

Veterinary Labor Market & Changing industry paradigms

Michael R. Dicks, PhD
2016 Fall VSPA Meeting
St. Louis, Mo.



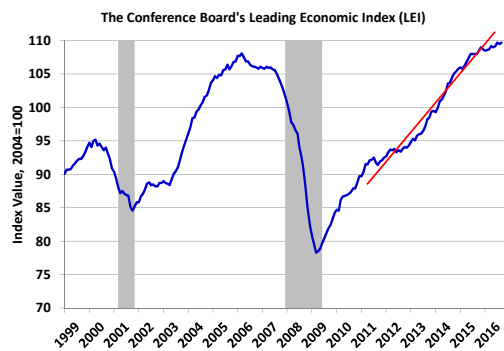
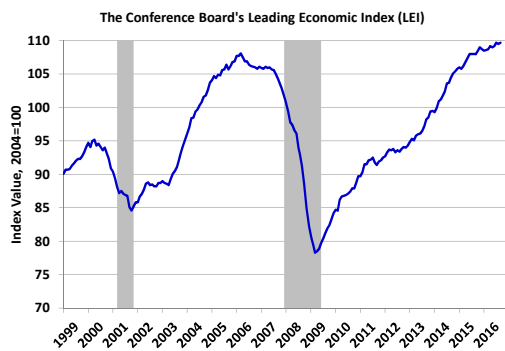
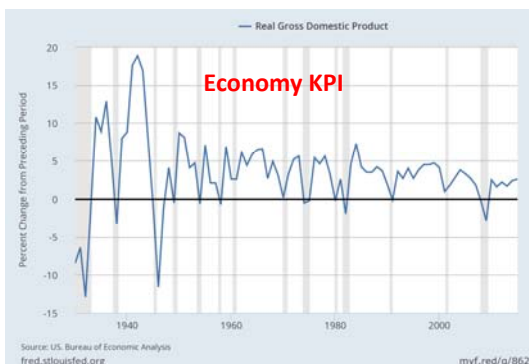
Where are we going?

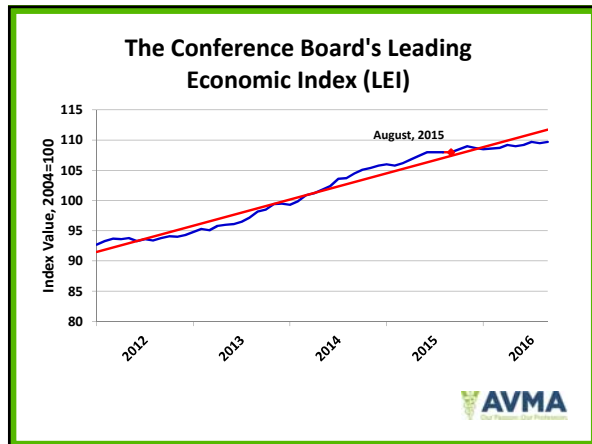
- Consumer disposable income
 - Economy Drives the consumer expenditures
- Veterinary Education Market
 - Applicants enter the veterinary pipeline – SUPPLY
- Veterinary Service Market
 - Animal owners start services pipeline – DEMAND
- Market for Veterinarians
 - Meeting of veterinary and services pipeline
- Veterinary Practices
 - Business unit for veterinary medicine



The Economy

Michael R. Dicks, PhD
2016 Fall VSPA Meeting
St. Louis, Mo.

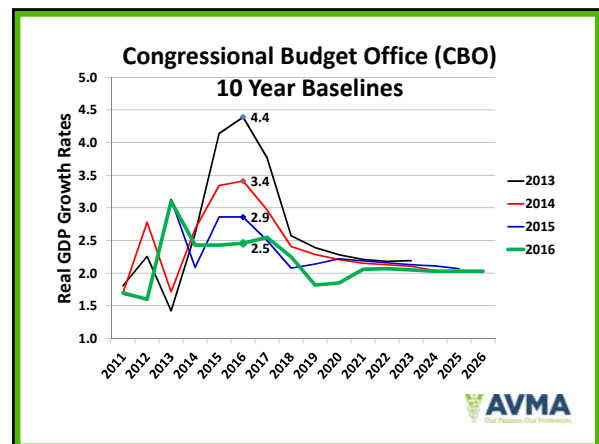
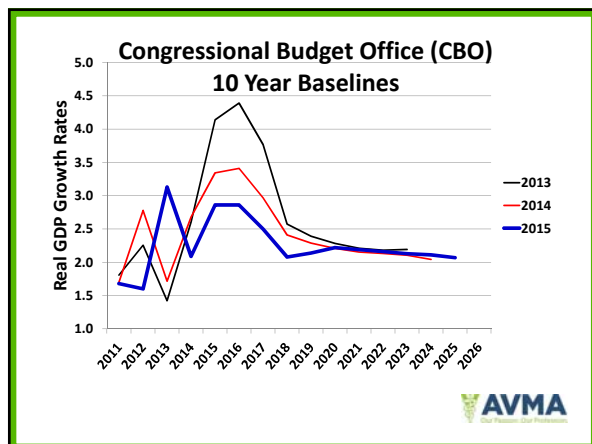
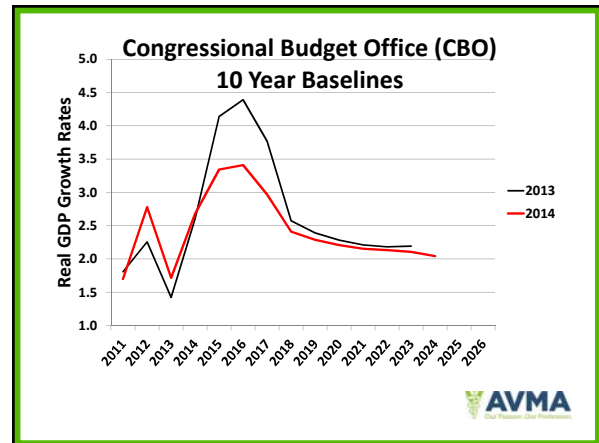
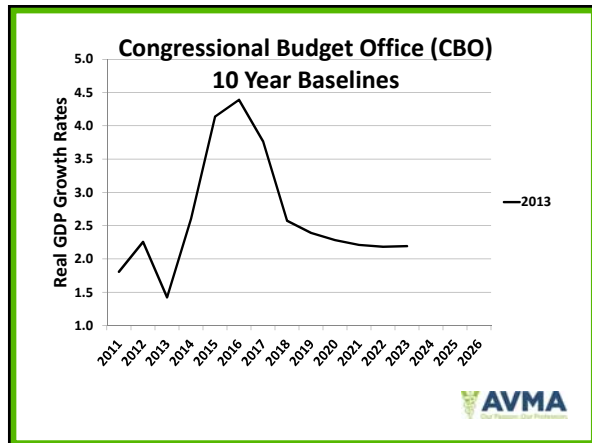


