

2017 ANNUAL REPORT

From Insight To Action



ENVOLVE CENTER
FOR HEALTH BEHAVIOR CHANGE™

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Letter from the Directors

Dear Friends and Colleagues,

We are pleased to present the Envolve Center for Health Behavior Change Annual Report.

2017 was a dynamic year for the Envolve Center. We have grown not only our research but our relationships and reach. Innovation has been at the forefront of our work as the Center occupies a unique space as a convener and implementer. Thinking about our accomplishments, we are reminded of the critical issues at hand that drive our efforts and how our Center applies findings to real-world settings.

As the healthcare fields evolve, a strong connection between cutting-edge research and industry-leading business practices adds incredible value to health industry leaders and policymakers who have the shared goal of improving health outcomes for communities and individuals. We remain dedicated to the work of achieving comprehensive and meaningful change in health and health care. We recognize that ours is a journey and will involve work that will require sustained attention throughout many years to come.

We not only had a productive year with regards to publications, but also in unique dissemination efforts such as webinars, international and national conference presentations, and workshops. Our annual forum on May 3, 2017 was a formative accomplishment, drawing diverse stakeholders including leaders from industry, academia, and nonprofit organizations. Focused on social determinants of health, the group of experts that joined us was truly inspiring.

It has been a momentous year, ripe with accomplishments, collaborations, and successes; a true testament to the tireless dedication of the Center partners, researchers, and staff and to the power of private-public partnerships. We are deeply grateful and remain inspired and devoted to the exciting opportunities that lie ahead.

In Health,



Michael Grinstein Weiss
Center Director



Karyn Quinn
Head of Research Development

About Us

THE ENVOLVE CENTER FOR HEALTH BEHAVIOR CHANGE™ is a community-corporate-academic healthcare partnership that advances life-centric health research to improve lives so that communities can thrive. A leading model of collaboration that applies research findings for real-world impact, the Center is a true testament to the value of designing innovative and evidence-based healthcare interventions that translate to the enhanced delivery of managed care.

Launched in 2016, this pioneering relationship between Washington University in St. Louis, Duke University, and Centene Corporation is dedicated to Centene's purpose of transforming the health of the community, one person at a time. With leadership from an advisory committee of industry experts and renowned researchers, our core values reflected in our Vision are:

- > We focus on issues that allow individuals to lead healthy, productive lives.
- > We are committed to finding solutions that work in the real world not in a bubble.
- > We use discourse and collaborative research between industry and academic experts to inform the business and communities where our members live, work and play.
- > We share our findings and knowledge so that others can benefit from what we learn.

Focused on strategic research design, the Envolve Center worked through a planning process this year around 'research matchmaking' – building the connections and forums for high-impact collaboration between industry and researchers. The possibilities are plentiful, as we expand the breadth of research that benefits the people and communities in which we live.

Application of Findings

Finding solutions that work in the real world

AS **ARTICULATED IN OUR VISION STATEMENT**, the Center works to transform research findings into products and services. There are several approaches Center researchers deploy to help us succeed in our goal.

1. Discover a problem or more typically, explore and characterize a known problem. Center researchers use surveys, interviews and data analysis to illuminate and diagnose.
2. Design a solution using evidenced-based information, something that has been done before, or create a new and innovative solution based on expertise and evidence. The solution is then field tested using a rigorous design with the goal of applying and scaling across states, health plans and member populations.

The Center works in collaboration with the Envolv's Science and Product team to translate findings into real world solutions. This section of the report will illustrate two examples of how the Center is informing and applying findings.

Raising Well Pediatric Obesity Program

 **Problem:** The percentage of children and adolescents affected by obesity has more than tripled since 1970 and attrition rates are high for weight management programs.

To inform the implementation of *Raising Well*, Envolv's pediatric obesity program, a survey was conducted with program participants. Exploring how to maximize the impact of the health coaching program, the survey examined its strengths and opportunities. Results indicated that families like health coach flexibility and a willingness to work with their schedule. Researchers also found that families wanted the following:

- > New methods of communication with health coaches such as texting, emailing and in-person visits.
- > Access to community resources related to activity and healthy eating.
- > More tailored educational content.
- > More direct interaction between their child and the health coach.

