



CO L O R A D O

**Department of Public
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Retail Marijuana Education Program

2017 Annual Report

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Annual Report Concerning the Retail Marijuana Education Program

This report outlines the activities pursuant to Colorado Revised Statute § 25-3.5-1001 through 25-3.5-1007 to provide education, public awareness and prevention messages for retail marijuana. This report identifies the specific responsibilities of the Colorado Department of Public Health and Environment and outlines the progress made to ensure all Colorado residents and visitors understand the parameters of safe, legal and responsible use of retail marijuana.

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Executive Summary

The Colorado Department of Public Health and Environment (CDPHE) is funded to provide education, public awareness and prevention messages for retail marijuana, pursuant to Colorado Revised Statutes 25-3.5-1001 through 1007. CDPHE is charged with creating statewide campaigns to educate Colorado residents and visitors about the parameters of safe, legal and responsible use of retail marijuana. The following describes CDPHE's progress from October 1, 2015 through June 30, 2017 in implementing the education and prevention activities outlined in statute. Additionally, this report provides an overview of how CDPHE is collaborating across state agencies and with local communities to integrate campaign messaging statewide.

Public Education and Awareness Campaigns

CDPHE's Retail Marijuana Education Program has been working for nearly three years with media agencies selected through a competitive process. The majority of the campaigns were launched in previous years and were highlighted in earlier versions of this report. In fiscal year 2016-2017 (FY17), CDPHE successfully expanded education and prevention campaign efforts to better reach tourists, youth, parents and teachers, pregnant/breastfeeding women, and Spanish-speaking populations.

Good To Know FY 2016-17 activities and results (60.7 million media impressions over life of campaign)

Audience: General public, users, tourists

The [Good To Know](#) campaign, launched in January of 2015, has evolved to address the unique needs of specific populations, including marijuana users, to prevent high-risk behaviors. Campaign messaging includes information on the risks to youth brain development, the risks of over-consuming edibles, basic knowledge of marijuana laws, and the importance of safe storage to prevent unintentional ingestions. This campaign also includes education about the Universal Symbol recently required on all marijuana products in Colorado to indicate that a product contains marijuana.

As of June 30, 2017, CDPHE and the media vendor are providing point-of-sale materials to retailers and expanded *Good To Know* resources to include brochures for tourists, palm cards for marijuana users and increased digital media ads.

Early evaluations showed that Colorado residents familiar with the campaign were more than 2.5 times as likely to know key marijuana laws in Colorado. More recent evaluations show that current users (80 percent) have significantly higher knowledge of the laws compared to non-users (59 percent). There have also been significant increases in perceptions of risk and health effects of marijuana from pre-campaign to present. These include, but are not limited to:

- Increased perceptions of risk (26 percent) that daily or near daily use of recreational marijuana can lead to lasting impaired memory.
- Increased perceptions of risk (12 percent) regarding the practice of storing marijuana in open containers in a home with children or teenagers.
- Increased perceptions of risk (23 percent) of driving within 6 hours of using marijuana.
- Increased perceptions of risk (12 percent) that marijuana users can become addicted to marijuana.
- Increased perceptions of risk (12 percent) of over-consumption of edibles.

Good To Know - Pregnancy/breastfeeding FY 2016-17 activities and results (101.1 million media impressions over life of campaign)

Audience: Women, health care providers

In June of 2016, CDPHE launched ongoing public awareness campaigns to prevent the use of marijuana during pregnancy or while breastfeeding, found at GoodtoKnowColorado.com/baby. Recent evaluations show:

- 90 percent of women of reproductive age perceived risk from using marijuana once a week during pregnancy.
- Increased perceptions of risk (20 percent) of using marijuana while breastfeeding.

Good To Know - Trusted Adult FY 2016-17 activities and results (101.1 million media impressions over life of campaign)

Audience: Parents, teachers, and other adults that youth trust

Though the initial educational campaign for parents, teachers and other “askable adults” found at GoodtoKnowColorado.com/talk launched in 2015, CDPHE had funding in fiscal year 2017 to expand that campaign’s reach significantly through statewide TV and radio advertisements. To date, evaluations show adults who live with children had a significant increase (12 percent) in plans to talk to children about the risks of using marijuana and in the perceptions of risk for a teenager using marijuana once a week (11 percent).

Protect What’s Next FY 2016-17 activities and results (49.1 million media impressions over life of campaign)

Audience: Youth ages 12-20

In the summer of 2016 CDPHE revitalized the youth prevention campaign ([Protect What’s Next](#)) and expanded it to include new interactive web functions, focused ads for LGBTQ youth populations, events for youth in partnership with TEDxMileHigh, an interactive peer activity, and a statewide middle school “Challenge”. According to evaluation results:

- Youth who saw the campaign were significantly more likely to agree that marijuana made it harder to think and do things (34 percent vs. 26 percent).

Marihuana en Colorado: Lo Que Debes Entender FY 2016-17 activities and results (49.6 million media impressions over life of campaign)

Audience: Spanish-speaking adults, parents, and families

CDPHE enhanced the culturally relevant Spanish-language campaign ([Marihuana en Colorado](#)) through community-level funding to five agencies across the state to support their local integration of messaging. Evaluation results show:

- Three out of four (or more) Spanish-speaking adults perceived high risk across all known health effects.
- A significant increase (20 percent) in the perceptions of risk in the over-consumption of edibles.

Website

CDPHE continues to promote the Colorado.gov/marijuana web portal as the primary resource for all Colorado residents to access state agency information about the laws, health effects and regulations

related to retail marijuana in Colorado. CDPHE updated the web portal with streamlined content reflecting the latest state research ([Monitoring Health Concerns Related to Marijuana in Colorado: 2016](#)), new factsheets and translated resources, training and other support materials, and new content for the Spanish website (Colorado.gov/marihuana).¹

Evaluation

CDPHE contracted with the Colorado School of Public Health (CSPH) for the implementation of the third year of the required evaluation plan that assessed the effectiveness of these public awareness messages. CSPH implemented all year three evaluation plan activities to evaluate the relationship between campaign exposure and subsequent changes to reported knowledge of laws, awareness of health effects and perceptions of risk of certain behaviors related to retail marijuana use. CSPH administered a survey with an updated sample of Colorado residents to gather a baseline of knowledge, awareness, perceptions and behaviors. The new sample included additional marijuana users, parents of young children and teens, women of reproductive age (ages 18-45), LGBT adults, and African American adults. CSPH administered this survey twice during the contract period to assess attitudes and knowledge prior to the release of focused campaigns in May of 2016 and again in the spring of 2017 to monitor changes over time following the height of relevant campaign activity. CSPH analyzed whether exposure to CDPHE campaigns contributed to changes in attitudes and knowledge among adult users in Colorado. Evaluation is ongoing for the youth prevention campaign, efforts to reach tourists, and the prioritization of new populations.

Additional Activities of the Retail Marijuana Education Program

In addition to the website and campaigns, CDPHE created a comprehensive resource guide for local partners to understand how to best access research, evidence-based materials, fact sheets, campaign collateral, and other resources based on their specific need. CDPHE designed this guide to support local governments or non-government partners as they considered local-level implementation of retail marijuana prevention and education efforts. Dissemination of this resource guide will occur in the next fiscal year.

Beginning in January 2016, CDPHE funded five agencies to work across seven communities to disseminate Spanish-language materials, outreach, training and messages aligned with the Spanish-language *Marihuana en Colorado: Lo Que Debes Entender* campaign. These recipients were selected through a competitive application and review process including representatives of the communities that would be served by some of the projects. Together, these agencies were able to deliver 137 education and prevention trainings, reaching more than 1,600 parents, families, teachers, students, and health care providers statewide.

CDPHE partnered with Law Atlas to create a registry of local retail marijuana laws. The Colorado marijuana local policy surveillance dataset is the first step towards a longitudinal study of potential public health implications of medical and recreational marijuana based on county and local level regulatory frameworks. The portal is experiencing some technical difficulties, but should be online within the next few months.

CDPHE created an online course for health care providers that was certified by the Colorado Medical Society. This course provided one credit for continuing medical education and works to disseminate best practice clinical guidance documents and relevant patient materials across the state.

CDPHE staff collaborated across state agencies to align retail marijuana messaging. This included unique and strategic partnerships with state agencies to disseminate and share best practices, and to meet the demands of shifting legislation over time. CDPHE made print materials available through the state fulfillment center (www.COHealthResources.org) so communities can disseminate locally. More than 30 materials are available, and more than 50,000 have been shipped directly to communities for free.

CDPHE delivered eleven training sessions on healthy youth development and four trainings on the public health approach to marijuana throughout the 2016-17 fiscal year. CDPHE is providing support to state and community agencies about retail marijuana education, youth prevention strategies and materials, especially those working with youth or other high-risk groups. CSPH evaluated the impact of collaboration, training sessions and resource dissemination efforts at the state and local level and will continue to evaluate the effectiveness of future trainings and technical assistance services. The regional trainings educated more than 390 statewide youth-serving professionals on prevention efforts and youth development strategies. At four months following the trainings, 40 individuals who participated in trainings responded to a follow-up survey to assess the use of training materials and future needs of attendees. Of these, 80 percent reported integrating PYD information into their current work post-training.

Next Steps for the Retail Marijuana Education Program

CDPHE will continue to monitor public health trend data, the Retail Marijuana Public Health Advisory Committee research statements, evaluation data from the Colorado School of Public Health, and formative focus group/audience research to identify populations at higher risk of marijuana abuse or exposure and align our efforts to those populations. Current data demonstrates the need for more research on message resonance with marijuana users, African American adults, LGBT adults and youth, and very young mothers.

Moving forward, as CDPHE works to develop messages to meet the needs of priority populations, staff is also working to develop a sustainable network of local prevention experts. This would consist of statewide or community-based training and outreach partners that can further connect social marketing campaign messages with the needs and culture of the local community.

Introduction

The Colorado Department of Public Health and Environment (CDPHE) is funded to provide education, public awareness and prevention messages for retail marijuana, pursuant to Colorado Revised Statutes (C.R.S.) § 25-3.5-1001 through 1007. CDPHE is charged with creating statewide campaigns to educate

Colorado residents and visitors about the parameters of safe, legal and responsible use of retail marijuana.

This report describes CDPHE's progress from October 1, 2015 through June 30, 2017 in implementing the education and prevention activities outlined in statute. Additionally, this report provides an overview of how CDPHE is collaborating with other state agencies and local communities to integrate campaign messaging statewide. CDPHE's \$7,025,000 appropriation in fiscal year 2016-2017 for these efforts includes funding for staff and operating expenses to execute the following activities as outlined in statute:

- C.R.S. § 25-3.5-1003: CDPHE completed the **18-month public awareness and education campaign, *Good To Know***, directed at educating the public on legal use and the health effects of marijuana, including the development of fact sheets and clinical prevention guidelines for health care providers. While the *Good to Know* campaign continues to reach the public, the campaign's focus in FY 21016-17 shifted after the initial 18-months to focus on high-use/low-knowledge audiences. This portion of the statute was repealed effective July 1, 2016.
- C.R.S. § 25-3.5-1004: Implement **ongoing education and prevention efforts**. This includes providing five regional training sessions for local programs addressing marijuana prevention through healthy youth development strategies. It also includes the creation of sub-campaigns to educate and prevent negative health consequences among the following audiences:
 - General public on legal use and the health effects of marijuana.
 - Retailers on the importance of preventing youth access.
 - High-risk populations.
 - Consumers on the risks of the over-consumption of edibles.
- C.R.S. § 25-3.5-1005: Create a **web portal** for all state and local agency information on marijuana laws, health effects and resources; promote website to the public: Colorado.gov/marijuana.
- C.R.S. § 25-3.5-1006: **Align messaging** across state agencies and integrate the messages into local prevention programs. This includes providing data, training, educational materials and resources on effective prevention strategies to local community programs or coalitions addressing marijuana education and/or youth prevention.
- C.R.S. § 25-3.5-1007: Develop and implement a **three-year evaluation plan** on the reach and impact of the campaigns and CDPHE's effectiveness in educating Colorado residents on retail marijuana laws and preventing negative public health consequences. This includes two reports to the General Assembly on the effectiveness of the campaigns.

Guidance for CDPHE's Education Efforts

CDPHE used guidance from a variety of sources to inform and increase the effectiveness of educational and public awareness efforts, including:

- Accurate research on the effects of marijuana.
- Data on statewide marijuana-related concerns.
- Assessments of available marijuana health education messaging.
- Insight of diverse stakeholders from across the state.

To ensure the accuracy and consistency of public education on the health effects of marijuana, CDPHE used researched statements provided by the Retail Marijuana Public Health Advisory Committee.¹ This committee of medical and public health experts conducted a systematic literature review of all available research on the health impacts of marijuana and shared these updated researched statements with the General Assembly on January 30, 2017.

CDPHE used assessment results from multiple state agencies on knowledge, attitudes and behaviors surrounding retail marijuana to inform public education efforts. The Departments of Transportation, Education and Human Services, and the Governor's Office of Community Partnerships shared results from past surveys to inform CDPHE's education efforts. CDPHE also conducted surveys and focus groups in partnership with the contracted media agency and evaluator to learn more about each audience group.

Finally, CDPHE received insightful feedback from a diverse group of statewide stakeholders to guide the development of campaign messages. Pursuant to Senate Bill 13-283 and Executive Order 2013-007, the Governor's Office convened the Marijuana Education Oversight Committee (MEOC) to serve as the advisory committee to the public education efforts outlined in Senate Bill 14-215. This group has representation from a wide variety of stakeholders, including: Governor's Office of Marijuana Coordination; Colorado General Assembly; the Colorado Departments of Revenue (DOR), Education (CDE), Human Services (CDHS), Public Health and Environment (CDPHE) and Transportation (CDOT); the marijuana industry; medical marijuana patient advocacy groups; substance abuse prevention organizations; higher education; health care providers; local and state prevention groups; grantees from CDHS' Tony Grampsas Youth Services (TGYS) program or the Office of Behavioral Health (OBH); and local government.

CDPHE's Retail Marijuana Education Program presents all educational activities, such as fact sheets and campaign creative concepts, to members of MEOC for guidance and strategic direction. This committee has contributed valuable insight to the work of the education program and will continue to meet bi-monthly to guide the development of future initiatives.

Effectiveness of CDPHE Retail Marijuana Education Campaigns

Public Awareness and Education Campaign Overview

Colorado Revised Statutes § 25-3.5-1003 through 1007 tasked CDPHE with the launch of an initial public awareness and education campaign and ongoing education and prevention efforts to reach the following populations:

- General public on legal use and health effects of marijuana.
- Retailers on the importance of preventing youth access.
- High-risk populations to prevent public health concerns.
- Retail marijuana consumers to prevent the over-consumption of edibles.

