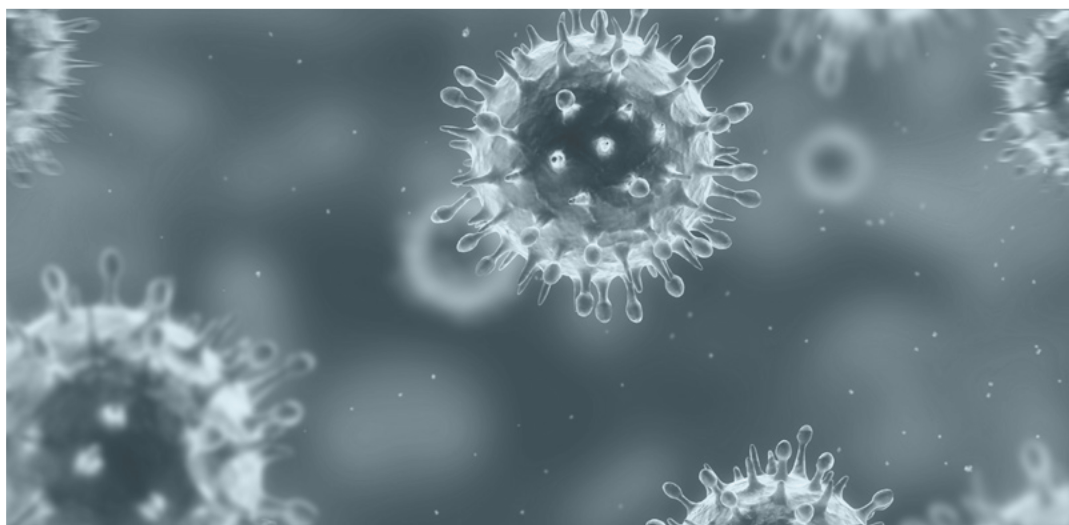




ANALYSIS REPORT:

How Consumers and Media Feel About the Flu Vaccine



A collaboration between MediaMiser and Treato

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INTRODUCTION & EXECUTIVE SUMMARY

Doctor doesn't always know best: Last year's flu vaccine boasted a lowly 13 percent effectiveness rate, a fact which probably wasn't missed by the thousands who got sick. Despite a widely-covered report from federal health officials, that this year's vaccine will be much more potent, many consumers still remain skeptical of the flu shot.

So MediaMiser and Treato have joined forces to better understand how both consumers and the news media feel about the flu vaccine. Together we analyzed media coverage of this year's flu vaccine, along with how consumers discussed in online forums whether or not to get this year's flu shot. Treato also surveyed 700 of its users to get their feedback on the flu vaccine.

Our overarching finding is that, while online chatter was mostly focused on potential side effects of the vaccine — particularly among parents — most media coverage was the opposite. Indeed, most online news coverage played up the importance and safety of getting this year's flu shot.

Apparently it's going to take more than positive press coverage to convince some consumers that getting the flu shot is worth it.

OTHER KEY FINDINGS IN OUR ANALYSIS INCLUDED:

- + Media outlets are very pro-flu shot, in general, and for the most part didn't include anti-vaccine viewpoints in their coverage. Alternatively, online consumers appear very mistrustful of the flu shot in online discussions.
- The media's push for positive coverage of the flu shot did not seem to affect online patient discussions about flu vaccine side effects. It was noted that in these online discussions, health consumers did not regularly source media articles
- + The media is mostly pushing a positive effectiveness message when talking about the flu shot, whereas online health consumers are mostly discussing potential side effects as a reason not to get the shot.
- The most active online discussions about the flu shot are in parenting forums, where sentiment is largely anti-vaccine.
- + However, pregnant women did positively discuss the flu shot and encourage each other to get the vaccine.
- Online consumers are generally unaware of last year's low efficacy rate and are more actively discussing potential side effects as a reason not to get the flu shot.
- + Online consumers are largely against the flu shot, yet those who do get the flu shot are committed and seem to get it every year.

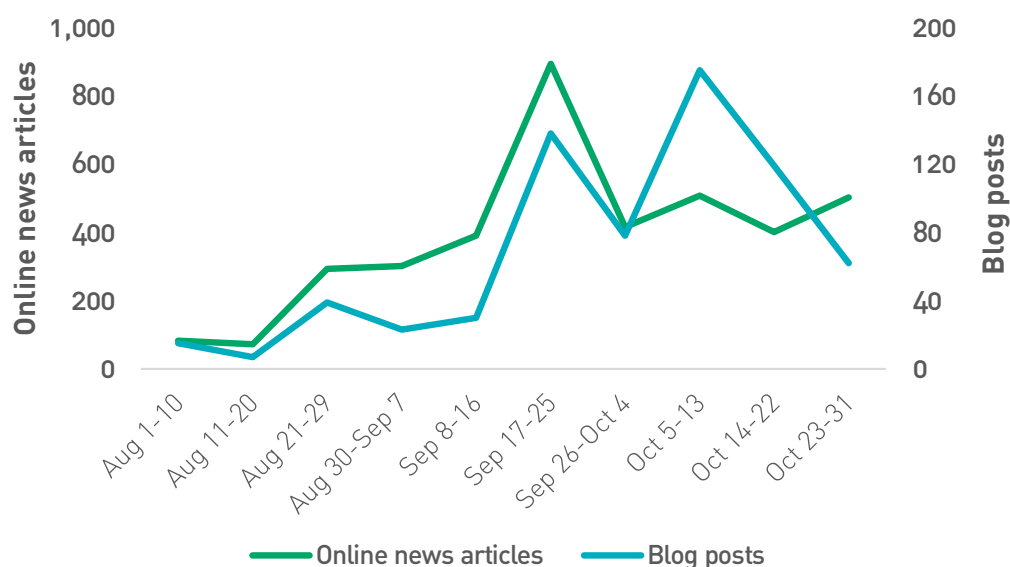


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COVERAGE TREND

(ONLINE NEWS AND BLOGS)



The above graph shows the coverage trend for all flu shot/flu vaccine online news and blog coverage.