As a result, the *Raising Well* program updated its training approach, developed new educational materials and changed health coaching scripts to connect more effectively with parents. Program Directors mentioned the continuing ripple effects of this work in deepening coach/member relationships, development of more impactful materials and strategies for working with members.



RESULTS WERE
PRESENTED AT THE
INTERNATIONAL
SOCIETY OF BEHAVIORAL
NUTRITION AND
PHYSICAL ACTIVITY
ANNUAL MEETING AND
A MANUSCRIPT IS UNDER
PEER REVIEW.

Centene Flu Campaign

! Problem: Many people do not receive the flu vaccine and some are at high risk for serious complications resulting in hospitalization or death caused by influenza.

Centene’s annual flu campaign is a critical member outreach initiative, designed to encourage flu vaccinations for members. Center researchers were engaged to work on the campaign to advise and incorporate a behavioral economics methodology. In a review of proposed materials, researchers pointed to evidence showing that the planned ‘myth busting’ approach is often ineffective at changing false beliefs and instead proposed an alternative approach that uses ‘social norms’.

Based on this knowledge, the flu campaign team redesigned the materials and tested them with Medicaid, Medicare and marketplace members. The results demonstrated that the ‘social norms’ approach had greater potential for effectiveness as it performed significantly better than other approaches. The enhanced campaign will now be rolled out across Centene Health Plans.

For the 2015-2016 influenza season, Centers for Disease Control and Prevention (CDC) estimates that influenza vaccination prevented approximately 5.1 million influenza illnesses, 2.5 million influenza-associated medical visits, and 71,000 influenza-associated hospitalizations¹. Considering the approximately 12 million members under Centene’s care, the 4 percent difference (demonstrated in the illustration below) could have a significant impact on the numbers of flu cases and hospitalizations prevented.

Most Effective Campaign

CAMPAIGN B - SOCIAL NORMS is the winner. Significantly more people said they are “more likely to get the flu shot after seeing the ad campaign” after viewing Campaign B than after viewing Campaigns A and C. This is true overall, and is even a little more pronounced when excluding those who “always get the flu shot” and those who “will never get the flu shot.” The results with those excluded are shown below.



Campaign B

46%

are more likely to get the flu shot after seeing the ad campaign.



Campaign C

42%

are more likely to get the flu shot after seeing the ad campaign.



Campaign A

41%

are more likely to get the flu shot after seeing the ad campaign.

¹ Rolfes MA, Foppa IM, Garg S, Flannery B, Brammer L, Singleton JA, et al. Estimated Influenza Illnesses, Medical Visits, Hospitalizations, and Deaths Averted by Vaccination in the United States. 2016 Dec 9 [Date Cited]; <https://www.cdc.gov/flu/about/disease/2015-16.htm>

Results and Emerging Themes

Sharing our findings and knowledge so others can benefit from what we learn

ONE OF THE GREATEST BENEFITS of conducting applied research is that it is directly applicable and can be used immediately in our markets, with our partners and for our members.

This section of the report represents preliminary findings and presents plans to create innovative solutions.

Email is an Effective Strategy to Engage Members in an Online Survey

The initial outreach approach for the Life Values survey (a survey designed to explore life values as they compare to priorities and health) was a mailed introductory letter with instructions about the process to complete the survey online. Members were given a \$10 gift card for completing the survey. Response was very slow and the mailings were consuming our study budget.

After months of recruiting and a dwindling budget we knew we had to do something different. The research team attended health fairs and Federally Qualified Health Center offices, case managers tried recruiting and we used a telephonic voice response message. Recruitment remained dreadfully slow and we feared it would take a year to reach our goal of surveying 1,200 members.


