Animal Health Industry Overview

Distributor Sales Insights

Data provided courtesy of Animalytix LLC, the US animal health industry's leading provider of geo-located market insights and analytics

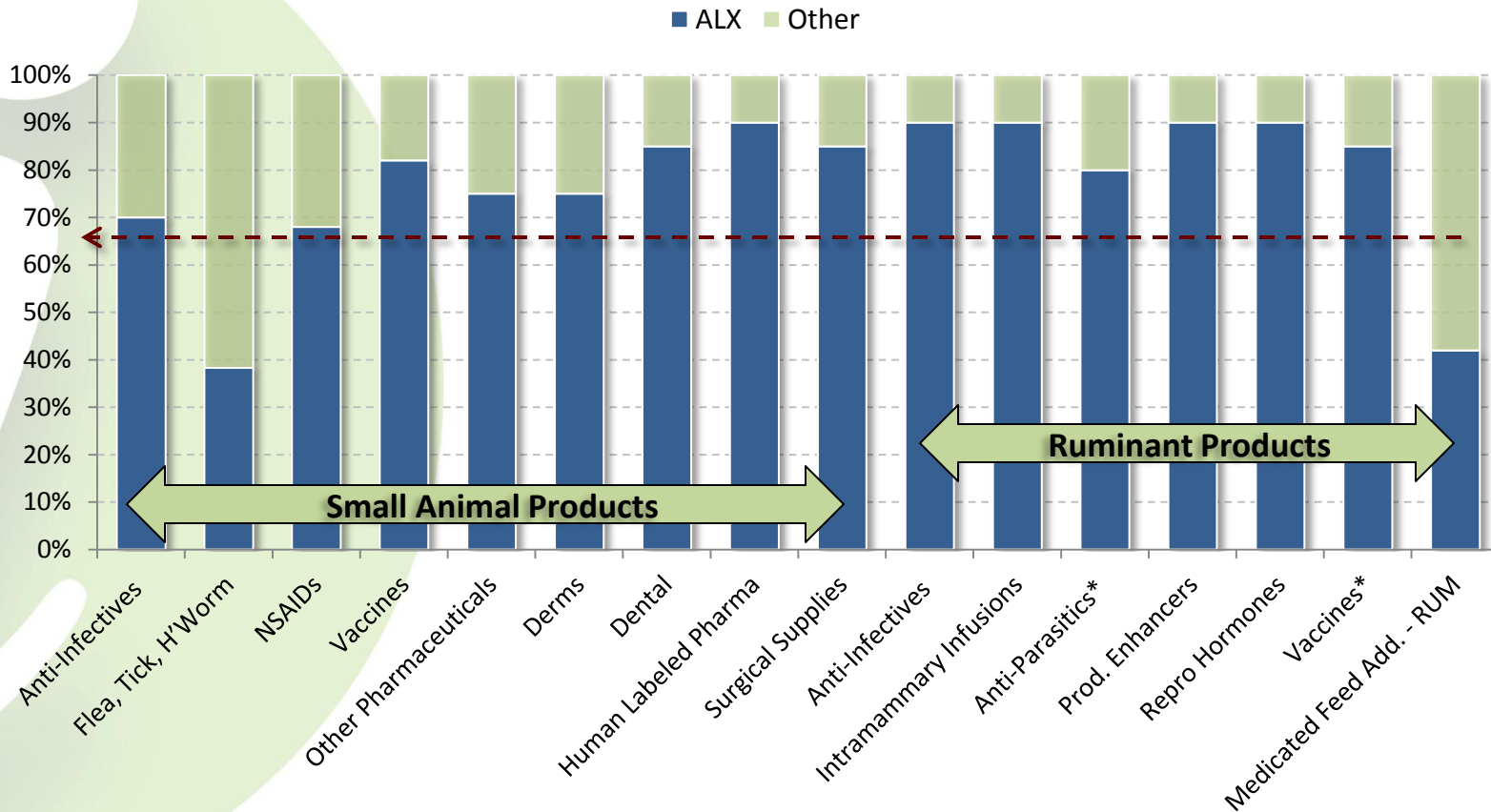
www.animalytix.net
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The Animalytix Data Providers Network Includes Distributors and Other Re-Sellers