COVERAGE HIGHLIGHTS

- ▶ The six most prominent areas of media focus were **Effectiveness, Accessibility, the Centre for Disease Control, Children, Seniors, and Skepticism/Fear of Side Effects** (although the final category was limited to just three per cent share of voice. Categories are explored further on page 12).
- ▶ While several news articles addressed the failures of 2014's flu shot, there was also a focus during the coverage period on reassurances of an improved vaccine. These pieces were not viewed as negative as the focus was on this year's drive. Similarly, the CDC was featured in coverage regarding the effectiveness of this year's flu shot after last year's unusual strain. This coverage noted that children and seniors are especially vulnerable and should be some of the first to receive the shot.
- ▶ Many news items were driven by joint announcements by health and education officials underlining the importance of getting the shot. Coverage also noted that under the U.S. Affordable Care Act, flu shots are free if you have insurance. There were also several free flu shot clinics highlighted in media coverage.
- ▶ A significant campaign in seven U.S. states in October allowing uninsured Americans to get flu shots at no cost thanks to an agreement between AmeriCares and Walgreens was covered in several blog postings and news articles.
- ▶ Regarding effectiveness, there were several reports on links between the flu shot and other medical conditions. One report noted that the flu shot can reduce your stroke risk, while another noted that popular cholesterol medications known as statins can reduce the flu shot's effectiveness.

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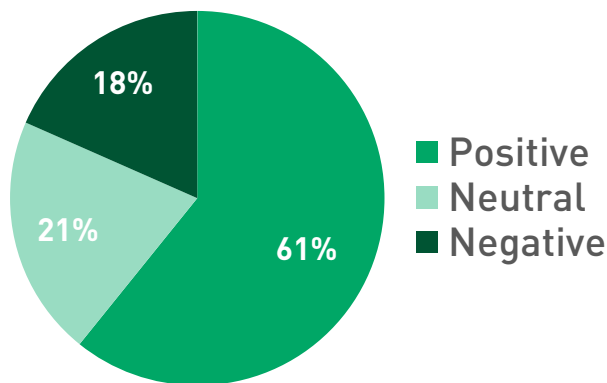
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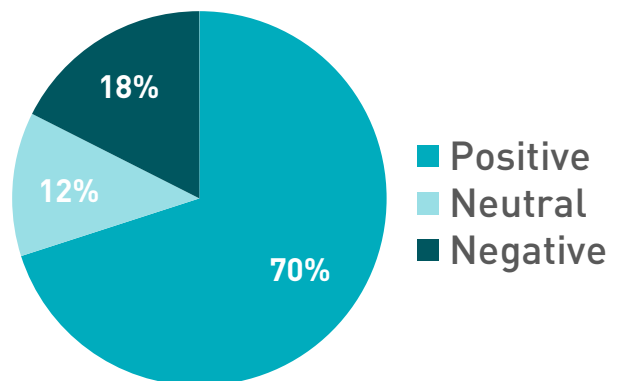
SENTIMENT TOWARD THE FLU VACCINE

(ONLINE NEWS AND BLOGS)

SENTIMENT (ONLINE NEWS)



SENTIMENT (BLOGS)



SENTIMENT BREAKDOWN

- ▶ The vast majority of both online and blog content was positive. Most content consisted of reassurances about the importance and safety of getting the flu vaccine, and there were very little so-called “anti-vaxxer” viewpoints featured in media stories.
- ▶ It’s worth noting that the proportion of negative coverage was essentially equal in both mediums, however, at close to 20 percent.
- ▶ As mentioned, media reports placed a strong focus on reassurances of an improved vaccine for this season. Nearly 300 articles directly quoted CDC Director Dr. Tom Frieden, noting that this year’s vaccine should be a better match after “last year’s abnormal strains” (“What You Need to Know About This Year’s Flu Season” in *Huffington Post*, Oct. 21, 2015).
- ▶ There was some negative commentary appearing in around 40 articles by Lisa Esolen, medical director of infection prevention and control at Geisinger Health System, noting that the vaccine was not fully effective in protecting the community against all strains of influenza. As a result, “there was a significant drop in the number of people that received flu shots” last year, according to the story. There was also concern voiced that this experience may make people “skeptical” of receiving the vaccine this year (“Needle that nasty bug” in the *Athens Daily Review*, Oct. 6, 2015).
- ▶ A well-covered negative story (featured in 22 articles) about vaccine-injured children and adults seeking compensation from the U.S. federal government focused on Brooke Searles, who ended up in a wheelchair after a flu shot in 2011 left her unable to walk (“Vaccine-injured children, adults can seek compensation from federal government” in the *Los Angeles Daily News*, Aug 2, 2015)



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SURVEY: DO FLU SHOTS SUCK?

A Treato survey of more than 700 of our users to find what they think about the flu shot. Along with the results below, we've also included various results charts from the survey over the next few pages.

Here's what we learned:

People really don't like getting flu shots

More than half of survey participants said they don't plan on getting a flu shot this year. And 63 percent of survey participants who said they don't plan on getting a flu shot this year are parents.

When asked why, 39 percent of survey participants were concerned about side effects, 24 percent were concerned about effectiveness, 16 percent believe the shot gives you the flu, 12 percent are allergic and 9 percent were concerned about cost (see chart, page 11).

Most people haven't heard about last year's low efficacy rate

Only 38 percent of survey participants said they heard last year's flu shot was less effective than usual. Of those who got a flu shot, only 36 percent of survey participants heard last year's flu shot was less effective than usual.

Of those that didn't get a flu shot, 44 percent said they didn't hear anything about how well last year's flu shot worked (see chart, page 12).

Those who get the flu shot are committed

71 percent of survey participants who got the flu shot this year also got the flu shot last year. Of those survey participants who got a flu shot this year, 49 percent went to their doctor's office, 19 percent to their pharmacy, 15 percent to their place of employment and 11 percent to a health clinic (see chart, page 13).

There's little brand recognition

More than 79 percent of survey participants who got flu shots didn't know the name of the vaccine they received (see chart, page 7).