The legislative mandate also includes making messaging available to local level partners and evaluating the impact of these efforts.

According to The Center for the Application of Prevention Technologies, effective substance abuse prevention strategies should include media campaigns that align community attitudes about use with the laws governing that use and with accurate information about the substances.² In order to prevent youth access to marijuana, CDPHE focused initial campaign efforts on increasing the knowledge of retail marijuana laws among all Colorado residents and visitors as outlined in statute. Adults who are well-informed about the laws are better equipped to prevent inappropriate or unsafe marijuana use, model appropriate substance use and prevent underage access to the substance. In FY17, CDPHE began to focus the campaign efforts on high-risk or high-information-need populations instead of focusing on the general public. During this time frame, CDPHE was under contract with the media vendor, Cactus, who was selected through a competitive request for proposal application process in the fall of 2014.

Good To Know Campaign: Public Awareness Implementation & Evaluation

Good To Know Campaign

Message Development Process - Fall 2014 through June 2016

In 2014, the media vendor conducted surveys and interviews across the state to gain insight into various perspectives regarding marijuana consumption.



Stakeholders and the public responded that Colorado residents, both users and non-users, needed and wanted more information on the laws and health effects of marijuana. Four hundred stakeholders, 170 members of the public and the Marijuana Education Oversight Committee participated in surveys and interviews to develop creative messaging that resonated with the general public and educated them about the safe, legal and responsible use of retail marijuana.

The media vendor created the *Good To Know* campaign to reach and educate all Coloradans aged 21 and older, users and nonusers alike. While the content of the *Good To Know* campaign is clear and

direct in communicating laws and safety guidelines, CDPHE and the media vendor wanted to test the delivery of those messages to be sure that all Colorado residents, no matter their opinion on marijuana, found the content approachable and helpful. The media vendor administered testing with nearly 450 Colorado residents to gauge their reactions to creative concepts.

The *Good To Know* campaign neither promotes nor negatively judges marijuana use, allowing the message to resonate with a wide variety of individuals holding a wide variety of opinions about legalized marijuana. By providing helpful information about retail marijuana laws and links to more information and resources on health effects, the campaign empowers Colorado residents to discuss what safe, legal and responsible marijuana use means to them.

The *Good To Know* campaign launched on January 5, 2015. Key messages of the campaign include:

- The legal age for retail marijuana purchase, possession and use is 21.
- It is illegal to give or sell retail marijuana to anyone younger than age 21.
- It is illegal to drive while high.
- It is illegal to use marijuana in public, in your car, and on federal land.
- It is illegal to take marijuana out of state.
- It is important that anyone with marijuana store it safely to prevent unintentional use.
- It is unsafe for underage youth to use marijuana because their brains are still growing.

Since its launch, campaign assets have included the campaign's website, GoodToKnowColorado.com; a 60-second and 30-second television spot that ran statewide; radio advertisements; billboards; transit ads; digital advertising; promotion on social media channels, including Facebook, Twitter and Instagram; earned media; and the development of materials to be used by community partners. The website links the public to the Colorado.gov/marijuana web portal, which contains information on the laws and health effects of marijuana use provided by CDPHE and other state agencies. Examples of *Good To Know's* campaign creative elements are in Appendix A. Note that the look and feel of the *Good To Know* campaign changed from FY16-17 as illustrated designs were replaced with more cost-effective alternatives.

General public awareness efforts for all Colorado adults ended July 1, 2016 when Colorado Revised Statute § 25-3.5-1003 was repealed. However, Colorado Revised Statute § 25-3.5-1004 also includes the mandate to provide general education for all Colorado residents. Since the *Good To Know* campaign had such strong brand recognition across the state, CDPHE chose to continue the ongoing education efforts outlined in Colorado Revised Statute § 25-3.5-1004 but with more focused efforts to reach high-risk, low-knowledge audiences.

[Good To Know Campaign Tactics and Reach across Colorado and the Nation](#)

Throughout fiscal years 2015-17, *Good To Know* increased awareness and engagement with Colorado residents and visitors. We also found that people nationwide were engaging with the content. *Good to Know* used a mix of statewide media tactics, including paid, earned, owned, and shared media.

The largest media pushes for the campaign in FY 2016-17 took place in April, and June through August: leading up to 4/20 (an unofficial holiday to celebrate marijuana) and during the summer months to reach summer tourists. Leading up to Colorado's 4/20 events, CDPHE partnered with three local news sites (denverpost.com, gazette.com, and nbc11news.com) to feature *Good To Know* ads across their homepages and ramped up digital advertising efforts through a partnership with *The Cannabist* to provide marijuana users with a timely and friendly reminder about Colorado's retail marijuana laws.

The summer tourism push consisted of billboards and bar media in 83 tourist locations throughout the state, digital display takeovers with *The Denver Post*, geographically targeted mobile ads around dispensary locations, and out-of-state paid search ads. This also included the creation of a microsite (Wait4hours.com) and corresponding digital banners promoting the site to remind users of the risks associated with the over-consumption of edibles, an important message for our audiences. Wait4hours.com went live on June 1, 2017. From July 1-30, the site received 540 pageviews, with users spending an average of 2 minutes and 46 seconds on the site.

In September 2016, CDPHE added messaging about the Universal Symbol into the *Good To Know* campaign. This symbol is now required for all marijuana packaging and products to make it safer for adults and less appealing to children. The Universal Symbol launch included a joint press release with the Colorado Department of Revenue. The combined efforts of CDOR and CDPHE secured 338 English-language media mentions that received a total of 665,000,000 media impressions. In addition, the release earned three Spanish media mentions, resulting in more than 110,000 media impressions.

To date, all *Good To Know* campaign media efforts have resulted in more than 60,700,000 media impressions:

- FY 2014-2015 and FY 2015-2016: 27,600,000 media impressions
- FY 2016-17: 33,100,000 media impressions
- FY 2016-17 Highlights:
 - Digital advertising delivered more than 11,300,000 media impressions with a 0.34 percent click-through-rate (CTR).
 - Out-of-home efforts with retail dispensary screens, mobile billboards and in-bar media in mountain towns generated 10,000,000 media impressions statewide.
 - 4/20 outreach highlights:
 - Overall, digital advertising and homepage takeovers with DenverPost.com, Gazette.com, and nbcnews11.com delivered 4,700,000 impressions with a 0.19 percent CTR for the 4/20 messaging.
 - The *Good To Know* site saw a spike in traffic on 4/10 and 4/17: days that had homepage takeovers.
 - The week of 4/20 saw a steady increase in traffic to the site with the laws page receiving 47 percent of all site sessions from 4/17-4/23 (75 percent of which came from paid search).
 - The Summer tourism billboards delivered 1,600,000 media impressions.
 - With a significant investment in paid social media posts focused on the adults that youth trust and geographically targeted mobile ads around dispensaries, the Denver

International Airport, and the Colorado Convention Center, impressions, reach, engagement and ad message recall increased significantly.

Good To Know Campaign Effectiveness

CDPHE contracted with the Colorado School of Public Health (CSPH) to evaluate any link between the reach of the campaign and subsequent changes in the knowledge of marijuana laws, awareness of the health effects, perceptions of risk and prevention behaviors among a sample of Colorado residents (full methodology and results in Appendix I).

English-speakers who were surveyed at all four data collection points (N=146) had significant increases in perceptions of risk and health effects of marijuana from baseline to the most recent follow-up survey. These include, but are not limited to:

- Increased perceptions of risk (26 percent) that daily or near daily use of recreational marijuana can lead to lasting impaired memory.
- Increased perceptions of risk (12 percent) regarding the practice of storing marijuana in open containers in a home with children or teenagers.
- Increased perceptions of risk (23 percent) of driving within 6 hours of using marijuana.
- Increased perceptions of risk (12 percent) that marijuana users can become addicted to marijuana.
- Increased perceptions of risk (12 percent) of over-consumption of edibles.

Among this same group over the same period, accurate knowledge of the laws increased; however, this increase was not statistically significant (70 percent had accurate knowledge of laws at most recent follow-up). This indicates the need for ongoing educational efforts to support residents' ability to sustain knowledge of current laws and educate them on any new or changing laws.

More detailed results of the evaluation results are presented on page 52.

Good To Know Pregnancy and Breastfeeding Campaign: Implementation & Evaluation

[Good To Know Pregnancy and Breastfeeding Campaign Message Development Process - Launched June 2016](#)

Communicating the risk of the potential health effects of marijuana use during pregnancy is a top priority for prevention campaign efforts based on the research of the Retail Marijuana Public Health Advisory Committee.¹ The media vendor completed an initial review of existing market perception research and conducted focus groups with physicians, patients and partner organizations to gain a multi-perspective understanding of the challenges and opportunities for communicating with this audience. The media vendor's research (surveys and interviews) uncovered information about the frequency and quality of conversations between healthcare providers and women, as well as the perception of health risks while pregnant or breastfeeding. This research included an online survey distributed to 87 women of reproductive age (including mothers and women who were pregnant) through community partners and 10 in-depth phone



interviews with stakeholders, including health care professionals from the following organizations: Denver Health WIC, UC Denver, St. Joseph's Hospital, and the Colorado Alliance for Drug Endangered Children. Talking to experts helped inform the current level of knowledge of pregnant and breastfeeding women, and their behaviors and attitudes toward using marijuana while pregnant or breastfeeding.

In addition, the media vendor conducted a quantitative online study of 154 Colorado women ages 18-44 to test creative concepts for the campaign. Respondents were well-represented across ethnicity, income, education, location, and age. Focus group participants described the winning campaign creative as visually-engaging and educational. The messaging is simple and clear and aims to empower women to make informed decisions in the best interests of their baby's health and development. The campaign also encourages positive, open and honest conversations between pregnant/breastfeeding women and their health care providers.

The campaign's key messages include:

- There is no safe amount of marijuana use while pregnant or breastfeeding.
- No matter how it's ingested, if you use marijuana during pregnancy or breastfeeding, THC passes through and can be harmful to your baby.
- Marijuana is stored in breastmilk longer than alcohol, so "pumping and dumping" does not work.
- Secondhand smoke from marijuana can be harmful. It's smoke contains many of the same cancer-causing chemicals as tobacco smoke.
- Talk to your doctor.

[Good To Know Pregnancy Campaign Launch and Unique Partnerships Statewide](#)

In an effort to educate local public health partners throughout the state about the campaign, CDPHE hosted a webinar for all local partners in June 2016 to educate them about the research, planning, communications strategy and final creative elements for the *Good To Know* pregnancy and breastfeeding campaign. CDPHE made campaign print materials available to local partners through COHealthResources.org. Local partners can order and receive these materials for free and disseminate the information to key perinatal and breastfeeding partners in their communities. CDPHE and the media vendor also developed, produced and provided materials for Planned Parenthood of the Rocky Mountains and Nurse-Family Partnership to display at clinics and distribute to patients.

[Good To Know Pregnancy Campaign Tactics and Reach Across Colorado](#)

Good To Know's pregnancy campaign aims to reach pregnant or breastfeeding women in Colorado. The campaign used integrated communications to spark dialogue and encourage an educated conversation. The campaign reaches this audience by placing ads in trusted places where women are going to get information about their pregnancy and baby. The campaign features a mix of digital advertising tactics in trusted sources like [Baby Center](#), Colorado Mommy blogs, and paid social and search efforts.

During the second half of FY 2016-17, CDPHE and the media vendor expanded the campaign's audience to include 15 to 20 year-old pregnant and breastfeeding women. This adjustment was made based on newly released survey results from the Colorado Pregnancy Risk Assessment Monitoring System (PRAMS)

that showed that women ages 15-24 reported the highest marijuana use during pregnancy than any other age group.¹

As part of the paid social media campaign, the media vendor geographically targeted Planned Parenthood clinics, WIC (The Special Supplemental Nutrition Program for Women, Infants, and Children) clinics, and Federally-Qualified Health Centers across the state. This tactic allowed us to reach young women on their mobile phones with relevant messaging in those settings.

To date, campaign media efforts have resulted in more than 23,300,000 media impressions:

- FY15/16: 1,100,000 media impressions
- FY17: 22,200,000 media impressions
- FY17 Highlights:
 - Digital advertising delivered more than 19,400,000 impressions.
 - The campaign's landing page (GoodToKnowColorado.com/baby) saw nearly 50,000 sessions over the course of the year with more than 61,000 pageviews.
 - The media vendor partnered with three area websites - Denver Metro Moms Blog, Colorado Springs Moms Blog and Mile High Mamas - to promote key messages from the campaign. The blog posts achieved 8,000 impressions.
 - The corresponding social media posts achieved 40,000 media impressions, 463 clicks, and 648 likes.
 - The banner ads achieved 1,200,000 impressions and 395 banner ad clicks.
 - We expanded the audience to include young women ages 15-20, successfully reaching more than 138,000 young women. While this campaign had good reach, there were both negative and positive comments when this younger audience engaged with the content.

Examples of campaign creative can be found in Appendix B.

[Good To Know Pregnancy Campaign Effectiveness](#)

CDPHE contracted with the Colorado School of Public Health (CSPH) to evaluate the link between the reach of the campaign and subsequent changes in the knowledge of marijuana laws, awareness of the health effects, perceptions of risk and prevention behaviors. CSPH conducted the evaluation with a sample of Colorado residents with an oversample of women of reproductive age (ages 18-45) (full methodology and results in Appendix I).

There were statistically significant increases in understanding of the health effects of marijuana on children among English-speaking women of reproductive age (N=189) in the survey sample. These changes were particularly notable among women aged 25-45 years and non-Hispanic white women.

For example, there was a significant increase (5.6 percent increase) in women of reproductive age reporting risk from using marijuana regularly during pregnancy, particularly among non-Hispanic white women (7.2 percent significant increase). Overall, 90 percent of these women perceived a risk from using marijuana during pregnancy at the most recent follow-up. However, few women of reproductive age (12 percent) who saw a health care provider in the past year discussed marijuana use with that provider.

Additionally, there was a significant increase (20 percent increase) in perceptions of using marijuana while breastfeeding. 88 percent of women of reproductive age perceive a risk from using marijuana during breastfeeding.

[Good To Know - Retailer Kits: Implementation & Evaluation](#)

[Good To Know Retailer Message Development Process - Launched May 2016](#)

CDPHE developed a comprehensive Retailer Kit in March 2015 to reach retailers and their customers. CDPHE and the media vendor met with representatives of the marijuana industry to inform efforts to create materials appropriate to use at point-of-sale. These materials educate customers about the laws and health effects of retail marijuana use. Collaboration with retailers helped CDPHE efficiently reach marijuana users who are residents or visitors with information about safe, legal and responsible personal use, including effective ways to prevent youth access to marijuana and to store marijuana products safely. C.R.S. § 25-3.5-1004 identifies retail stores and the over-consumption of edibles as important campaign focuses.

