US Animal Health Industry Overview
for the Period JAN – JUN 2023

Presented AUG 10, 2023
Data for today’s presentation provided by:

Animalytix LLC
Vetnosis
VetWatch.com & partners

Presented by:
Chris Ragland, CEO Animalytix LLC
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$200,000+ and counting ...
About Animalytix (ALX) …

• ALX is the leading provider of aggregated, anonymized and geo-located sales information for the veterinary, shelter, feedlot, cow-calf, dairy, ag retail, equine tack and integrated swine production sectors

• ALX data partners provided 80+ million sales transactions and $11.7B in sales for a universe of 700,000+ unique customers in 2022

• ALX produces more than 30,000 annual sales territory, brand and custom insight reports for its 100+ subscribers and data partners

• The ALX database is a “census” of the US animal health market and does not include any projections or extrapolations for non-reported sales

• **Notes for using today’s insights:**
  - These following materials reflect detailed coverage of the US veterinary, ag retail and major livestock markets (e.g. feedlot, dairy, cow/calf and swine)
  - Omnichannel, prescription management, commercial feed milling, aquaculture, poultry and selected companion animal direct / agency sales items are not included
Animalytix by the Numbers …

- 30,000 sales territory, brand and custom reports published annually
- $90,000,000,000+ in historical sales data for the US & Canada
- $11,700,000,000+ in moving annual total sales reported (‘22)
- 26 Smart Sort™ customer segmentation categories
- 85,000,000+ transactions processed annually
- 2,250,000+ unique “ship_to” locations
- 15,000+ unique products reported
- 800+ manufacturers represented
- 70+ total sales data providers
- 70+ reporting categories
Smart Sort™ Market Segmentation Services ... Only from Animalytix
The Smart Sort™ Channel Information is Derived from a Robust Universe of Underlying Customers by Segment

34,000+ DVM Small Animal Specialty, Urgent Care, Referral Practices

14,000+ Farm & Fleet, Ag Specialty, Pet and Equine Tack Shops

40,000+ Cow-Calf, Heifer Grower, Stocker, & Mixed Livestock Operations

6,000+ Pet Shelters, Rescues and Spay / Neuter Facilities

Animalytix is unique in its ability to geo-locate and categorize customer “ship_to” locations across multiple customer business class designations for livestock, veterinary and retail operations.

Source: Animalytix LLC Data Provider’s Network of Participating Distributors

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Today’s Program

1. Global Results Overview for 2022 (courtesy of Vetnosis)

2. US Sales Review of Key Therapeutic Categories, Customer Segments & Key Growth Drivers for the period of JAN – JUN ‘23

3. Mid-Year Price / Volume Analysis & Generics Review

4. VetWatch Practice Insights / Dr. Meredith
Vetnosis Animal Health Industry Review 2022

August 2023

Delivering commercial insights to the global animal health industry

www.Vetnosis.com
Preliminary Analysis: While price effects delivered net positive results globally, a combination of negative volume and FX impact resulted in a market decline of 2.0% in Nominal terms. This is the first volume decline reported for the global market for at least 10 years. Regionally, only Latin America and “Rest of World” grew in volume terms. Among species, volume growth was limited to Companion Animal.

Among therapeutic categories, Parasitcides and “Other Pharmaceuticals” posted positive results while all other therapeutic areas were in decline.
Animal Health Market by Product Group, Region & Species

Pharmaceuticals +1%; Bios & MFAs (-1%)

Americas +3%; Europe (-2%); Other (-1%)

Companion Animal / Other + 2%
Review of Key Therapeutic Segments by Species

JAN – JUN 2023 vs PY
The “Headlines” From Across the US Animal Health Industry for the Period JAN – JUN 2023

“3.9% Market Growth Driven Strictly by Price; Negative Volume Effect”

“Adj. Pharmaceutical Growth Modest at +2.3%; Vaccines Stronger at +4.7%”

“In Pet Spending, Feline Sales Growth Out-indexing Canine”

“Supply Category Sales Growth Slows to +1.4%”

“Small Animal Vet Sales Up +3.5% growth; Ag Retail sales growth similar at +4.0%”

“Swine Sales Turn Favorable with Growth of +3.4%”

“Non-Confined and Ag Retail Drive Ruminant Growth +4.2% Growth”

“Small Animal Veterinary Patient Visits Down 1% vs PY”

“Equine Product Sales Growth Steady at +4.2%”
Sales Across Segments Expanded +3.9%*; Small Animal Products Delivered 58% of Total Sales Growth

Period sales of $6.1B were driven by $3.6B in small animal, $1.4B in ruminant, $0.6B in supplies, $0.36B in equine, and $0.16B in swine products.