73%
of Medicaid members
use email

Finally, we found a strategy that worked and was inexpensive. We used member email recruitment for the two plans that provided email addresses. Within weeks we recruited more than 600 members in Georgia and more than 300 members in California. In the end, we recruited 74 percent of the study participants by email and 16 percent via mail.

In a separate mobile device study conducted by Center researchers with Medicaid members, email data revealed that **73 percent used email** and **72.2 percent allowed businesses to send messages to their phone via text or email**. Participants checked emails several times a day and received a large volume of emails. Email addresses tend to remain constant over time while about **47 percent of members had 3+ phone numbers in the last five years** and about **85 percent had 3+ phones in the last five years**.


72.2%
of Medicaid members
allowed businesses to
send messages to their
phone via text or email



Understanding Life Values

WHAT IS IMPORTANT TO YOU?

WHAT ARE YOUR HIGHEST PRIORITIES IN LIFE?

WHAT ARE YOUR VALUED LIFE ACTIVITIES?

WHAT MOTIVATES YOU?

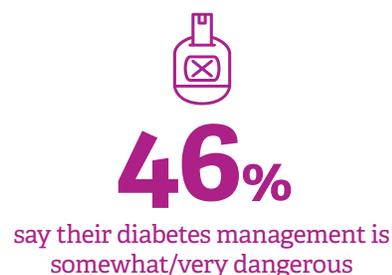
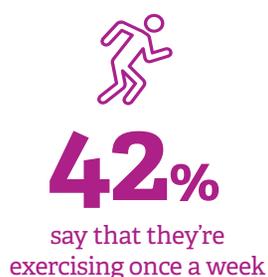
WHAT ARE YOUR FEARS AND ASPIRATIONS?

Next: Develop a research brief that will be used to illustrate the benefits of using email to reach and engage members.

There is an Incompatible Relationship Between People's Beliefs and Their Behaviors

We conducted a comprehensive survey to understand more about the psychology of people with diabetes before developing interventions to improve member behaviors and health outcomes. With approximately 1000 individuals participating, we are at the beginning stages of analyzing and understanding the results.

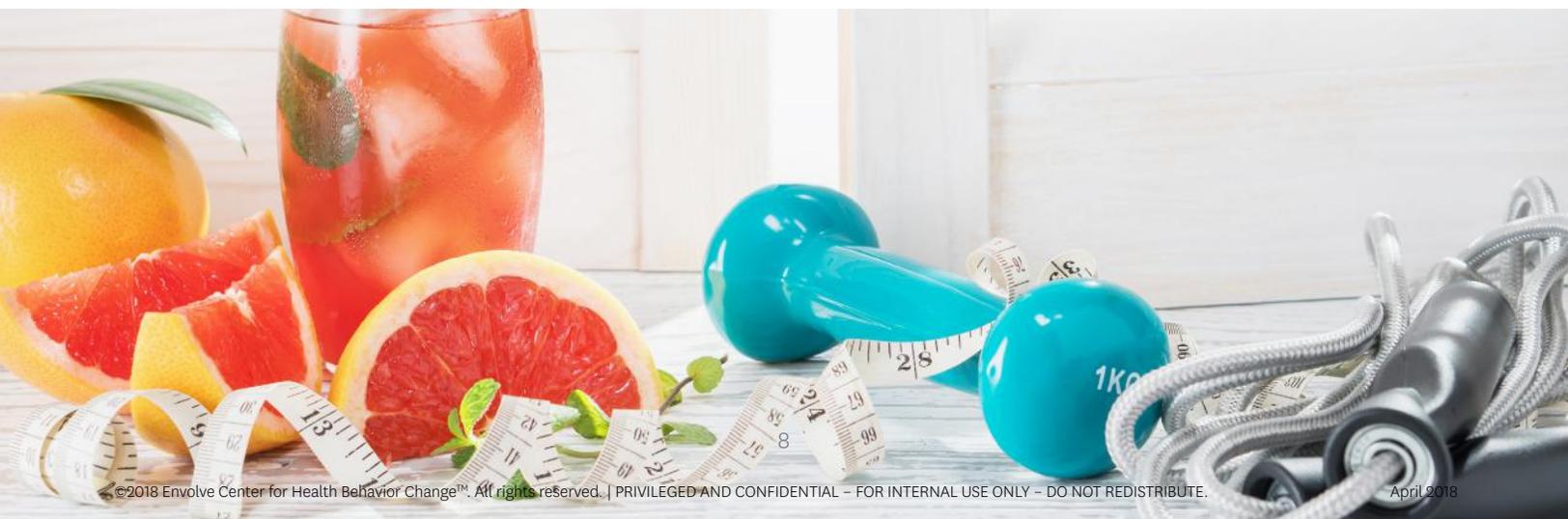
Preliminary findings indicate that people know that exercising, eating healthy, monitoring blood sugar and taking medication regularly is important for one's health and managing diabetes. Most people report high levels of knowledge (about an 8 on a scale from 0, no knowledge to 10, complete knowledge) about what they need to do to manage their diabetes. And yet, the results below indicate that people don't act on their intentions.



