Veterinary Medicine Case Study:

Dorothy McAdams, Supervisory Veterinary Medical Officer, Center for Veterinary Medicine, U.S. Food and Drug Administration

Jeannie Perron, Partner, Covington & Burling LLP



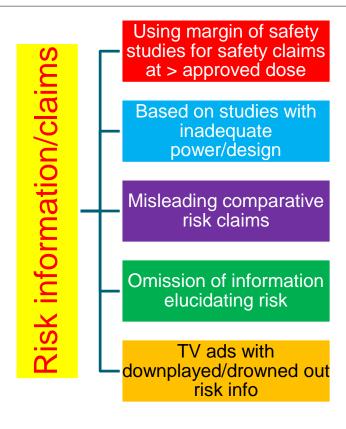
Animal Drugs Breakout

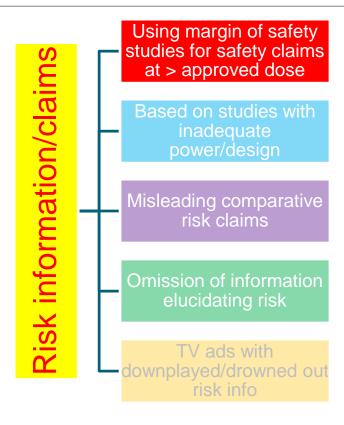
Jeannie Perron, JD, DVM

COVINGTON

BEIJING BRUSSELS DUBAI FRANKFURT JOHANNESBURG LONDON LOS ANGELES

NEW YORK PALO ALTO SAN FRANCISCO SEOUL SHANGHAI WASHINGTON



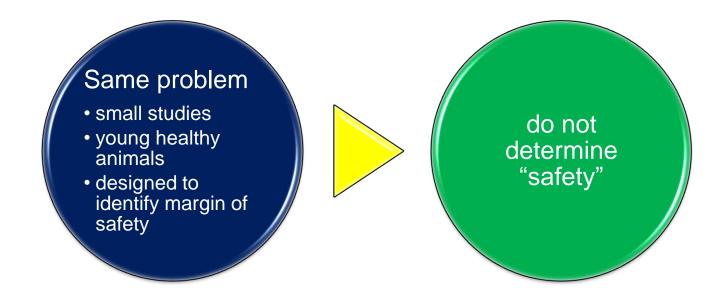


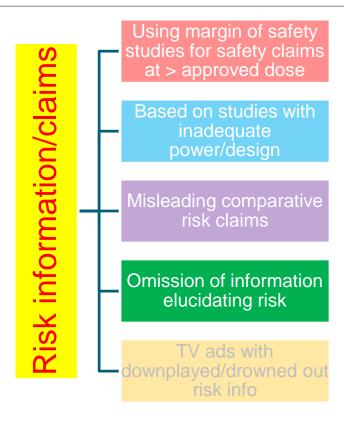
Margin of safety

"Proven safe in a 9-month safety study at up to approximately 15X the recommended therapeutic dose in healthy dogs." Untitled letter: "these statements suggest that administration of GALLIPRANT is 'safe' at up to 15X the approved dose."

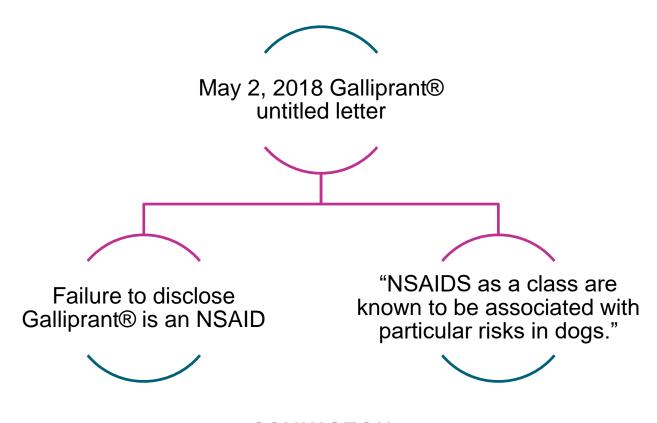
May 2, 2018 Galliprant® untitled letter

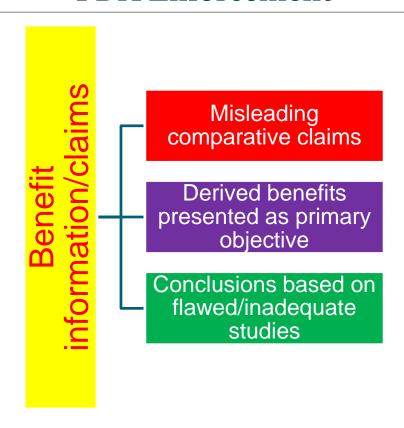
Safety

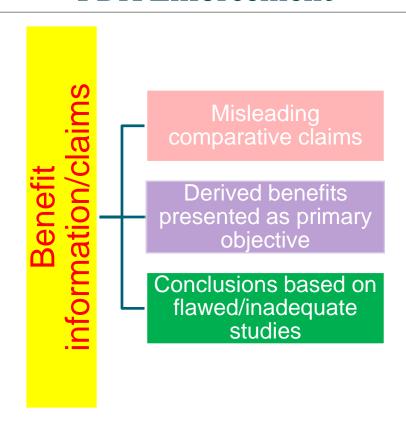




Information elucidating risk







March 10, 2014 Zuprevo untitled letter

"Lasts 28 days in lungs for optimal efficacy"

Untitled letter: "the authors [of the underlying study] do <u>not</u> conclude that duration of tildipirosin in lung tissues results in greater or optimal efficacy and ... conclude that 'further research is warranted'"

Likely to get FDA's attention



Likely to get FDA's attention



High risk products

Oct. 22, 2015 Pulmotil® untitled letter

 "macrolide antibiotics are considered critically important to human medicine."

High risk products

Oct. 22, 2015 Pulmotil® untitled letter

- Pulmotil® had boxed warnings and additional human safe use warnings (e.g., protective clothing during administration)
- Also, extent of use limitation to treat fewest animals possible/no refills

High risk products

Oct. 22, 2015 Pulmotil® untitled letter

 Promotional materials omitted human safety/extent of use information

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