Animalytix Participating Distributors		
Animal Health International	Midwest Veterinary Supply	PVP, Ltd. ¹
Fairmont Veterinary Clinic	Miller Veterinary Supply	Sioux Nation Ag Center
Henry Schein Animal Health	Muleshoe Veterinary Supply	Spitzer Animal Health
Heritage Trading Company ¹	MWI Veterinary Supply	Valley Vet Supply
IVESCO	Nelson Laboratories ¹	Vet Med Center
Jeffers Supply ²	Northwest Veterinary Supply	Veterinary Provisions, Inc.
Leedstone, Inc.	Patterson Veterinary	Victor Medical Company
Merritt Veterinary Supply	PCI, Inc. ¹	VSI, Inc.
Micro Beef Technologies	¹ now inactive; ² selected categories	

Last updated JAN '15

The Animalytix Dataset Reflects > 67% of the Total US Market for Most Product Segments



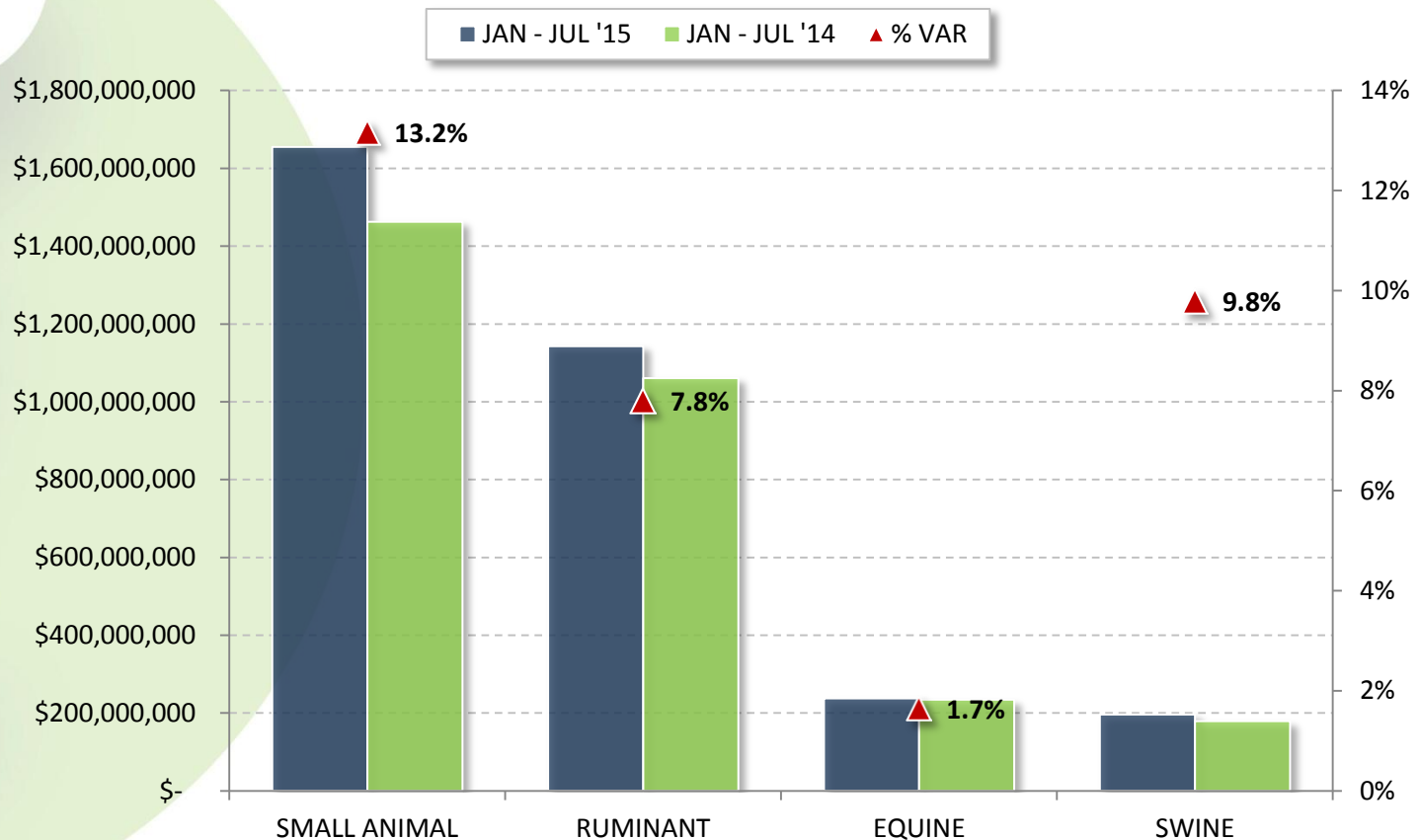


The US Animal Health Market Performance Among Leading Distributors for 2014 & 2015 (JAN-JUL)

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Animal Health Distribution Sales Across All Species Reflect 10.1% Growth YTD (JAN – JUL 2015)