When asked to evaluate their diabetes management habits and long-term health implications, 90 percent agree that making changes would be beneficial to their health.

People report feeling at least partially in control of their health, and report an enthusiastic willingness to try out new routines, such as trying to eat based on their bodily feedback. Because 80 percent of respondents report using body sensation and energy levels as one indicator of their disease management success, we are exploring this relationship further and trying to understand how we can harness this internal monitoring to encourage healthier choices.

Next: Using insights gleaned from the survey and proven behavioral economic principles, researchers will develop and test an innovative strategy.



Unmet Basic Needs Can Have a Profound Effect On Health

Center researchers conducted **two different surveys** directed at varied populations to understand unmet basic needs and their impact on health.

#1. A survey of more than 700 individuals across the U.S. included all income levels and varying types of health insurance.

Finances and material needs such as housing and transportation seem to affect healthcare interactions such as emergency room (ER) visits and preventive care visits. On average, participants reported “sometimes” (3-4x/week) participating in daily health behaviors during the past six months and 1.29 ER visits and .67 preventive care visits in the past two years. Low-income participants reported lower rates of daily health behaviors, overall less preventive care visits and lower feelings of control of a chronic disease compared to those with higher incomes.



On average, survey respondents reported 1.29 ER visits in the past two years.

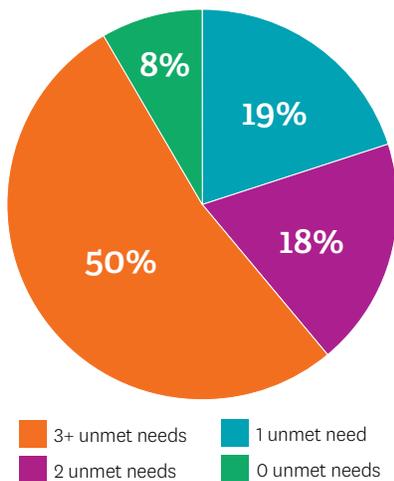
Higher money worries in several needs areas were associated with three of the four health outcomes as shown below. Notably, general money worries were associated with fewer ER visits. An overall positive relationship between psychosocial factors and health outcomes was observed. All associations were statistically significant.

Associated Needs	Health Outcomes		
	Daily Health Behaviors	ER Visits	Disease Control
Basic-Higher Worries			
Worries about having or saving enough money	Less ▼	Fewer ▼	
Worries about medical expenses		More ▲	Less ▼
Worries about family expenses		More ▲	
Psychological- Higher Levels			
Sense of purpose	More ▲		Better ▲
Social support		Fewer ▼	Better ▲



#2. A survey of Louisiana members with diabetes exploring basic needs and diabetes self-care ended in December 2017.

Unmet Basic Needs



Findings indicate that greater needs are associated with less frequent diabetes self-care activities, worse self-reported health, diabetes distress, activity limitations and hospitalizations. Unmet needs also affect attention, cognitive functioning, sleep and stress – all factors in an individual’s ability to self-manage disease.