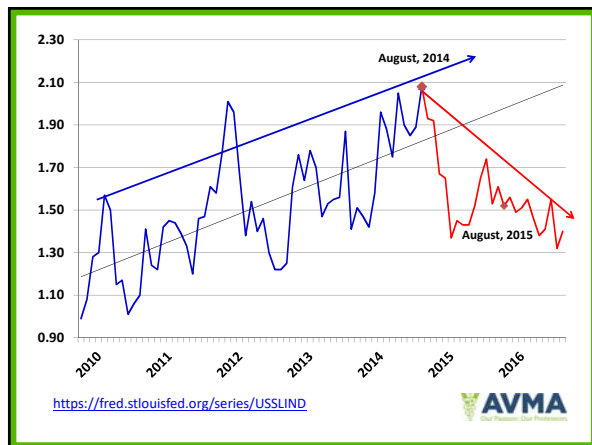
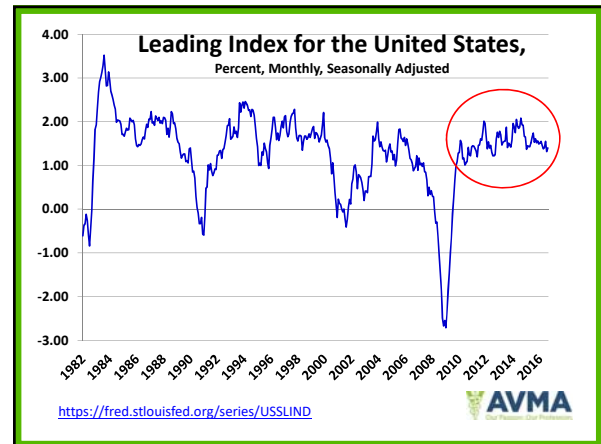
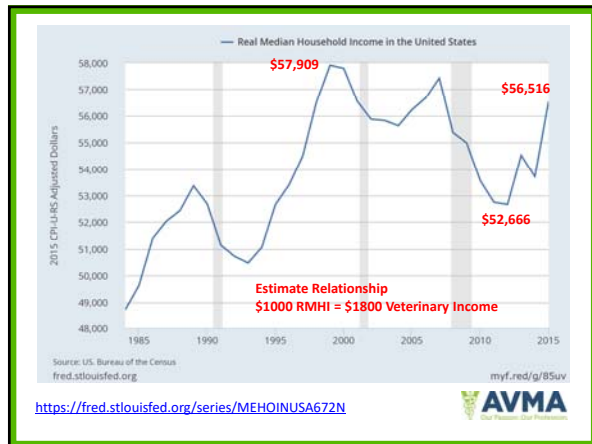


BUSINESS CYCLE

Recession Periods

	Peak to trough	Previous trough to this peak
July 1953 - May 1954	10	45
August 1957 - April 1958	8	39
April 1960 - February 1961	10	24
December 1969 - November 1970	11	106
November 1973 - March 1975	16	36
January 1980 - July 1980	6	58
July 1981 - November 1982	16	12
July 1990 - March 1991	8	92
March 2001 - November 2001	8	120
Dec 2007 - June 2009	18	73
Average, 1953-2009 (10 cycles)	11	61
Current Cycle		89
Predicted Cycle		97-106

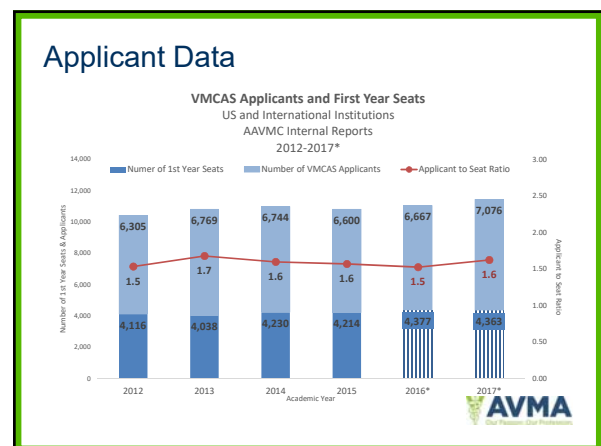
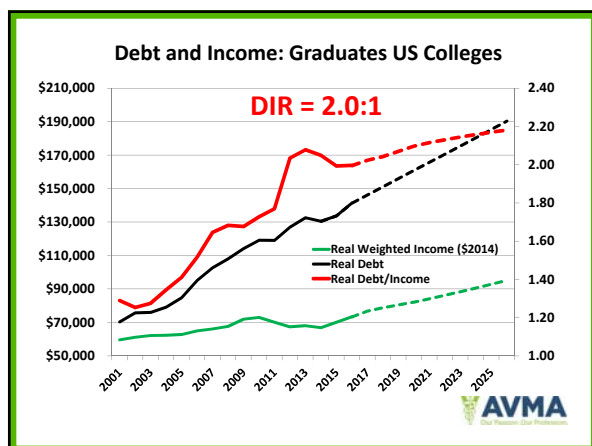




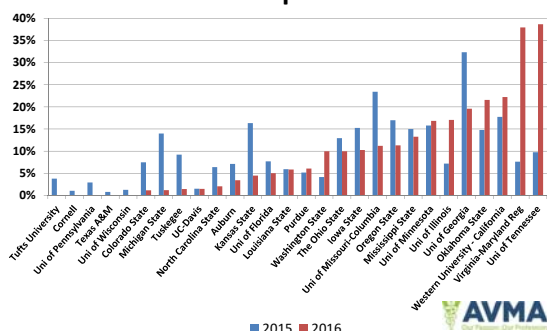
Veterinary Education Market

Michael R. Dicks, PhD
2016 Fall VSPA Meeting
St. Louis, Mo.

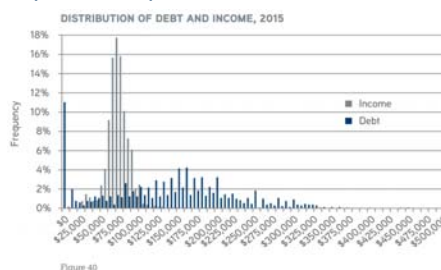
AVMA
Our Passion. Our Profession.



