



# CONTENT MARKETING IN HEALTHCARE

## AGENDA

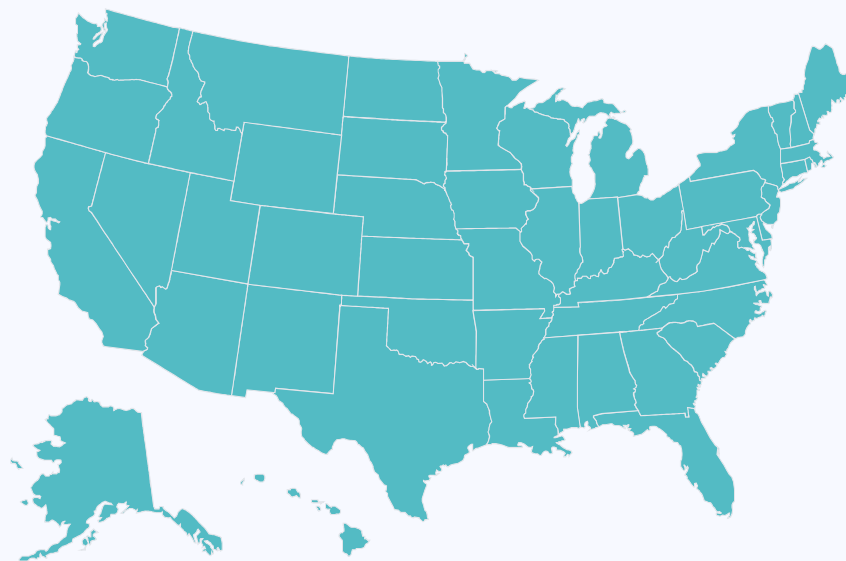
- ✓ Welcome & Shift Happens
- ✓ Overview of Hearst Texas & Healthcare Solutions
  - ✓ Market Overview & Media Trends
    - ✓ Content Marketing
    - ✓ Industry Examples
  - ✓ Happy Hour & Questions





## HEARST FOOTPRINT

We are, where they are. A look at Hearst, nationally.



### Broadcast Stations

1. KCCI-TV Des Moines, Iowa
2. KCRA-TV Sacramento/Stockton/ Modesto, CA
3. KCWE-TV Kansas City, MO
4. KETV Omaha, NE
5. KHBS-TV/KHOG-TV Fort Smith/ Fayetteville, AR
6. KMBC-TV Kansas City, MO
7. KOAT-TV Albuquerque, NM
8. KOCO-TV Oklahoma City, OK
9. KQCA-TV Sacramento/Stockton/ Modesto, CA
10. KSBW-TV Monterey-Salinas, CA
11. WAPT-TV Jackson, MS
12. WBAL-TV Baltimore, MD
13. WCVB-TV Boston, MA
14. WDSU-TV New Orleans, LA
15. WESH-TV Orlando, FL
16. WGAL-TV Lancaster, PA
17. WISN-TV Milwaukee, WI
18. WJCL-TV Savannah, GA
19. WKCF-TV Orlando, FL
20. WLKY-TV Louisville, KY
21. WLWT-TV Cincinnati, OH
22. WMOR-TV Tampa-St. Petersburg, FL
23. WMTW-TV Portland-Auburn, ME
24. WMUR-TV Manchester, NH
25. WPBF-TV West Palm Beach, FL
26. WPTZ-TV Burlington, VT/ Plattsburgh, NY
27. WTAE-TV Pittsburgh, PA

28. WVTM-TV Birmingham, AL
29. WXII-TV Greensboro/Winston-Salem, NC
30. WYFF-TV Greenville-Spartanburg, SC

### Newspapers

31. SFGATE San Francisco, CA
32. SF Chronicle San Francisco, CA
33. Houston Chronicle Houston, TX
34. Times Union Albany, NY
35. San Antonio Express San Antonio, TX
36. Beaumont Enterprises Beaumont, TX
37. Connecticut Post Fairfield, CT
38. Stamford Advocate Stamford, CT
39. Greenwich Times Greenwich, CT
40. CT News Times Fairfield, CT
41. Seattle PI Seattle, WA
42. Edwardsville Intelligencer Edwardsville, IL
43. The Hour Norwalk CT
44. Huron Daily Tribune Bad Axe, MI
45. Laredo Morning Times Laredo, TX
46. Manistee News Advocate Manistee, MI
47. The Middletown Press Middletown, CT
48. Midland Daily News Midland, MI
49. Midland Reporter-Telegram Midland, TX
50. New Haven Register New Haven, CT
51. The News-Times Danbury, CT
52. Plainview Daily Herald Plainview, TX
53. The Pioneer Big Rapids, MI
54. The Register Citizen Torrington, CT

## HEARST TEXAS HEALTHCARE DIVISION

### Content Marketing

Content Creation  
Native Advertising  
Story Hosting & Syndication  
Content Sponsorships

#### Search

Paid Search - SEM  
Organic Search - SEO  
Search Retargeting

#### Display

Native Ad Units  
Retargeting  
Dynamic Retargeting  
Contextual Targeting  
Behavioral Targeting  
Geo / Demo Targeting  
Premium Site Targeting

#### Video

YouTube Targeting  
Pre-Roll Network  
In Banner video  
CTV/OTT

#### Email Marketing

Targeted Geo / Demo  
Targeted by Select / Interest  
Email Re-targeting  
Sponsored Newsletters