People aren't aware that most health insurances companies will cover the cost of the flu shot

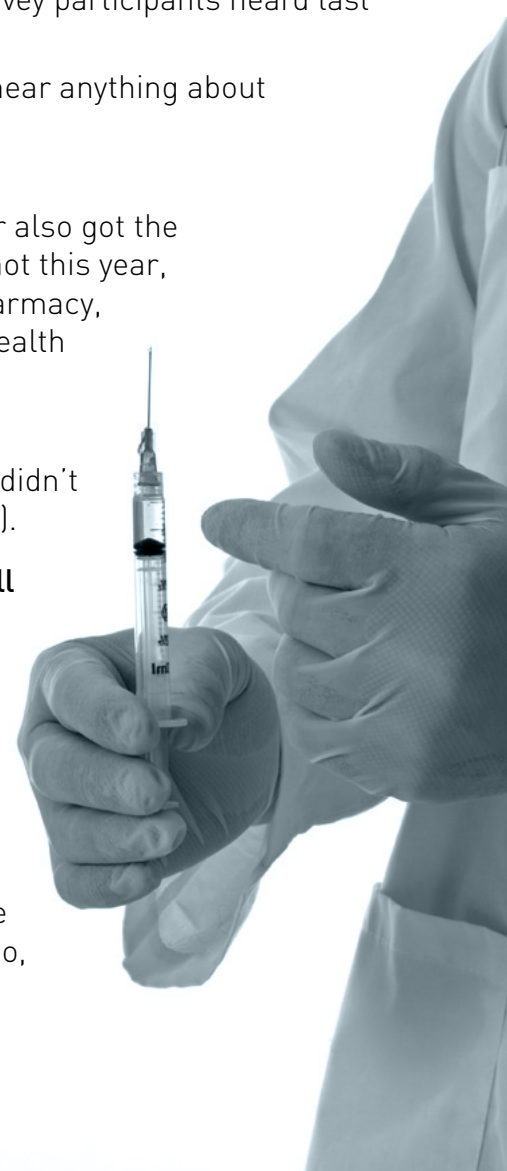
Only 48 percent of survey participants are aware that most health insurance plans cover the flu shot. Of those who didn't get the flu shot this year, 30 percent of survey participants didn't know if their health insurance plan covered the flu shot (see chart, page 13).

People are set in their ways when it comes to vaccines

58 percent of survey participants who didn't get the flu vaccine haven't gotten other government recommended vaccines (polio, MMR, Tdap, meningococcal, etc).

Age is a driving factor in whether to get the flu shot

50 percent of those who got the flu shot this year, but didn't get the flu shot last year, were over the age of 55.



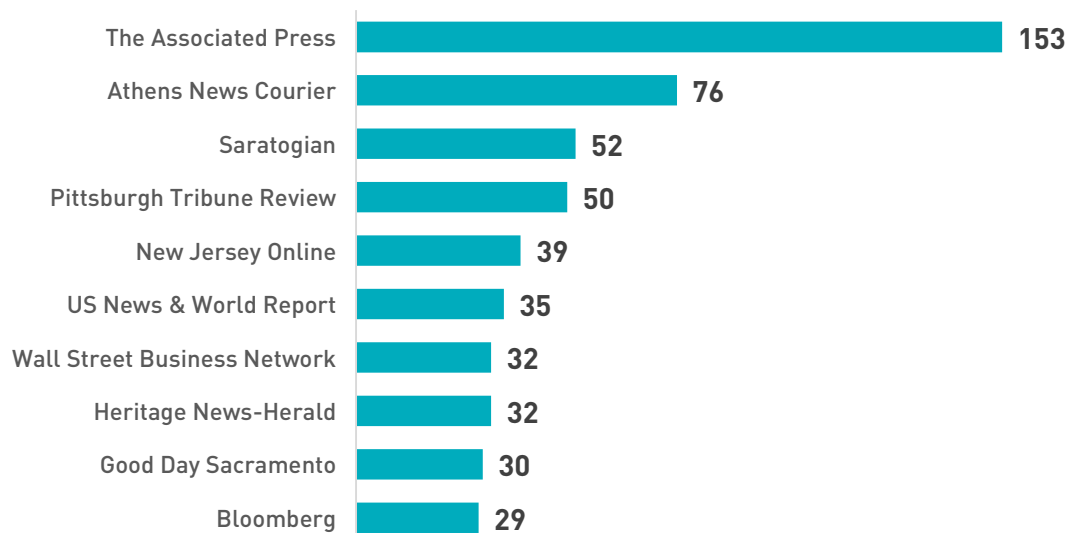
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TOP OUTLETS/U.S. REGIONS COVERING THE FLU VACCINE

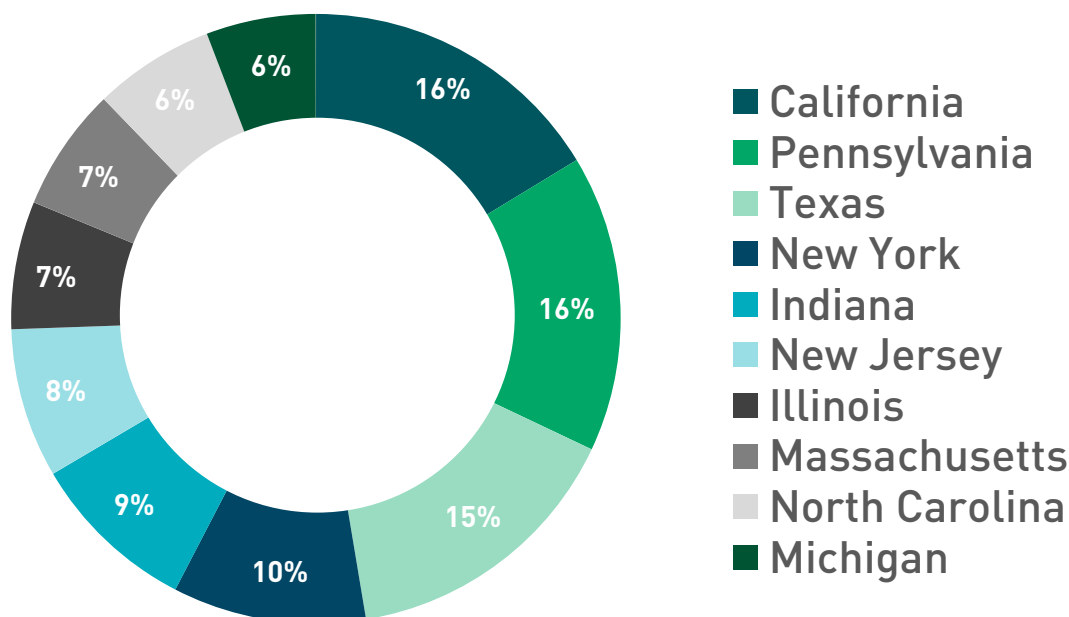
TOP OUTLETS IN ONLINE COVERAGE



The above graph shows the top 10 publications that published articles mentioning the Flu shot/vaccine in online news content.