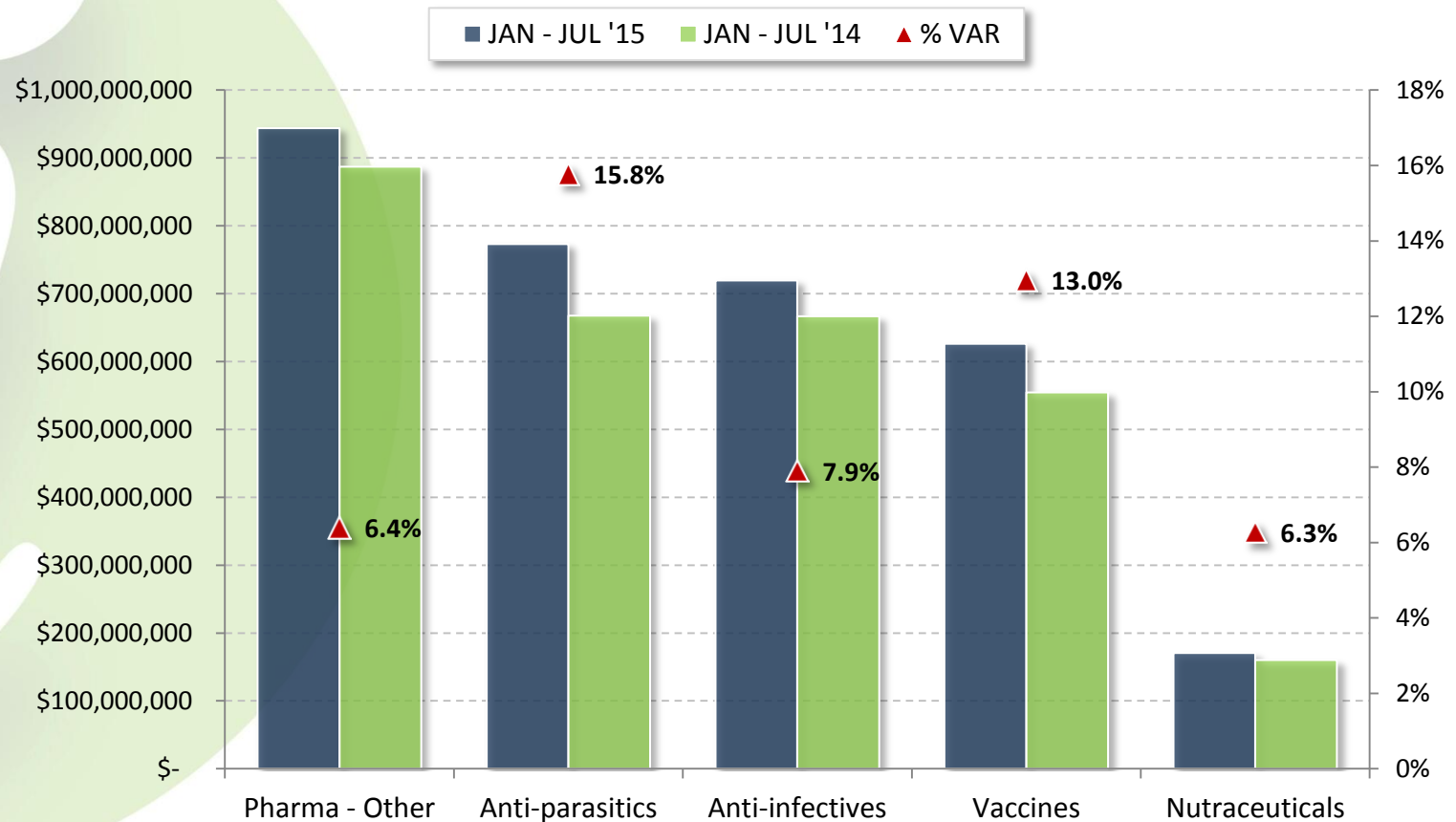


ALX Veterinary Consumption Index is + 9.0% YTD

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Anti-Parasitics & Vaccines Lead All Segments with Double Digit Growth (JAN – JUL 2015)



The Leading 100 Products in the ALX Database Represent \$ 3.0 billion in Annual Revenues

ANIMALYTIX TOP 100 VACCINES, PHARMACEUTICALS AND NUTRACEUTICALS					
ALX Report #	Species	Report Name	Unique Products	MAT Dollar Sales	Primary Agency
ALYX-13	Equine	Pharmaceuticals	4	\$ -	FDA CVM & EPA
ALYX-14	Equine	Vaccines	1	\$ -	USDA CVB
ALYX-21	MULTI	Nutraceuticals	3	\$ -	FDA CVM
ALYX-05.1	Ruminant	Premium Anti-infectives	11	\$ -	FDA CVM
ALYX-05.2	Ruminant	Traditional Anti-Infectives	1	\$ -	FDA CVM
ALYX-05.3	Ruminant	Intramammary Infusions	4	\$ -	FDA CVM
ALYX-06.1	Ruminant	Anti-Parasitics Endos & Endectocides	7	\$ -	FDA CVM