#### Mobile

App Targeting  
Mobile Display Targeting  
Video  
Geo-Fencing

#### Social Media

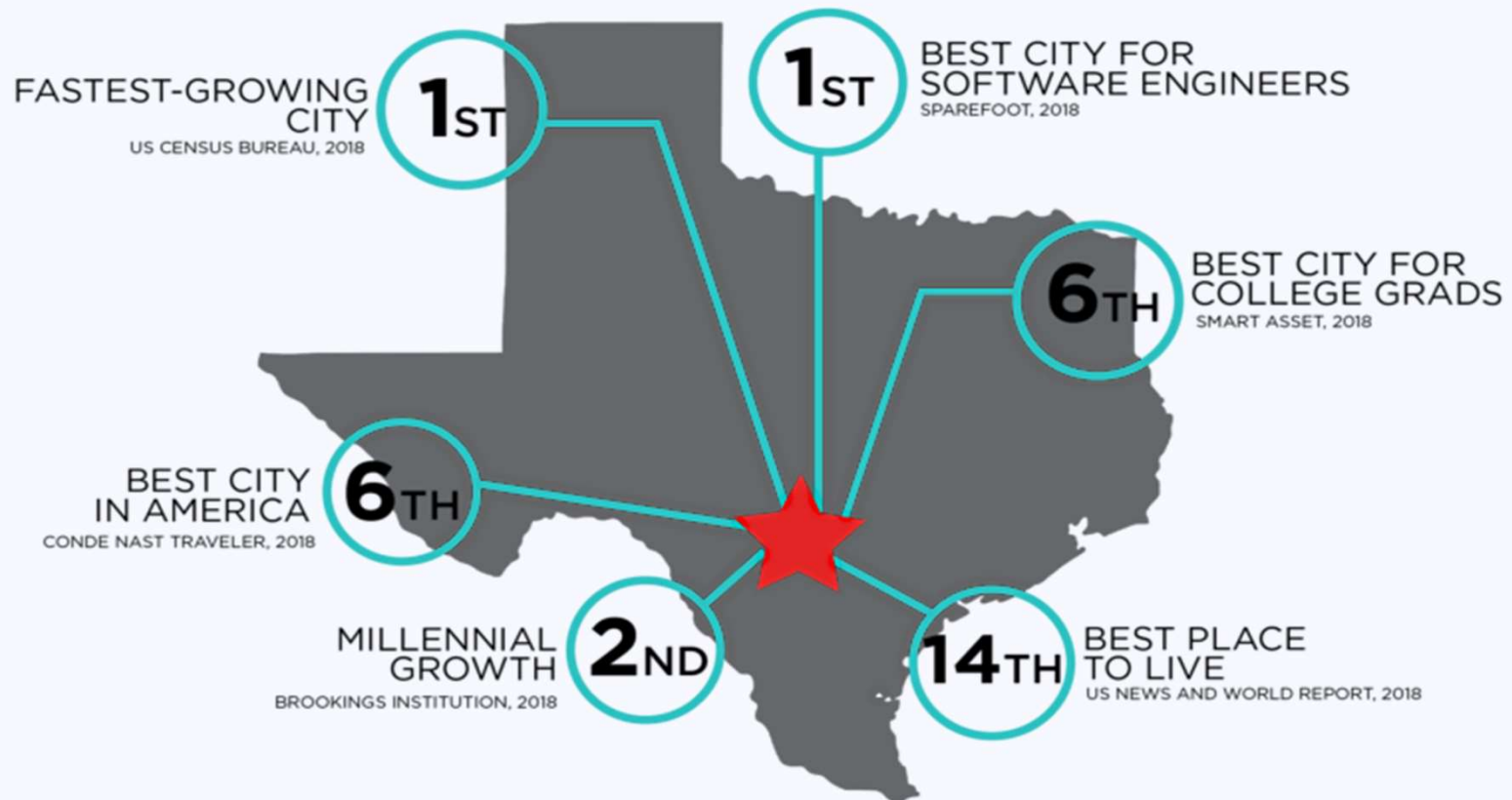
Retargeting  
Dynamic Retargeting  
Social Targeting  
Social Media Management

#### Print

ROP  
Special Initiatives  
Community Newspapers

#### Other Solutions

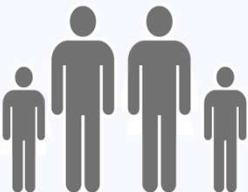
Reputation Management  
Video  
Photography  
Creative  
Custom Web Builds  
E-commerce Platform  
Podcasts



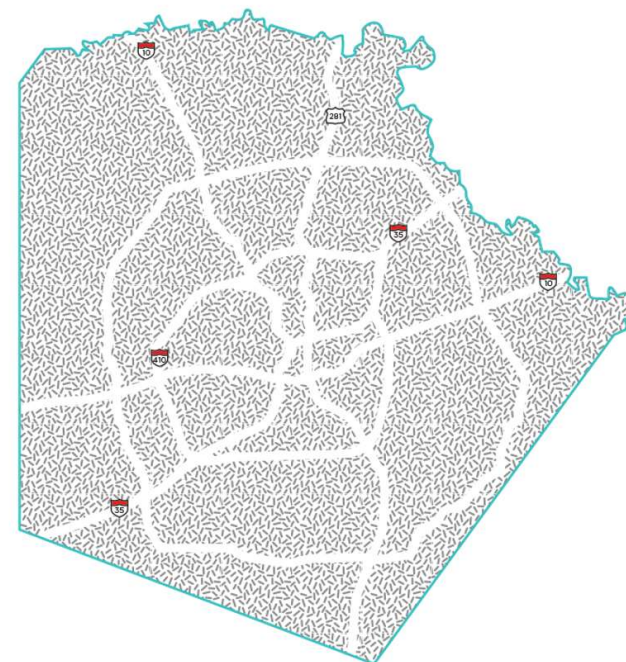
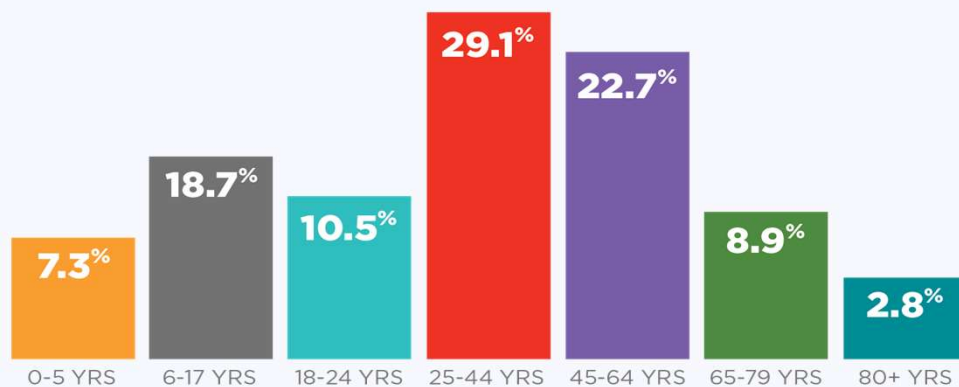