Students with Debt above Total Cost of Attendance plus Interest



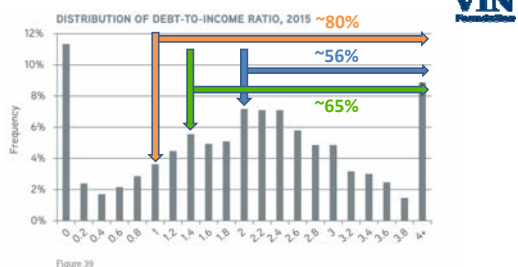
Fix the Debt Scope of the problem



Source: 2016 AVMA & AAVMC Report on the Market for Veterinary Education



Fix the Debt What I see: Debt-to-income



Source: 2016 AVMA & AAVMC Report on the Market for Veterinary Education



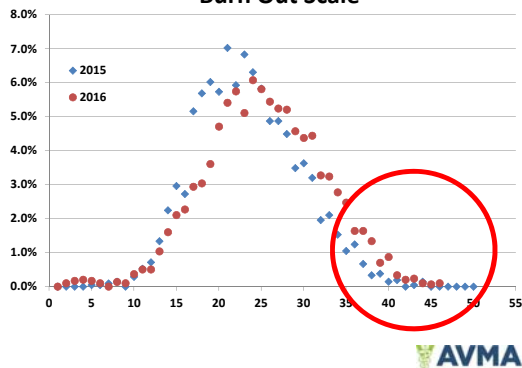
Financial Impact of Debt

Comparison of Typical Personal Expenses			
	New Veterinarian	General U.S. Population	
Gross Income	\$84,972	\$83,831	
Federal And State Deductions	\$12,994	\$9,506	12.8%
College Loan Payment	\$10,970	NA	24.0%
Credit Card Debt	\$2,971	NA	3.8%
Home Expenses	\$25,566	\$26,947	25.0%
Car and Transportation Expense	\$5,592	\$11,453	7.2%
Food, Clothing and Personal	\$8,599	\$7,551	11.0%
Health Care and Insurance	\$4,538	\$5,185	5.8%
Professional Development/Education	\$884	\$1,276	1.1%
Recreation and Leisure	\$2,063	\$7,689	2.6%
Savings and Retirement Contribution	\$10,454	\$9,543	13.4%
Miscellaneous	NA	\$856	1.2%
Annual Expenditures	\$98,464	\$94,638	
Balance	\$6,821	\$9,703	

2015 AVMA Report on the Market for Veterinarians, p. 51



Burn Out Scale



Burnout Score

Dependent Variable: Burnout Scale	2016		2015	
	Coefficient	P Value	Coefficient	P Value
(Constant)	37.044	0.000	36.151	0.000
Satisfaction with current employment	-2.707	0.000	-2.594	0.000
Food animal practice (predominant)			-3.891	0.000
Food animal practice (exclusive)			-3.329	0.000
Equine practice			-1.657	0.008
Not-for-profit organizations	-4.629	0.024		
Hours Worked per week	0.08	0.000	0.054	0.000
How well your education has prepared you to be a veterinarian	-1.055	0.000	-1.188	0.000
Gender: Female=1/ Male=0	1.04	0.002		
Educational Debt	4.275E-06	0.032		
Ethnicity - Black/African American	-3.385	0.038		
Ethnicity - Hispanic/Latino			-2.79	0.001
Ethnicity - Asian			-1.894	0.009
Marital Status: Single			1.02	0.000
Age	-0.051	0.001		
Graduation Year			-0.382	0.038



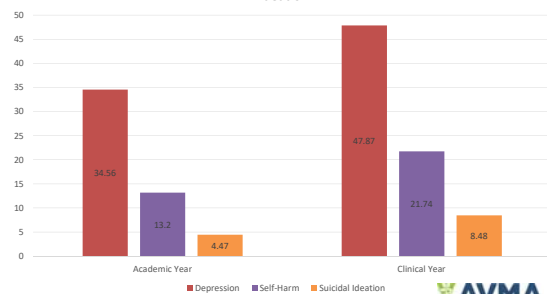
Secondary Traumatic Stress Score

	2016		2015	
	Coefficient	P Value	Coefficient	P Value
(Constant)	26.383	0.000	23.237	0.000
Graduation Year	-0.749	0.000		
Satisfaction with current employment	-1.349	0.000	-1.31	0.000
Hours Worked per week	0.075	0.000	0.072	0.000
Gender: Female=1/ Male=0	1.461	0.000	1.883	0.000
How well your education has prepared you to be a veterinarian	-0.581	0.009	-0.695	0.001
Food animal practice (predominant)			-3.251	0.014
Food animal practice (exclusive)			-2.732	0.017
Companion animal practice (exclusive)			1.724	0.000
Companion animal practice (predominant)			1.278	0.015
State/Local government			-3.817	0.015
Uniformed services	12.997	0.032		
Researcher	12.11	0.005		
Ethnicity - Black/African American			-3.427	0.032
Age			-0.037	0.033



ACADEMIC VS CLINICAL YEAR

Percentage of Students Reporting Depression, Self-Harm, & Suicidal Ideation



Fix the Debt Summit

Reduce Debt

- Scholarship endowment
- Financial literacy
- 5-6 year DVM curriculum
- Advocacy to governments
- Minimize cost of borrowing

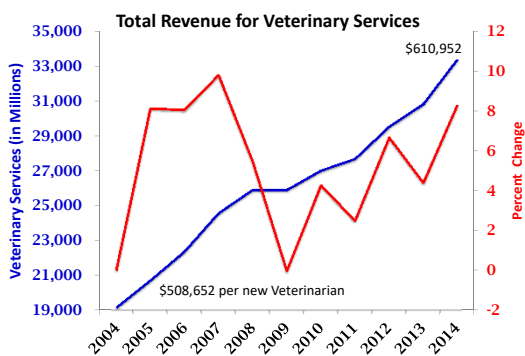
Increase Income

- Professional competencies
- Workplace on-boarding
- Focus on preventive medicine
- Practice ownership literacy
- Career awareness



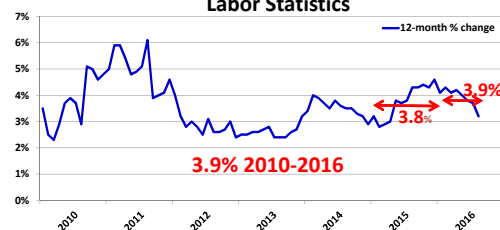
Veterinary Services Market

Michael R. Dicks, PhD
2016 Fall VSPA Meeting
St. Louis, Mo.

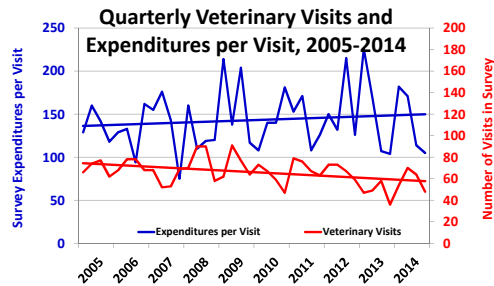


The Market for Veterinary Services The Problem

Veterinarian Services Price Index, Bureau of Labor Statistics



The Market for Veterinary Services



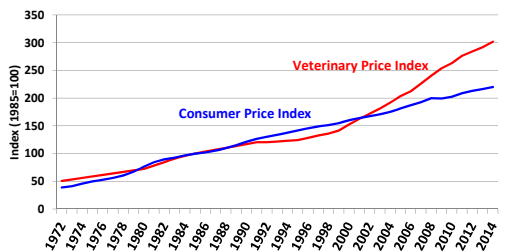
Global Statistics – Companion

	Revenue Growth	Number of Invoices	Normalized EBITDA
2011	1.72%	-2.67%	13.79%
2012	3.42%	3.36%	13.99%
2013	2.53%	-1.36%	13.96%
2014	4.21%	0.54%	14.47%
2015	7.19%	4.31%	16.22%



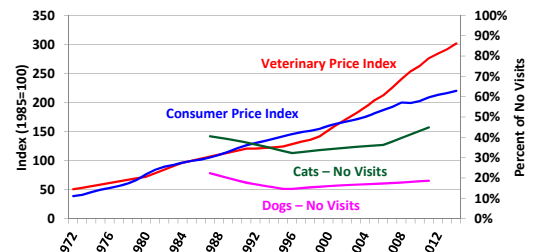
The Market for Veterinary Services

Relative Price of Veterinary Services



The Market for Veterinary Services

Relative Price of Veterinary Services



Active Pets* (not including Feline-only group)

	Canine	Feline	Other
2010	68%	30%	2%
2015	70%	28%	2%
Change	3%	-7%	

Pets are considered active if they have visited a hospital in the last 24 months.