ALYX-07	Ruminant	Productivity Enhancers	2	\$ -	FDA CVM
ALYX-08	Ruminant	Reproduction Hormones	4	\$ -	FDA CVM
ALYX-09	Ruminant	Specialty Pharmaceuticals	2	\$ -	FDA CVM
ALYX-10	Ruminant	Vaccines	6	\$ -	USDA CVB
ALYX-5.5	Ruminant	Medicated Feed Additives	5	\$ -	FDA CVM
ALYX-15	Small Animal	Anti-Infectives	3	\$ -	FDA CVM
ALYX-16	Small Animal	Anti-Parasitics	11	\$ -	FDA CVM & EPA
ALYX-17	Small Animal	NSAIDs	4	\$ -	FDA CVM
ALYX-18	Small Animal	Specialty Pharmaceuticals	9	\$ -	FDA CVM
ALYX-19	Small Animal	Vaccines	8	\$ -	USDA CVB
ALYX-20	Small Animal	Dermatologicals	1	\$ -	FDA CVM
ALYX-22	Small Animal	Human Labeled Pharmaceuticals	6	\$ -	FDA CDER
ALYX-25	Small Animal	Fluids	1	\$ -	FDA CVM
ALYX-11	Swine	Pharmaceuticals	2	\$ -	FDA CVM & EPA
ALYX-12	Swine	Vaccines	5	\$ -	USDA CVB
Grand Total			100	\$ 3,000,000,000	

