



Nationwide® | Purdue
**Veterinary
Price Index**

July 2017 update



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The Nationwide® | Purdue Veterinary Price Index: Medical treatments push overall pricing to highest level since 2009

Analysis of more than 23 million medical and well-care veterinary treatments with a combined value of \$2.372 billion shows the U.S. veterinary pricing recovery continued through all of 2016.

Executive Summary

Driven by a strong recovery in payments for medical services, veterinary costs continued to rise through the end of 2016. The steady increase that began in 2015 has finally eclipsed the period of stagnation from 2009 through 2014, according to data analyzed for the July 2017 refresh of the **Nationwide® | Purdue Veterinary Price Index**.

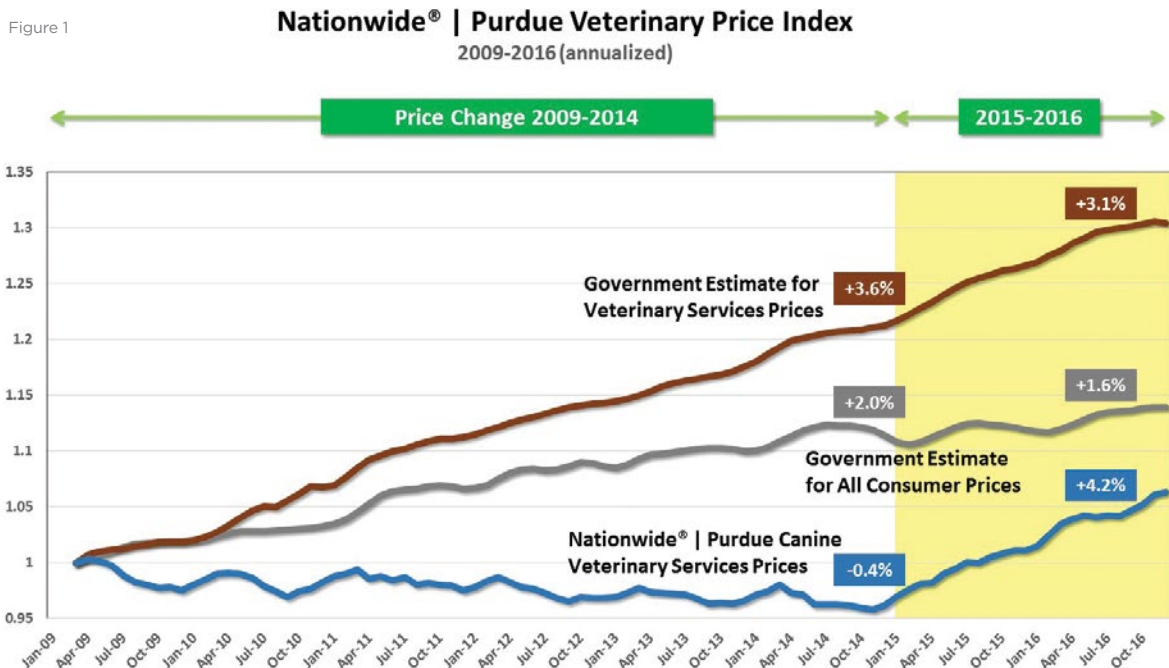
The Nationwide | Purdue study reveals a 4.2% annual increase overall in veterinary pricing during the period of January 2015 through December 2016. From 2009 through the end of 2014, veterinary pricing decreased 0.4% annually. *Figure 1.*

The Index analyzed more than 23 million pet health treatments from January of 2009 through December of 2016 with a total value of \$2.372 billion. The benchmark semi-annual economic review shows both medical and well-care pricing increasing from the start of 2015 through the end of 2016 at a faster rate than the rise in the U.S. Consumer Price Index (CPI). The recovery continues to be strongest in geographic areas

identified as urban or Midwest, although all geographic and population density areas saw increases over the 2015-2016 period.