Materials address the prevention of edible overconsumption using the research from the Retail Marijuana Public Health Advisory Committee.¹ The committee identified that edible marijuana products may take at least 90 minutes and as long as four hours to reach peak THC (the psychoactive component of marijuana) blood concentrations and more time to feel the full effects.¹ Marijuana users should wait at least that amount of time prior to consuming additional servings or other substances.

[Good To Know Retailer Kit Launch and Unique Partnerships Statewide](#)

In an effort to expand partnerships with marijuana retail locations across the state, CDPHE and the media vendor worked with the Colorado Department of Revenue's Marijuana Enforcement Division to disseminate kits to store owners as they visited the state agency offices to turn in required paperwork, as necessary. The media vendor pitched news stories to cannabis industry media outlets at the same time to increase demand for the kit.

During the same time as these efforts, the media vendor mailed retailer kits to 100 retailers across the state. As a result of this integrated effort, the *Good to Know* retailer webpage experienced a 186 percent increase in traffic. In June 2016 the media vendor sent a postcard to retailers who had not yet ordered a kit to encourage them to order one.

[Good To Know Retailer Campaign Tactics and Reach across Colorado and the Nation](#)

Following the news stories to announce the launch of the retailer materials, the media vendor fulfilled inbound orders for Retailer Kits and additional takeaway cards for storefront retail marijuana stores in Colorado. To date, the media vendor has distributed 340 retailer kits and 123,625 refilled takeaway cards.

Creative examples from the campaign can be found in Appendix B.

Good To Know Retailer Campaign Effectiveness

CDPHE contracted with the Colorado School of Public Health (CSPH) to evaluate any link between the reach of campaigns and subsequent changes in the knowledge of marijuana laws, awareness of the health effects, perceptions of risk and prevention behaviors among a sample of Colorado residents, specifically with marijuana users who may be exposed to the retailer materials (full methodology and results in Appendix I).

Current users were significantly more likely to know most components of the laws. For example, CSPH created a total score of accurate responses to four laws included in campaign messaging, including 1) age 21 to buy, 2) may not use outdoors, 3) can get cited for DUI and 4) cannot take out of state. Marijuana users had a significantly higher percentage of accurate responses to these questions (80.4 percent, compared to 59.1 percent for non-users).

However, current marijuana users were significantly less likely to acknowledge potential risks or health effects compared to non-users, sometimes by large margins. See the table below for a few examples.

<i>Respondents' agreement with known health effects of marijuana, risks of use:</i>	Marijuana Users % (n)	Non-Users % (n)
Addiction: Marijuana users can become addicted to marijuana	38.9 (72)	74.5 (339)
Adult Daily Use: An adult using marijuana daily or almost daily	42.6 (80)	80.2 (371)
Use During Pregnancy: A woman using marijuana once or twice during pregnancy	50.3 (89)	77.8 (358)
Impaired Memory: Daily or near daily use of recreational marijuana can lead to lasting impaired memory	53.1 (87)	86.8 (354)

*Note: All differences shown in table are statistically significant

Due to these discrepancies in knowledge, CDPHE will continue to research effective messaging with Colorado marijuana users about health concerns related to marijuana. This will include incorporating findings from the retailer research that was conducted in FY17, which looked at opportunities for continued and effective partnership with the marijuana industry. This research consisted of focus groups with 50 marijuana industry employees (primarily budtenders and store managers). Findings showed that marijuana industry employees feel strongly about being educated about retail marijuana and being able to pass that information along to customers. Additionally, research showed that the industry is very open to a continued partnership with CDPHE because they view us as a trusted source.

Good To Know Campaign - Tourism: Implementation & Evaluation

Good To Know's Tourism Content Message Development Process - Launched June 2016

CDPHE marijuana impact data demonstrated that adult non-residents of Colorado had a significantly higher rate of hospitalizations related to marijuana use than adult residents of Colorado.¹ Additionally,

the media vendor's research with Colorado retailers reaffirmed that tourists remain to be an underserved audience from our campaign efforts.

[Good To Know Tourism Campaign Launch and Unique Partnerships Statewide](#)

In an effort to expand partnerships with tourism locations across the state, CDPHE and the media vendor partnered with the Colorado Tourism Board, training their regional and local staff on the unique concerns facing tourists who may use marijuana while visiting Colorado. This led to an invitation from the Tourism Board to provide a keynote presentation at the Colorado Governor's Tourism Conference in the Fall of 2016. CDPHE continues to make free campaign brochures available to local partners through the state fulfillment center at COHealthResources.org. Brochures are distributed through key tourism centers in communities.

[Good To Know Tourism Tactics and Reach across Colorado and the Nation](#)

Since June 2016, the media vendor conducted outreach to travel and tourism, lodging, transportation and ski/resort organizations to determine opportunities for partnerships, information distribution and promotion of key messages. Partners included Colorado Tourism, Visit Denver, Colorado Ski Country, and the Colorado Hotel and Lodging Association.

Outreach efforts included:

- Colorado Tourism agreed to link to the *Good To Know* website and distribute brochures at its welcome centers across the state.
- The Colorado Hotel and Lodging Association distributed brochures to its member hotels.
- Local Chambers of Commerce across the state disseminate brochures.
- The media vendor conducted additional outreach to rental car companies, tour and adventure companies, marijuana tour companies and vacation rental property management companies to offer the *Good To Know* brochures. U Save Car & Truck Rental and Colorado Highlife Marijuana Tours and Travel requested additional brochures.
- The media vendor placed bar media in mountain towns during heavy tourism months, and continues outreach efforts within marijuana stores (see above).

In addition to local outreach tactics, the media vendor continued a robust out-of-state paid search campaign online to reach those who were researching marijuana-related trips to Colorado. Billboards across the state also accompanied these efforts to reach tourists during their trips. *Please note that campaign metrics for tourism efforts are included within our general Good to Know campaign metrics above.*

Creative examples from the campaign can be found in Appendix C.

[Good To Know Tourism Campaign Effectiveness](#)

CDPHE contracted with the Colorado School of Public Health (CSPH) to evaluate any link between the reach of campaigns and subsequent changes in the knowledge of marijuana laws, awareness of the health effects, perceptions of risk and prevention behaviors among a sample of Colorado residents (full methodology and results in Appendix I).

However, CSPH's evaluation efforts do not extend to non-residents. CDPHE is still identifying other effective avenues to assess changes in knowledge and attitudes about marijuana use among tourists who choose to use marijuana.

Good To Know Trusted Adult Campaign: Youth Prevention Campaign Implementation & Evaluation

[Good To Know Trusted Adult Campaign Message Development Process - Launched August 2015, Refreshed July 2016](#)

[Healthy Kids Colorado Survey \(HKCS\) data](#) showed that youth with supportive parents, teachers, coaches and other adults are less likely to use marijuana underage. According to HKCS, youth who know their parents believe it's wrong to use marijuana before age 21 were four times less likely to use marijuana. It also showed that youth who agree that their teachers care and encourage them are nearly two times less likely to use. Youth who feel like they can ask a parent/guardian for help are 1.6 times less likely to use. Based on these findings, the *Good To Know* Trusted Adult campaign aims to leverage the adults that youth trust most (parents, coaches, and teachers) to reinforce the reasons for youth to not use marijuana.

Past research on other health issues has revealed the need for adults that are "askable" in the lives of youth - trusted adults youth can approach with questions about important health issues, like sex.⁶ CDPHE's approach to youth prevention is two-pronged. It inspires youth to pursue their ambitions with a youth campaign and informs adults through a separate Trusted Adults campaign about their important role in helping youth make healthy decisions.

To inform the campaign, the media vendor conducted an online survey and group discussions with 349 parents. Participants were parents who had at least one child between the ages of 10 and 17 living at home. The media vendor conducted an online survey and phone interviews with 126 non-parental "Trusted Adults" across Colorado. Trusted Adults were defined as teachers, coaches, counselors, youth program coordinators, mentors or volunteers who worked directly with Colorado youth between the ages of 10 and 17. Research showed that this group wants and needs a third party to help prompt the conversation about underage retail marijuana use with youth in their lives.

[Good To Know Trusted Adult Campaign Launch and Unique Partnerships Statewide](#)

In August 2016, CDPHE launched the *Good to Know* Trusted Adult campaign. A press release was followed by local, regional, and national media outreach, resulting in 16 placements in English-language media outlets and three placements in Spanish-language media outlets. More than 4.4 million impressions were garnered as a result.

CDPHE and the media vendor also developed relationships with 46 organizations serving educators, parents and adults who work with youth and provided each organization with an online toolkit including customized resources to share with staff and/or members of the groups they serve. Materials included talking points, flyers, newsletter articles, social media posts, letters to the editor and more. These organizations included Boy Scouts of America, Mile High Youth Corps, Colorado Youth Matter, and Denver Urban Scholars to name a few.

Additionally, a partnership with CBS Denver allowed CDPHE to host and film a town hall event featuring a panel of experts in health, positive youth development and parenting. The goal was to provide a platform to give parents, coaches, teachers and other influential adults the information they need to start a conversation about underage retail marijuana use. The town hall aired on October 12, 2016 and drew a total of 1,911 viewers via the online broadcast. CBS Denver aired promotional content leading up to and after the town hall. This also included six posts on their Facebook and Twitter profiles.

[Good To Know Trusted Adult Campaign Tactics and Reach Across Colorado](#)

The campaign's media strategy aims to build awareness of Trusted Adult resources, drive online engagement and encourage sharing among peer groups. The tactics included paid media, community outreach, blogger relations, and social media. Additional budget in FY 2016-17 allowed for a heavy investment in traditional media, including TV and radio advertisements.

During the first quarter of FY 2016-17, the media plan expanded to include more tactics. These additional placements increased frequency while still focusing on "cannot miss" programs like the news, special events and sports. For example, the media vendor purchased ad space through the NFL Network to ensure campaign visibility across the state.

The campaign's ads drive audiences to GoodToKnowColorado.com/Talk, which includes information on:

- Talking with Youth: Tips for Parents and Youth-Serving Professionals - Age-specific recommendations on how to talk to youth about marijuana.
- Health Effects - Information about how underage marijuana use can impair learning and memory, coordination, judgment and brain development.
- Legal Consequences - Details on the legal consequences of underage marijuana use including potential loss of financial aid, a job or a driver's license.
- Marijuana 101 - Information on common slang terms for marijuana, methods of consumption and details on safe storage.

To date, campaign media efforts have resulted in more than 101,100,000 media impressions:

- FY15/16: 20,300,000 media impressions
- FY17: 80,800,000 media impressions
- FY17 Highlights:
 - Display media delivered more than 19,900,000 media impressions across display and pre-roll tactics with a 0.23 percent click-through-rate (CTR) and 89.49 percent video-completion-rate.
 - Cross-device display, which reached adults 35-65 at high schools during the school day, drove the top CTR overall at 0.37 percent.
 - Pandora, which featured mobile audio and companion banners, was the second top performing partner with a 0.27 percent CTR.
 - Statewide English TV ads delivered 18,000,000 total media impressions.
 - Note: Hispanic impressions are reflected in the *Marihuana en Colorado* campaign.
 - Statewide radio ads delivered 41,000,000 total media impressions.

- From August 2016 to June 2017, the media vendor secured a total of 11 Colorado-based bloggers to write about the Trusted Adults campaign. These adults shared their perspectives on how to talk with youth about not using retail marijuana before age 21. The influencer campaign achieved:
 - 8,328 blog views.
 - 343 blog engagements (likes, comments or shares).
 - 1,148 email views (for bloggers who emailed their blog post to followers as well).
 - 144,451 social media impressions.
 - 143 social engagements (likes, comments or shares).

Creative examples from the campaign can be found in Appendix E.

[Good To Know Trusted Adult Campaign Effectiveness](#)

CDPHE contracted with the Colorado School of Public Health (CSPH) to evaluate any link between the reach of campaigns and subsequent changes in the knowledge of marijuana laws, awareness of the health effects, perceptions of risk and prevention behaviors among a sample of Colorado residents, specifically parents in Colorado (full methodology and results in Appendix I).

English speaking adults who live with children (N=250) experienced the following statistically significant changes:

- an increase (12 percent) in plans to talk to children about the risks of using marijuana; and
- an increase (11 percent) in the perceptions of risk for a teenager using marijuana once a week; and
- an increase (4 percent) in the perceptions of risks of storing marijuana in open containers in a home with children or teens.

Similarly to the overall survey sample, current marijuana-using adults who live with children were significantly less likely to endorse risks or health effects associated with child and adolescent marijuana exposure and use. Hispanic adults who live with children were less likely to report risks associated with a teenager using daily compared to other parents. Parents of teens were most likely to already have talked to their children about marijuana.

These data are encouraging, showing that adults who live with children understand the risks associated with underage marijuana use or exposure (see table below). Adults who use marijuana and have children at home are less likely to report that it is risky for youth to use marijuana before age 21. This indicates that the *Good To Know* campaign's messages need to reach this population. This is important because these children are more likely to be exposed to secondhand smoke. It is also important because we know that adults who use marijuana around their children are role modeling use and/or normalizing marijuana use behaviors. This can lead to the child using marijuana later in life.

English-speaking adults who live with children (N=250)

<i>Respondents' agreement with known health effects of marijuana, risks of use:</i>	<i>% (n)</i>
A child eating an edible marijuana product	97.4 (233)
An adult driving after using marijuana with child/teen passengers	96.7 (233)
A teenager using marijuana daily or almost daily	95.8 (227)
Storing marijuana in open containers in a home with children/teenager(s)	95.2 (222)
A teenager using marijuana once a week	91.6 (218)
A teenager vaping marijuana	89.2 (198)
A teenager eating an edible marijuana product	86.9 (205)
A child or teenager being exposed to someone else's marijuana smoke	81.3 (191)

**Protect What's Next Campaign:
Youth Marijuana Use Prevention
Campaign Implementation & Reach**

*Protect What's Next Message Development
Process - Campaign Expansion August 2016*

CDPHE reviewed youth prevention literature to better understand the types of social marketing messages that resonate with youth and have a documented impact at preventing or delaying substance use. Focus group research conducted by the Colorado Department of Human Services (CDHS) reinforced that positive role models, such as parents, are one of the strongest factors to encourage youth to not use substances, such as marijuana or alcohol. Conversations with parents that focused on only the negative aspects of marijuana use or were grounded in subjective opinions tended to be ineffective.⁴ Other health communications research supports these conclusions. Fear-based messages are ineffective in changing substance use among youth.⁵

DON'T LET  GET IN THE WAY OF GOALS

Building upon this research, CDPHE and the media vendor conducted additional research to inform the final campaign's communications strategy and creative. The media vendor conducted in-person surveys in schools, focus groups, and in-depth interviews with nearly 400 young people around the state to learn about their opinions, attitudes and beliefs about marijuana. This research concluded that the number one deterrent for youth not to use marijuana is the knowledge that it can get in the way of achieving their goals. Building from this insight and other research, the media vendor developed three creative concepts and tested them with an additional 450 youth. The *Protect What's Next* campaign concept was the clear winner.