Market growth of $230M+ was driven by ~$150M for pets, >$50M from ruminants, ~$15M from equine, ~10M in supplies.

* +2.9% when adjusted for changes in distribution strategies for existing products
Expanding consumer demand, technology advances in drug development; intensifying direct to consumer marketing; and hyper-competitive conditions among corporate veterinary, retail, and on-line vendors promoting pet products have delivered extraordinary growth for the pet sector.
While the Economy “Stalled” the Engine in 2H 2022, a Modest Recovery is Underway Through 1H 2023

The weak results for pet, ruminant, and swine spending in 2H 2022 have each improved significantly through 1H 2023. Equine results have rebounded from low in Q3 ‘22 to hold steady at ~4% growth.
Sales Growth of Pharmaceuticals Heavily Under-Indexed vs Historical Performance Largely Due to Parasiticides

Pharmaceuticals (*w/EPA regulated pesticides*) were 65% of sales followed by vaccines with 17.2%, supplies at 13.4% & nutraceuticals / supplements at 4.4%.

Adjusted market growth of 2.9%* was tempered by lackluster results for pharmaceuticals with +2.3%* growth; vaccines & nutraceuticals posted performance within traditional growth ranges at +4.7%.

* When adjusted for changes in distribution strategies for existing products
Animal Health Industry Analysis
JAN – JUN 2023 YTD
The small animal sector struggled to +2.6% sales growth (adj.) with parasitcides as a primary drag at +0.1% growth. Human pharmaceuticals & NSAIDs also posted negative results due to declining volumes. Specialty pharmaceuticals, vaccines, & nutraceuticals each improved and delivered ~$ 80M (adj.) in combined incremental growth.
1H 2023 Canine Wellness Vaccine Doses Purchased Declined by (-1.1%); Feline Doses Grew by +4.8%

Canine and feline wellness doses (DAP / RCP) are useful as proxies for annual wellness patient volumes.

Following record results in 2021, annual canine wellness vaccinations have steadily declined, down (-1.1%) for 1H ‘23 vs JAN-JUN ‘22 results.

Feline wellness vaccination rates over-indexed vs. canine, with no loss in doses for 2022 vs PY and +4.8% growth in 1H 2023.

Source: ALYX-19 Market Survey Data for Small Animal Vaccines / export doses excluded from analysis
Pet Vaccine Dose Volumes Have Grown Significantly Since 2018 Despite some Canine Dose Moderation in 2022 / 2023

Vaccine Dose Volume - Moving Annual Total 2018 – June 2023
Pet Parasiticide Revenue Flat at $1.6B; Dose Volume Contractions for Canine F/T & HW; Growth for Feline

A review of parasiticide purchases for 32,800+ DVM and shelter locations with 100+ para doses purchased was discouraging as canine flea and heartworm preventatives declined by (-6.5%) and (-6.7%) respectively vs PYTD. Feline parasiticides followed the vaccination trends and actually improved by +1.4%.

Isoxazoline (ISOX) formulations had modest market share gains, improving by < 2% for canine F/T & HW. Isox brands lost (-0.5%) share in the feline category.