The continued increase in the price index is being driven more by medical treatments than by well-care services. By comparison, the U.S. Consumer Price Index reports a 1.6% annual increase for all consumer spending on goods and services over the same period, and the federal government's reporting on veterinary pricing reflects only a 3.1% annual increase for the same time span.

Analysis of January 2015 through December 2016 claims by region and population density shows



widespread price recovery. The Midwest, for example, posted a 6.0% annual increase in the 24-month period (compared to a 0.1% annual increase from 2009-2014). Veterinary pricing in urban areas, already highest in the nation, rose 5.0% in the 24-month period since pricing hit bottom for the entire study period. From 2009-2014, urban pricing was flat, at 0.0%.

The **Nationwide | Purdue Veterinary Price Index** is an ongoing collaboration between Nationwide and economists from the Krannert School of Management at Purdue University. Based on more than 23 million pet health insurance treatments filed with Nationwide (formerly Veterinary Pet Insurance® or VPI®) since 2009, the **Nationwide | Purdue Veterinary Price Index** reflects an accurate



look at veterinary pricing by focusing on actual transactions, the final dollar amounts of invoices paid by pet-owners.

With more than 600,000 insured pets, Nationwide is the first and largest pet health insurance provider in the United States. The **Nationwide | Purdue Veterinary Price Index** is refreshed and released twice a year.

Background

The pet-care industry has been recognized as a considerable force in the U.S. economy, estimated to be worth \$66.75 billion by the American Pet Products Association (APPA) in 2016, with a projected value of \$69.36 billion in 2017.¹

The APPA values the veterinary sector at \$15.95 billion (2016), behind spending on pet food, pet supplies and over-the-counter medications. As the popularity of companion animals and the amount spent on them continues to climb, both anecdotal reports from pet owners and statistical releases from the U.S. government held that the cost of veterinary care had risen more quickly than pricing for all consumer prices.

In late 2014, Nationwide began a collaboration with the Krannert School of Management at Purdue University to examine companion animal pricing data within the veterinary industry, based on actual claims data for medical and well-care treatments. The relationship was developed to provide third-party access to data proprietary to Nationwide, under the business unit formerly known as Veterinary Pet Insurance (VPI). Nationwide has its own expert research team for both the financial and medical analysis of its peerless database of



pet health insurance claims. However, the industry-academic collaboration was formed to provide a more independent analysis of veterinary pricing.

The inaugural **Nationwide | Purdue Veterinary Price Index** was presented at the North American Veterinary Community conference in January of 2015, with a refresh of the data and a subsequent analysis presented at the American Veterinary Medical Association convention in July of the same year. This pattern of presentation continues, with semi-annual refreshes of the data and analysis planned for upcoming NAVC conferences (recently rebranded as VMX) and AVMA conventions.

Concurrently, the reports are publicly released along with an overview of the original methodology on the website NationwideDVM.com. Further releases are provided on NationwideDVM social media platforms. Additionally, presentations have been and continue to be made to veterinary organizations. Panel discussions and presentations have also been provided at other major veterinary conferences, such as the Western Veterinary Conference and the CVCs.

The **Nationwide | Purdue Veterinary Price Index** has made news since its inception. First, by countering the federal government’s narrative on veterinary price increases, and then by tracking a trend shift reclaiming the pricing ground lost from 2009-2014. Articles covering the semi-annual reports have appeared in DVM360/Veterinary Economics, JAVMA news, and other prominent and well-respected industry journals, websites and publications. These