*Database expanded between 2010 and 2015.



Many Resources Available: Topics

- Strategic planning
- Finance and accounting
- HR
- Marketing
- Operational issues-- inventory control, scheduling, other

- Management metric
- Communication
- Pricing and value
- Management
- Leadership
- Safety
- Law



And Yet.....

- Less than 1/2 of practice owners and less than 1/3 of associates rated their personal financial condition "well" (8-10 on a 10-point scale)
- 1/4 of owners and 30% of associates said they were doing "poorly"
- 27% of practice owners said they were planning to delay retirement because of the poor financial condition of their practice
- Lack of confidence in practice's financials noted by 58% of practice owner
- 1/3 of practice owners reported that they believe the sale of their practice will provide them with a comfortable retirement income
- 1/3, 1/3, 1/3 rated the financial performance of their practices, as "well," "average" or "poor"
- Many reported a lack of confidence in their ability to make good financial decisions

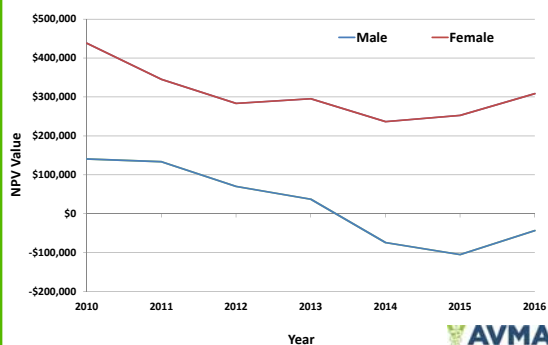
2014: VPI®-Veterinary Economics Financial Health Study



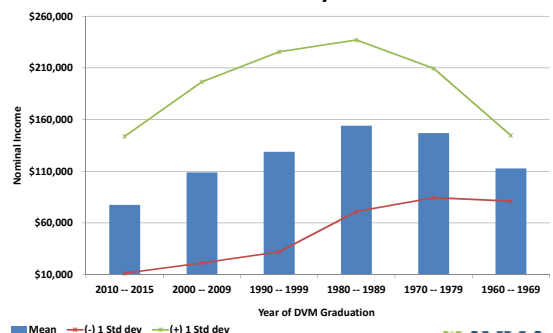
Market for Veterinarians



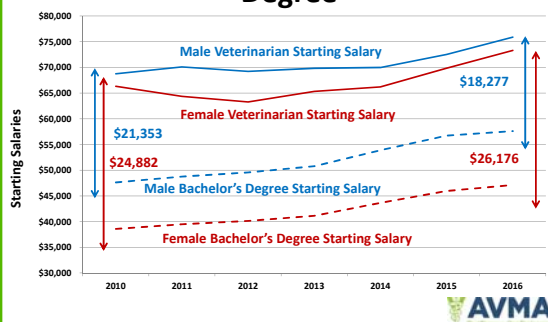
Net Present Value of the DVM Degree



Mean Professional Income by Year of Graduation



Starting Salaries by Gender and Degree

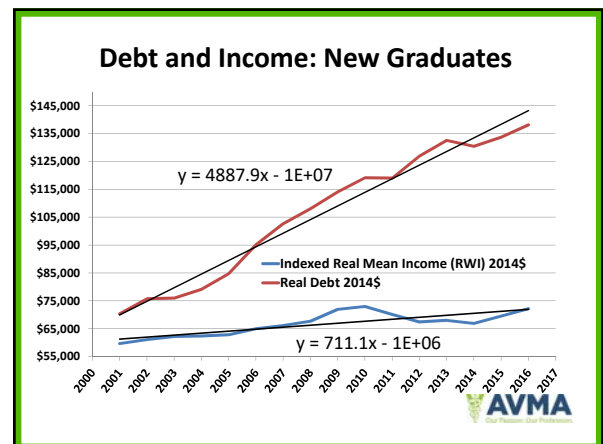
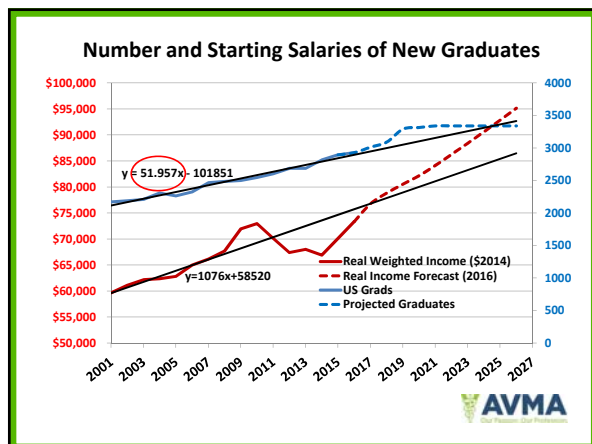
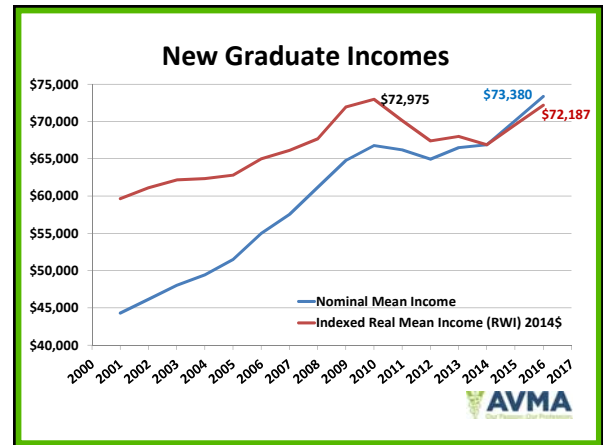
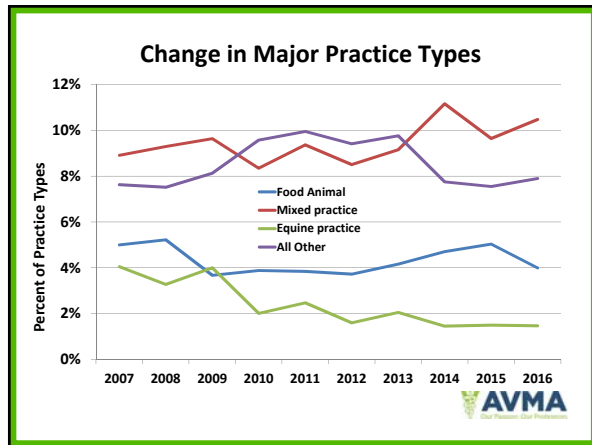
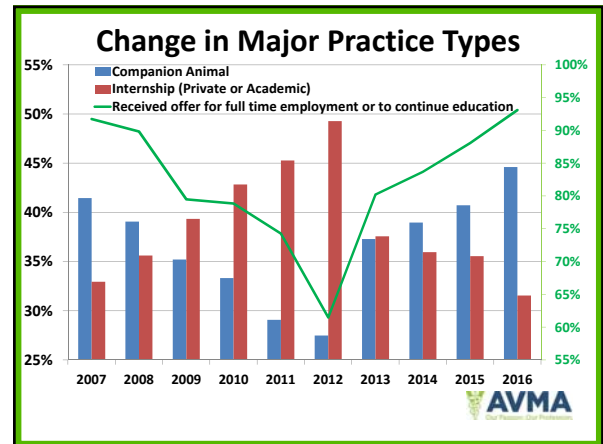
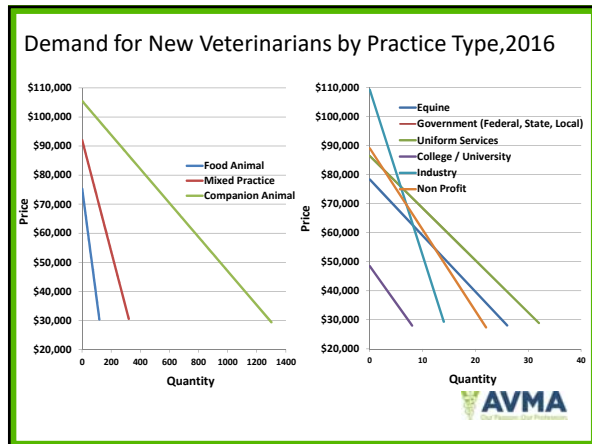