### Small Animal Parasiticides * / All DVM & Shelter / Rescues

<table>
<thead>
<tr>
<th></th>
<th>JAN-JUN '23</th>
<th>JAN-JUN '22</th>
<th>% VAR ('23 vs '22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canine Flea Doses</td>
<td>81.3M</td>
<td>87.1M</td>
<td>-6.5%</td>
</tr>
<tr>
<td>Canine Heartworm Doses</td>
<td>92.3M</td>
<td>99.0M</td>
<td>-6.7%</td>
</tr>
<tr>
<td>Feline Total Parasiticide Doses</td>
<td>10.6M</td>
<td>10.5M</td>
<td>+1.4%</td>
</tr>
<tr>
<td>ISOX as % of Canine Flea Doses</td>
<td>82.8%</td>
<td>80.8%</td>
<td>+2.0%</td>
</tr>
<tr>
<td>ISOX as % of Canine Heartworm Doses</td>
<td>21.4%</td>
<td>20.3%</td>
<td>+1.2%</td>
</tr>
<tr>
<td>ISOX as % of Feline Flea Doses</td>
<td>25.8%</td>
<td>26.3%</td>
<td>-0.5%</td>
</tr>
</tbody>
</table>

* monthly dose equivalents

### Practices with 100+ Para Doses Purchased

<table>
<thead>
<tr>
<th>Practices with 100+ Para Doses Purchased</th>
<th>Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVM - Small Animal</td>
<td>27,645</td>
</tr>
<tr>
<td>Shelter/Rescue</td>
<td>2,000</td>
</tr>
<tr>
<td>Emergency/Specialty</td>
<td>960</td>
</tr>
<tr>
<td>DVM - Mixed / Misc</td>
<td>925</td>
</tr>
<tr>
<td>DVM - Lg Animal</td>
<td>600</td>
</tr>
<tr>
<td>DVM - Equine</td>
<td>385</td>
</tr>
<tr>
<td>Spay/Neuter</td>
<td>320</td>
</tr>
<tr>
<td>Grand Total</td>
<td>32,835</td>
</tr>
</tbody>
</table>
Ruminant Sales Grow by +4.2% Despite Shrinking Beef Cow Herd and Continued Downward Generic Pressure

Losses in the premium anti-infectives sector have slowed to (-0.4%) vs PY while specialty pharma (e.g., injectable vitamins and supplements) and productivity enhancer sales grew by double digits. The strong performance in traditional anti-infectives was driven by a one-time purchasing event as producers loaded inventory prior to the June implementation of FDA’s GFI #263 (oxytet / penicillin).
Solid Equine Pharma Growth Offset Weak Vaccine Sales; Swine Sector Growth Markedly Improved at +3.4%

Equine sales growth of +7.1% resulted primarily from stronger joint / mobility product sales as unit volume for parasiticides and anti-infectives contracted. Vaccine growth was soft at +1.0% again due to unit volume declines. Swine pharmaceutical sales growth of +7.8% was driven by anti-infective sales while swine vaccines held relatively flat due to continuing pricing pressure.
Smart Sort™ Customer Segmentation Analysis
Sales by Business Class Reported to ALX: 72% DVM, 16% Livestock, and 7% Retail for JAN-JUN 2023

US Animal Health Industry Sales by Customer Business Class JAN-JUN 2023
Small Animal Hospital Growth Improving; Equine Practices & Shelters Continue to Prove More Robust

Despite declining patient visits, small animal hospital purchasing growth improved from PY by +3.5%; equine practices and shelters were more robust by comparison at +7.1% and +9.4% respectively.
Mixed Practice Growth Modest at +2.7% Due to Stagnant Ruminant / Equine Volumes & Slowing Pet Visits

Modest small animal sales growth of +3.6% was diluted by <1% growth in ruminant and equine sales; slowing pet patient visits, small herd liquidation and economic pressure on horse owners are all concerns for this sector.
Livestock Growth of +3.4% Driven by Mixed Sector Results; Weaker Dairy / Feedlot Offset by Non-Confined & Swine

Swine producer sales posted their best 6 month sales period results in years with +4.8% growth while dairy sales delivered negative growth at (-1.2%). Feedlot growth was tepid at +2.0% while non-confined cattle operations over-indexed market growth at +8.8%.
Sales Growth Among 10K+ Ag Retailers was Improved at +4.0%; Driven by Pet and Ruminant Spending

Ag retail pet sales growth was robust at +8.8% but overall results were tempered by declining equine spending. Ruminant sales growth of +5.8% is expected to be somewhat transient as producers made one-off anti-infectives purchases ahead of FDA’s JUNE deadline for implementation of GFI # 263.
Animalytix Price Volume Analysis

JAN – JUN 2023 vs Same Period PY
Relative Impact of Changes in Price and Volume Were Determined by Species and Therapeutic Category

Sales for $5.9B in vaccines, pharmaceuticals, nutraceuticals, and supplies of more than 20,000 unique products and pack size combinations were included in the analysis; where appropriate, selected supply categories were associated with species groups (e.g., ear tags, grooming products, etc...).