The *Protect What's Next* campaign objective is to create a culture of non-use by helping young people realize that it's easier for them to achieve their goals if they don't use marijuana. The research showed that one of the best ways to connect with youth is to empower them to make healthy decisions on their own. Youth want to be informed and in control of their health decisions and do not respond well to messages that are perceived as preachy, overbearing or that utilize scare tactics. *Protect What's Next* takes a direct approach by talking with youth (not at them) about the tangible goals and life milestones that are right on the horizon.

The *Protect What's Next* campaign is part of a two-pronged approach to reach youth. It speaks directly to youth and is supplemented by the Trusted Adult campaign.

[Protect What's Next Campaign Launch](#)

The *Protect What's Next* campaign launched in August 2015 with the distribution of a press release and follow-up media outreach. This outreach resulted in a total of 188 placements, including 18 pieces in Colorado. Key national coverage appeared on ABC News, Associated Press and CNBC online.

[Protect What's Next Campaign Reach Across Colorado](#)

ProtectWhatsNext.com serves as a place to drive youth to learn more about the consequences and health effects of underage marijuana use. In FY 2016-17, CDPHE and the media vendor added a more experiential element to the site - [The Goal Getter](#) - as a way for youth to discover or explore life experiences that are more valuable than the use of marijuana.

The *Protect What's Next* campaign reaches youth primarily online. Tactics included:

- Pre-roll videos on YouTube (using eleven 15-second videos)
- In-app mobile ads
- Geographically targeted mobile ads
- Cinema video ads
- Social media

Throughout FY 2015-16 and FY 2016-17, CDPHE and the media vendor introduced youth-centric events to interact with younger Colorado youth who are harder to reach using digital tactics. Facebook does not allow advertising to focus on youth younger than age 13, and research shows it's important to reach a younger audience with these messages to prevent them from ever starting to use marijuana. These events/experiential activities included:

- Youth Marijuana Prevention Group Activity
 - In early FY 2016-17, CDPHE introduced a youth group activity called the “Bucket List”. The group activity kit is intended for youth groups. The kit includes everything adult mentors and youth facilitators need to lead a productive discussion about marijuana. The activity walks youth through establishing goals, role-playing scenarios to say no to marijuana, and information about the potential consequences of underage retail marijuana use.
 - CDPHE has distributed 190 kits to date.

- The Protect What’s Next Challenge
 - In FY 2016-17, the media vendor and CDPHE launched the Protect What’s Next Challenge. This month-long competition in schools encouraged middle school students across Colorado to set and accomplish goals and not let marijuana use get in the way.
 - 62 middle schools of varying sizes from across the state signed up and completed the Challenge.
 - During February, students from competing schools submitted challenges via Instagram and a campaign website at PWNChallenge.com.
 - A total of 15,803 student challenges were submitted.
 - Protect What’s Next Challenge public relations efforts resulted in 23 mentions in local news outlets, 2,000,000 media impressions and \$18,951 in ad value.

- The *Protect What’s Next* Adventures
 - In partnership with TEDxMileHigh, CDPHE launched the *Protect What’s Next* Adventures series. These events offered Colorado youth real-life experiences inspiring them to achieve what is important to them. The series provided Colorado youth ages 13 to 20 with chances to win free, once-in-a-lifetime adventures. The events gave them behind-the-scenes access to local entrepreneurs, artists and other experts who have turned their passions into careers.
 - *Protect What’s Next* hosted nine adventures between December 2016 and June 2017 and 95 youth participated. These included a film industry crash course, a day in a recording studio, and an afternoon cooking with a renowned Denver chef, among others.
 - The Adventures [landing page](#) saw more than 17,000 site sessions and 25,000 pageviews. Nearly 81 percent of all traffic was from new visitors to the ProtectWhatsNext.com site.

To date, campaign media efforts have resulted in more than 49,100,000 media impressions:

- FY15/16: 17,900,000 media impressions
- FY17: 31,200,000 media impressions
- FY17 Highlights:
 - In total, digital media has delivered more than 22,400,000 media impressions from online efforts including cross-platform display and video efforts.
 - Mobile video efforts, which reached middle school youth, drove the top video completion rate at 89.53 percent – well exceeding the 63 percent mobile pre-roll industry standard.
 - Radio efforts, which were live in July and August, generated 2,700,000 impressions.

- Cinema, which was live in July and August and then picked up again November through January, served 1,300,000 total impressions.
- The ProtectWhatsNext.com homepage saw more than 27,000 sessions and 38,000 pageviews with 79 percent of all traffic coming from new users.
- The average time on the ProtectWhatsNext.com homepage across all channels was 1:40 with organic searches driving the highest time on site of 4:57 per session and 3.63 average pages per session.
- Direct traffic was the top source to the ProtectWhatsNext.com homepage, but display efforts were the top sources from a paid standpoint with 4,888 sessions.
- Goal Getter highlights:
 - The Goal Getter landing page saw 664 sessions and drove more than 10,000 page views with users averaging 3.95 pages per session.
 - The average session duration was 6:00 across all channels with organic search visitors spending the most time with the Goal Getter an average of 7:13 per session.
 - Direct traffic was the top driving source to the site, accounting for 64 percent of all traffic with 426 sessions and an average of 4.19 pages per session.

Creative examples from the *Protect What's Next* campaign can be found in Appendix F.

[Protect What's Next Campaign Effectiveness](#)

CDPHE contracted with the Colorado School of Public Health (CSPH) to evaluate any association between the reach of the youth campaign and subsequent changes in the perceptions of risk or intention to use marijuana. CDPHE partnered with the Tony Grampsas Youth Services (TGYS) program to ask these questions of youth across the state that participate in programs funded through TGYS.

Comparisons among youth who completed the TGYS pre- and post-survey indicate that youth exposed to the campaign were significantly more likely to agree that marijuana made it harder to think and do things (34 percent vs. 26 percent). Additionally, youth exposed to *Protect What's Next* were significantly more likely to believe that marijuana affected one's body and caused cravings (36 percent vs. 26 percent).

[Marihuana en Colorado: Lo Que Debes Entender](#) Spanish-language Campaign: Education Campaign Implementation & Reach

[Marihuana en Colorado Campaign Message Development Process - Campaign Continuation](#)

CDPHE conducted eight focus groups totaling 92 participants (50 first generation and 42 second generation) across Colorado to test the *Good To Know* creative concept and evaluate its ability to resonate with both first and second generation Spanish-speaking Latinos. The research showed that Latinos feel that marijuana is a serious topic and therefore, wanted the campaigns to also have a serious tone.



While the *Good To Know* campaign used rhymes, plays on words, and illustrations to make the messages more memorable, these approaches were not effective for Latino adults. Bilingual and monolingual Spanish-speaking Latinos found the messages confusing. This research revealed the need for a Spanish-language campaign that met the needs of this audience. Focus groups and Latino leaders suggested that influential people in the community, such as parents, police officers, and health care providers, lend their voice to the campaign. And, like all Coloradans, Latinos want to learn about the laws, health effects, and consequences of marijuana use, especially for youth. CDPHE concluded that though the content of the *Good To Know* campaign is appropriate, the tone and approach needed to be delivered in a more straightforward way for the Spanish-speaking Latino population.

Stemming from the research, the media vendor developed three Spanish language creative directions and tested these with key Latino community members, including City of Aurora officials, Idea Marketing, El Comité de Longmont, Northern Colorado Latino Chamber of Commerce, Colorado Springs Latino Community Luncheon, and CREA Results. Based on the feedback from these individuals, the media vendor created *Marihuana en Colorado: Lo Que Debes Entender*.

The *Marihuana en Colorado: Lo Que Debes Entender* campaign launched on August 3, 2015. Similar to *Good To Know*, the campaign reaches adults with information on safe, legal, and responsible marijuana use. Significant emphasis was placed on starting the conversation about legal marijuana use in Latino/Hispanic communities.

[*Marihuana en Colorado: Lo Que Debes Entender* Call-in-Line and Events/Outreach](#)

In addition to a mass media campaign, *Lo Que Debes Entender* utilizes a grassroots community outreach and strategic communications approach by leveraging cultural and business leaders in the Latino community to promote positive and engaging discussion among peers around the laws and health effects of marijuana use.

Since the campaign's launch, the media vendor and CDPHE have connected with more than 20 organizations to inform them of the campaign and spread the word about its resources. These relationships have continued through the duration of the campaign. Partner organizations have included Hispanic Affairs Project, Colorado Springs Latino Luncheon, Mi Casa Resource Center and more.

Community outreach and events have proven to be successful in generating conversation and have been well-received by the community. The media vendor and CREA Results participated in nearly 20 events serving the Spanish-language community.

Additionally, CDPHE partnered with CREA Results to create a call center where Spanish speakers could ask questions about retail marijuana. CREA Results received 563 calls about the campaign during the partnership. Additionally, CREA Results connected community members with the campaign 3,663 times through the call center and their own outreach events.

[*Marihuana en Colorado: Lo Que Debes Entender* Campaign Reach across Colorado](#)

The statewide Spanish-language campaign's strategy is robust. Tactics include PSA-style television ads featuring respected community leaders; radio, print and digital advertisements; earned media

outreach; and local event participation. Additionally, CDPHE fully replicated the Colorado.gov/marijuana web portal in Spanish, found at Colorado.gov/marihuana. This portal contains information on the laws and health effects of marijuana use provided by CDPHE and other state agencies professionally translated into Spanish.

In addition to the statewide media efforts that took place through June 30, 2017, the media vendor conducted community outreach sessions with key partners in the Latino community. The media vendor supplied community organizations and leaders with educational campaign materials. These materials include:

- A campaign overview document.
- A branded FAQ document focusing on state laws.
- Fact sheets provided by the state, including Marijuana and Your Baby, Youth and Marijuana, Tips for Parents.
- Branded rack cards that focus on the campaign and promote the website.
- A certificate of appreciation for taking time to learn about this important topic.
- 11x17 general campaign posters that can be posted in the community.
- A digital toolkit that includes assets to use on websites and social channels.

Supplemental public relations (PR) efforts accompanied these tactics in FY 2016-17. In Fall 2016, in alignment with *Good To Know* PR efforts, Spanish language paid editorial articles and broadcast interviews covered the launch of the Trusted Adult campaign and announced the launch of the Universal Symbol. Efforts resulted in five paid editorial stories and six broadcast interviews with campaign spokesperson, Elizabeth Suarez. Another PR push took place around 4/20 to provide Spanish-speaking Coloradans with tips on staying safe, healthy and informed. This led to two editorial stories and six broadcast interviews with Elizabeth Suarez.

Together with CREA Results, *Marihuana en Colorado* participated in a total of 13 events serving the Spanish-language community in FY 2016-17. These included:

- Movies in the Park (3) - July/August 2016
- Fiestas Patrias - 9/18/17
- 9Health Fairs (2) - 11/12/17 and 4/17/17
- Cinco de Mayo - 5/6/17
- Colorado Springs Women's Fair / Feria de la Mujer - 6/10/17
- Movies in the Park - 6/29/17
- America's Soccer Game - 7/5/17
- St. Cajetan's Church Bazaar - 8/5/17
- Adams County Fair - 8/6/17
- Adelante 5K of Clinica Tepeyac - 8/6/17

To date, campaign media efforts have resulted in more than 49,600,000 media impressions:

- FY15/16: 20,500,000 media impressions
- FY17: 9,100,000 media impressions
- FY17 Highlights:
 - Display media delivered more than 1,900,000 media impressions across Univision and Pandora.

- Efforts on Univision, which included cross-device display and video, served more than 1,500,000 media impressions driving a 0.17 percent click-through rate (CTR) and 72.52 percent video-completion rate – both of which exceed benchmarks.
- Statewide TV delivered 13,000,000 media impressions.
- Statewide radio delivered 10,600,000 media impressions.
- Print (newspapers and church bulletins in Denver and on the Western Slope) delivered a total of 662,000 media impressions.

Creative examples from the *Marihuana en Colorado: Lo Que Debes Entender* can be found in Appendix G.

Marihuana en Colorado: Lo Que Debes Entender Campaign Effectiveness

CDPHE launched the *Marihuana en Colorado: Lo Que Debes Entender* campaign on August 3, 2015. CDPHE contracted with the Colorado School of Public Health (CSPH) to evaluate any correlation between the reach of campaign and subsequent changes in the knowledge of marijuana laws, awareness of the health effects, perceptions of risk and prevention behaviors among a sample of Colorado residents, specifically Spanish-speaking adults in Colorado (full methodology and results in Appendix I).

Among Spanish-speaking survey participants in the new sample (n=55), there was significant increase in their perceptions of risk of addiction, marijuana’s effect on memory, and over-consumption of edibles by an adult. Three out of four (or more) Spanish-speaking adults perceive high risk across all known health effects of marijuana. Overall, Spanish-speakers continue to perceive more health risk from marijuana compared to English-speaking Hispanics.

Future Prevention and Education Campaigns and Outreach

Identification of High-Risk Populations

With annually updated data from CDPHE’s Behavioral Risk Factor Surveillance System, CDPHE is using the information to further focus the reach of the public awareness and education campaigns to reach those populations that use marijuana at higher levels than the general populations and have a lower knowledge about the impacts of use.

*Lesbian, gay, bisexual or transgender (LGBT) adults and youth.*¹

The data demonstrate that LGBT adults and youth use marijuana at about twice the rate of their heterosexual or cisgender counterparts. For LGBT adults, CDPHE staff want to assure that populations who use more are being reached through current media efforts. We plan to test our adult messages to ensure they still resonate with this population.

For youth, the strategy is much different, though the action steps are similar. It is essential that the current campaign prevention efforts resonate with LGBT youth. The media vendor conducted focus groups in Spring of 2016 to test the youth campaign messages with LGBT youth. The research showed that while the campaign messages resonated with this audience, the LGBT youth appreciated seeing themselves represented in the creative. CDPHE created [a youth-focused ad](#) to resonate with this population, and we will continue to test and monitor cultural relevance with future campaign efforts.