The top outlet to mention the flu vaccine or flu shot during the coverage period was the Associated Press. California was the top region, followed by Pennsylvania, Texas and New York.

TOP REGIONS IN ONLINE COVERAGE

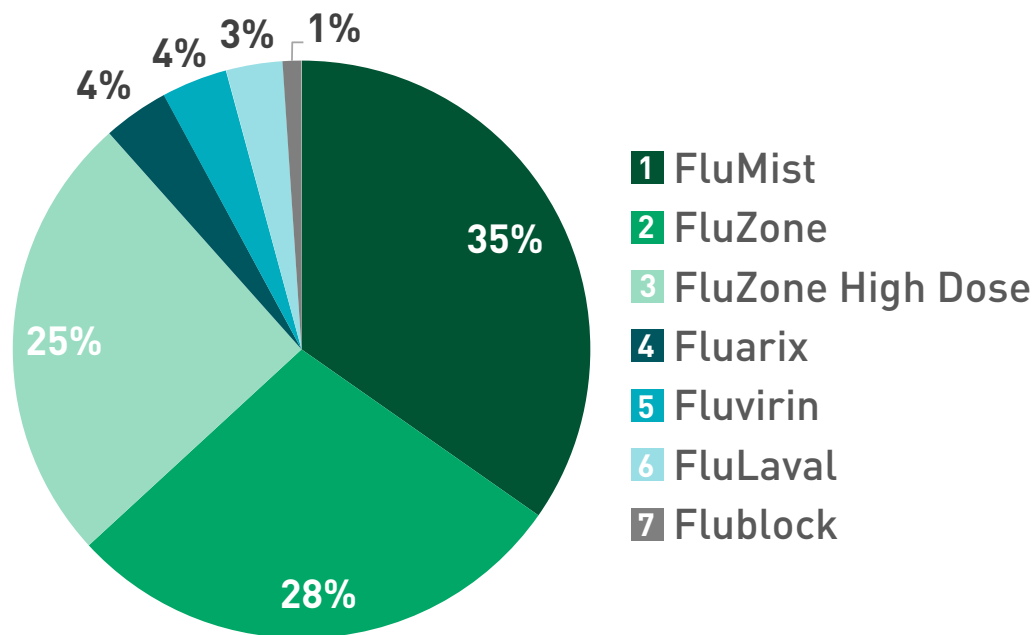


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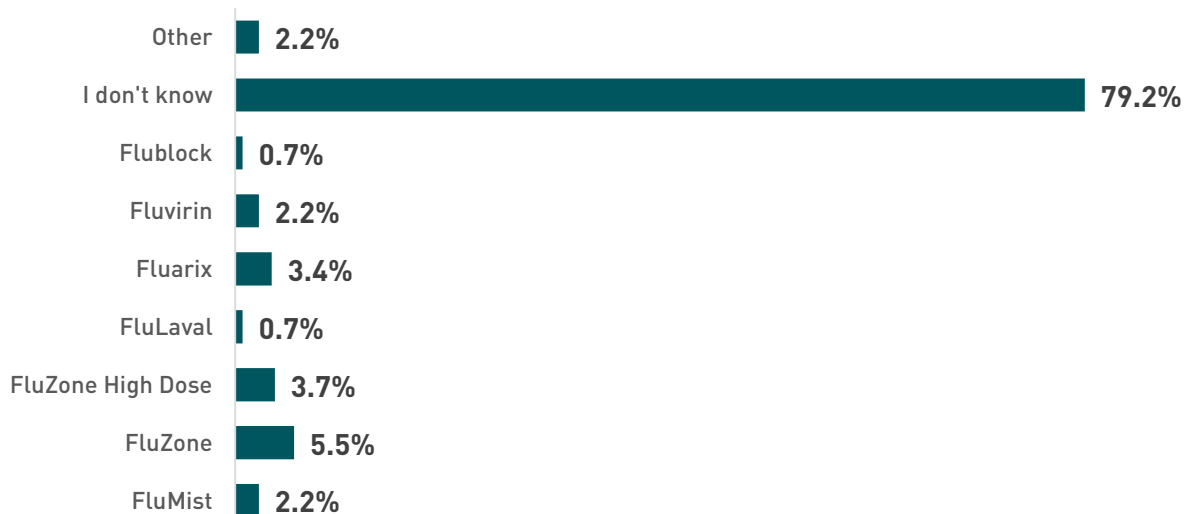
VACCINE BRAND NAME - SHARE OF VOICE

VACCINE BRAND SOV: ONLINE COVERAGE



- Of the various brands of flu vaccines on the market, FluMist, FluZone and FluZone High Dose were the three most mentioned in online news reports and blogs (comprising nearly 90 percent of online news brand mentions). Fluarix was a distant fourth.
- This corresponds roughly with Treato's survey results (below), which indicated that the most popular vaccines among respondents were (in order) FluZone, FluZone High Dose, Fluarix and FluMist (although, understandably, most people didn't know the brand of vaccine they received).

SURVEY: WHAT VACCINE DID YOU RECEIVE THIS YEAR?