## POPULATION (2016)

**1,928,680**

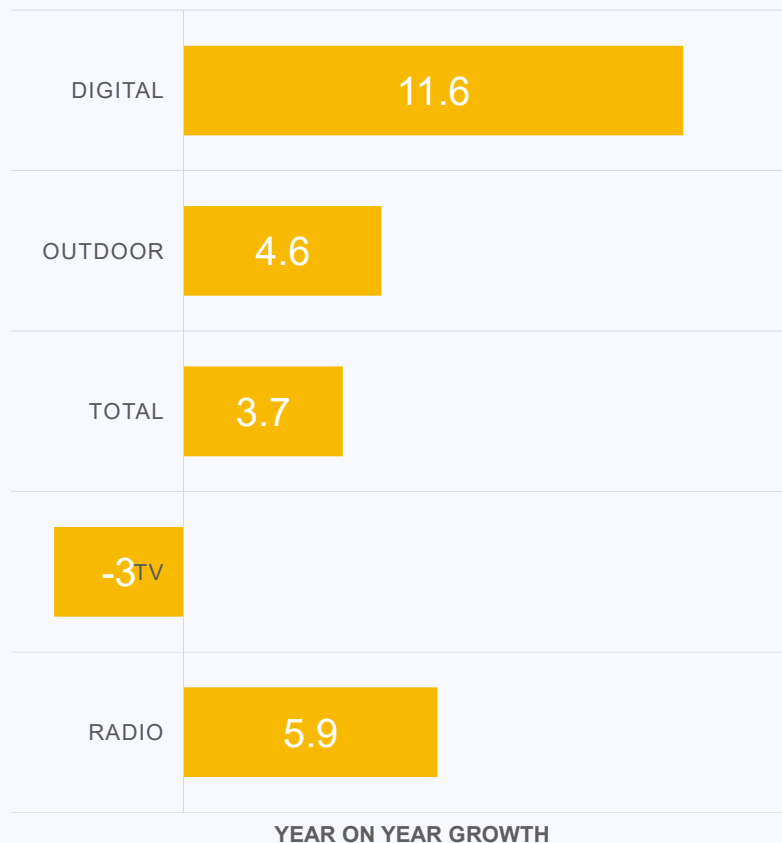


## BY AGE (2016)

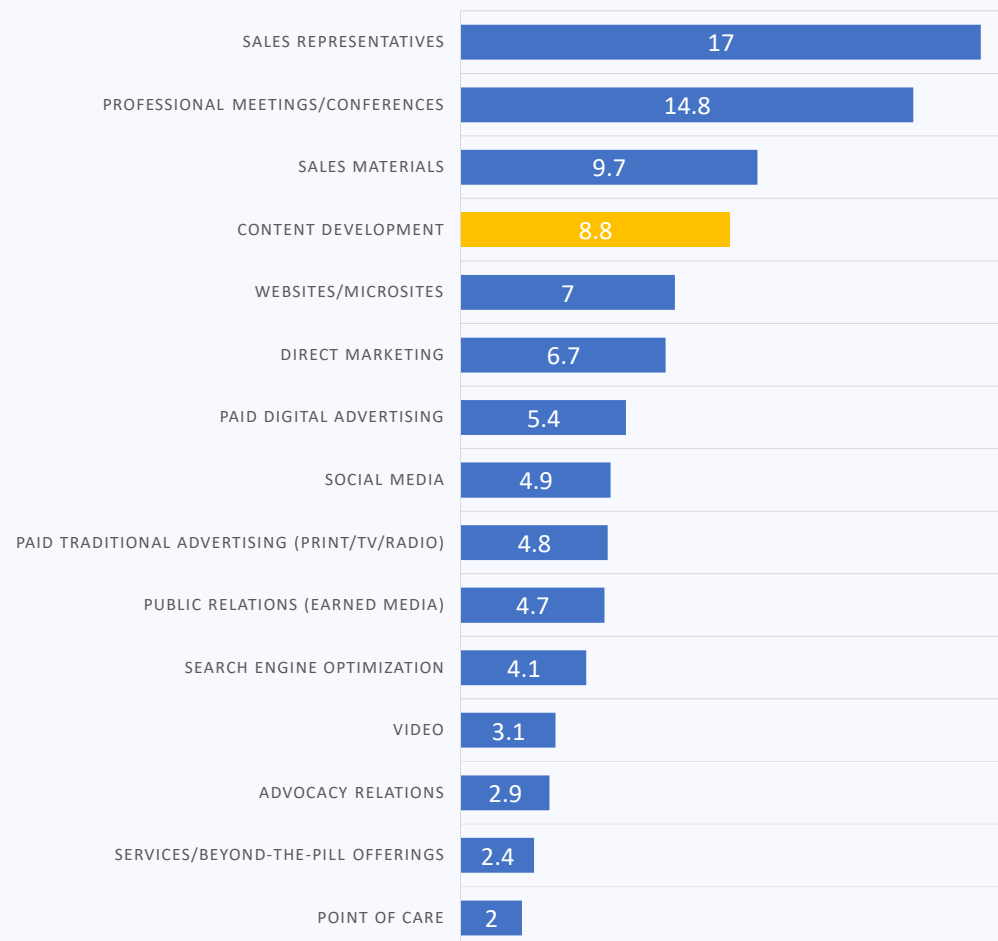


**1,239,822**  
SQUARE MILES  
(2010 CENSUS SUMMARY FILE)

## CHANGE IN ADVERTISING SPEND IN THE US BY MEDIUM



## DISTRIBUTION OF HEALTH CARE COMPANIES' MARKETING BUDGETS IN THE U.S. IN 2017, BY CHANNEL





*Content marketing is a strategic marketing approach focused on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience — and, ultimately, to drive profitable customer action.*

*- Content Marketing Institute*

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*A fish by any other name: advertorial, native advertising, sponsored content.*





**CNN** Health » FDA proposes new sunscreen regulations

**Sponsored Topics**

University Health System | Sponsored Listings  
**Celebrate 50 Years of South Texas Medical Center**

Insomnia Treatments | Sponsored Listings  
**Insomnia Signs**

Lung Cancer Guides | Sponsored Listings  
**Lung Cancer Stages**

## Golden Skyy



### An Innovative Solution to Bone Density

Sponsored by OsteoStrong



### These German hearing aids are going viral

Sponsored by hear.com



### These 25 Crossovers Are The Best You Can Buy

Sponsored by Edmunds

## CONTENT MARKETING STRATEGY OVERVIEW

# Why content marketing needs to be a part of your marketing mix.

**82% brand lift  
attributed to native  
advertising**

- ✓ Healthcare and wellness are personal topics that generate high search and engagement volume
- ✓ Differentiation and sophistication
- ✓ Patients are looking for content that is educational, not self-promotional
- ✓ Budgets for content marketing are increasing, because it works
- ✓ Conversion rates are 6x higher, forming a solid foundation for connections with potential patients
- ✓ Add value to the patient experience

# CREATING A CONTENT MARKETING STRATEGY

## *Determine the Goal*

Content marketing success can take many forms. Identify the problem that needs to be solved and the goals your organization wants to achieve.

## *Define an Audience*

Content powers the consumer journey. Identifying your target audience allows you to create stories that resonate and make a true connection generate results.

## *Design the Content*

Content builds brand awareness, loyalty and ultimately how people feel about your brand. A clearly designed approach is key to making an authentic connection.

## *Deliver the Message*

Deliver your content to your target through strategic placements and content amplification strategy that's both scalable and optimizable.

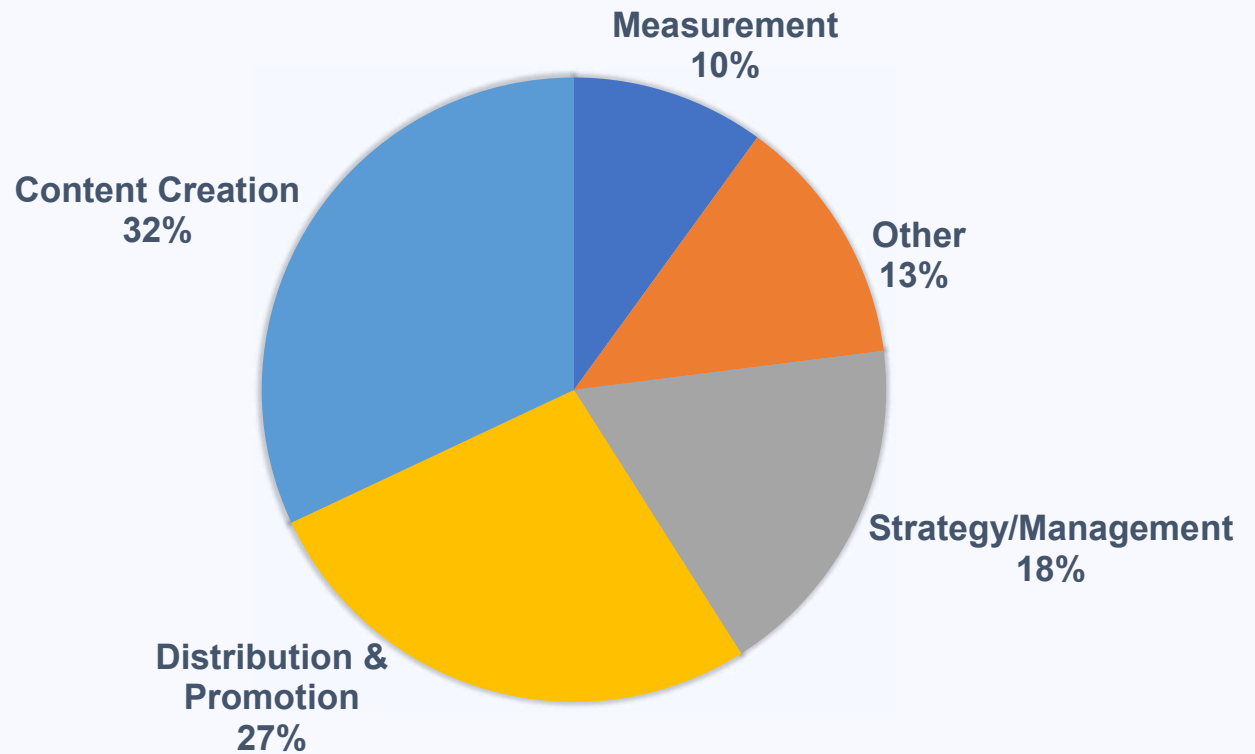
## Things to Consider:

- ✓ Long-form content performs better, across all platforms
- ✓ Visual content is key
- ✓ Document and plan which topics you want to own as thought leaders

**66%**

66% of marketers say being able to produce engaging, well-designed visual content consistently is their biggest struggle.

## CONTENT MARKETING BUDGET BREAKDOWN





## PATIENT JOURNEY

# Conversions start with education.

Hearst Texas offers brands the ability to tell their story to their target consumer through different custom content solutions and visual story telling products at any point in the patient journey.

## Awareness

**8 Ways Summer School Can Change Your Life**  
By Michael Park | August 15, 2017 10:45 AM



**S**chool is about to start at Central Texas Community, you can earn credits towards your degree, save money on tuition, reduce your time to graduate, explore a new area of interest, and even transfer credits to your university of choice by studying in person or online this summer. Here are just 8 of the many reasons why to take summer school classes.

1. You'll be able to catch up or move ahead in your curriculum. This advantage of your summer by making sure you finish your degree on time or even ahead of schedule. It will save you money on tuition, allow you to finish the semester early to play back your course, and generally open up your schedule for more dynamic possibilities.
2. You'll be able to take advantage of interesting opportunities. If you take summer courses and take up your class load right in spring, you'll be able to expand your academic and career horizons through design, life internships, research, clinical placements, or even a cool job. All during the traditional academic year other things generally less competitive to achieve.

**What interests you the most about taking summer classes?**

- ☐ Having a flexible schedule
- ☐ Earning extra credit to prepare early
- ☐ Saving money
- ☐ Other

**7. You'll earn the same credits in less time.** At Central Texas Community, you acquire the same credits for summer sessions, but do so in fewer half-hour sessions to the same courses in the fall and spring.

**6. You'll improve your GPA.** So, earning good grades in those classes in which you didn't receive an A or B in the first semester, or are late in learning, studying, understanding, or understanding. Make sure you give your time and try. Make sure you try.

**5. You'll get a head start on your degree.** By taking summer classes, you can get a head start on your degree. By taking summer classes, you can get a head start on your degree. By taking summer classes, you can get a head start on your degree.

**4. You'll find more online courses available.** You can take advantage of online courses that increase your freedom and flexibility, and allow you to still enjoy the best parts of summer, including vacations and time jobs.

**3. You'll save money on an education in tuition cost.** At Central Texas Community, the cost for some courses is as low as \$500 per credit hour. The cost for some courses is as low as \$500 per credit hour. The cost for some courses is as low as \$500 per credit hour.

**2. You'll enjoy smaller class sizes.** Due to lower enrollment numbers, summer classes are smaller compared to taking the traditional academic year. You'll enjoy more time with professors, and the more intimate learning environment and access to smaller class sizes to help you accelerate in class and your studies.

**1. You'll find more online courses available.** You can take advantage of online courses that increase your freedom and flexibility, and allow you to still enjoy the best parts of summer, including vacations and time jobs.

**Art in the Green at the Mitchell Park Domes**

**St. Catherine's enables a bright future**  
By Michael Park | August 15, 2017 10:45 AM

**B**right future for St. Catherine's students. St. Catherine's is a Catholic school that provides a bright future for its students. St. Catherine's is a Catholic school that provides a bright future for its students. St. Catherine's is a Catholic school that provides a bright future for its students.

**1887**

**STUDENT PROFILES**

Working in a day at a Catholic school is a bright future for its students. St. Catherine's is a Catholic school that provides a bright future for its students. St. Catherine's is a Catholic school that provides a bright future for its students.

**AREAS OF STUDY**

St. Catherine's is a Catholic school that provides a bright future for its students. St. Catherine's is a Catholic school that provides a bright future for its students. St. Catherine's is a Catholic school that provides a bright future for its students.


**Imagine Your Day**

**MORNING**

**NOON**

**Evening**

**The Best Kept Secret on the Eastern Shore**  
By Michael Park | August 15, 2017 10:45 AM



**Imagine Your Day**

**MORNING**

**NOON**

**Evening**

**Get Inspired by Patricia Nash's Beautiful Bags Now Available on QVC**  
By Michael Park | August 15, 2017 10:45 AM

**F**or over twenty years, Patricia Nash has been translating her passion for travel into beautifully designed handbags and accessories. These vintage-inspired pieces are made from exceptional materials and meticulously crafted, truly by hand, using techniques from decades ago. Each exquisite element is handmade to provide unique beauty.

**It's this attention to detail and commitment to quality that have made Patricia Nash's name synonymous with excellence. You don't just shop for the bag - you discover it. Your bag is all it takes to tell a story. And now, thanks to a partnership with QVC, finding the perfect Patricia Nash bag for you has never been easier. But why stop there?**

**By shopping with Patricia on QVC, you can ask any and all questions you may have about her hand and beautiful handbags. Patricia will take time to go through her memory and continue about the things that inspired her beautiful handbags - vintage to create pieces playing dress up in her grandmother's closet, meeting a customer who showed her how to hand-craft a particular piece. From beautiful bag to the Patricia Nash line has a rich history, which you can hear about on QVC.**

**If you're craving a sample of the different details about these bags, first test. Read on to learn a little bit about what's behind one of Patricia Nash's most coveted bags.**

**Sanabaja Benvenuto**

**BENVENUTO HANDBAG**

Every woman needs a terrific go-to bag in her handbag collection, and the full-size Benvenuto Bag from Patricia Nash is perfect. This style is understated classic, and chic, with hand-crafted stitching, metal hardware and vintage handcrafted stitching. But don't let the history matter less - this bag is full of function as well.

This bag is fully convertible, which makes it ideal for a day in the office, an evening trip or a day simply spent on the go. Don't worry that double straps might make it uncomfortable for a full day of wear.