Young Mothers (Age 15-24)

Using the 2014 PRAMS results outlined in the *Monitoring Health Concerns Related to Marijuana in Colorado: 2016* report,¹ CDPHE staff noted that pregnant women who are most likely to use marijuana are young (between the ages of 15-24) and are clients of WIC or Medicaid. This challenged the program to ask whether youth-focused prevention messages or adult pregnant or breastfeeding messages would resonate best with this population.

At the end of FY 2016-17, CDPHE conducted four focus groups with young pregnant or post-partum mothers (each 90 minutes long with 4-6 respondents) to identify the messages that will encourage this audience to talk with their healthcare providers and/or stop using marijuana while pregnant or breastfeeding. This research showed:

- These young women care deeply for their baby during their pregnancy. This causes them to think about their personal health more than they ever have before, motivated primarily by the idea of parenting.
- They don't like asking for advice, because they already feel that people perceive them as unfit to be a mother because of their age. They prefer to use the internet as a private way to educate themselves. Above all, they trust their own instincts.
- Many are using marijuana in moderation and view it as better than alternatives, like medications or antidepressants, for dealing with stress, appetite and nausea. They believe their use is in the baby's best interest, during both pregnancy and breastfeeding.
- For the most part, this group dismissed the *Protect What's Next* messaging because it did not align with what they've observed and experienced as marijuana users prior to pregnancy. They take *Good To Know* more seriously, but challenge language containing "ifs" and "mays", similar to other youth reactions to adult messages. They want facts.

All of this research will be used to inform the next phase of *Good To Know's* Pregnancy campaign messages, creative and tactics.

African American Adults

The Behavioral Risk Factor Surveillance System data also showed that marijuana use is statistically significantly higher among Colorado's African American adult population. As with LGBT adults, CDPHE staff wants to ensure that populations with higher use rates are still being reached through current media efforts focused on educating about safe, legal and responsible retail marijuana use. For example, African American adults had significantly lower overall knowledge (50 percent) of four key marijuana laws (i.e. age 21+ to buy, no use outdoors, can get cited for a DUI, and cannot take out of state) compared to Non-Hispanic White adults (68 percent) and Hispanic adults (63 percent) (Appendix I). CDPHE looks forward to working with the new media contractor and community partners to identify ways to ensure we are effectively reaching key audiences with our messages.

Marijuana Users and Tourists

Messages about safe, legal and responsible retail marijuana use are particularly relevant to populations who use marijuana, not necessarily for the general adult population in Colorado. Data continues to support a more focused and optimized outreach of messaging to tourists and users who may need

supportive information on safe and responsible marijuana use behaviors in a timely fashion. Based on evaluation data and the new media vendor's recommendations, campaign efforts and strategy may shift in FY18 to meet the needs of priority populations. For example, *Good To Know* was created to educate the general public about the laws and health effects of retail marijuana, but as we shift to a behavior change campaign, we need to focus on marijuana users who need different information on safe and responsible marijuana use than the general public.

Our current campaign evaluation data demonstrates that users have high knowledge about the marijuana laws but lower levels of agreement with health concerns and risk-reduction behaviors important for marijuana users. For example, surveyed marijuana users reported significantly lower agreement (38.9 percent) that individuals can become addicted to marijuana compared to non-users (74.5 percent) (Appendix I). CDPHE has an opportunity with the new media vendor to identify potential areas for growth and improved messaging to specifically reach marijuana user populations, which trend toward young adult and male.

The need to focus messages on safety to users is particularly true for parents who may use marijuana and need support for modeling safe and responsible adult use while reinforcing that underage use is neither legal nor safe for adolescents. Additionally, the Retail Marijuana Public Health Advisory Committee's findings outlined an increase in reported marijuana-related hospitalizations and emergency department visits, particularly among children and youth.¹ The *Good To Know* and *Marihuana en Colorado* campaigns will continue to highlight the importance of safe storage of marijuana products to prevent unintentional ingestion by children and educate the public on the dangers of overconsumption.

The Retail Marijuana Public Health Advisory Committee's findings outlined a higher rate of marijuana-related hospitalizations among tourist populations than among Colorado residents.¹ Though CDPHE has an existing campaign to reach tourists, there are opportunities for new partnerships and outreach to continue to improve the reach of this campaign.

Ongoing Monitoring

CDPHE will continue to monitor public health trend data, the Retail Marijuana Public Health Advisory Committee research statements, evaluation data from the Colorado School of Public Health, and formative focus group/audience research to identify populations at higher risk of marijuana abuse or exposure.

[Colorado.gov/marijuana](https://colorado.gov/marijuana) Web Portal

To simplify access to reliable information about retail marijuana laws, regulations, health effects and relevant resources, CDPHE created the [Colorado.gov/marijuana](https://colorado.gov/marijuana) web portal to act as the single resource for accurate and timely information from each of the state agencies for retail marijuana. The [Colorado.gov/marijuana](https://colorado.gov/marijuana) web portal links to relevant information and resources from the departments of Education, Human Services, Public Health and Environment, Revenue and Transportation. During the 2016-17 fiscal year, CDPHE updated the web portal to reflect the following changes:

- Aligned the information with new 2015, 2016, and 2017 marijuana laws and regulations.

- Updated all information on the health effects of marijuana to include the most recent evidence-based statements researched by the Retail Marijuana Public Health Advisory Committee.¹
- Updated all links to new information from all state agencies.
- Added new fact sheets developed by CDPHE and other state agencies.
- Created a community agency page to link local governments, schools, public health and prevention partners with resources that support public education and youth prevention efforts across the state.
- Maintained the Spanish-language version of the website, [Colorado.gov/marihuana](https://colorado.gov/marihuana), which includes information and resources on the laws, consequences and health effects.
- CDPHE linked to information from local municipalities or counties that have passed additional retail marijuana restrictions and link to every state agency that has relevant marijuana information, including educational efforts and resources created by other state agencies.

CDPHE will continue to update the website with any changes to marijuana laws and regulations.

Reach of [Colorado.gov/marijuana](https://colorado.gov/marijuana)

Website analytics from November 1, 2015 to June 30, 2017:

- 120,000 total visits to the website.
- Average length of time visitors spend on the site is one minute and 46 seconds, which is considered substantial for government and informational websites. Industry standard is one minute.
- Note: The website was not promoted with any advertising dollars. The website URL was included in fact sheets and other community resources.

Website analytics from the Spanish-language version of the site between November 1, 2015 and June 30, 2017:

- 51,639 total visits to the website.
- Average length of time visitors spend on the site is two minutes and 51 seconds, which is considered substantial for government and informational websites. Industry standard is one minute.

Since the launch of the *Good To Know* campaign in January 2015, the campaign website GoodToKnowColorado.com has become the leading referral source to the [Colorado.gov/marijuana](https://colorado.gov/marijuana) website. Other leading referral sources include other state agency websites.

Additional Activities of the Retail Marijuana Education Program (RMEP)

New RMEP Resource Guide

Community partners and organizations are often looking for information and help to support their local efforts. To meet this need, CDPHE consolidated research findings and strategies into a user-friendly toolkit for community partners to use when selecting appropriate prevention programs and grant-writing. The RMEP Resource Guide is divided into the following key approaches based on successful prevention and education strategies at the local level:

- Community education section contains a comprehensive list of resources to engage the community in order to promote positive social norms and prevent youth marijuana use.
- Policy & environmental change section highlights laws, rules and physical environments that impact a community's ability to make healthy choices and live healthy lives.
- Education and prevention campaigns section connects community organizations with CDPHE communication and media campaigns aimed at increasing public awareness and/or influencing behavior change about marijuana use.

In addition to providing links to resources, CDPHE included case studies from a variety of Colorado partners to showcase activities across the three approaches. This toolkit is available at colorado.gov/cdphe/RetailMarijuanaTA.

Spanish-Language Community Outreach Grantees

CDPHE funded five agencies to work across seven communities beginning in January 2016 to disseminate Spanish-language materials, outreach, training, and messages aligned with the Spanish-language *Marihuana en Colorado: Lo Que Debes Entender* campaign. These recipients were selected through a competitive application and review process including representatives of the communities that would be served by some of the projects.

Outcomes

Community-based collaborations are a core component of community outreach and education. CDPHE funded agencies that actively sought out and established community partnerships with school districts, youth-serving afterschool organizations, local public safety offices, and parent and family engagement nonprofits. Through these partnerships, these outreach agencies had the following reach.

From July 1, 2016 to June 30, 2017, five grantee organizations met and exceeded programmatic commitments to educate Spanish-speaking communities.

- These organizations held 103 workshops, serving more than 1,600 community members, Spanish-speaking families, students, and health care providers.
- Grantee organizations collaborated with more than 130 community organizations.
- In addition, the efforts of two organizations in the Denver metro area have been mutually beneficial. One CDPHE grantee, IDEA Marketing, LLC, operated within Denver school districts. They have been able to garner interest from community groups who are then connected with CREA Results, another CDPHE grantee, to deliver training. In this way, both organizations are

able to work to their strengths without being overwhelmed by the volume of requests. This partnership is essential for expansive Denver County.

- This year, grantee organizations successfully delivered the first round of trainings for youth- and family-serving organizations, completing 34 training events. The first training events for this population have been successful, with similar best practices shared from all organizations.
- Across all agencies, the Spanish-language Community Outreach grantees promoted the *Marihuana en Colorado* campaign 246 times at local events, cultural activities, across social media platforms, and on local radio stations. These organizations distributed nearly 65,000 campaign promotional materials.

Law Atlas Policy Surveillance

C.R.S. § 25-3.5-1005(1) includes the requirement to make local level laws and regulations available to the public on the [Colorado.gov/marijuana](https://colorado.gov/marijuana) website. CDPHE staff spent approximately six months collecting data about the local marijuana policies and regulations across the state in order to improve current public education efforts and to initiate policy surveillance to study the impact of variations in local marijuana regulations. The Colorado marijuana local policy surveillance dataset is the first step towards a longitudinal study of potential public health implications of medical and recreational marijuana based on county- and local-level regulatory frameworks.

Key findings from this policy surveillance project across 110 Colorado localities (after exclusion of localities with population < 3,000) shows the following:

- Approximately 2/3 of municipalities and 2/3 of counties have a ban or moratorium on allowing retail marijuana licenses locally.
- Home Grows: 16 percent of localities allowing retail marijuana-uses have specific language concurrent with State law regarding operation of home grows for personal use.
- Density Restrictions: 33 percent of localities mandate density restrictions. Density of retail marijuana establishments can be based upon zone use, location, population, or maximum license quota by city council ward.
- Buffer Limits: 67 percent of localities specify limits to buffer the distance between retail marijuana licensees and sensitive community locations (i.e. schools, child care centers, and rehab centers). The most commonly mandated buffer limit is 1,000 feet.
- Hours of Sale: The most common permissible range of hours of sale among counties and municipalities is 8:00 a.m. to 7:00 p.m., which is more restrictive than the State of Colorado's 8:00 a.m. to 12:00 a.m. range of permissible hours of sale.
- There were no observable regulatory trends between localities of similar population sizes.
- Municipal ordinances were more specific and controlled for more aspects of retail marijuana commerce, while county-level ordinances were less specific

These results will be published in a mapping tool, Law Atlas, to inform the public about local retail marijuana laws.

Clinical Prevention Guidelines for Health Care Providers

C.R.S. § 25-3.5-1003 includes the requirement to contract for the creation of clinical guidelines as a resource for health care providers when they recognize that a person is at risk from marijuana use or exposure. Clinical prevention guidelines provide health care providers with research-based recommendations about health-related preventive services such as how to screen for marijuana use in the home, or how to reduce risk and referrals to local resources. CDPHE developed the guidelines using a board-certified physician with solicited input from health care providers.

Using research from the Retail Marijuana Public Health Advisory Committee, CDPHE identified two priorities for clinical prevention guideline development: 1) preventing and reducing marijuana use and exposure among pregnant and breastfeeding women; and 2) preventing pediatric exposure to marijuana through safe storage and reducing secondhand smoke in the home.¹ The FY 2015-2016 program report described the development of these guidelines.

During this report period, CDPHE focused on dissemination of and training on the clinical guidance documents. CDPHE partnered with the Colorado Medical Society to create an online course offering one continuing medical education unit. The course is available at train.org/colorado/ by selecting course ID: 1065030. Staff also disseminated the guidance documents more than 3,500 times during this report period. The guidance documents were disseminated via webinars, in-person presentations to health care providers that offer continuing education credits, department contacts, newsletters, and advertising in clinical journals and membership organization magazines.

Clinician Marijuana Education Module Evaluation

Since August 2016, 207 registered for and 200 completed the clinician course. The majority of respondents were from Kansas, Florida, and Colorado.

Sixty-six respondents completed an additional evaluation survey. Most respondents were registered nurses, 17 were dietitians or WIC counselors, and 14 were certified professional midwives. Of the sixty-six survey respondents, 92 percent served pregnant or breastfeeding populations; indicating that the online training was appropriate for most of its audience. A little more than half of respondents reported that they (or somebody in their office) discussed marijuana use with pregnant or breastfeeding patients at least 75 percent of the time. Survey respondents said that in these discussions they addressed issues such as marijuana risk and cessation of use during pregnancy/breastfeeding. Only a third of respondents addressed secondhand smoke exposure and less than 15 percent talked about accidental ingestion, marijuana interactions with other substances, safe storage, and variable levels of THC in marijuana products.

After taking the online course, respondents noted a significant increase in certain clinical abilities. They reported they felt more comfortable explaining the marijuana guideline development process, describing current marijuana pregnancy/breastfeeding research, integrating specific language when talking with patients about marijuana, and integrating marijuana discussions and screening into a clinical practice setting. About a third of respondents said they anticipated changes in their clinical practice after reviewing the course material.

Aligning Messaging Across State and Local Agencies

CDPHE staff works across state agencies to align messaging on retail marijuana with the statements of the health effects from the Retail Marijuana Public Health Advisory Committee and the *Good To Know* Colorado campaign.¹ CDPHE partners with these agencies to continuously update and align information on the [Colorado.gov/marijuana](https://colorado.gov/marijuana) web portal and cross-promote resources and regulatory changes to retail marijuana. CDPHE meets regularly with CDE, CDHS, CDPS, DOR, and CDOT to ensure accuracy of messaging, align branding, share resources on campaign messages and implement or promote effective strategies to prevent youth use.

Providing Resources and Support to Local Prevention Programs and Coalitions

Provide Materials for Local Partners to Use

CDPHE made campaign print materials available to local partners through COHealthResources.org. More than 30 materials are available, and more than 50,000 have been shipped directly to communities for free. The majority of the available print materials include the fact sheets listed below as well as print materials that align with each of the *Good To Know* and *Marihuana en Colorado: Lo Que Debes Entender* campaigns.