Next: Additional research will determine which basic needs are of greatest concern and associated with key health outcomes, particularly among Centene’s Medicaid members. The Center has planned four basic needs studies in 2018.

One of the studies, a multi-disciplinary, multi-method research pilot in which we will examine the type and number of basic needs experienced by Louisiana Healthcare Connections Medicaid members was designed. Incorporating the lessons learned, it will provide basic needs navigation and explore how those needs impact health outcomes and healthcare utilization. We are eager to learn if this is an effective strategy to impact health outcomes and cost.

The researchers submitted a basic needs grant proposal to the National Institute of Diabetes and Digestive and Kidney Diseases to fund a five-year study on needs navigation, “Addressing Basic Needs to Improve Diabetes Outcomes in Medicaid Beneficiaries.” This study is pending grant funding.

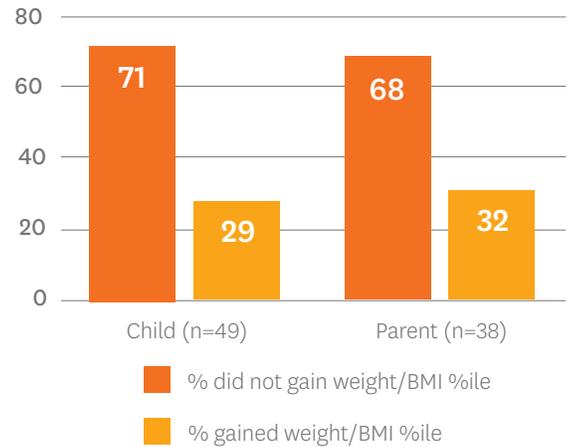
Peer Coaching is Demonstrating Promising Results

A multi-state peer coaching study is providing insights into interventions that promote healthy behaviors for children and their families. Early results are demonstrating promising impacts on the child’s and parent’s weight along with caregiver engagement in the program.

Preliminary Weight Data

Data collection is ongoing but preliminary data shows that 71 percent of peer coaching children had their BMI percentile decrease or stay the same when measured by project staff. Peer coaching parent’s weight (as measured by study staff) shows 68 percent lost or maintained their weight.

Peer Coaching Changes in Measured Weight



Communication Preference



Next: We are exploring effective and efficient ways to deliver behavior change intervention to members. Preliminary data shows preference for in person visits and texting. Based on feedback and findings from the study, peer coaches are testing mobile video chat interactions through platforms such as FaceTime and Google Hangouts.



“I get goose bumps when I go into a home and observe changes in a family’s environment or behavior, like a bowl of fruit sitting on the kitchen table, a homemade meal cooking, kids playing outside, or someone refilling their Centene water bottle. My greatest reward comes from giving families tools to be healthy and supporting them to adapt new habits.”

- Ronni Byrth,
Peer Coach



Dissemination

Sharing knowledge, promoting advances

ONE OF THE ENOLVE CENTER'S DRIVING GOALS is to disseminate research through social, academic, peer-reviewed and professional media, including peer-reviewed manuscripts, conference presentations, webinars, reports, research articles and blogs.

Select examples of dissemination efforts in 2017 include:

- > **Peer-reviewed Manuscripts** – Four manuscripts that focus on Center findings have been submitted for publication in prestigious academic journals.
- > **Workshops and Consultations** – The Center conducted workshops that generated ideas and fostered collaboration around topics of behavioral economics and social determinants of health, including a focus on housing and health outcomes. Additionally, Center researchers provided consultative support, sharing subject matter expertise with teams working on loyalty and rewards and member experience efforts.
- > **Annual Forum** – Bringing together a distinguished panel of experts and industry and academic leaders the Center's 2017 forum, "Social Determinants and Healthcare: Strategies for Healthcare Organizations & Professionals" explored cross-sector collaboration to advance policy and healthcare system change. Keynote speaker and reporter Nancy Cambria, spent seven months reporting on children still living in the Ferguson area in the aftermath of the protests and violence that erupted. Her report, "The Crisis Within: How toxic stress and trauma endanger our children," focused on evolving research indicating inequity, poverty and violence can deeply impair child brain and physical development and lead to poor health outcomes in adulthood. A [video short](#) and [live stream recording](#) of the event are available on the Center's website.