**CLICK HERE TO PURCHASE**

## Conversion

**IN THE KITCHEN with H-E-B**



**Concasse of Beet, Strawberry & Watermelon with Arbol Chili**  
[Full Recipe](#)

**Arbol Chili Tatin**  
[Full Recipe](#)

**Caramelized Vegetable Bruschetta**  
[Full Recipe](#)

**Chocolate Tart**  
[Full Recipe](#)

**Lemon Curd**  
[Full Recipe](#)

**Raspberry Lemonade Demi**  
[Full Recipe](#)

**Ginger Halibut Ceviche**  
[Full Recipe](#)

**Salmon Bites**  
[Full Recipe](#)

**Tuna and Compressed Watermelon**  
[Full Recipe](#)

## Less interactive

## More Interactive



## CUSTOM CONTENT

## Traditional *Advertorial*:

Did you know that your audience consumes an average of 11 pieces of content about a brand or subject before they make a decision? We will work with your brand to create content that matters.

- Stylized in the look and feel of our editorial platforms
- Visual story telling elements: Slideshows, Videos, Images, Infographics
- Related content to deepen brand relationship
- Interactive elements to engage reader: Social feeds, live polls, RSS feeds, booking modules

## Sharing

## Slideshows

## Editorial

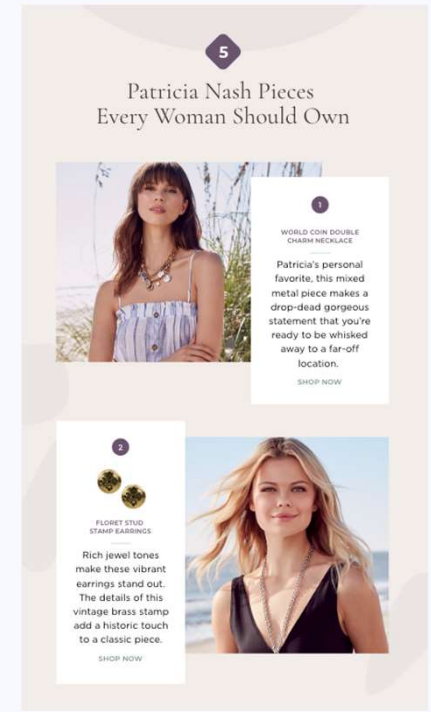
## Video

## Real-Time Polls

## Real-Time Social

## Related Content

[illegible]



## INTERACTIVE CONTENT

# Content to *Experience*

### Overview.

Requires the participants' active engagement — more than simply reading or watching. In return for that engagement, participants receive real-time, hyper-relevant results they care about.

### Benefits.

1. Captures reader attention and generates a personal outcome
2. Further differentiates your brand and cuts through the noise
3. Increases engagement, conversions & quality leads
4. Reusable value, resulting in retained patients and brand exposure



## CONTENT AMPLIFICATION

# Reach.

Through a sophisticated distribution strategy and network Hearst Texas drives readership and engagement for every piece of content we create.

## CONTENT AMPLIFICATION

# Connecting throughout the patient journey.

Getting your message to the right audience.

All content created by Hearst Texas includes a promotional plan, which allows our partners to reach their desired audience in contextually relevant environments. We leverage premium inventory, social, proprietary data, and optimization technology across all platforms to maximize engagement. A combination of targeting tactics is customized to each program to ensure engagement with the desired reader.

## Targeting Tactics

### GEO-FENCE TARGETING

Targeting based on your location and your competitor's locations

### SOCIAL MEDIA EVENT TARGETING

Facebook Demographic, Facebook Life Event, Facebook Interest

### CATEGORY TARGETING

Targeting on sites with content relevant to your industry.

### GEO TARGETING

Targeting terms relevant to the local community.

### BEHAVIORAL / CONTEXTUAL TARGETING

Targeting users from an existing database.

### DEVICE TARGETING

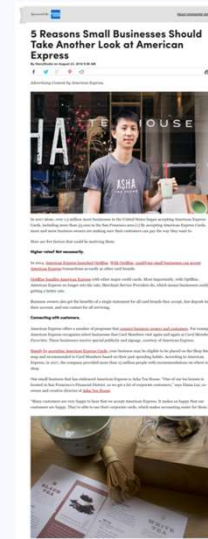
Mobile, tablet and desktop

### DEMO TARGETING

Gender, age, location, languages known, annual income, parental status etc.

### READER RETARGETING

Targeting users who have previously visited your website as they surf the web.