CDPHE continued to disseminate the fact sheets developed under previous performance periods:¹

- A fact sheet for **pregnant or breastfeeding women**, including the health effects of marijuana exposure, the importance of safe storage, preventing secondhand marijuana smoke exposure, and considerations about drug testing at birth.
- A fact sheet about **youth marijuana use prevention**, including the laws that restrict youth use, the health effects, and tips on talking to youth about marijuana.
- A fact sheet for **parents** on their concerns related to keeping youth from using marijuana, including the laws that restrict youth use, the health effects for youth, the importance of safe storage and preventing secondhand marijuana smoke exposure, and tips on talking with youth about marijuana.
- A fact sheet for **professionals who work with youth** on concerns related to youth prevention, including the laws that restrict youth use, the health effects, evidence-based strategies, and tips on talking to youth about marijuana.
- A fact sheet **answering common questions** about retail marijuana including information about personal health, safety, and driving concerns.
- A fact sheet on **methods of marijuana use** and the related health concerns specific to the various methods.
- A fact sheet on retail **marijuana health effects** including information on mental health, respiratory effects, and brain development concerns for those underage.
- A fact sheet for **Colorado residents** on the retail marijuana laws related to purchasing and using marijuana.

- A fact sheet for **Colorado tourists** that informs visitors about retail marijuana laws related to purchasing and using marijuana. There is information on safe use, including safe driving and safe storage.

CDPHE updated all information on the health effects of marijuana on the researched statements from the Retail Marijuana Public Health Advisory Committee, translating the health effect research to a middle school reading level.¹ CDPHE professional designed the fact sheets and made them available through the Colorado.gov/marijuana and colorado.gov/marihuana websites. The fact sheets are available in English, Spanish and six other common languages spoken by limited English proficiency Colorado residents. CDPHE redesigned the factsheets to improve visual appeal and readability of content. CDPHE disseminated the factsheets through the new resource guide for RMEP program materials mentioned above. CDPHE will continue to update the current documents and develop additional fact sheets based on requests from local partners.

Engage Key Prevention Partners Statewide

Additional key partnerships for substance abuse prevention communities include those funded by Drug-Free Communities grants, the Office of Behavioral Health community prevention grantees, and the newly-funded Communities That Care grantees funded through the same branch that houses the Retail Marijuana Education Program. CDPHE has worked to align prevention priorities with the Governor's office and Maternal Child Health substance abuse prevention initiatives.

Share Evidence-based Practices

CDPHE identified effective research-based strategies for community partners to implement to reduce factors that put young people at risk of making unhealthy decisions and those that protect them from making unhealthy decisions. Some of these evidence-based strategies include [policy or regulatory suggestions](#) at the state or local level that help to reduce access by youth to legal substances. CDPHE identified additional strategies in partnership with the Department of Human Services, using the National Registry of Evidence-Based Programs and Practices. Organizations can implement these and other evidence-based strategies directly with youth, their families or their communities. CDPHE integrated the information about these strategies into trainings, resources and support provided to state and local programs working to prevent marijuana use among youth. One such framework, Communities That Care, is used within the same unit at CDPHE, which allows CDPHE to easily align prevention priorities, marijuana messaging, schedule trainings in communities where it is most needed, and disseminate materials effectively. Further resources are listed in the next session.

Partnering with the Colorado Department of Education to Create a Resource Bank of Evidence-based Prevention Materials

The Colorado State Legislature passed Senate Bill 17-025, the Marijuana Education Materials Resource Bank bill. This bill tasks the Colorado Department of Education (CDE) with the creation of this registry, using CDPHE's support, as necessary. CDPHE will support the roll-out of this new registry. The legislature also passed Senate Bill 17-068 which allows for the expansion of CDE's School Health Professional Grant Program to include early social emotional learning curricula in elementary schools. Currently, the RMEP staff make the following resources available to guide curricula and program

decisions: the [Washington State Institute for Public Policy’s analysis](#) of cost beneficial prevention and interventions, and the [National Registry for Evidence-based Programs and Policies](#).

CDPHE will continue to collaborate with other state agencies to expand the resource list of evidence-based programs that focus on our youngest Colorado students. All resources are currently promoted on [CDPHE’s marijuana resources page](#), the [Colorado.gov/marijuana education page](#) and our [working with youth page](#), and highlighted in our Communities That Care menu of strategies.

Trainings, Technical Assistance and Evaluation Results

CSPH also examined system-level activities related to the distribution and use of retail marijuana prevention and educational resources in the form of training and technical assistance. CSPH assessed CDPHE’s technical assistance services using a variety of data collection mechanisms: a baseline survey needs assessment of all requestors, follow-up surveys, and telephone interviews. CSPH assessed CDPHE’s trainings via attendees survey responses on their marijuana knowledge and current use of marijuana resources. The survey asks attendees to rate their familiarity with marijuana education and prevention resources before and immediately after the training. Attendees estimate their likelihood to use the training information and identify specific components of the program that can be immediately incorporated into their work.

Healthy Youth Development Trainings

As required by C.R.S. § 25-3.5-1004, CDPHE offered 11 regional training sessions on healthy youth development throughout Spring and Summer of 2016. CDPHE offered these trainings to local prevention partners, public health agencies, substance abuse prevention coalitions, grantees of the Colorado Department of Human Services’ Tony Grampsas Youth Services (TGYS) program and Office of Behavioral Health (OBH). Two of these trainings are excluded in the following evaluation, as they were conducted during the evaluation reporting period. The regional trainings educated more than 390 statewide youth-serving professionals on prevention efforts and youth development strategies. The trainings included information about the Positive Youth Development (PYD) approach and implementation of youth development strategies into existing substance abuse programs. The training aims to equip youth-serving professionals, teachers and mentors with accurate and useful information.

CSPH used pre-post retrospective surveys to evaluate the trainings. The survey completion rate was more than 85 percent. The satisfaction ratings for the regional trainings were high: 89 percent of attendees rated the training as very engaging and attendees reported a statistically significant increase in their ability to integrate PYD principles into current work efforts. Attendees also gave high ratings to the facilitators. They felt the facilitators “use(d) of a variety of effective facilitation strategies” (average 3.8/4.0), “effectively acknowledged/answered questions and concerns”(average 3.8/4.0), and “created an effective learning environment” (average 3.8/4.0). This information indicates that the Positive Youth Development (PYD) trainings effectively delivered information to their audience and potentially served as a good resource for attendees who wish to use or to disseminate the information.

At four months following the trainings, 40 participants responded to a follow-up survey to assess the use of training materials and future needs of attendees. Of these, 80 percent reported integrating PYD information into their current work four months post-training. Respondents rated the impact of the training for “improving their skill for integrating Positive Youth Development approach at work” and “comfort level for explaining Positive Youth Development approach to others” as high.

CDPHE will continue to offer regional Healthy Youth Development trainings to focus on the guiding PYD principles that aim to engage youth as partners. CDPHE has offered 24 PYD trainings since the program began. At least five trainings are planned for community partners from September 2017 through June 2018, in Estes Park, Commerce City, Canon City, Fort Collins, and Winter Park.

Regional Marijuana Workshops and Public Health Trainings

Due to the success of the Regional Marijuana Workshops held in 2016 and the fact that attendees requested more youth prevention and marijuana information, CDPHE continues to conduct additional regional trainings on the intersection of public health and marijuana.

The training content includes CDPHE’s trend data collection and reporting activities, health impact research, resources, and prevention messages for Colorado populations throughout the lifespan, including pregnant and breastfeeding women, young children, adolescents, and adults. The Regional Marijuana Workshop introduces participants to state and regional marijuana data sources, health effects research and statewide campaigns. Between July 1, 2016-June 30, 2017, CDPHE held four Marijuana & Public Health trainings in Colorado. Data for three of these trainings is available in this report. In total, 123 people attended the events. Most attendees worked in public health (42.6 percent), non-profits (25.0 percent) and/or worked in education (23.1 percent).

To evaluate the immediate impact of the regional trainings, attendees rated their abilities in six competency areas before and after the event. Participant competencies rose significantly for each measure post-training, indicating good immediate impact within each content area. Specifically, attendees said they were better able to describe marijuana use prevalence, describe the marijuana health impact in Colorado, identify how to access marijuana data, identify marijuana public health statements, incorporate marijuana prevention into programming, and access marijuana campaign messages. Across the six measures, participants said there was a high likelihood of using the marijuana resources, suggesting that information distributed at the regional trainings was appropriate to the needs of the audience and could be readily incorporated into their work.

Technical Assistance Services

CDPHE provides technical assistance through online requests, telephone, email and in-person meetings. All technical assistance requests are categorized by type of information requested, organization, location of organization and method of support. A majority of requests are made via the Retail Marijuana Education online portal, retailmjeducation.freshdesk.com, and via direct email from Colorado organizations and prevention partners.

From July 1, 2016 to May 30, 2017, the technical assistance service received 62 unique requests for information, down from 113 in the prior year-end report period. Most requests (71 percent) stemmed

from Colorado, primarily in the Denver metro area but included several rural and hard-to-reach counties. The most common requests are for prevention and education information and media campaign resources. Others requested legal information, school resources, health effect data, and information for talking to the community. Eleven people requested speaking engagements or presentations by CDPHE.

To assess the utility and usefulness of the technical assistance program, CDPHE sends one month follow-up surveys to all requesters. Since July 1, 2016, 21 individuals responded to the online follow-up survey, yielding a response rate of 34 percent. Thirteen respondents (61.9 percent) reported using the information immediately, an increase from 33 percent in the last report. Respondents said that as a result of the technical assistance provided, their knowledge about marijuana law and marijuana health research increased. Two respondents reported that they would use the information to develop or modify existing programs.

The use of the technical assistance information was not siloed: 66.7 percent of respondents shared the information or materials with others. Survey respondents reported providing the information most frequently to colleagues, followed by students, the community, and the general public. Given the large number of individuals who shared the information, it is clear that the marijuana information was distributed well beyond the initial requestor. CSPH and CDPHE will continue to evaluate the effectiveness of the technical assistance program.

Financial Report

Retail Marijuana Education Program Funding Categories for Fiscal Year 2017

The breakdown of the anticipated final budget for fiscal year 2017 is outlined below with 2016’s budget as a comparison. CDPHE’s ongoing allocation will remain at \$4,650,000. FY 2016-17 was about \$2.5M higher in order to launch a highly visible parent and teacher education campaign as part of a one-time request from the Governor’s Office.

FY 2016 Budget	FY 2017 Budget	Budget Category
\$ 155,000	\$ 0	Trend Data
\$ 400,000	\$ 226,000	Program Evaluation
\$ 47,000	\$ 35,000	Regional Prevention Trainings
\$ 40,000	\$ 70,000	Materials and Resources
\$ 283,000	\$ 320,000	Operating Expenses
\$ 175,000	\$ 385,000	Grants for Local Communities
\$ 3,550,000	\$ 5,989,000	Campaigns Statewide
\$4,650,000	\$7,025,000	Total

- CDPHE no longer needed to allocate funds for trend data due to a bill passed in the 2016 legislative session with its own fiscal note funding regional data collection. In the past, this line covered costs for public health trend data collection and monitoring of marijuana exposure across the state. This data will help to identify high-risk populations and assess evaluation results over time.
- CDPHE contracted with the Colorado School of Public Health for \$226,000 to evaluate the impact of all education and public awareness efforts, including those beyond the campaigns.
- CDPHE reserved \$35,000 for healthy youth development and the public health role in marijuana trainings across the state throughout 2016-2017.
- CDPHE reserved \$70,000 for the creation, printing and translation of campaign-related materials in both English and Spanish. These materials are available free to communities at cohealthresources.org. Additionally, CDPHE made fact sheets available in the six dominant

languages of Colorado residents with limited English proficiency and maintenance of the Colorado.gov/marijuana website.

- CDPHE reserved \$385,000 for grants to health education organizations conducting outreach with Spanish-speaking populations and healthy youth development outreach across the state.
- A total of 3.7 full time equivalent (FTE) staff support all of the project activities required in statute and outlined above: 1.0 FTE project manager, 1.0 FTE marijuana communications specialist, 1.0 FTE marijuana education and youth prevention coordinator, 0.5 FTE support/leadership staff and 0.2 FTE evaluation coordination staff. The legislature allocated \$320,000 to CDPHE to support staff implementing all of the above work and providing resources and support to local level public health agencies, schools and prevention groups to integrate the public awareness efforts into their local communities.
- CDPHE allocated \$5,989,000 for the development and execution of the public awareness and education campaigns as outlined in statute, building on the previous fiscal year of funding for campaign research and development.
 - CDPHE allocated approximately \$4,168,000 to continue the *Good To Know* campaign throughout fiscal year 2016-2017 to educate Colorado residents and visitors about Colorado marijuana laws and the importance of preventing use among youth. CDPHE recently expanded *Good To Know* to include resources for tourists, marijuana users, pregnant and breastfeeding women, parents, teachers, and other trusted adults to talk to youth about marijuana use prevention. This also included outreach and education on the Universal Symbol for marijuana products. The total cost includes ongoing advertising placement, website maintenance, social media management and public relations.
 - CDPHE reserved \$535,000 to produce and air the *Marihuana en Colorado* campaign specifically developed to reach Spanish-language audiences with culturally appropriate messages.
 - CDPHE allocated approximately \$1,286,000 for creative development, testing, production and media buys to fully execute the youth marijuana use prevention campaign, *Protect What's Next*.

History of Funding Challenges in Past Fiscal Years

In each of the previous fiscal years of this project, the budget for this program has swung dramatically throughout the year. In the 2014-2015 fiscal year, the budget was initially allocated at nearly \$5,684,000 but reduced by over \$1,400,000 temporarily, only to have those funds reinstated approximately 3 months before the end of the fiscal year. The same was true in fiscal year 2015-2016. The initial budget for that year was reduced by more than 60 percent from \$5,683,608 in fiscal year 2015 to \$2,150,000 in Fiscal Year 2016. Initially, CDPHE drastically limited funding in each of the priority program areas listed above. However, a vote in November 2015 returned marijuana funds to state agencies for implementation, increasing this program's budget back to the \$4,650,000 anticipated for subsequent fiscal years. Stable funding will allow the program to be efficient with program planning and strategic about the work needed to adequately educate the state and local communities about the parameters of safe, legal and responsible retail marijuana use.

Retail Marijuana Education Program: Conclusion

CDPHE's Retail Marijuana Education program has successfully led education and youth prevention efforts in Colorado to mitigate or reduce negative public health consequences of legalizing marijuana. CDPHE will continue to expand partnerships at the state and local level, implementing innovative and data-driven initiatives and evaluating the effectiveness of those efforts. As the first state to legalize marijuana, Colorado bears a heavy burden that demands statewide leadership for prevention and education efforts. As funding allows, CDPHE will continue to implement educational and prevention programs based on data and the research to reduce public health consequences. CDPHE will report all data on the program impact bi-annually.