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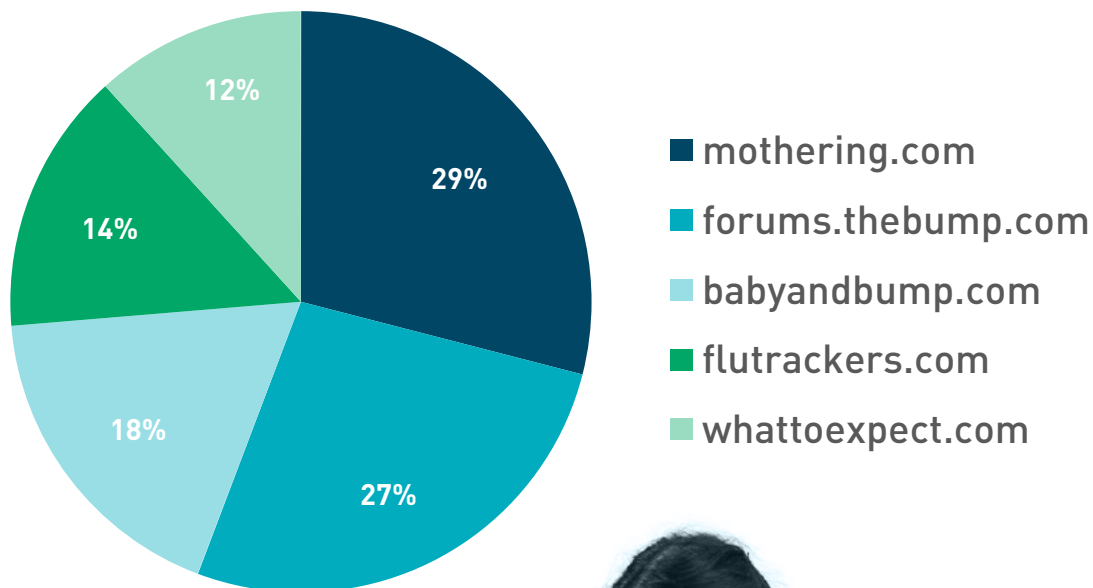
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DISCUSSION BOARD ANALYSIS

How Do Health Consumers Feel About This Year's Flu Shot?

Treato collected and analyzed consumer health conversations about the flu shot over the past year across the web. Out of all online health forums parenting forums were most actively discussing the flu shot. To understand their feelings towards the flu shot, Treato took a deep dive into mothering.com and thebump.com.



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CURRENT PARENTS AS ANALYZED FROM MOTHERING.COM:

- ▶ There is significant mistrust of the flu vaccine and it gets conflated with other vaccines.
- ▶ None of the community participants are talking positively about the vaccine.
- ▶ These parents are firm in their anti-vaccine stance.

mothering
The Home for Natural Family Living

Factors being discussed that contribute to the mistrust:



Efficacy – doubts that the vaccine is effective, as well as doubts about how efficacy is measured



Connection with other vaccines – general mistrust of government recommended vaccines



Conflict of interest/profit motive

Suspicion that pharma companies are seeking profits and funding the studies that show safety data

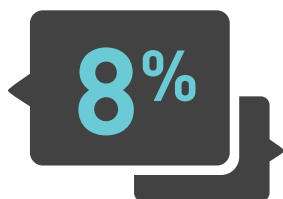
Concern that doctors are seeking kickbacks and/or pushing vaccines for their own profit

EXPECTING MOTHERS AS ANALYZED FROM THEBUMP.COM

- ▶ Conversations within this community centered around the necessity of flu vaccination for pregnant women.
- ▶ Many posts in this community are answers to posted questions that reveal significant confusion about getting the flu vaccine when pregnant.
- ▶ Efficacy concerns are outweighed by risk of getting the flu when pregnant.

the bump

Breakdown of conversations happening within the community:



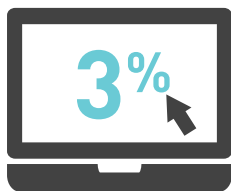
Express confusion about the flu itself

- ▶ Participants in this community do not know what influenza is, what its symptoms are and how to determine if one has a common cold, the stomach flu or Influenza.
- ▶ They express some expectation that the flu shot offers protection against the stomach flu or a cold.



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Only cite external sources in support of their pro-vaccine stance

- ▶ The CDC was most frequently cited, along with the Mayo Clinic and Cardiosmart.
- ▶ Media articles were not among sources mentioned in conversations.



26%

Talk about the potential to get sick from the flu vaccine

- ▶ Community participants seem confused about the immune response to the flu shot. They spoke of fevers, generally feeling unwell and clumsiness.
- ▶ Very rarely the subject of linking autism to vaccines – including the flu vaccine – came up in this community.



Report conflict among family members of pregnant women who are asked to get the vaccine

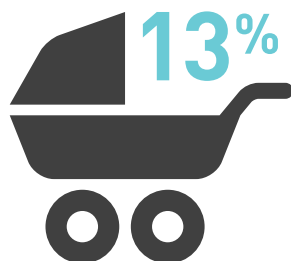
- ▶ This conflict appears to be generational – with many of the objections to the vaccine coming from the pregnant woman's parents.
- ▶ These differing opinions cause conflict in the families and a seeming lack of awareness about how to communicate or navigate the situation.



14%

Discuss different delivery options for getting the flu vaccine

- ▶ Confusion stemmed from a lack of clarity on how the vaccination is administered (mist or shot) and which one is a live virus vs. inert.
- ▶ Community participants here also expressed interest in preservative-free shots. Eggs, latex and mercury come up in these conversations.



Ask or answer questions about when to get the vaccine when you are pregnant

- ▶ Most of the confusion stemmed from a thought that it was unsafe to get the vaccine until a woman had reached a certain trimester in her pregnancy.