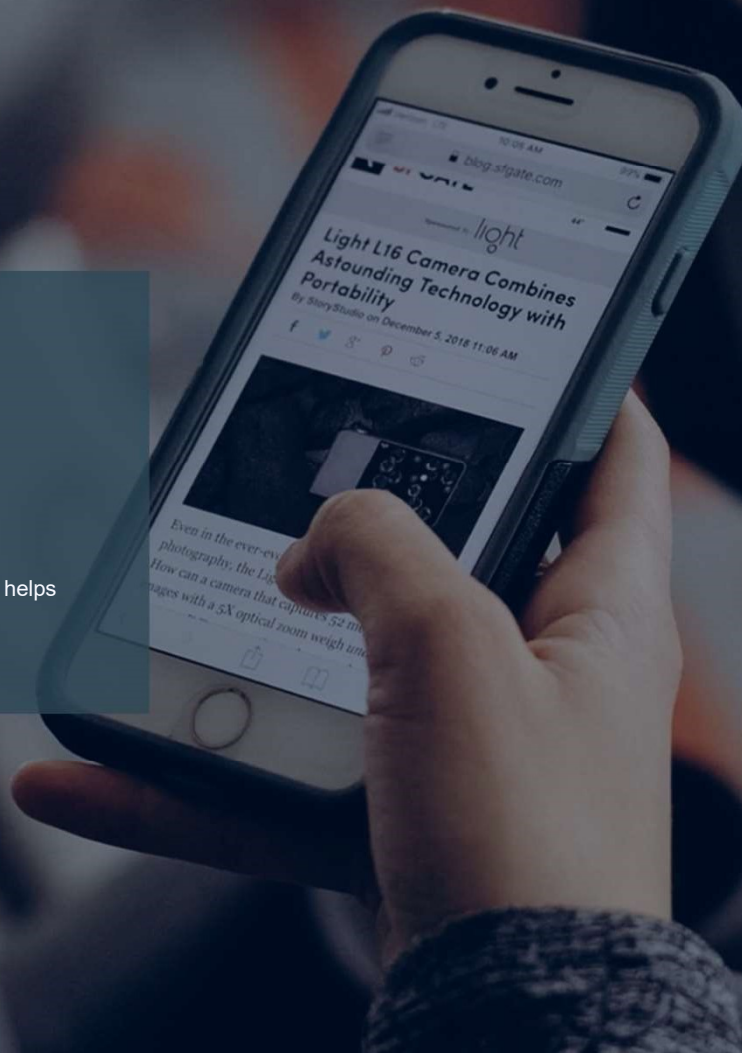


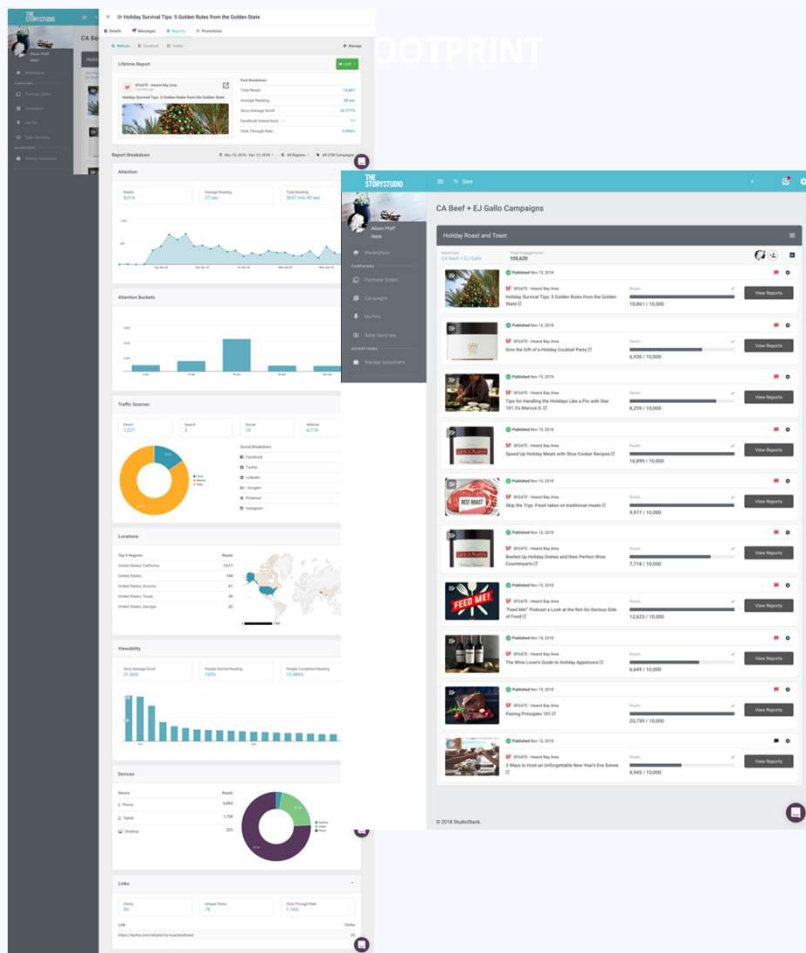


DATA & ANALYTICS

# INSIGHTS.

Element – level targeting and a robust data and analytics platform helps brands garner insights for current and future marketing initiatives.





## DATA & ANALYTICS

# Key Performance Indicators.

- ✓ Scroll depth
- ✓ Time spent on story
- ✓ Social shares
- ✓ Exposure
- ✓ Placement performance
- ✓ Engagements

89%

89% of marketers ranked improving the ability to measure and analyze marketing impact as a top priority when thinking about content initiatives.

91%

91% of marketers felt they didn't have the insights needed to make future content decisions or to determine if a content campaign was a success.



## OUR WORK


# Examples

Hearst Texas provides true end to end solutions for our brand partners. Here is an overview of what we've done.

### Browse StoryStudio Print Portfolio

Click on thumbnails below to view examples of StoryStudio articles that have run in The San Francisco Chronicle

## Dental

Sponsored By:  [About sponsored stories](#)

### Why Delta Dental of Oklahoma gives back with a smile

By StoryStudio on October 3, 2016 2:30 PM

**W**hether they know it or not, more than 60 percent of Oklahoma employers—from small mom-and-pop businesses to Fortune 500 companies—help make dental care affordable and available to those who need it most. They help Oklahoma's underserved when they choose [Delta Dental](#) as their dental provider.

Many Oklahomans cannot afford dental insurance or basic dental care. Many of these folks also live in rural areas without a dentist nearby. Some simply do not know how to prevent gum disease and tooth decay. The [Delta Dental of Oklahoma Oral Health Foundation](#) helps these people get the care they need.

Since 1998, the Delta Dental of Oklahoma has contributed more than \$19 million to dental health and education programs statewide through its Oral Health Foundation. Delta Dental of Oklahoma aims to contribute 50 percent of its annual net contribution to reserves to its foundation—that totaled more than \$2 million in 2016.

#### New sealant program takes flight



This school year, the Foundation launched the Dental Cavity Prevention Clinic, which allows children to receive free dental sealants on their permanent molars. Dental sealants prevent 80 percent of cavities in back teeth, where 9 out of 10 cavities occur.

The program has two main goals: to seal new molars of at-risk second- and sixth-grade students and to help connect them to nearby dental practices.

Registered dental hygienists use portable dental equipment to conduct the sealant clinics at schools. Erin Sexson, DDS, of Oklahoma City, oversees the program.

"I'm excited to be a part of this pilot," Sexson said. "Helping to create a program that impacts the future oral health of children has been very rewarding."

Teachers, principals, nurses, and other staff welcome the program, which targets schools with 80 percent or higher rates of participation in the Federal Free and Reduced Meals Program. Children in this program are statistically at higher risk for dental decay.

**Impressions**  
1,329,783

**Time Spent**  
3:05

**Engagements**  
13,764

**Scroll Depth**  
66%

## Medical Technology

PRESENTED BY:  [About sponsored stories](#)

### New technology could help millions with knee pain

By StoryStudio on June 16, 2016 4:22 PM

**A** new knee implant may soon transform the way many Americans live.

The NUsurface Meniscus Implant, a replacement for the knee joint's cartilage pad between the thigh and shin bones, has gone into a second clinical trial to assess its safety and effectiveness in functioning like a natural meniscus.

A healthy meniscus balances body weight across the knee, but if torn or injured, it causes pain, swelling, stiffness, limited mobility, joint instability, knee joint catching or popping, and may lead to arthritis and the need for a knee replacement. Treatment is extremely limited—typically a combination of ice, rest, and cortisone injections, and, as a last resort, surgery to remove all or part of the meniscus.

If the FDA approves the NUsurface, however, the implant could help over a million Americans a year who have had meniscus surgery (the same amount as the number of hip and knee replacements a year combined), yet suffer from pain so severe, even after surgery, that they're unable to live a normal, active life.

"A damaged meniscus has a very limited healing potential, oftentimes leading to knee replacement surgery," said Henry Klyce, CEO of Active Implants, a company that specializes in orthopedic implants. "We invented the NUsurface. 'There is an unmet need in the orthopedic market for a treatment option—our investigational NUsurface Meniscus Implant—that can fill the gap between minimally invasive meniscus surgery and total knee replacement.'"

Orthopedic surgeon Dr. Andrew Cooper performed the first surgery in the SUN (Safety Using NUsurface) study, the second clinical trial, was performed at Salt Lake Regional Medical Center in Utah last month. Patient Kent Carlson, 55, had experienced meniscus issues since sustaining some ski injuries as a kid. He underwent a meniscectomy and received cortisone shots for years, but his pain grew to the point where he was sitting for long periods, bearing weight, or even low-impact exercises like swimming and cycling made his knee swell.

"I love to hunt, fish, and hike. I can't wait to put on a pack and get back out there," said Carlson. "I'm an avid outdoorsman from Utah, and I'm excited to be part of this."