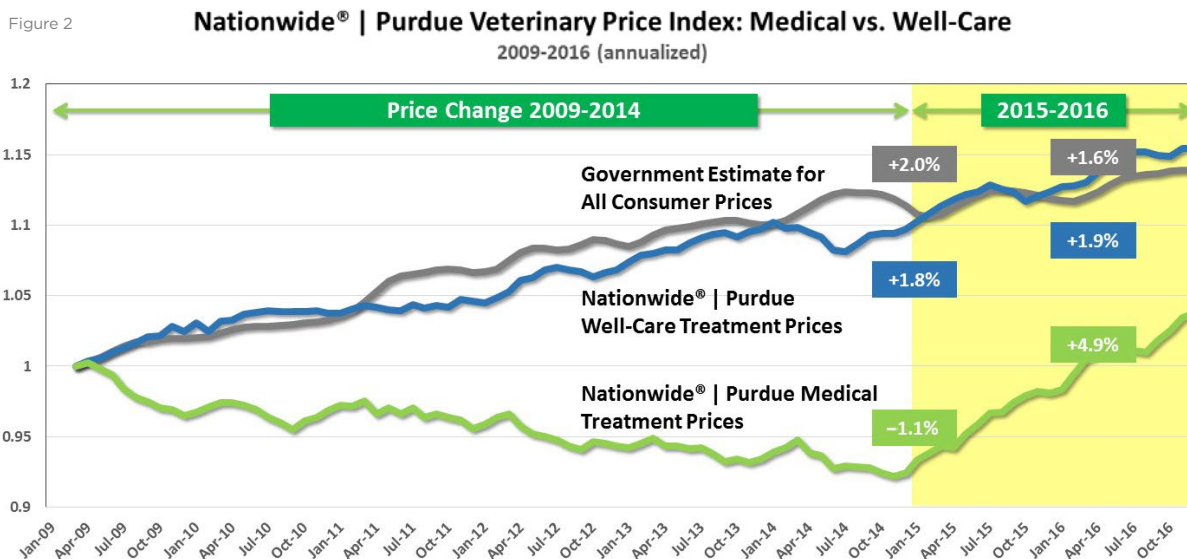


reports helped establish the Nationwide | Purdue index as a key industry benchmark.

Nationwide data shows continued veterinary pricing recovery

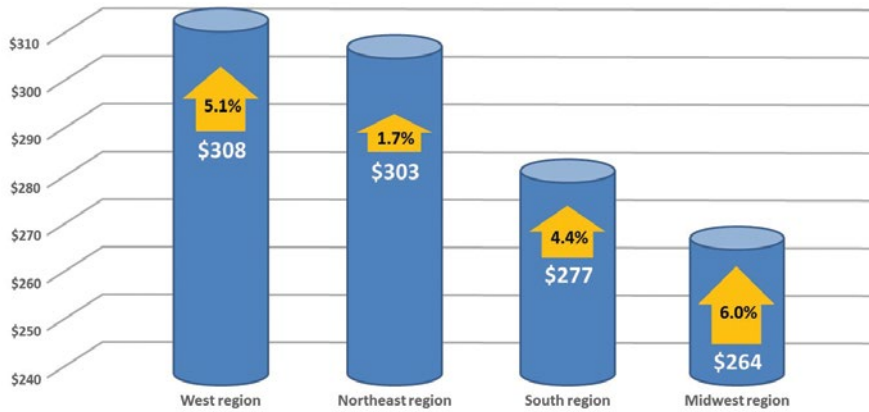
As the collaboration between Nationwide and the Krannert School of Management at Purdue University continues into a full third year, the index has captured the previous multi-year decline in veterinary pricing, the current recovery, and most importantly, the point at which the trajectory reversed.

After hitting bottom in December of 2014, veterinary pricing has seen steady increases ever since. Based on the Nationwide | Purdue analysis, strong increases in the overall index during the 24-month period beginning in January of 2015 (4.2% annual rate) have been driven by the recovery of pricing for medical care (4.9% annual rate) more than by wellness care (1.9% annual rate). *Figure 2.*



2016 Average Weighted Prices by Region Percent of change during 24 months of 2015-2016

Figure 3



The four regions and their respective underlying divisions are defined as follows: The Northeast (New England and Mid-Atlantic states); the Midwest (East North Central and West North Central states); the South (South Atlantic, East South Central, and West South Central states); and the West (Mountain and Pacific states).