Debt and Income's Effect on NPV, Females

Debt	Income						Break-even income:
	\$30,000	\$40,000	\$50,000	\$60,000	\$70,000	\$80,000	
\$0	-533,229	-252,658	27,913	308,483	589,054	869,624	\$49,005
\$50,000	-587,991	-307,421	-26,850	253,720	534,291	814,861	\$50,957
\$100,000	-642,754	-362,184	-81,613	198,957	479,528	760,098	\$52,909
\$150,000	-697,517	-416,947	-136,376	144,194	424,765	705,335	\$54,861
\$200,000	-752,280	-471,710	-191,139	89,431	370,002	650,572	\$56,813
\$250,000	-807,043	-526,473	-245,902	34,668	315,239	595,809	\$58,764
\$300,000	-861,806	-581,236	-300,665	-20,095	260,476	541,046	\$60,716
Break-even debt:	n/a	n/a	25,485	281,653	537,821	793,989	



42



New Veterinarian Community

2013-2016

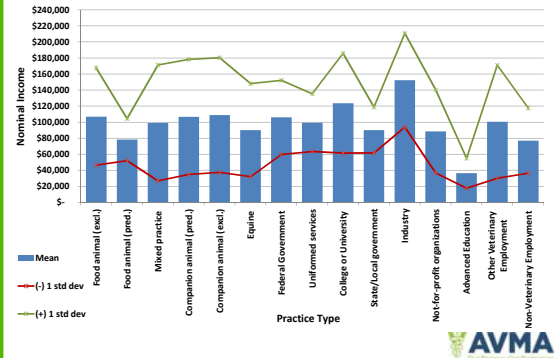
Grew Up In	Found Employment In			
	Rural	Suburban	Urban	Total
Rural	757	320	140	1,217
Suburban	1,164	3,804	842	5,810
Urban	480	994	1,674	3,148
Total	2,401	5,118	2,656	10,175

2016

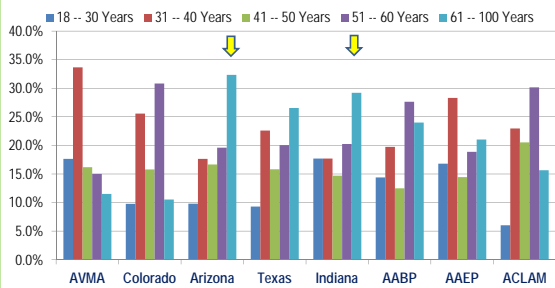
Grew Up In	Found Employment In			
	Rural	Suburban	Urban	Total
Rural	204	71	38	313
Suburban	316	982	210	1,508
Urban	133	258	398	789
Total	653	1,311	646	2,610



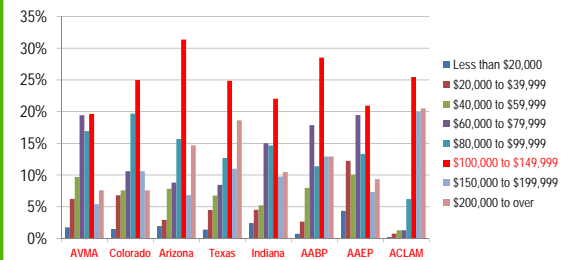
Mean Professional Income by Type of Practice



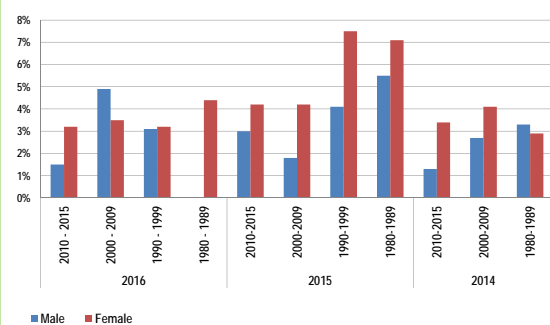
Respondents by Age Group



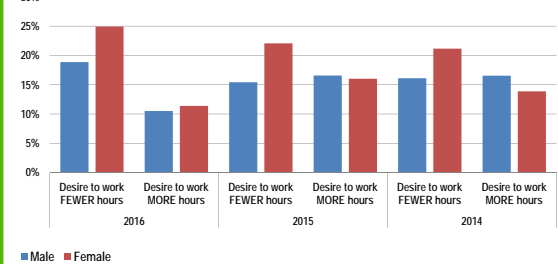
Respondents by Income Range



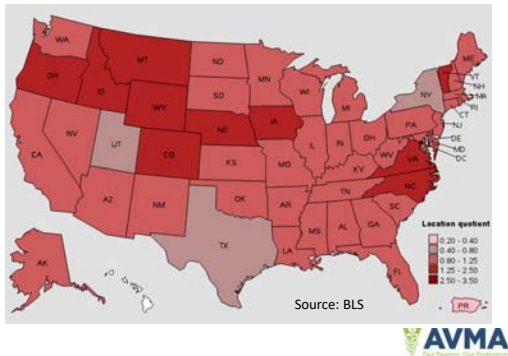
Unemployment by Gender and Year of Graduation