How to Make Friends as a New Market Entrant in the Animal Health Industry

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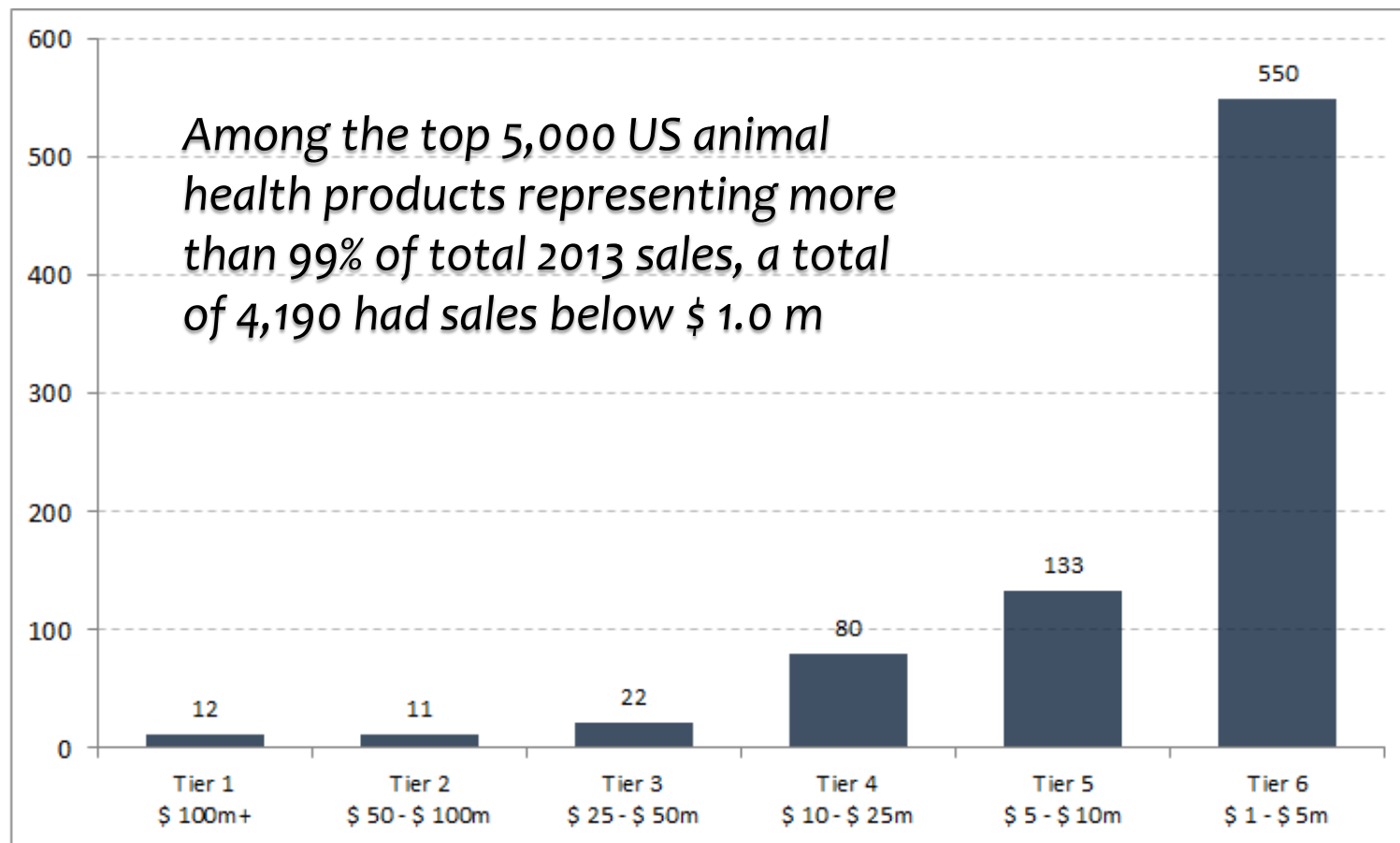


Avoid Errors & Misunderstandings Common for New Market Entrants – Sales & Distribution