The analysis was done on a “like-unit” basis based upon invoice pricing to the veterinarian, retailer, livestock producer, and other purchasers and EXCLUDES the impact of manufacturer rebates.

The full sales impact for newly introduced (within the current fiscal year) or discontinued items (vs previous fiscal YTD) were included as VOLUME effects.

PLEASE NOTE: These results have been updated from the original presentation deck to EXCLUDE sales resulting from changes in distribution strategies for existing products.

Aggregate results for the 6-month period were as follows:

- Net pricing variance + 4.2%
- Net volume variance - 1.1%
- Net total variance + 3.1%
## Pricing for Equine & Pet Combined with Improved Volume for Livestock Drove +3.1% Growth in 1H 2023

### Mid Year US Animal Health Industry Price / Volume Analysis / JAN - JUN 2023

<table>
<thead>
<tr>
<th>2023 SEGMENT / SPECIES</th>
<th>FACTOR</th>
<th>Small Animal</th>
<th>Equine</th>
<th>Ruminant</th>
<th>Swine</th>
<th>Other</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Sales by Species</strong></td>
<td></td>
<td>$3.6 B</td>
<td>$0.36 B</td>
<td>$1.40 B</td>
<td>$0.15 B</td>
<td>$0.40 B</td>
<td>$5.9 B</td>
</tr>
<tr>
<td>Anti-infectives</td>
<td>PRICE EFFECT</td>
<td>3.7%</td>
<td>5.5%</td>
<td>-5.6%</td>
<td>0.2%</td>
<td>-</td>
<td>-2.5%</td>
</tr>
<tr>
<td>Parasiticides</td>
<td></td>
<td>5.2%</td>
<td>4.9%</td>
<td>5.5%</td>
<td>7.4%</td>
<td>-</td>
<td>5.2%</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td></td>
<td>6.4%</td>
<td>5.4%</td>
<td>3.4%</td>
<td>1.4%</td>
<td>-</td>
<td>10.7%</td>
</tr>
<tr>
<td>Vaccines</td>
<td></td>
<td>4.3%</td>
<td>4.0%</td>
<td>6.0%</td>
<td>-1.4%</td>
<td>-</td>
<td>4.2%</td>
</tr>
<tr>
<td>Nutraceuticals &amp; Supplements</td>
<td></td>
<td>6.7%</td>
<td>6.3%</td>
<td>7.9%</td>
<td>-2.0%</td>
<td>-</td>
<td>7.1%</td>
</tr>
<tr>
<td>Hospital Supplies</td>
<td></td>
<td>8.2%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.5%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Misc. Supplies</td>
<td></td>
<td>2.5%</td>
<td>3.8%</td>
<td>7.2%</td>
<td>-</td>
<td>9.5%</td>
<td>7.4%</td>
</tr>
<tr>
<td><strong>Sub-Total Price</strong></td>
<td></td>
<td>5.4%</td>
<td>5.0%</td>
<td>1.5%</td>
<td>-0.5%</td>
<td>4.4%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Anti-infectives</td>
<td>VOLUME EFFECT</td>
<td>-3.3%</td>
<td>-4.5%</td>
<td>7.8%</td>
<td>6.2%</td>
<td>-</td>
<td>4.5%</td>
</tr>
<tr>
<td>Parasiticides</td>
<td></td>
<td>-5.3%</td>
<td>-8.8%</td>
<td>-0.5%</td>
<td>5.4%</td>
<td>-</td>
<td>-4.9%</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td></td>
<td>-1.7%</td>
<td>4.5%</td>
<td>2.7%</td>
<td>12.2%</td>
<td>-</td>
<td>0.2%</td>
</tr>
<tr>
<td>Vaccines</td>
<td></td>
<td>0.9%</td>
<td>-3.0%</td>
<td>0.2%</td>
<td>1.3%</td>
<td>-</td>
<td>0.5%</td>
</tr>
<tr>
<td>Nutraceuticals &amp; Supplements</td>
<td></td>
<td>1.1%</td>
<td>-1.7%</td>
<td>-2.9%</td>
<td>6.0%</td>
<td>-</td>
<td>-0.9%</td>
</tr>
<tr>
<td>Hospital Consumables</td>
<td></td>
<td>3.2%</td>
<td>-</td>
<td>-</td>
<td>-2.8%</td>
<td>-1.5%</td>
<td></td>
</tr>
<tr>
<td>Misc. Supplies</td>
<td></td>
<td>-5.4%</td>
<td>-9.1%</td>
<td>3.3%</td>
<td>-</td>
<td>-4.2%</td>
<td>-3.3%</td>
</tr>
<tr>
<td><strong>Sub-Total Volume Effect</strong></td>
<td></td>
<td>-2.8%</td>
<td>-0.9%</td>
<td>3.0%</td>
<td>3.9%</td>
<td>-3.0%</td>
<td>-1.1%</td>
</tr>
<tr>
<td><strong>Total Price &amp; Volume</strong></td>
<td></td>
<td>2.6%</td>
<td>4.2%</td>
<td>4.5%</td>
<td>3.5%</td>
<td>1.3%</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