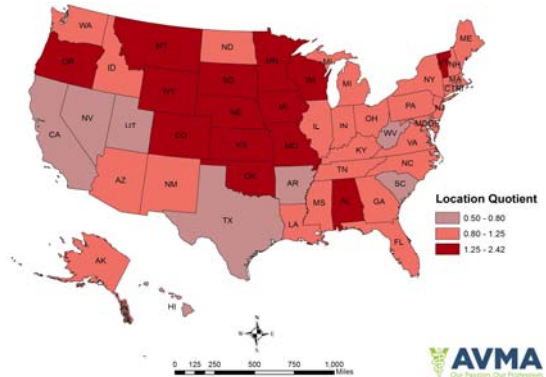
Underemployment Work Preference by Gender



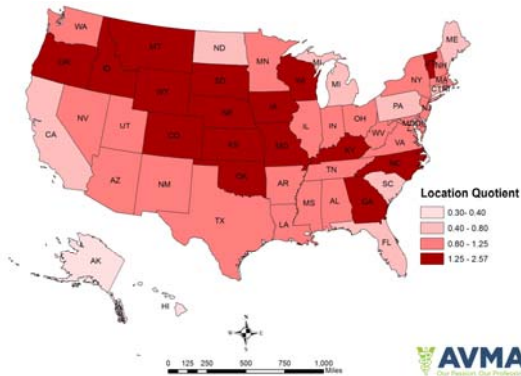
Location Quotient of Veterinarians by State, 2015



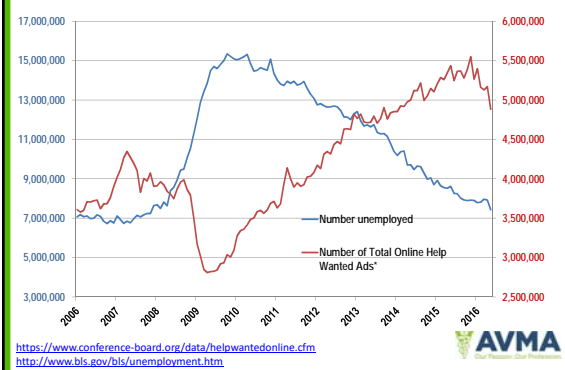
Location Quotient of AVMA Veterinarians by State, 2016



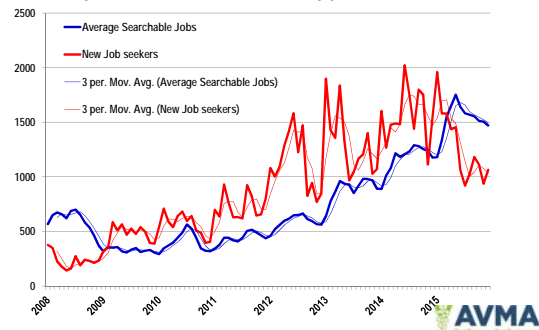
Location Quotient of New Veterinarians by State, 2016



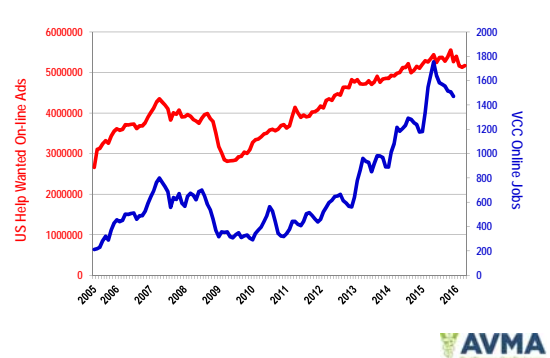
US Online Jobs and Unemployment

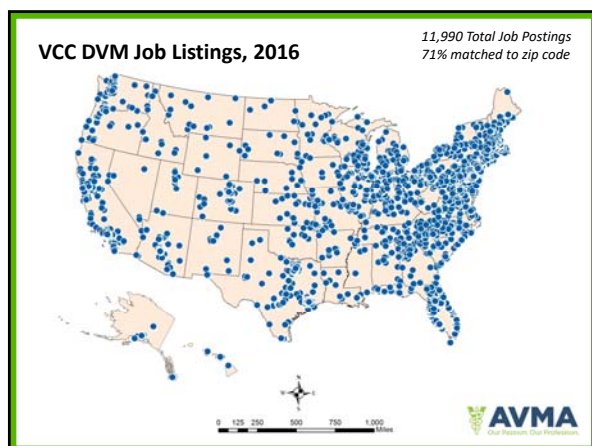
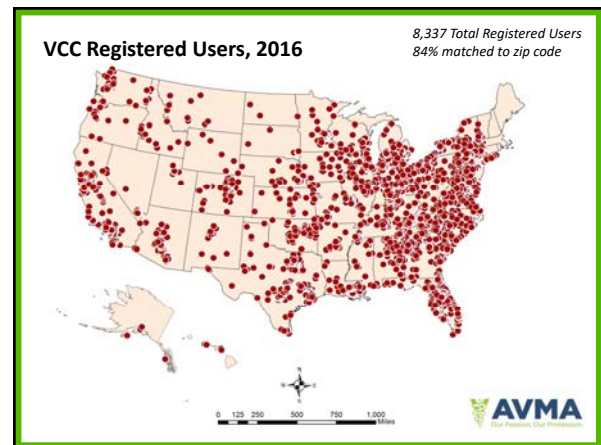
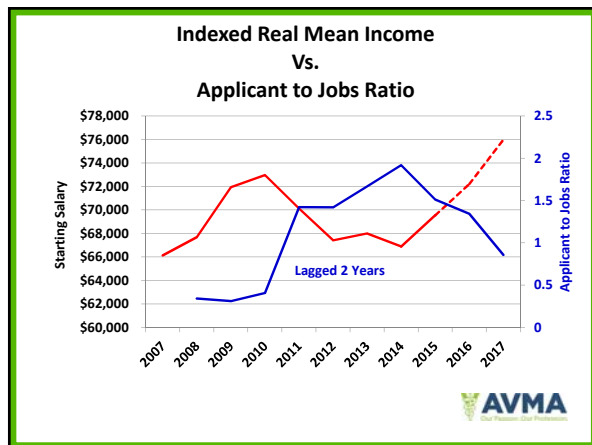
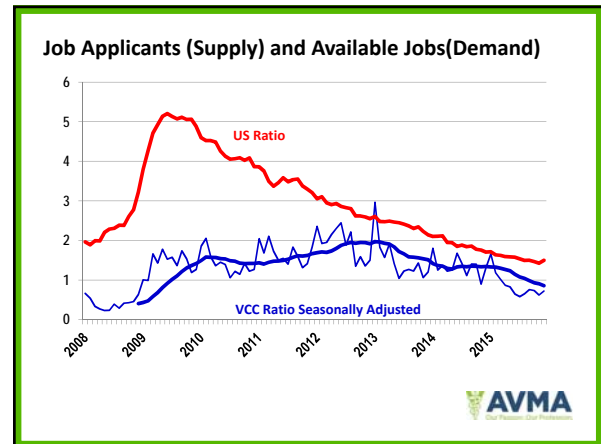
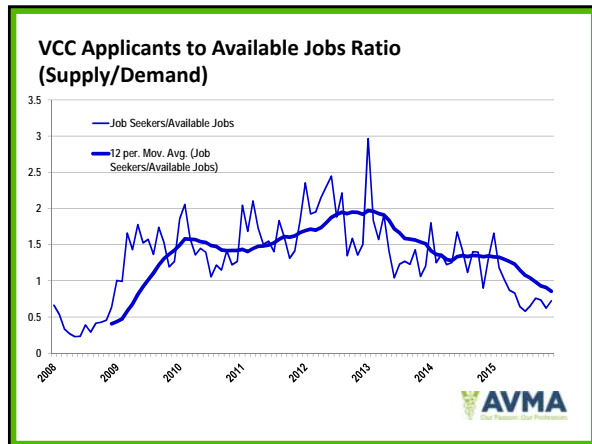