Despite the recovery in veterinary pricing overall and strong percentage gains since January 2015, the movement in veterinary pricing still tracks well below both the U.S. government estimate of veterinary pricing and the U.S. Consumer Price Index.

Differences across regions and across areas of different population densities continue to reflect the pricing pressures in play. Both of the more modest regions for veterinary pricing – the South and the Midwest – were first to show price increases in early 2015. Now all four regions show an increase in the 24-month period that began in January of 2015. Notably, the Midwest’s previous double-digit increase in 2015 has cooled to a 6.0% annual increase with the addition of all data from 2016.

The Western region is now the nation’s most expensive for veterinary care, with the Northeast falling to a close second after a multi-year run at the top. The South and Midwest are likewise closely paired in pricing, at the other side of a pricing gap below the other two regions. Pricing in all four regions gained in the 24-month period that began in January of 2015.

Figure 3.

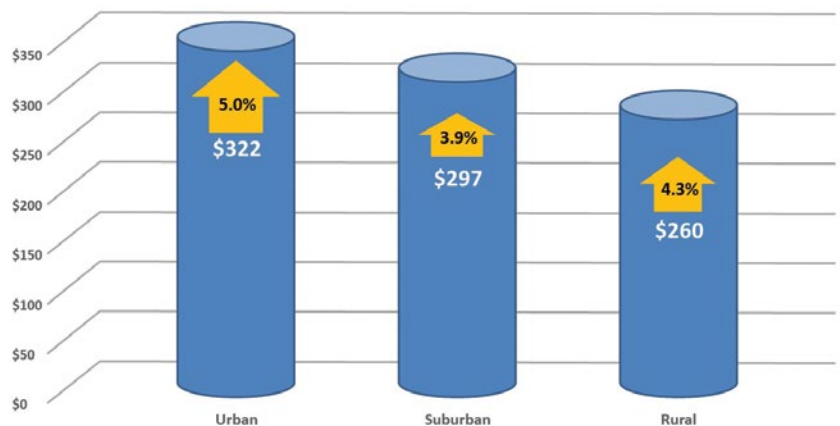
An analysis of pricing in various population densities for the 24-month study period revealed an increase from data reflecting 2015 pricing alone, with the exception of suburban areas. Overall, urban, suburban and rural areas all showed increases in pricing during the 24-month study period. Suburban pricing showed a 4.4% annual increase when 2015 was considered alone, cooling to a 3.9% annual increase when the entirety of 2016 was added. Urban and rural price gains, 5.0% and 4.3% annual rates respectively, were higher than the increase in 2015 with the addition of the 2016 data. Figure 4.

Methodology

The Nationwide database breaks down claims filed by policyholders into specific treatments. The expense of each treatment is separately recorded in the claims database. The **Nationwide | Purdue Veterinary Price Index** analysis started with this claims database for services purchased by Nationwide (previously known as Veterinary Pet Insurance) members from 2009 to 2016. The bulk of the database is comprised of canine claims, so the focus of analysis is on veterinary services for

2016 Average Weighted Prices by Population Density Percent of change during 24 months of 2015-2016

Figure 4



The three settings are based on the density of population (number of people square mile) for the ZIP code of the providers of the veterinarian services. Urban settings are ZIP code tabulation areas (ZCTA) with a population density equal to or above 5,000 people per square mile. Suburban settings are ZCTAs with a density between 1,000 and 5,000 people per square mile. Rural settings are ZCTAs with a population density less than or equal to 1,000 people per square mile.

dogs. Approximately 85% of insured pets across the pet health insurance industry are dogs.

The resulting dataset contains 1,339 distinct treatments for canines. The dataset classifies 1,212 of these treatments as “medical” treatments; the remaining 127 are classified as “well-care” treatments.