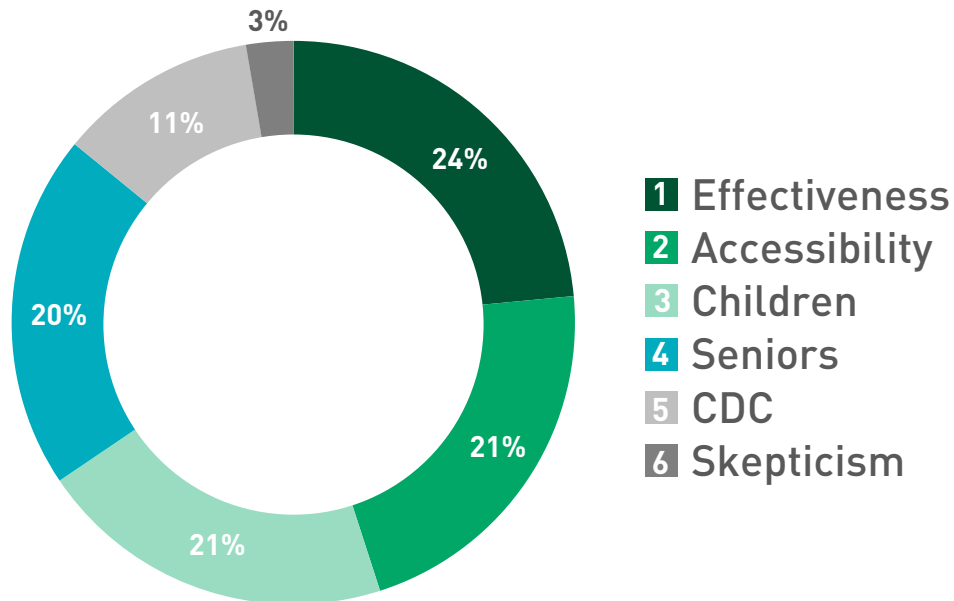
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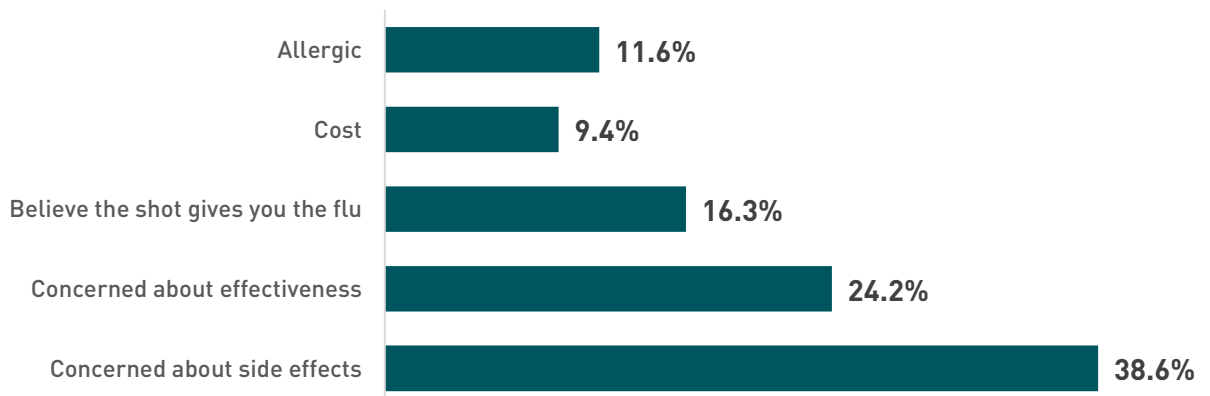
CATEGORY/ISSUE BREAKDOWN

TOP CATEGORIES/ISSUES IN ONLINE COVERAGE



- ▶ The effectiveness of this year's flu vaccine was the most widely mentioned issue in all media coverage analyzed, followed by accessibility issues.
- ▶ Issues involving children and seniors were the next most popular, followed by issues involving the Centre for Disease Control CDC (649).
- ▶ Stories expressing skepticism around the flu shot or concerns about side effects sat at around three percent of all coverage analyzed (NOTE: this number measures stories expressing skeptical viewpoints about the flu vaccine, and does not measure all negative mentions analyzed). This relatively low percentage contrasts with Treato's survey results below, in which the biggest concern of respondents was the chance of side effects from the vaccine.

SURVEY: WHY DIDN'T YOU GET A FLU SHOT THIS YEAR?

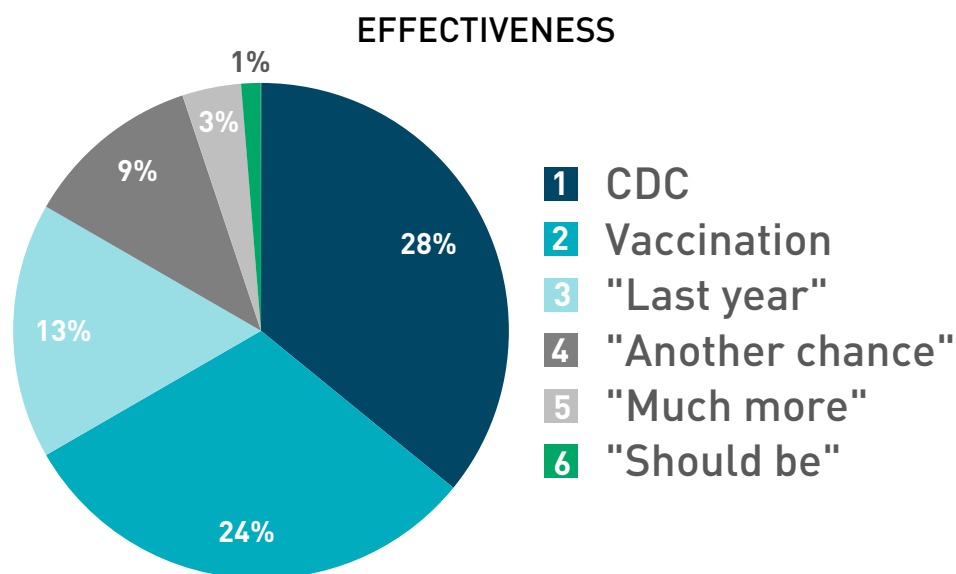


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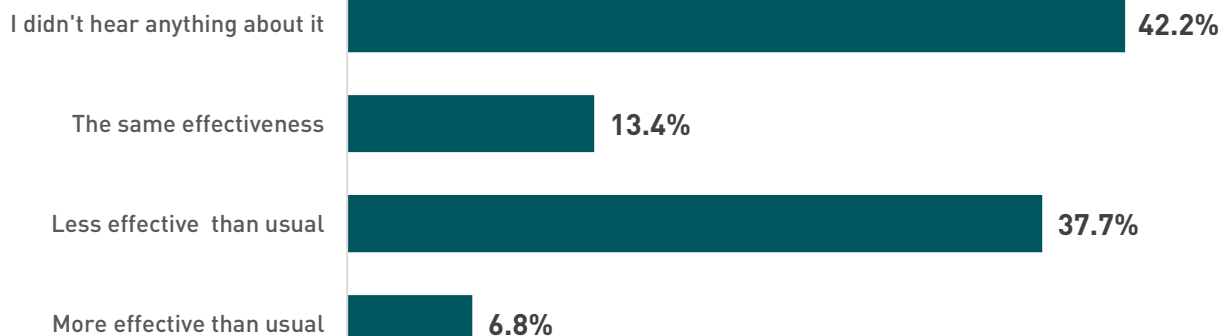
CATEGORY – EFFECTIVENESS