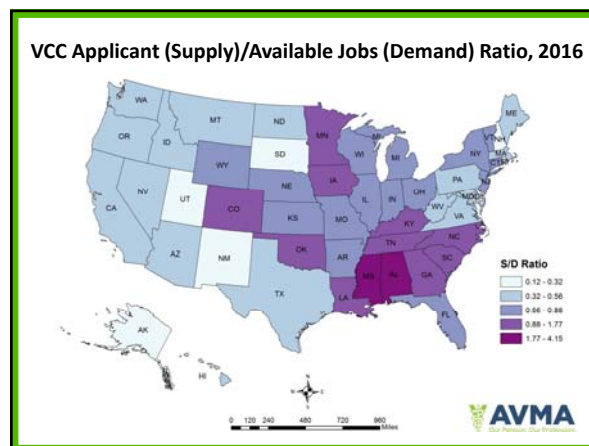
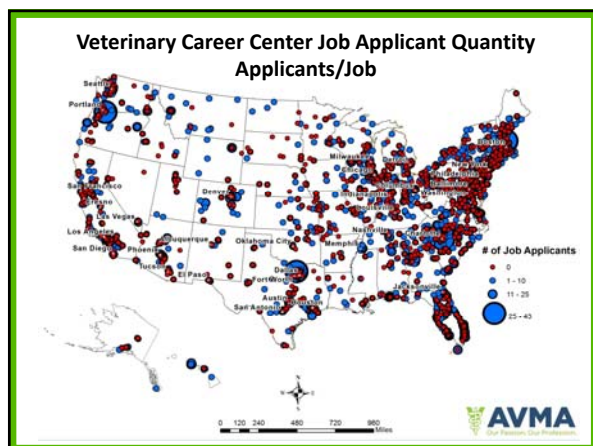
Veterinary Career Center (VCC) Seasonally Adjusted Monthly Numbers of Jobs and Applicants



US and VCC On-line Jobs







Average Level of COMPETENCIES

- Advising Clients On Nutrition 2.89
- Interpretation Of Ultrasound Examinations 2.64
- Orthopedic Surgery 2.00
- Management Of Reproductive Programs 2.69
- Evaluation Of Disease Outbreaks 2.93
- Veterinary Medicine A Business 2.54
- Community Educational Presentations 2.87



69

New Graduates/Millennials

- Overwhelmed
 - 94% of students overwhelmed by lifestyles
 - 44% so depressed its difficult to function
 - 10% considered suicide in past year
- Over-connected
 - Online to perform or escape reality
 - Under-developed face-to-face people skills
- Overprotected
 - Under-developed resilience/risk taking
- Overserved
 - Every need met

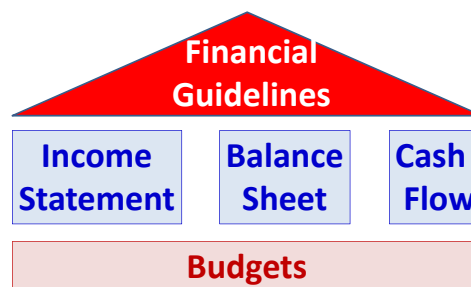
Tim Elmore "Generation IY, Our Last Chance to Save Their Future"

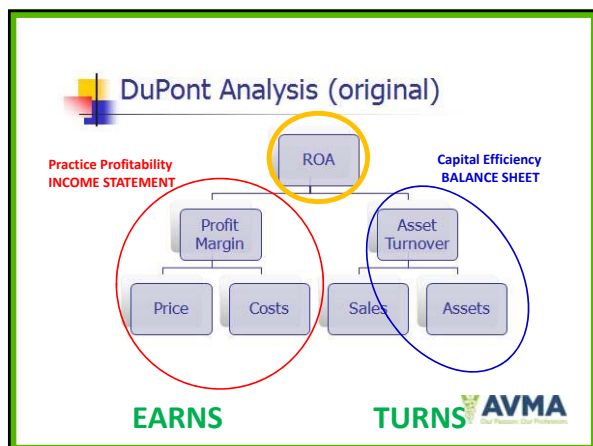


Veterinary Practices



Measurement = Finance





2015 Financials for Major Corporations (Billions of Dollars)

	Ford Motor	Henry Schein	Zoetis	Merck	Colgate	Microsoft
Total Revenue	\$149.60	\$10.63	\$4.77	\$39.50	\$16.03	\$85.30
Gross Income	\$7.65	\$0.73	\$0.75	\$6.93	\$2.79	\$20.18
Profit Margin	5.11%	6.90%	15.74%	17.54%	17.39%	23.66%



2015 Financials for Major Corporations (Billions of Dollars)

	Ford Motor	Henry Schein	Zoetis	Merck	Colgate	Microsoft
Total Revenue	\$149.60	\$10.63	\$4.77	\$39.50	\$16.03	\$85.30
Gross Income	\$7.65	\$0.73	\$0.75	\$6.93	\$2.79	\$20.18
Profit Margin	5.11%	6.90%	15.74%	17.54%	17.39%	23.66%
Total Assets	\$224.93	\$6.50	\$7.91	\$101.78	\$11.96	\$193.69
ATI	0.67	1.64	0.60	0.39	1.34	0.44



2015 Financials for Major Corporations (Billions of Dollars)

	Ford Motor	Henry Schein	Zoetis	Merck	Colgate	Microsoft
Total Revenue	\$149.60	\$10.63	\$4.77	\$39.50	\$16.03	\$85.30
Gross Income	\$7.65	\$0.73	\$0.75	\$6.93	\$2.79	\$20.18
Profit Margin	5.11%	6.90%	15.74%	17.54%	17.39%	23.66%
Total Assets	\$224.93	\$6.50	\$7.91	\$101.78	\$11.96	\$193.69
ATI	0.67	1.64	0.60	0.39	1.34	0.44
ROA	3.40%	11.29%	9.48%	6.81%	23.32%	10.42%



Why Earnings/Turns Are Important?