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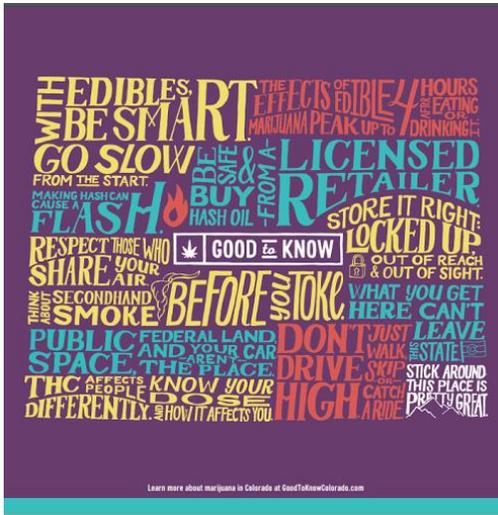
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Appendices

Appendix A. FY17 Good To Know Campaign Creative Design Examples



Appendix C. FY17 Good To Know Tourism Brochure

BE PREPARED FOR HOW MARIJUANA CAN AFFECT YOU.

Marijuana affects everybody differently, and varying doses, strains and forms can cause different levels of impairment for different people. Play it safe—start with a low dose, and avoid mixing alcohol and marijuana, as the effects of mixing can be dangerous and unpredictable.



All retail marijuana products use the symbol above on packaging and edible products. Avoid accidental ingestion by teaching your family and friends what this symbol means.

If you fear a child has ingested marijuana, or an adult may have used too much, call the poison control hotline.

1-800-222-1222

If the person you're concerned about is having trouble breathing, looks pale or is unresponsive, call 911 or go to an emergency room right away.

 **COLORADO**
Department of Public Health & Environment

For more information visit GoodToKnowColorado.com

MARIJUANA IN COLORADO

BE SAFE. BE LEGAL. BE RESPONSIBLE.





IF YOU CHOOSE TO USE, HERE'S WHAT YOU SHOULD KNOW.

RULE #1: YOU MUST BE 21.

You must be 21 or older to purchase, possess, or use retail marijuana, and it's illegal to give it to minors or sell it to anyone.

PUBLIC SPACE IS NOT THE PLACE.

It's illegal to use marijuana in public—including bars, parks, campsites, ski slopes, sporting and music venues and sidewalks. Hotels, businesses and landlords can also forbid marijuana use on their property, so always ask first. And because marijuana is illegal federally, it's illegal to possess or use it on federal land, such as national parks.

DON'T DRIVE HIGH. JUST WALK OR CATCH A RIDE.

Driving high can result in a DUI. So if you're smoking, wait 6+ hours before driving. If you're ingesting, wait at least 8 hours. It's also illegal to open any marijuana packaging and use it (even passengers) while in a vehicle.

WHAT YOU GET HERE CAN'T GO OUT THERE.

It's illegal to leave Colorado with any marijuana products, and Denver International Airport has banned any marijuana on its property. Trash any leftover marijuana in a secured container and out of sight, like in a large dumpster.

SECONDHAND SMOKE IS NO JOKE.

Marijuana smoke has many of the same cancer-causing chemicals as tobacco smoke, so be considerate. Don't smoke around children, women who are pregnant, or anyone who doesn't want to be exposed.

STORE IT RIGHT: LOCKED UP, OUT OF REACH AND OUT OF SIGHT.

Always keep marijuana safely out of reach of children. If a child eats or drinks marijuana, they may need immediate medical help. Signs of accidental ingestion include: problems walking or sitting up, difficulty breathing and becoming sleepy.

WITH EDIBLES, BE SMART. GO SLOW FROM THE START.

Edibles can be potent and their effects can take up to four hours to peak. Start with a low dose (a single serving of 10 mg THC or less), and wait at least four hours before consuming more.

Appendix D. FY17 Good To Know Pregnancy Campaign Creative Design Examples

PASSES THROUGH TO BABY. **PASSES THROUGH TO BABY.**

Starting a family can be both exciting and overwhelming, with information coming at you from every direction. When it comes to information about marijuana and your baby, we're here to help you make the best decisions for you and your family. Knowing that THC gets into your breast milk is a good place to start. Learn about potential health effects and more by clicking below.

Get the facts >

GOOD TO KNOW
GoodToKnowColorado.com/Baby

CAN HELP THEIR ABILITY TO LEARN **CAN HURT THEIR ABILITY TO LEARN**

As a new mom, or a mom-to-be, you want to make the healthiest choices for both you and your baby. For many women, one of those choices is whether or not to use marijuana while pregnant or breastfeeding, and we want to help you make an informed decision. Get the facts you need at GoodToKnowColorado.com/Baby, including information about possible health effects, common questions and more. And be sure to talk with your healthcare provider for personalized information and advice.

Get the facts >

GOOD TO KNOW
GoodToKnowColorado.com/Baby

THERE IS NO KNOWN SAFE AMOUNT TO USE WHILE PREGNANT.

LEARN MORE ABOUT MARIJUANA AND BREASTFEEDING.

THERE IS NO KNOWN SAFE AMOUNT TO USE WHILE BREASTFEEDING.

GOOD TO KNOW Learn more >

GOOD TO KNOW Learn more >

GOOD TO KNOW Learn more >

Appendix E. FY17 Good To Know Trusted Adult Campaign Creative Design Examples



TIPS FOR PARENTS TO KEEP THEIR CHILDREN SAFE AROUND MARIJUANA

THE BASICS No matter their age, here are some tips to keep children safe around marijuana.

STORE IT SAFELY

Store all marijuana products in a locked area. Make sure that children can't see them or reach them. Keep marijuana in the child safe packaging from the retailer. Remember, how you store marijuana should change as your child grows. What works to protect a toddler from accidentally getting into marijuana may not work to protect a curious teenager who might be looking for it. For the best security, always keep marijuana or any item locked up, out of sight and out of reach.

IT'S NOT SAFE TO DRIVE HIGH

Being high or even buzzed can make some activities more dangerous. Driving a car while high is not safe for the driver or the passengers. Tell children and teens not to ride in a car if the driver is high.

BE A GOOD ROLE MODEL FOR CHILDREN

Set a good example and create a safe environment. Advocate equal laws that would do not use marijuana, alcohol or other substances around children.

WHAT HAPPENS IF CHILDREN EAT OR DRINK MARIJUANA BY ACCIDENT

Marijuana can make children very sick. Look for problems such as vomiting or sitting on. Difficulty breathing and breathing issues. If you are worried, call the Poison Control Hotline at 1-800-235-1233 or seek medical attention. If symptoms seem bad, call 911 or go to an emergency room right away.

GOOD TO KNOW
Colorado Department of Public Health & Environment

AWKWARD MOMENT? BRING IT ON.

GOOD TO KNOW

TIPS FOR TALKING TO STUDENTS & ATHLETES

ADVICE FOR TEACHERS, COACHES, FAMILY MEMBERS & MORE What you think matters to the young people in your life. As an adult who they trust, you can impact the choices of the youth you work with. What you say, and the example you set, makes a difference. These tips can help you get talking.

LISTEN
Make them feel heard. Consider their opinions and keep the conversation open.

SET CLEAR RULES
Make school and sports team rules clear and stick to them. Let them know what will happen if they don't follow them.

FOCUS ON POSITIVE MESSAGES
Encourage them to make choices that help them achieve their goals.

LEARN HOW TEENS ARE USING MARIJUANA
Because of e-cigarettes, edibles and drinks, it is easier than ever to hide and use marijuana at school or during school activities. Learn the different ways youth can use marijuana so you know what to look out for.

REMHIM THEM WHAT CAN HAPPEN FOR BREAKING THE RULES
Teens that break school or sports activity rules may have to go to drug counseling. They can also be suspended or kicked out of school or off a team. They can also face prosecution.

ROLE-PLAY HOW TO SAY "NO"
Give them a reason to say no. Like, staying on varsity, getting good grades, etc.

BEHIND THEM THEY'RE ROLE MODELS
Let them know that younger students and athletes look up to them as examples.

NOT EVERYONE IS DOING IT
It is easier for youth to say "no" to peer pressure if they don't think everyone is doing it. Let them know that four out of five high school students do not use marijuana, so they're not alone by saying, "no".

PROMOTE RESPONSIBILITY
Promoting a responsible classroom or team atmosphere can shape behavior toward positive action and responsibility.

EFFECT ON SCHOOL AND SPORTS
Stress the fact that teens who use marijuana regularly may have trouble learning and memory issues. They may also have lower math and reading scores. Marijuana can also affect the way they play sports because it can affect coordination.

HELP THEM ACHIEVE THEIR GOALS
Help them figure out what their hobbies and dreams are and what freedoms they want. Help them prioritize these interests over using marijuana. If they're focused on goals that mean a lot to them, they'll be less likely to let marijuana get in their way.

GOOD TO KNOW
Colorado Department of Public Health & Environment

YOUR IMPACT EXTENDS FAR BEYOND THE GAME.

GOOD TO KNOW

Appendix F. FY17 *Protect What's Next* Campaign Creative Examples



Appendix G. FY17 Marihuana en Colorado: Lo Que Debes Entender Campaign Creative Examples

ALÉJATE DE LA MARIHUANA DURANTE EL EMBARAZO Y LA LACTANCIA.

MARIHUANA EN COLORADO
LO QUE DEBES ENTENDER

Tu bebé depende de ti y de los cuidados que le das durante el embarazo. Por eso es importante que conozcas los riesgos y efectos de la marihuana no medicinal.

No se ha demostrado que ninguna cantidad de consumo de marihuana sea segura durante el embarazo y la lactancia. Por más pequeña que sea la cantidad y sin importar la manera en que sea consumida (por respiración, ingestión o fumada), el THC se transmite a tu bebé y podría causar efectos en su salud y desarrollo.

Además, recuerda que el hecho de seguir el uso de la marihuana con fines médicos de los mismos químicos psicoactivos que el hecho del tabaco del que la más segura es abstinencia de consumo de marihuana y evitar exponerse a su uso durante el embarazo y la lactancia.

Habla con tu proveedor de cuidado médico sobre los efectos de la marihuana.

Obtén más información y consejos en MarihuanaEnColorado.com

ESTE SÍMBOLO IDENTIFICA LOS PRODUCTOS QUE CONTIENEN MARIHUANA.

APRENDE MÁS »

MARIHUANA EN COLORADO
LO QUE DEBES ENTENDER

EVÍTATE PROBLEMAS. CONOCE LAS CONSECUENCIAS LEGALES DEL CONSUMO DE MARIHUANA.

MARIHUANA EN COLORADO
LO QUE DEBES ENTENDER

Infórmate acerca de las consecuencias legales del consumo de marihuana.

Recuerda que es ilegal que un menor de 21 años compre, posea o consuma marihuana no medicinal. Un menor de 21 años encontrado con marihuana podría enfrentar un cargo de menor edad en posesión, lo cual le podría traer serias consecuencias legales, incluyendo:

- Pérdida de ayuda financiera para estudios superiores
- Pérdida de la licencia de conducir
- Cargos por delitos menores o graves
- Dificultad para conseguir un trabajo en el futuro

Además, es ilegal, y un delito grave, proveer o compartir marihuana con un menor de 21 años de edad. Esto incluye a miembros de la familia y amigos.

APRENDE CÓMO »

MARIHUANA EN COLORADO
LO QUE DEBES ENTENDER

PROTEGE A TUS HIJOS DE LAS CONSECUENCIAS DEL CONSUMO DE MARIHUANA EN LOS MENORES DE EDAD.

MarihuanaEnColorado.com

Aprende más sobre las consecuencias legales de la marihuana no medicinal.
Visita MarihuanaEnColorado.com o llama a CREA Results al 1-888-Si-Salud (1-888-747-2583).

Appendix H. Glossary of Digital Marketing Terms

<i>Term</i>	<i>What it means</i>	<i>Why it matters</i>
CTR (Click Through Rate)	A ratio showing how often people who see your ad end up clicking it. The total number of clicks received divided by the number of impressions/ views.	Click through rate (CTR) helps us understand how well a website/page/post is performing. Industry Standard: 0.2%-2% depending on tactics (typically 2% for SEM, .2% for display/ banner)
Direct Traffic	When someone visits your site by directly typing in a URL.	
Engagement/ Engagement Rate	Interactions with shared content (likes, comments, shares on FB; retweets, replies, favorites on Twitter). Engagement rate is engagements divided by reach. It denotes what percent of unique users who saw a piece of social content actually engaged with it.	These include reactions, comments, responding to an event, answering a poll question or shares. A high level of engagement can be a good indicator of content success and relevancy.
Engagement Ad (Social Media)	A social ad that is optimized with the goal of getting people to engage with the post itself through reactions, comments, shares, etc.	It's important to know the goal of the ad so that you can accurately pick which results should be measured and considered important. (Do you want to send people to a website or engage with people on social media?)
Impressions	Number of times a web site/page/post is seen.	It's the broadest metric to track.
Pageviews	An instance of a user visiting a single page on a website.	Generally, the goal is to have number of Pageviews be higher than the number of Sessions because that means users spend time on multiple pages on your website during one visit.
Paid Search	Gaining website traffic by purchasing ads on search engines, like Google and Bing.	These ads show up at the top of the search results, above the "organic" results with the text "Ad".
Paid Social	A piece of social media content that has money put behind it. It can live in places such as audience networks, audience's personal timelines, etc.	Paid social has capabilities that organic social does not, and is often the driving force in social campaigns. It is very difficult for people to see your content on social without paid.
Pre-roll	Online video advertisement that plays before the start of a video that has been selected for viewing.	Can be seen on YouTube or before news stories
Reach	Total number of different people or households exposed, at least once, to a medium during a given period.	The "reach" number might be fewer than the "impressions" number since one person can experience multiple "impressions."
Sessions (aka Visits)	A session is a group of user interactions with your website that take place within a given	Every visitor has at least one "session" when they visit a website/page/post, but they could

	time frame. For example a single session can contain multiple page views, events, or social interaction.	have multiple depending on the circumstances. Sessions don't track how many pages the person visited or what they're doing.
Traffic	The amount of visitors and visits a website receives. A fundamental measure of audience reach and growth.	Traffic alone does not indicate success. A campaign goal can be to increase traffic over time, or to bring more quality traffic to your website, meaning people who are spending more time on the site (time on site) or visiting more pages (page visits).
VCR (Video Completion Rate)	Percentage of times the video played to the end. (Video completes / Video starts)	

Appendix I. Retail Marijuana Education Evaluation Report for July 1, 2016- June 30, 2017

Colorado School of Public Health

Third Follow-Up Evaluation: Awareness of Marijuana Laws and Attitudes towards Marijuana Use in Colorado, 2016-2017

A report including findings from initial follow-up surveys with a cohort of adult Coloradans and findings from an evaluation of technical assistance and training activities statewide.