Patients go home after the operation, which only requires a small incision, and undergo a short week rehabilitation program afterward. Because of the implant's composite structure and design, the piece, made of medical-grade plastic, doesn't require fixation to bone or soft tissues and more closely mimics the function of the natural meniscus, which quickens the healing process.




**Impressions**  
2,475,635

**Time Spent**  
4:02

**Engagements**  
9,855

**Scroll Depth**  
82%

## How-to



**Impressions**  
3,776,931

**Time Spent**  
3:35

**Engagements**  
7,977

**Scroll Depth**  
91%

## Women's Health

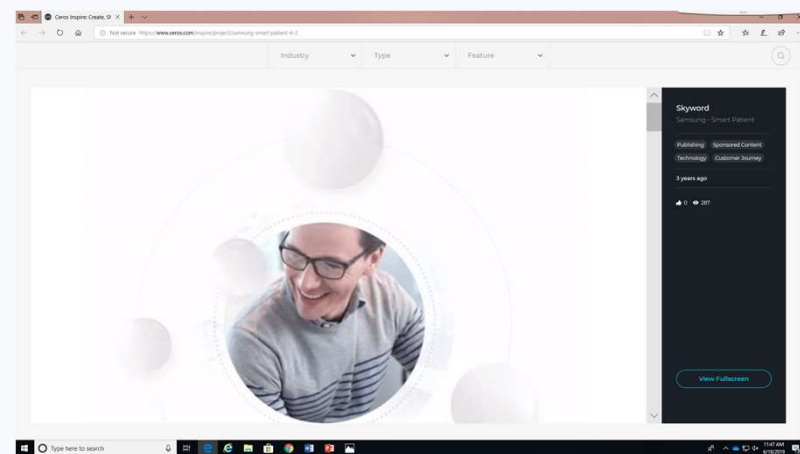
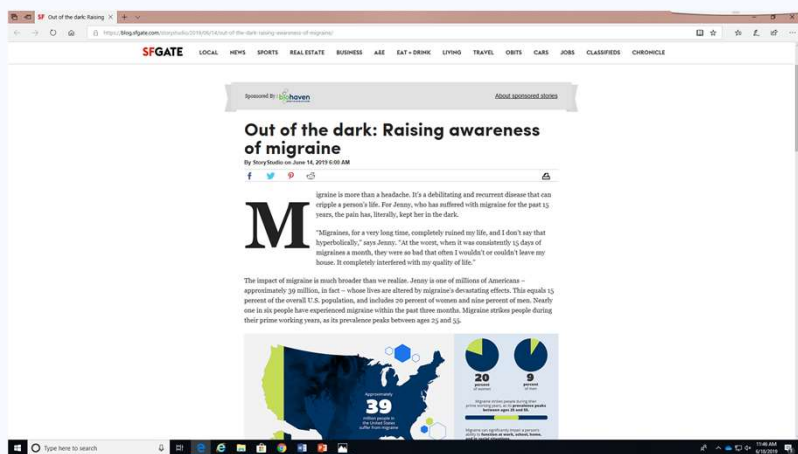


**Impressions**  
1,294,803

**Time Spent**  
3:20

**Engagements**  
7,600

**Scroll Depth**  
64%



## CUSTOMER SUCCESS STORY

# San Antonio Mini Dental Implant Center

Healthcare / INDUSTRY

Converse, TX / LOCATION

Dr. Oluwadara / DDS



## Doubled New Patient Consults



Mini Dental more than doubled its new patient initial consults during its marketing campaign with Express-News.

## 600% Increase in Print Call Volume



Seasonal print advertisements in the Express-News Sunday edition drove significant spikes in call volume.



PRINT  
ADVERTISING



NATIVE  
ADVERTISING



SEARCH ENGINE  
OPTIMIZATION



PAID SEARCH  
MARKETING



WEBSITE  
DESIGN



EMAIL  
MARKETING



REPUTATION  
MANAGEMENT



MARKETING  
AUTOMATION

***“My marketing promotions through print and online services with the San Antonio Express-News more than doubled our monthly patient traffic and new-patient consults. We couldn’t be happier with the results!”***

DR. OLUWADARA | DDS



## CAMPAIGN ELEMENTS

### Print Advertising

San Antonio Mini Dental print ads were featured in a promotional campaign with thoughtfully crafted messaging - including a compelling offer and educational-themed copy. The result was an average of 114 calls per month during the fall months, which represented a significant increase from the prior year.



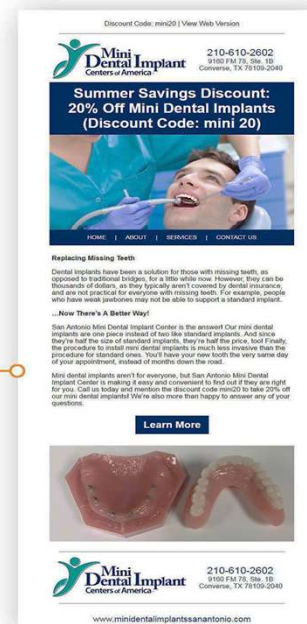
### Native Advertising

Mini Dental was empowered to tell their story and educate the local community about their unique approach to dental implants in an editorial-style ad placement on mySA.com. Featuring custom illustrations and video tutorials, their story was distributed on a network of partner sites targeting their ideal patients.



### Email Marketing

Email campaigns designed to highlight seasonal promotions were scheduled throughout the year to target over 50,000 local consumers that fit Mini Dental's ideal patient demographics.



### Website Design

A professional website was designed to simply and powerfully showcase the benefits of Mini Dental's approach. It featured video testimonials, patient reviews, online chat and more to help turn curious browsers into scheduled appointments.





## CONTENT OWNERSHIP & EXTENSION

# Make your content work for you.

It's your story, share it. All of the content created by Hearst Texas is created for you, by us. We give you each piece of content developed as well as all of the creative assets to run across other outlets in your marketing mix.

The most successful content campaigns are integrated across all marketing, advertising and sales initiatives. Almost 60% of marketers reuse content two to five times..

## Distribution Outlets

### DEDICATED EMAIL

Email marketing content with video has a 300% increase in click-through rates that emails without.

### NEWSLETTERS

Newsletter readers spend 80% more time on the site.

### ON – AIR

Baby Boomers make up 50% (76mm) of the US pop. and control 70% of all disposable income.

### PRINT PLACEMENTS

Omnichannel strategies drive an 80% higher rate of store visits.

### COMPANY WEBSITE

Having a video on your landing page pays off. In one study, it boosted conversion rates by 86%

### DIRECT MAIL

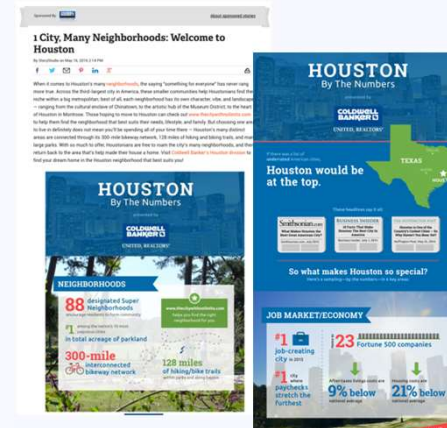
Direct mail marketing garners a 37% higher response rate than email.

### VIDEO PLATFORMS

Distribution and syndication to desired audiences with guaranteed viewership.