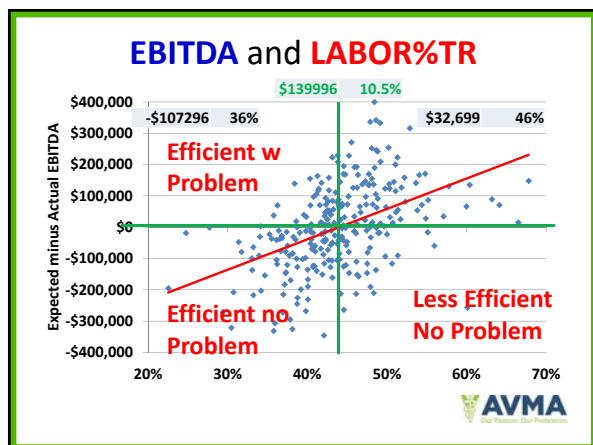
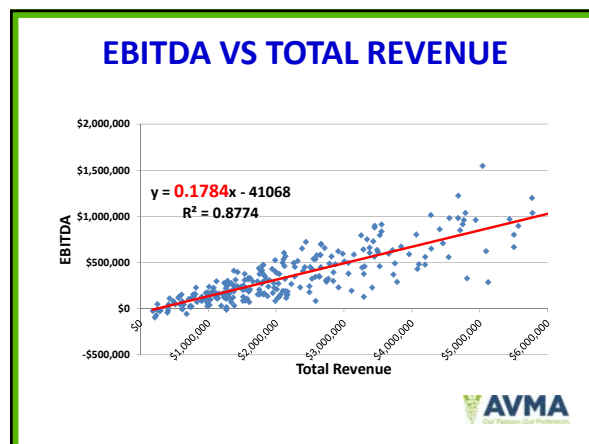
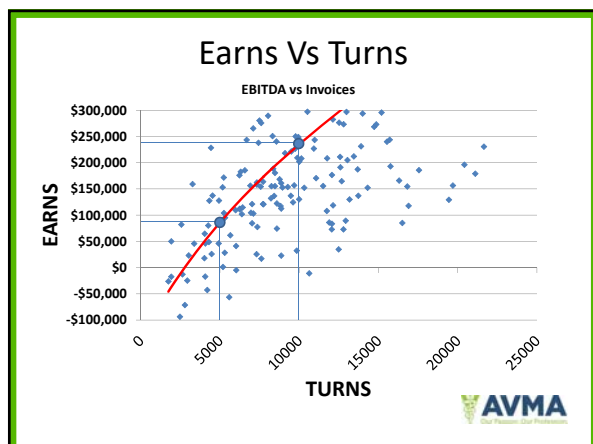
- Profit Margin - firm's ability to generate funds internally and thereby increase its sustainable growth (**EARNINGS**)
- Total Asset Turnover. Firm's ability to use assets to generate income and reduce capital intensity. (**TURNS**)
- They are industry specific and should be compared among peer firms



Focus on Earnings or Turns?

- **EARNINGS** - Price less Cost of goods and services.
- **TURNS** – number of Invoices or Clients
- **What is the relationship between EARNINGS and TURNS?**





- ### Goodwill Value
- attributed to intangible items like reputation, future growth, brand recognition, or human capital
 - Three Methods to compute
 - Average Profits
 - Average Profit X Number of Years/N
 - Super Profits
 - Profits above average
 - Capitalization of Profits
 - Capital required to generate super profits

2015

	Normalized EBITDA*	Percent	Value @ 5X ⁽¹⁾
Top 20%	\$675,000	25%	\$3,375,000
Global	\$423,000	16%	\$2,115,000

*Earnings before interest, taxes, depreciation & amortization – owner compensation at 20% of production, and rent at 6% of gross revenue
(1) Historical multiple – recently switched to 6X

More Services- Preventive Care

Average Potential Revenue of VPAT Practices				
Practice Services/Products	Revenue Opportunity	Practice Fee	AAHA Fee	% Compliant
Preventive Care Exam	\$120,702	\$46.23	\$42.10	46 %
Dental	\$251,291	\$113.63	\$100.64	10 %
Heartworm Testing	\$96,962	\$40.38	\$43.89	30 %
Heartworm Prevention	\$363,770	\$12.74	\$6.97	20 %
Flea and Tick Prevention	\$887,467	\$20.28	\$10.15	10 %
Nutrition	\$1,092,335	\$132.00	\$245.00	12 %
Total Avg Revenue Potential	\$2,812,527			

Practice Measure	Average of VPAT Practices
Practice Gross Revenue	\$1,566,504
Number of Vets per Practice	2.3
Number of Active Patients per Practice	5381
Number of Active Canine Patients per Practice	3319
Total Avg Revenue Potential	\$2,812,527

Of the patients you refer, do they typically

Life Expectancy	Freq.	Percent	Cum.
Expire sooner than expected	1	1.35%	1.35%
Live about what you'd expect	60	81.08%	82.43%
Live longer than you'd have expected	13	17.57%	100%
Total	74	100%	



How often does your practice refer cases to a specialist

Refer to a Specialist	Freq.	Percent	Cum.
20+ per month	6	7.89%	7.89%
11-20 per month	4	5.26%	13.16%
6-10 per month	20	26.32%	39.47%
1-5 per month	44	57.89%	97.37%
0 per month	2	2.63%	100%
Total	76	100%	



For the patients you refer to specialists, your patients return for follow-up and continued preventive care.

Patient Follow-Up	Freq.	Percent	Cum.
Disagree	4	5.26%	5.26%
Neutral	12	15.79%	21.05%
Agree	32	42.11%	63.16%
Strongly agree	28	36.84%	100%
Total	76	100%	



About what percentage of your referred patients return to your practice?

Patient Return	Freq.	Percent	Cum.
Less than half of referred patients return to my practice	3	3.95%	3.95%
50-60%	1	1.32%	5.26%
60-70%	1	1.32%	6.58%
70-80%	6	7.89%	14.47%
80-90%	24	31.58%	46.05%
90% or more of referred patients return to my practice	41	53.95%	100%
Total	76	100%	



ENHANCE YOUR OPPORTUNITIES FOR SUCCESS

Fourth AVMA Economic Summit
Chicago, Illinois September 10, 11, 12, 13, 14, 15, 16

NEED MORE INFORMATION?

<https://www.avma.org/PracticeManagement/BusinessIssues/Pages/default.aspx>

DVM360 EYE ON ECONOMICS
Exploring Veterinary Economics