TOP WORDS/PHRASES (ONLINE/BLOGS)



- ▶ The majority of phrases/top words found in effectiveness articles were associated with promises from health officials (most notably from the Centre for Disease Control) that this year's flu shot would be more effective than last year's.
- ▶ A large number of articles noted this year's version of the flu shot has major recipe changes that should make it more effective than last year's, also asking people to "give the flu vaccine another chance" ("Things to know about the flu shot" in U.S. News and World Report, Sept. 17, 2015).
- ▶ In the realm of improving effectiveness, another batch of articles mentioned that "The American Academy of Pediatrics (AAP) recently updated their guidelines requiring children ages six months to eight years to receive two doses of the flu shot this season if they have received less than two doses of the flu vaccine prior to July 2015" ("The season of 'ew'" in The Daily Star, Oct. 26, 2015).

SURVEY: I HEARD LAST YEAR'S FLU SHOT WAS...

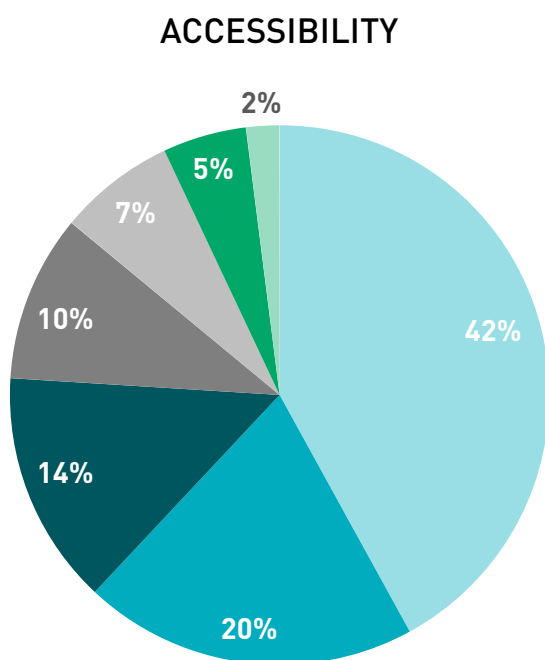


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CATEGORY – ACCESSIBILITY

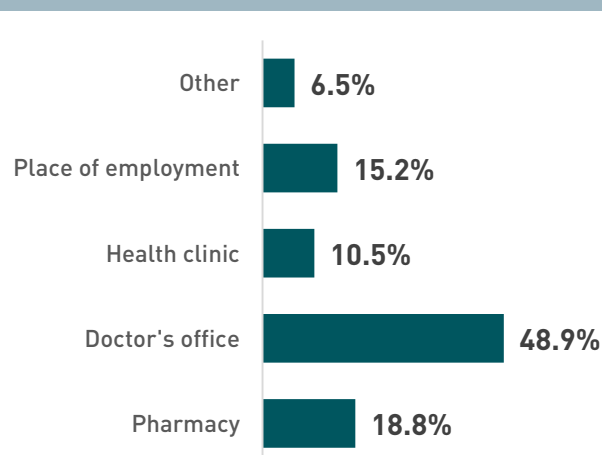
TOP WORDS/PHRASES (ONLINE/BLOGS)



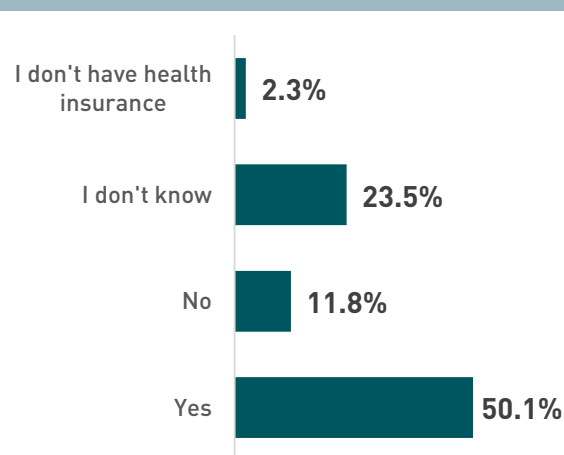
- 1 Free
- 2 Available
- 3 Seniors
- 4 Clinics
- 5 Education
- 6 Easy
- 7 Drive-thru

- Regarding accessibility, the majority of phrases/top words for this category were associated with making the flu shot as convenient as possible. This was also spurred by a large push to make the flu shot as available as possible to both students and seniors, with several educational institutes and seniors homes holding free flu shot clinics.
- It became apparent in coverage that several workplaces have incorporated the flu vaccine into their corporate wellness strategies, with company flu shots and several company-based campaign for all employees to get the flu shot (29). One notable example is the initiative taken by major U.S. company EMC, which allows employees to “pay lower medical contributions if they do things like get the flu shot” (“The 44 Healthiest Companies to Work for in America” in Springfield News Sun, Oct. 31, 2015)
- The novelty of “drive-thru” flu shot clinics appeared in some coverage as well (“Want a band-aid with that?” in Eureka Times-Standard, Oct. 10, 2015).

SURVEY: WHERE DID YOU GET YOUR FLU SHOT?



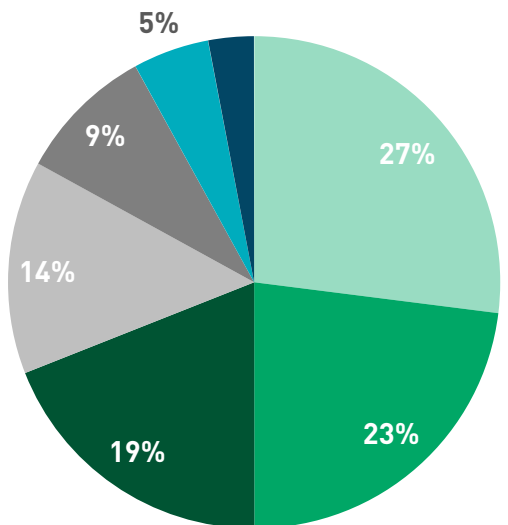
SURVEY: DOES YOUR HEALTH INSURANCE COVER THE FLU SHOT?