*Pet food, treats, and selected other supply items are excluded from this analysis. Medicated feed additives are aligned with therapeutic categories (e.g., Rumensin / Tylan, included in Ruminant Anti-infectives; Denagard & Lincomix in swine anti-infectives)*
Focused Insights:
The US Market for Veterinary Generics
Generic Portfolio Expansion Continues; ANADA Sales Increase while Human Generics Contract

**Veterinary Generic Drug Sales (as reported to ALX)**

<table>
<thead>
<tr>
<th></th>
<th>JAN - JUN 2023</th>
<th>JAN - JUN 2022</th>
<th>% VAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDA NADA (Pioneer) Brands</td>
<td>$3,087.8 M</td>
<td>$2,967.1 M</td>
<td>+4.0%</td>
</tr>
<tr>
<td>FDA ANADA (Generic) Brands</td>
<td>$519.8 M</td>
<td>$489.1 M</td>
<td>+6.3%</td>
</tr>
<tr>
<td>CDER Human Labeled Pharmaceuticals (Generics)</td>
<td>$130.9 M</td>
<td>$134.1 M</td>
<td>-2.3%</td>
</tr>
<tr>
<td><strong>Total FDA / CDER Approved Pharmaceuticals</strong></td>
<td><strong>$3,737.5 M</strong></td>
<td><strong>$3,490.3 M</strong></td>
<td><strong>+4.1%</strong></td>
</tr>
</tbody>
</table>

**% of Total Veterinary Drug Sales by Type**

<table>
<thead>
<tr>
<th></th>
<th>JAN - JUN 2023</th>
<th>JAN - JUN 2022</th>
<th>VAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDA NADA (Pioneer) Brands</td>
<td>82.6%</td>
<td>82.6%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>FDA ANADA (Generic) Brands</td>
<td>13.9%</td>
<td>13.6%</td>
<td>0.3%</td>
</tr>
<tr>
<td>CDER Human Labeled Pharmaceuticals (Generics)</td>
<td>3.5%</td>
<td>3.7%</td>
<td>-0.2%</td>
</tr>
<tr>
<td><strong>Sub-total Generic Products</strong></td>
<td>17.41%</td>
<td>17.36%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

- ANADA generic sales growth in 1H 2023 was strong at +6.3% and driven across multiple sectors (e.g., sedation, NSAIDs, small animal & traditional ruminant anti-infectives)

- Ruminant generic sales for premium anti-infectives contracted as enrofloxacin and ceftiofur losses outpaced continued gains for tulathromycin brands; ivermectin injectable sales also declined sharply
Animalytix

The Animal Health Industry’s Leading Provider of Actionable Market Intelligence

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