### SOCIAL PLATFORMS

Armed with visual content, studies show that you can grow your social media following and subscribers by 37%



San Antonio Business Journal | Sunday, February 20, 2017 | A9  
ADVERTISING FEATURE



## RIGHT NOW, SOMEONE IS TRYING TO SAVE YOUR LIFE

Thousands of clinical trials being held right now have the potential to heal you or someone you love.

Mona Lisa Mejia's life changed in April 2015. She began having severe headaches—which she believed were bad migraines. There was cramping pain, nausea, weakness.

What was believed to be a sinus infection was eventually diagnosed as stage 4 non-small-cell lung cancer that had spread to her brain.

She immediately began radiation therapy to shrink her brain tumors. For her lung cancer, she turned to a clinical trial.



The University of Texas Health Science Center at San Antonio, now doing business as UT Health San Antonio, has entered clinical trials since the day it opened in 1968. Clinical trials are research studies that depend on human volunteers to explore whether a medical strategy, treatment, or device is safe and effective for humans.

Clinical trials may involve treatments under development by pharmaceutical or biotechnology companies, or by independent researchers. Some test new therapies, while other trials test new combinations of already available treatments.

"At any one time at UT Health San Antonio, we have about 1,500 research studies that involve humans," said Joseph Schmeitz, Ph.D., assistant vice president for research administration. Not all of these research studies end up in clinical trials, however. Many depend on human volunteers simply for observation.

On average, about 160 new clinical trials are started at UT Health San Antonio each year. Studies can range from endocrinology and respiratory care to diabetes treatments and cancer therapies.

"As an academic health institution, we have faculty who are doing research in all areas. You're not going to get that anywhere else in San Antonio," Dr. Schmeitz said. "There are plenty of great physicians in the city, but what is unique about UT Health San Antonio is that it's where clinicians and scientists and physician scientists come together and collaborate. That's what it takes to do science." And that science can have life-changing results.

Mona Lisa Mejia's diagnosis of non-small-cell lung cancer required a unique solution. Her doctors turned to a clinical trial to compare two treatments for the specific type of cancer she has.

She began treatment on June 1, 2015, receiving atezolizumab, an oral medication. Another group of patients received intravenously a combination of that drug and osimertinib, a common chemotherapy treatment.

Through the trial, researchers are trying to determine which treatment option is the best. Existing studies showed a combination of the drugs worked better than either one alone.

A year after her first treatment, Mejia was given good news: her tumors had shrunk and were stable.

**A complicated process**  
Today's clinical trials program is divided into phases, with phase 1 being the first time a new drug or device is tested on people, using a small number of participants. Phase 2 includes a larger number of volunteers to test effectiveness and safety. Phase 3, which involves several hundred to several thousand patients, confirms effectiveness and compares the investigational therapy to standard treatments already in use.

A treatment will only pass through to a subsequent phase if it has been found to be safe and effective.

Phase 3 is typically the final phase before the therapy becomes available in the marketplace. Occasionally, a trial will enter phase 4, but this is largely reserved for therapies already

approved by the FDA and being proposed for a new use.

"It is with this idea of rigorously testing ways that deliver health care in a scientific manner that we have the ability to decide whether the changes that we want to make really do result in improvements in health care," Dr. Schmeitz said. "Clinical trials are very much this idea of experimentation and controlling all of the variables and testing hypotheses."

Funding comes from the federal government, private industry, medical institutions, and foundations.

**Finding participants**  
Even with the creation of online clinical trial databases that pair volunteers with investigators, many trials struggle to get enough participants for a legitimate study. Only about 3 percent of cancer patients enter clinical trials, according to the National Cancer Institute, and the reasons range from fear of a reduced quality of life to the inconvenience of participation. Nearly half of all cancer clinical trials nationally fail to enroll enough patients and can't be completed.

Mona Lisa Mejia viewed her participation in her clinical trial with hope, even as she struggled with the side effects from her cancer treatment. However, being in the trial gave her purpose.

"My kids are worried about me, but we continue to have faith in God," she said. "Our faith has gotten us through all of this and without it I would have lost hope. I prayed and he answered. He said all of these things to help me. I am just so grateful."

**To participate in a clinical trial, go to <http://vpr.uthsca.edu/indstudy>.**

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## NEW UT HEALTH DISCOVERIES GIVING NEW HOPE TO DIABETICS

More than 29 million Americans are living with diabetes, and another 86 million have prediabetes.

But for those with Type 1 diabetes, there may be a cure in sight. The novel approach would also allow Type 2 diabetics to stop taking insulin shots. The strategy is to increase the number of types of pancreatic cells that secrete insulin.



The researchers have a goal to begin human clinical trials in three years.

Ralph DeFronzo, M.D., professor of medicine and chief of the Division of Diabetes, is listed as co-inventor on the patent.

"The pancreas has many other cell types besides beta cells, and our approach is to alter these cells so that they start to secrete insulin, but only in response to glucose [sugar]," he said. "This is basically just like beta cells."

Insulin, which lowers blood sugar, is made only by beta cells. In Type 1 diabetes, beta cells are destroyed by the immune system. In Type 2 diabetes, beta cells fail and insulin decreases.

At the same time in Type 2, the body doesn't use insulin efficiently.

The therapy is accomplished by a technique called gene transfer. A virus is used as a vector, or carrier, to introduce selected genes into the pancreas. These genes become incorporated and cause digestive enzymes and other cell types to make insulin.

"Gene transfer using a viral vector has been approved nearly 50 times by the FDA to treat various diseases," Dr. DeFronzo explained. It has been proven for treating rare childhood diseases, and good manufacturing processes ensure safety.

Unlike beta cells, which the body rejects in Type 1 diabetes, the other cell populations of the pancreas coexist with the body's immune defenses.

"If a Type 1 diabetic has been living with these cells for 30, 40, or 50 years, and all we're getting them to do is secrete insulin, we expect there to be no adverse immune response,"

After large-animal studies, the researchers will apply to the Food and Drug Administration for investigational New Drug approval. Dr. DeFronzo continued. They received a U.S. patent in January, and UT Health San Antonio is spinning out a company to begin commercialization.

Dr. DeFronzo said.

The therapy precisely regulates blood sugar in mice. This could be a major advance over traditional insulin therapy and some diabetes medications that drop blood sugar too low if not closely monitored.

"A major problem we have in the field of Type 1 diabetes is hypoglycemia [low blood sugar]," Dr. DeFronzo continued. "The gene transfer we propose is remarkable because the altered cells match the characteristics of beta cells. Insulin is only released in response to glucose."

People don't have the symptoms of diabetes until they have lost at least 80 percent of their beta cells, Dr. DeFronzo said.

"We don't need to replicate all of the insulin-making function of beta cells," he said. "Only 20 percent restoration of this capacity is sufficient to cure Type 1 diabetes."

To learn more about UT Health San Antonio's advances in research, teaching, and healing, go to [www.uthsca.edu](http://www.uthsca.edu).

UT Health San Antonio is one of the country's leading health sciences universities. UT Health's schools of medicine, nursing, dentistry, health professions, and graduate biomedical sciences have produced more than 33,000 alumni, who are advancing their fields throughout the world.



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