- The overall value of the market and ease of capturing market share
- Pricing strategies and competitive response
- Distribution's role & ability of new market entrants to gain access
- Role of the veterinarian in food animal medicine
- The need for substantial, robust, and compelling performance / efficacy and economic consequences for food animal products
- The belief that the technology is “novel, relevant, or commercially viable in its current form;” what matters is what the Cow tells you?
- The significance of “ease of administration” as a barrier to entry
- The impact of portfolio marketing / customer relationships / and customer decision making on new market entrants



There are Very Few \$100m+ Products in the US Animal Health Market; Most are Below \$ 1.0m

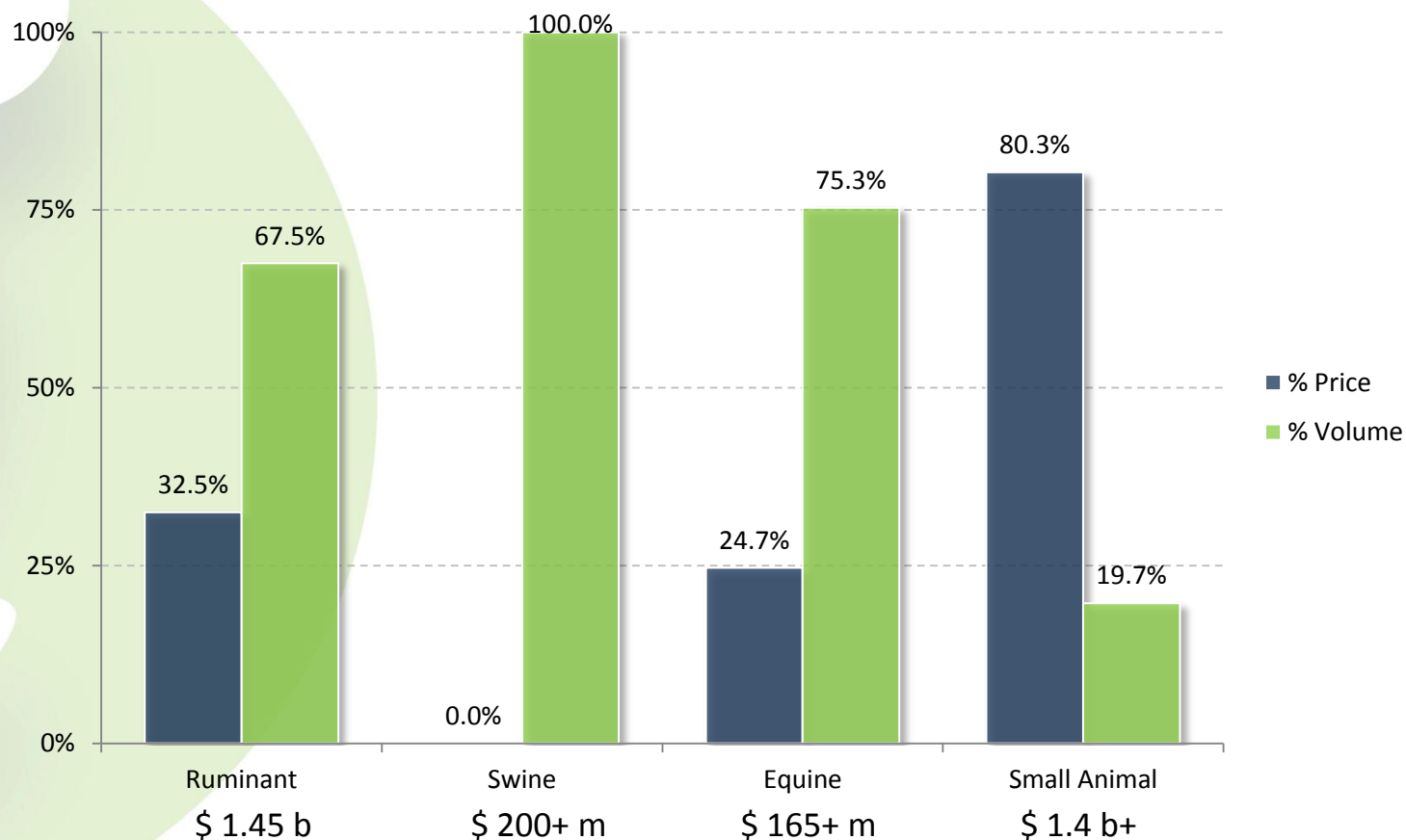


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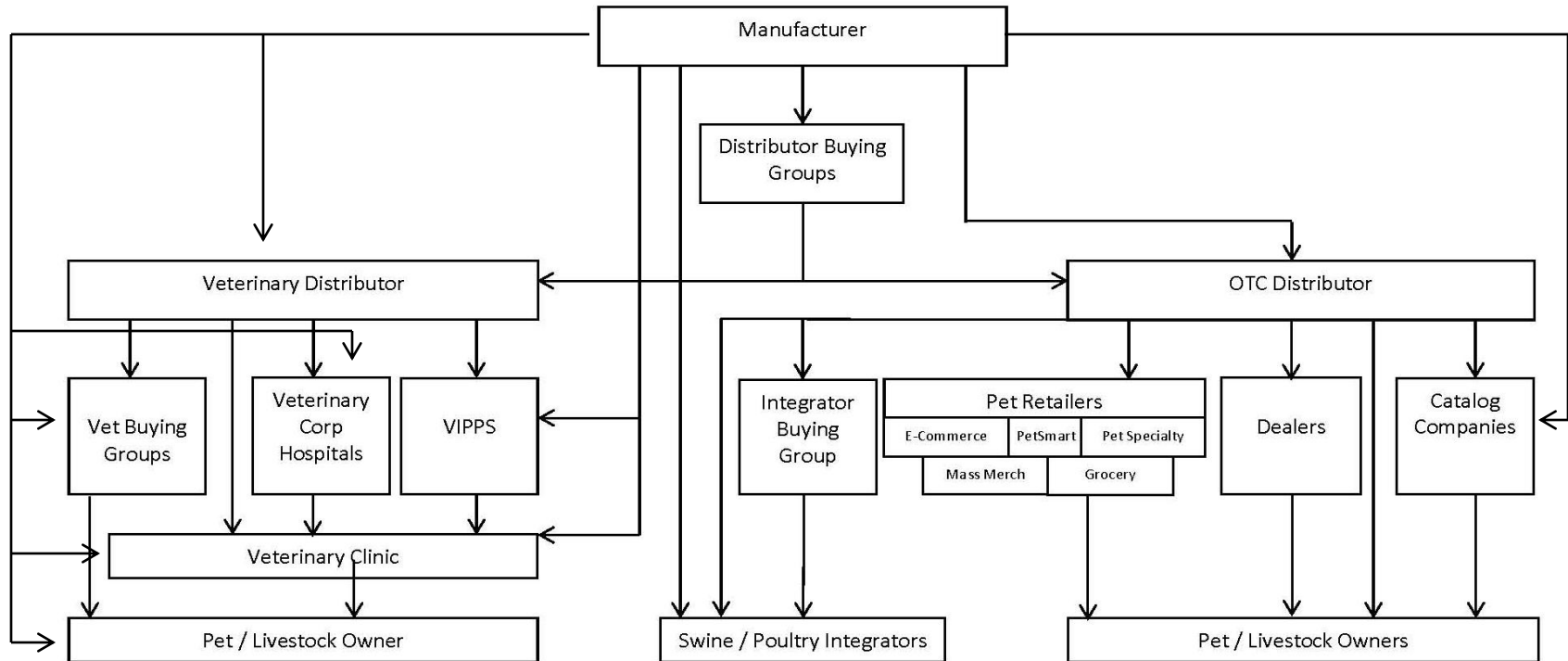


Small Animal Products Can Realize Annual Price Increases; Other Segments Often Do Not



Price Volume Analysis for Top 200 Products Reflecting \$3.25 billion in annual sales

The Role & Competitive Landscape for Animal Health Distribution is Changing Dramatically



Direct to consumer on-line channels / home delivery options and expansion of manufacturer direct sales strategies is creating challenges and friction with the traditional distribution model

Do You Understand What Is Needed / Valued by Big Pharma When Considering New Projects?