CATEGORY – CHILDREN/SENIORS

TOP WORDS/PHRASES (ONLINE/BLOGS)

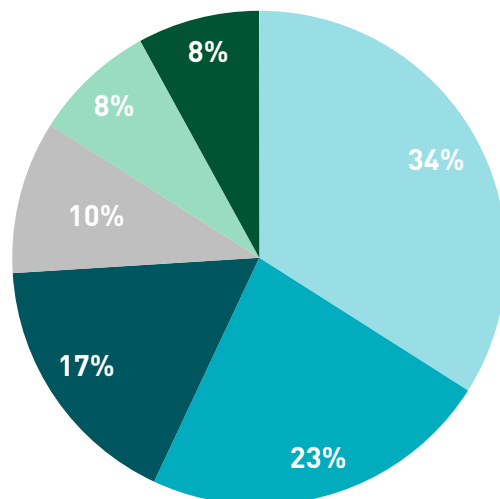
CHILDREN



■ Families
■ Parents
■ School
■ Eggs
■ Needles
■ Pregnancy
■ Mother



SENIORS



■ Available
■ Educate
■ Unaware
■ High(er) dose
■ Caregivers
■ Precaution



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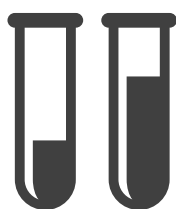
The word “families” was the most mentioned in the children category, with several pieces connecting the possibility of getting the flu with missing out on time with your family (“Don’t Let the Flu Mean Missing Memorable Moments” in Indianapolis Recorder, Sept. 16, 2015).



There were also several pushes from various school districts for parents to get their children vaccinated prior to the school year, which was noted in coverage.



“Pregnancy” was mentioned often, in the context that immunization is “crucial” during pregnancy. Media reports encouraged expecting mothers to get vaccinated (“Vaccines during pregnancy are a must” in Buffalo News, Aug. 8, 2015)

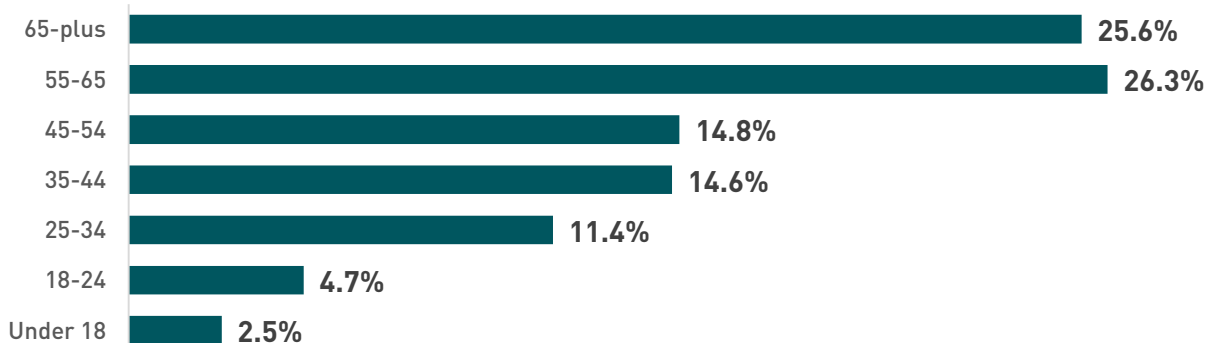


Several articles noted that seniors could opt for a higher dose of the vaccine following last year’s surprise strain and subsequent deaths (“Study: Some elders underestimate importance of flu shot” in Eagle Tribune, Sept. 19, 2015). It was reported that last year about two-thirds of seniors were vaccinated, but only about a third of adults ages 18 to 49 did the same (making them the least protected group) (“Things to know about the flu shot” in Miami Herald, Sept. 17, 2015).



It was also noted that “flu-related hospitalizations of seniors were the highest recorded in the decade” (“Time to get your flu shot” in Dallas Morning News, Sept. 17, 2015)

SURVEY: WHAT’S YOUR AGE RANGE?



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ABOUT

ABOUT MEDIAMISER

MediaMiser clients, from Fortune 500 companies to startups to government departments, trust our web-based media monitoring and analysis solutions. They count on us for timely traditional and social media analytics generated by our patented software, the customized reporting options provided by our responsive and proactive client services team, and our 24-hour technical support. We turn news into knowledge for clients based in Canada, the United States, Europe, and Australia.

Methodology:

MediaMiser analyzed more than 4,500 online news and blog articles published between August and November of 2015 mentioning the flu shot/flu vaccine.

Contact information:

Media: jim.donnelly@mediamiser.com | **Phone:** 613-232-7797 x117

Sales inquiries: sales@mediamiser.com

ABOUT TREATO

Treato™, the leading source of health insights from millions of real health consumers, uses patented analytics and big data technology to turn billions of disparate online conversations into meaningful social intelligence. With more than two billion posts analyzed and continuously expanding, Treato has partnered with 9 out of the world's top 10 pharma companies as well as numerous other multi-national pharmaceutical companies and healthcare organizations. Treato.com, its consumer website, helps millions of visitors each month.

Treato is privately held with offices in Israel, New York and Princeton, NJ. Investors include Reed Elsevier Ventures, OrbiMed Partners and New Leaf Venture Partners, among others. For more information please visit <https://treato.com/>

Methodology:

For this analysis Treato analyzed more than 28,000 posts about flu vaccines from parenting forums, with a specific focus on mothering.com and thebump.com. More than 150 posts from each forum over the past year were selected for in-depth analysis.

The results of the survey are based on the responses of 717 Treato.com users polled from 12/10/15- 12/17/15

Contact information:

For Media: Allyson Noonan - allysonn@treato.com



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