Enolve Center for Health Behavior Change 2017 forum, "Social Determinants and Healthcare: Strategies for Healthcare Organizations & Professionals."

> **Webinars** – A survey conducted with industry health plan leaders indicated webinars as a preferred channel for dissemination of research findings. Based on this feedback, we initiated our first Centene-wide live webinar series to share results from three basic needs projects. The first webinar, which presented survey findings reflecting U.S. adults of all income levels, had 91 viewers. The second webinar, a presentation of survey results from diabetic health plan members in Louisiana, had more than 700 registered attendees and 428 viewers. The third webinar, an examination of basic needs and the influence of life values on health attitudes and behaviors, is planned for summer 2018.



> **Articles and Blog Posts** – The Envolve Center routinely disseminates information on research and behavioral insights, as well as general Center updates – such as grant awards, conference presentations, and public forum announcements – to various stakeholders through a number of different channels. A robust stream of article and blog content is distributed and promoted through the Center and partner websites, social media, intranets, and newsletters. Throughout 2017, Center content on Envolve’s social media channels garnered 5,600 impressions and 77 engagements. The Center’s primary website has had over 22,000 page views with an average of 3.25 pages per viewing session. Internally, Center content has been very popular with Centene-wide audiences, with intranet page views as high as 3,622.



New marketing initiatives are underway, and include a Care Management blog series that will provide frontline care staff with tips and best practices for improving health outcomes. Like the webinars, the creation of a Care Management blog is a direct result of our health plan survey that solicited healthcare leaders on their research needs. Member engagement strategies topped their list at 82 percent.

Looking Ahead to 2018

Partnerships - Relationships - Broadening Reach



T HIS YEAR WILL BRING THE CENTER into exciting and important phases of work and discovery. We plan to focus our collaboration efforts by forming more community and academic partnerships.

- > A Social Determinants of Health research workgroup will be formed. This gathering of experts and varied stakeholders will work across projects in an effort to better understand and address factors that prevent individuals and communities from reaching ideal health.
- > The Center will continue work on a series of studies addressing healthy eating and diabetes. The nutrition shopping intervention study will launch in five states by piloting a novel, low-touch health coaching intervention to “nudge” people with diabetes toward healthier and more varied diets through innovative shopping lists and coaching support.
- > Focused on the engagement of pediatric asthma program participants, the Center is close to concluding a study that tests the effectiveness of incentives. One of the unique features of the incentive intervention incorporates using text messaging.
- > The Center is set to begin a multiyear project to study the under- and uninsured to gain a better understanding of the prevalence, causes, outcomes, and implications for policy and program development. The Congressional Budget Office estimated the number of uninsured at 27 million in 2016.



Engolve Center Studies



9 Studies/ Projects Completed

- > Unmet Basic Needs Survey
- > Diabetes Call Analysis
- > Coaching Script Changes
- > Coaching Terms
- > Life Values Assessment
- > Raising Well Pediatric Obesity Survey
- > Usability Testing an Online Goal Setting Platform
- > Annual Flu Campaign
- > Smoking Cessation Call Analysis