To construct a price index, it is important to have a large number of price observations of specific treatments spread over the entire time period being considered. The analysis was thus limited to canine treatments that are commonly observed in the claims data. Only treatments that have at least 5,000 claims over the eight-year period from 2009 to 2016, inclusive, and at least 500 claims each year during this period were considered. This reduces the number of canine medical treatments to 169, and reduces the number of well-care treatments to 42. The resulting dataset of “common” treatments for canines, however, still represents 82% of the total claim value recorded across all treatment codes. *Figure 5.*

To remain consistent on a year-over-year comparison basis, the 2013 base year for the basket of treatments was again used to calculate these indices. Movement in the price indices reflect only price changes as the proportion of claims of each type are held constant at the level observed in 2013. In April 2014, VPI had a change in its claim process that impacted the way physical exam costs were represented in the dataset. In order to preserve

Well-Care		Medical	
Vaccination Bordetella	1.036M	Atopic or Allergic Dermatitis	574K
Physical Exam	1.011M	Otitis Externa	568K
Heartworm Test	992K	Pyoderma	394K
Fecal Test	944K	Gastritis	289K
Vaccination DHL-P	892K	Osteoarthritis	275K
Vaccination Parvovirus	827K	Enteritis	263K
Vaccination Rabies	643K	Cystitis	225K
+35 other treatments		+162 other treatments	

The frequency of the treatment is based on claims data from Nationwide® for the period 2009-2016.

Figure 5

consistency of the data before and after April 2014, the affected physical exams after April 2014 and those that would have been affected prior to April 2014 were excluded from the analysis. More than 80% of the physical exams were retained in the analysis.

The resulting **Nationwide | Purdue Veterinary Price Index** reflects important differences from the index of veterinary prices released by the U.S. government in critical ways. *Figure 6.*

The **Nationwide | Purdue Veterinary Price Index** is based on millions of transactions, building a true picture of veterinary services and pricing from a granular perspective. The U.S. government’s aggregated approach is based on hundreds of interviews, its final numbers a single brushstroke in the larger picture of consumer prices. By contrast, the **Nationwide | Purdue Veterinary Price Index** was solely intended to use the depth and breadth of the company’s historic database to develop a picture that accurately depicts veterinary service pricing. The index reflects not only millions of actual transactions but also the larger trend toward preventive and well-care.

A more detailed accounting of the original methodology can be downloaded from the resources section of NationwideDVM.com.



Figure 6



Summation

This latest refresh of the **Nationwide | Purdue Veterinary Price Index** continues to show the strong pricing recovery reported in the previous semi-annual analyses. After years of falling veterinary prices reflected in pet health insurance claims, Nationwide's data through the end of 2016 confirms increases across all sorts of claims, all regions and all types of population densities. Over the 2009 to 2016 period covered by the Nationwide | Purdue analysis, however, veterinary pricing still significantly lags cumulative pricing increases for other consumer goods and services. Despite the increase reflected in data from January 2015 through December 2016, the Nationwide | Purdue analysis of millions of actual claims shows veterinary pricing still remains below federal government estimates of the cost of veterinary services.

The next refresh of the **Nationwide | Purdue Veterinary Price Index** will be released in the early 2018 at the North American Veterinary Community's VMX conference. That study will reflect claims data from the first half of 2017.

Nationwide considers such uses of its data to be of service not only to the small animal veterinary community but also to the broader community

in the pet-care services industry, individual pet owners and Nationwide members. The ongoing commitment to the **Nationwide | Purdue Veterinary Price Index** represents a considerable investment in service to those overlapping communities.

In providing data to show trends in veterinary pricing, Nationwide continues to deliver on its promise to the veterinary community to provide information that will help pet owners and veterinarians work together as a team for the better health of companion animals that are so important to the continued well-being of people of all ages.

All releases of the **Nationwide | Purdue Veterinary Price Index** are available on Nationwide Chief Veterinary Medical Officer Dr. Carol McConnell's website for the veterinary community, NationwideDVM.com. Future releases will be posted there as soon as the information is made public.

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¹ "Pet Industry Market Size & Ownership Statistics," American Pet Products Association, February 2017.

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