Big Pharma animal health companies have structured approaches by which to evaluate new project opportunities.

Proper due diligence by new market entrants includes gaining insight into these critical criteria and thought processes among prospective licensing partners.

Macrocollin Plus 2.5% Injectable Anti-Infective for Ruminants						
Asset Valuation Matrix FDA CVM Pharmaceutical Products	Yes / No	Materiality / Strategic Importance ¹	Cost to achieve ^b	Time to achieve ^c	Risk to achieve ^d	Rank
1 Product Concept						
2 Product Construct	-1	2	1	1	1	-6
3 Proof of Concept	-1	3	1	1	1	-9
4 Patents - Issues (5+ years post approval)						
5 Patents - Pending / Applications (5+ years post approval)	1	3	1	1	3	15
FDA Section Sign-Offs						0
6 FDA INAD & Correspondence File	1	2	1	1	1	6
7 Chemistry, Manufacturing & Controls	-1	3	2	2	1	-15
8 Target Animal Safety	-1	3	1	1	1	-9
9 Human Food Safety	-1	3	1	1	1	-9
10 Environmental Impact	-1	2	1	1	1	-6
11 Effectiveness	-1	3	1	1	2	-12
12 Bioequivalence (generic)	-1	0	1	1	1	0
13 Issued NADA / ANADA	-1	3	1	1	1	-9
Manufacturing & Commercialization						
14 Pilot Scale Production	-1	2	1	1	1	-6
15 Commercial Scale Production	-1	3	2	2	1	-15
16 Trademark	-1	1	1	1	1	-3
17 Pipeline concepts	1	0.5	1	1	1	1.5
18 Pipeline constructs	-1	1	1	1	1	-3
19 Existing Revenue (< \$1.0m = 1 / \$ 1.0-5.0m = 2 / > \$ 5.0m = 3)	-1	0	3	3	3	0
20 Existing Profit (< \$0.5m = 1 / \$ 0.5-2.5m = 2 / > \$ 2.5m = 3)	-1	0	3	3	3	0
21 Projected Revenues (< \$1.0m = 1 / \$ 1.0-5.0m = 2 / > \$ 5.0m = 3)	1	3	3	3	3	27
22 Projected Profits (< \$0.5m = 1 / \$ 0.5-2.5m = 2 / > \$ 2.5m = 3)	1	3	3	3	3	27
23 Personnel / operators	1	2	1	1	3	10
24 Generics / substitutes 5+ years from commercialization	1	3	3	3	3	27
						Ranking
						11.5

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^a high=3; med=2; low=1

^b < \$2.5m=3; \$ 1 - \$ 2.5m ^c 3+ years=3; 1-3 years=^d high=3; med=2; low=1



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Closing Remarks and Recommendations for New Market Entrants

- Understand your technology and the true potential it offers for the market; “new technology” is often not commercially viable as many animal health segments are well served by existing products
- Undertake the diligence necessary to have credible positions on intellectual property, pricing and sales projections for the products
- Do the same, as best you can, for the regulatory requirements; access real CVM / CVB / EPA experts to develop these elements
- Do not ignore manufacturing issues; develop details (*in terms of regulatory requirements, time and money*) as best you can
- Understand the type of company which both benefits from and is threatened by your technology when considering partners
- Other firms are likely pursuing similar projects so time is of the essence; do your diligence, make a plan & move forward

The header features a blue background with a pattern of white binary code (0s and 1s) and various white arrows pointing in different directions. The text is centered in a large, bold, white font.

Kansas City Animal Health Corridor Investment Forum

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