6 Studies Underway

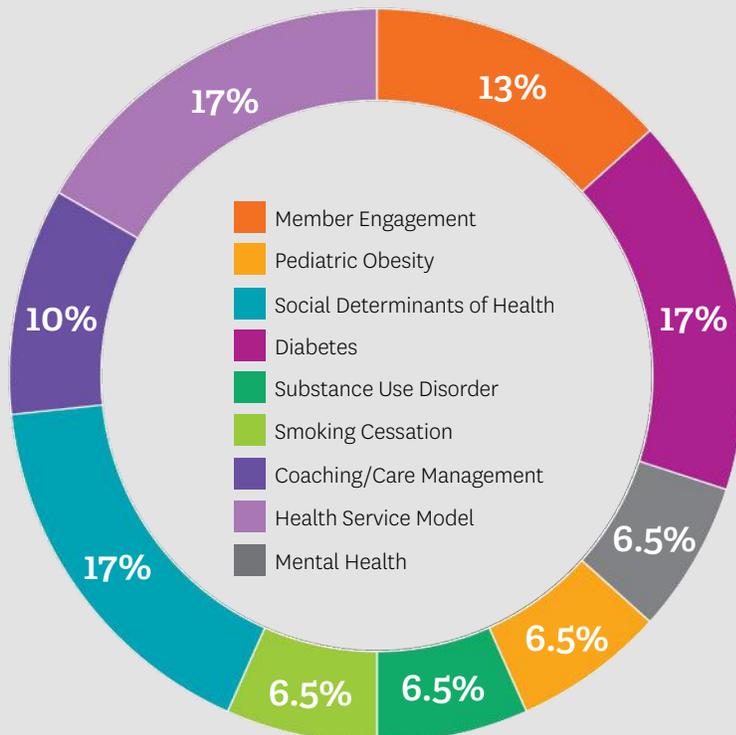
- > Unmet Basic Needs in a Diabetic Population
- > Comprehensive Diabetes Survey
- > Financial Incentives
- > Raising Well Pediatric Obesity Peer Coaching
- > Association Between Diabetes and Mental Health
- > Life Impact Index



15 Additional Studies/ Projects Planned for 2018

- > Addressing Basic Needs to Improve Diabetes Outcomes
- > Automatic Enrollment
- > Foster Care Medical Home Model
- > Impact of Home Visits
- > Increased Physician Payment
- > Life Index Project
- > Nutrition Shopping Intervention
- > Measurement, Prevalence and Impact of Uninsured and Under Insured
- > Raising Well Pediatric Obesity Peer Coaching with Sunflower Health Plan
- > Smoking Cessation and Treatment
- > Success in Substance Use Disorder Treatment
- > Trauma Recidivism
- > Personal Aide Incentives
- > Family Counseling Approach to Childhood Obesity
- > Implementing and Sustaining Substance Use Disorder Conference

Center Studies and Projects by Category



2017 Advisory Committee

IN 2017, A NEW ADVISORY COMMITTEE, comprised of leaders from both industry and academia was formed to support and guide the Center's vision and priorities.

Committee Members

Dan Cave, *Committee Co-Chair*, Envolve Center for Health Behavior Change

Dave Minifie, *Chief Experience Officer & EVP*, Corporate Strategy, Centene, and Committee Co-Chair

Dan Ariely, *Envolve Center Faculty Director*, Duke University

Jeremy Corbett, *Chief Health Officer*, Envolve's PeopleCare division

Toby Douglas, *SVP*, Medicaid Solutions, Centene

Michal Grinstein-Weiss, *Center Director*, Washington University

Debra Haire-Joshu, *Envolve Center Faculty Director*, Washington University

Jesse Hunter, *EVP, Mergers and Acquisitions and Chief Strategy Officer*, Centene

Matt Kreuter, *Envolve Center Faculty Director*, Washington University

Edward Lawlor, *External Consultant, Emeritus*, Washington University

Mary Mason, *SVP, Chief Medical Officer of Corporate Health Initiatives*, Centene

Mary Moslander, *External Consultant*, Health & Wellness Entrepreneur

John Porter, *VP Client Services & Operations*, Envolve's PeopleCare division

Karyn Quinn, *Head of Research Development*, Envolve Center, Envolve's PeopleCare division

Ken Yamaguchi, *EVP, Chief Medical Officer*, Centene

For additional information about the Center and its work, contact Ginny Barr at: vbarr@centene.com.



ENVOLVE CENTER
FOR HEALTH BEHAVIOR CHANGE™

A research collaboration between
Brown School at Washington University in St. Louis,
The Center for Advanced Hindsight at Duke University
and Centene Corporation