Authors: Sheana Bull, PhD, MPH, Arnold Levinson, PhD, Ashley Brooks-Russell, PhD, Elizabeth Brooks, PhD

June 30, 2017

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JUNE 2017 REPORT ON THE MARIJUANA EDUCATION PROJECT

EXECUTIVE SUMMARY FOR GOAL 1

The Wave 4 data collection included 700 English speakers, with 146 individuals having responded to all four waves, as well as 80 Spanish speakers. A stable proportion of respondents report they are familiar with the Colorado Department of Public Health and Environment's (CDPHE) Good To Know slogan, which was better known among young adults. Younger and current marijuana using respondents are more likely to know the laws.

Across all four waves there was an increase in accurate knowledge of the laws, which shows some softening in the last two waves, but not falling below the levels at Wave 1. This suggests an ongoing need for education efforts to help residents maintain knowledge of the laws and educate them on changing laws, like social use of marijuana.

There is relatively high endorsement of risk and health effects across the topics on the survey, and these perceptions of risk have increased over the four waves. Current marijuana users are significantly less likely to endorse evidence-based statements regarding health effects from marijuana use. Young adults, LGBT individuals, and males are also less likely to endorse risk, in all likelihood because these characteristics correlate with marijuana use.

Spanish speakers continue to report the laws are more restrictive (accurately and inaccurately) as compared to English speaking respondents, and to be more likely to endorse risks associated with marijuana use. However, their responses are becoming more similar over time to English speakers.

Pregnant and breastfeeding women and parents continue to be priority populations. As the campaign efforts shifted in the past year from a focus on the general population to segmented audiences, it may be appropriate to reconsider strategies to evaluate campaign activities in the populations of interest as well as the overall goals of evaluation efforts.

Based on the data available, we recommend the following strategies for CDPHE, which we know they have been working on in recent months:

1. **Continued promotion of the Good To Know campaign**, particularly among the groups more likely to use marijuana, such as young adults, males, and LGBT individuals.
2. **Evolve messaging to reflect the changing regulations** across the state such as social clubs.
3. **Continued promotion of the Spanish-language campaign** tailored to the concerns of that population.
4. **Consider ideas to improve the perceptions of evidence-based health effects associated with adult use**, such as risk of addiction, impaired memory and the risks associated with driving after using and overconsumption of edibles.

5. **Highlight the risks associated with impaired driving** for educational campaigns directed at Hispanics or non-Hispanic Blacks/African Americans.
6. **Continued emphasis on risks associated with marijuana use during pregnancy** and materials directed toward pregnant women.
7. Consideration of the **content, quality, and effectiveness of parental conversations with adolescents** about the risks of marijuana use beyond promoting that parents initiate a conversation.
8. Emphasize messaging to parents who use marijuana regarding **the safe storage of marijuana in the home, secondhand smoke exposure, and role modeling of marijuana use.**

EXECUTIVE SUMMARY FOR GOAL 2

Positive Youth Development Regional Trainings

Positive Youth Development (PYD) regional trainings review adolescent development and specific ways to organize services, strengthen prevention work, locate and implement Positive Youth Development resources, and exchange ideas from other youth engagement attendees. CDPHE held 11 full-day regional trainings during fiscal year 2016-17, 9 were available for analysis in this report. Using the Positive Youth Development Baseline Survey and 4-Month Follow-Up Survey, we captured attendees' impression of the training and implementation of the information.

CDPHE continues to attract a large number of individuals from across different disciplines to their regional trainings, most of whom work with youth. In response to prior years' feedback, significant changes were made to the curriculum to remove content related to retail marijuana and offer an extended focus on Positive Youth Development principles. The revised trainings effectively drew in Colorado youth serving professionals and received high praise from attendees. Satisfaction ratings increased slightly over the prior report period. Training information improved attendees' self-reported knowledge of state resources, was appropriate to the needs of the audience, and offered information that was readily incorporated into attendees' work.

Based on the data available, we recommend the following strategies for CDPHE, which we know they have been working on in recent months:

1. Consider the development of an additional, **half-day Positive Youth Development workshop to develop a specific plan of action and metrics** for implementing Positive Youth Development activities into attendee organizations.
2. Consider developing additional tools, workshops, or a consultancy program to aid organizations in developing and carrying out **Positive Youth Development evaluation** activities.
3. Include **real-world, local examples of Positive Youth Development programs** through a panel presentation or a compendium of Colorado-based organizations.

4. Include **youth representatives** into the Positive Youth Development conversation to add their unique perspective.
5. Provide attendees with **additional resources** (such as printed copies of presentation) for notetaking

Marijuana and Public Health Regional Trainings

The Marijuana and Public Health regional trainings provide public health and prevention professionals with retail marijuana educational resources and data tools. The training explains current marijuana laws, marijuana health impact data, and provides marijuana education prevention resources. CDPHE hosted four full day trainings during the 2016-17 fiscal year, three were available for analysis in this report. Using a baseline survey, we captured attendees' impression of the training, immediate impact of the training, and expectations for implementation of resources.

Each training attracted a large number of attendees, suggesting that the need for information is high. A majority of attendees were from public health and education. Participant satisfaction was high for both trainings. The trainings improved attendees' ability to access marijuana campaign messages and describe marijuana use prevalence.

Based on the data available, we recommend the following strategies for CDPHE, which we know they have been working on in recent months:

1. To ensure wide distribution, new **resources/presentations should be developed** at a basic comprehension level (or level appropriate for a given community) .
2. As available, update training information with **local, state and national marijuana research efforts**.
3. Providing a compendium of current, evidence-based, **youth prevention programs** in Colorado.
4. Continuation of **networking time** during the training.
5. Consider the development of **new, brief presentations** for specific audiences (e.g., clinicians working with breastfeeding patients, organizations working in youth substance use prevention). Short or video-based presentations are a particularly important consideration when reaching clinical audiences.
6. **Continued evaluation** of Marijuana and Public Health training.

Technical Assistance

In September 2014, CDPHE formalized technical assistance services to provide retail marijuana information and resources to the public. Technical assistance information is primarily directed towards community agencies, community coalitions, marijuana retailers, state partners, and those working with youth or other groups with special informational needs. Technical assistance may include, but is not limited to, the distribution of retail marijuana campaign materials and toolkits, state and local policy and legislation information, updates on state retail marijuana activities, and youth prevention strategies.

Using the Baseline Survey Needs Assessment and follow-up survey, we documented requestors' satisfaction and implementation of technical assistance material, the appropriateness and utility of

the technical assistance, satisfaction with technical assistance services, and use of technical assistance information.

Users of the technical assistance service often shared the information with others, particularly colleagues. A majority who responded to the follow-up survey would recommend CDPHE's technical assistance program to others, indicating satisfaction with the services. These data suggest that the information is helpful and appropriate to the needs of the requestors. The high percentage of Coloradans using the service indicates that it helps to meet the needs of Coloradans.

Based on the data available, we recommend the following strategies for CDPHE, which we know they have been working on in recent months:

1. Development of **additional prevention and educational resources at a comprehension level appropriate for the general population** to encourage sharing.
2. Disseminating **information about currently funded projects and new initiatives** in Colorado.
3. **Sharing funding opportunities for marijuana research early** to increase diversity of organizations involved in such work.
4. **Expanding marketing** methods to promote the technical assistance service.
5. **Continued evaluation** of technical assistance service.

Clinician Marijuana Education Module

In Fiscal Year 2016-2017, CDPHE developed a clinician marijuana education module, *Marijuana Pregnancy and Breastfeeding Clinical Guidance*. The online module is designed for clinicians (e.g., physicians, nurses, and physician assistants) and reviews current research, assessment recommendations, and clinical talking points specific to the use of marijuana while pregnant or breastfeeding.

Using a knowledge survey and an evaluation survey, we captured respondents' comprehension of the module information, background, personal beliefs about the impact of marijuana use, clinical behavior, perceptions of practice changes since legalization, external efforts to disseminate marijuana information, and course quality. On average, participants scored high on the knowledge survey, indicating good retention of the presented materials of the course. Over 90% of respondents of the evaluation survey indicated they served pregnant or breastfeeding populations, indicating that the online training is appropriate for its audience.

Based on the data available, we recommend:

1. Increasing **outreach efforts to Colorado** clinicians, particularly physicians.
2. Reinforcing information about **marijuana safety recommendations**, particularly wait times for driving after marijuana use.
3. Adding **continuing education credit opportunities for other training** backgrounds (e.g., nurses) to make the course more relevant given the current audience.
4. Including additional emphasis about **patient screening** at each visit.
5. Creating **additional online training opportunities** for a variety of disciplines to educate about marijuana safety information, health benefits, drug interactions, and variable levels of THC in marijuana products.

6. **Incorporating and disseminating current, peer-reviewed data about the potential benefits of marijuana** as it becomes available. In its absence, understanding the limitations and lack of current work in this area is important information to share.
7. **Continued evaluation** of clinician education module.

GOAL 1 METHODS

Sample

Survey participants for the Marijuana Media Evaluation Project (MMEP) were selected from a registry of respondents to The Attitudes and Behavior Survey (TABS) on Health who consented to be available for future survey studies. TABS on Health interviews adults (aged 18+) who are randomly selected from among all Colorado households with telephones, including cell-phone households since 2008. Households are selected for interview by sampling all Colorado telephone exchanges with at least one known residential telephone number. For MMEP, selection oversampled marijuana users, Spanish-speakers, parents, and women of childbearing age in order to obtain more precise information about these important groups. MMEP participants were sampled from two separate cohorts of respondents, who completed TABS on Health in either 2012 (“original cohort”) or 2015 (“new cohort”).

Original cohort (Waves 1 and 2). The first survey (“Wave 1”) (MMEP) was administered to English-speaking participants during November-December 2014 and Spanish-speaking participants in February-March 2015. A second administration (“Wave 2”) interviewed the same sample of English-speaking respondents, but not Spanish-speaking respondents, during May-June 2015.

New cohort (Waves 3 and 4). The third survey (“Wave 3”) retained 231 Wave 1 participants and added a newly selected sample of 1,072 TABS 2015 respondents; Wave 3 was conducted in May-June 2016. After participant attrition, (e.g., death, moving out of state), 1,227 individuals from Wave 3 were included in Wave 4 (1048 English speakers and 179 Spanish speakers). Of these, 700 English speakers and 80 Spanish speakers completed the survey by web, telephone, or mail, a response rate of 64%. Wave 4 data collection occurred between January and March 2017.

Data Collection Instruments

The survey instrument for Wave 4 was similar to Wave 3 and included no new items from Wave 3. As in previous waves, the survey was designed to serve multiple goals:

- Measure knowledge of the laws and awareness of *Good To Know*
- Evaluate retention of knowledge of marijuana laws and awareness of *Good To Know*
- Compare knowledge of marijuana laws and awareness of health effects and risks between Spanish-speaking and English-speaking Hispanics
- Describe perceptions of health effects and risks, marijuana use, and conversations with health care providers among women of childbearing age (female respondents ages 18-45) to inform targeted education efforts and to evaluate those efforts
- Describe perceptions of health effects and risks, marijuana use, and conversations with health care providers among adults living with children < 21 years old to inform targeted education efforts and to evaluate those efforts (respondents with children living at home)
- Describe perceptions of health effects and risks, marijuana use, and conversations with health care providers among LGBT (lesbian, gay, bisexual sexual orientation or transgender gender identity) adults to inform targeted education efforts and to evaluate those efforts
- Describe perceptions of health effects and risks, marijuana use, and conversations with

health care providers among adult marijuana users to inform targeted education efforts and to evaluate those efforts (ages 21+)

- Inform future campaign development through the identification of knowledge gaps among specific demographics

Data Collection

Survey participants previously provided a combination of email address, telephone number, and/or mailing address as a preferred or available mode of contact. Participants who provided an email were emailed a link to complete the survey online using the Research Electronic Data Capture (REDCap) system, an online survey tool that stores data behind firewalls at the University of Colorado. Those with a mailing address were mailed a paper survey with a postage-paid return envelope and were invited to complete the survey online (by typing a link in their web browser) or by mail. If an individual had both an email address and a mailing address they were contacted by email and mail. Email reminders were sent approximately a week later and a second survey was sent by mail approximately two weeks later. All those who had not completed the survey online or by mail after approximately 3 weeks were called to complete the survey over the phone.

Those individuals who had not provided an email address or mailing address and only provided a telephone number were only contacted by telephone. Spanish speaking individuals were only contacted by telephone. Telephone interviews were conducted using a Computer-Assisted Telephone Interview (CATI) system. The telephone script was programmed using Sawtooth Technologies, Inc.'s Sensus 6.0 software, and the same developer's WinCATI 6.0 software was used to manage the sample. English speaking or bilingual interviewers attempted to contact participants during three calling periods (weekdays 9am – 4pm, weekdays 4pm – 8pm, and weekends 11am- 4pm), with an emphasis on evening and weekend times. Contact was attempted at least 8 times before a participant was classified as a nonresponder. At least 2 attempts were made in each of the three calling periods, with the final 2 attempts occurring at any time. Participants received \$25.

Measures

Media reach is measured with prompted recall of the *Good To Know* campaign slogans (English and Spanish).

Knowledge of marijuana laws is calculated as the proportion who accurately know the law as well as a composite variable of accurate knowledge of four primary components (must be at least age 21 to buy, marijuana cannot be used in outdoor public places, one can get cited for DUI, and one may not take out of state).

Opinion of the law is the proportion who would vote again today to make marijuana legal.

Health effects is calculated as the proportion who agree or strongly agree with each statement.

Perceptions of risk is calculated as the proportion who endorse moderate or a lot of risk with each statement. Some statements were modified slightly from Waves 1 and 2 to Waves 3 and 4.

Data Analysis

This report presents unweighted estimates. When comparing two or more waves or two groups we tested for statistical significance. We used chi-square tests for differences between demographic categories, McNemar's test of agreement between two waves and generalized

estimating equations (GEE) models to test for differences between Waves 1 through 4 among those who completed all four waves.

GOAL 1 RESULTS AND RECOMMENDATIONS

Sample Characteristics

A total of 700 individuals completed the Wave 4 survey in English, of whom 146 had previously completed Waves 1- 3 (Table 1). An additional 80 participants completed the Wave 4 survey in Spanish, of whom 55 had completed the Wave 3 survey (Table 2). More participants were female than male (66.3% female at Wave 4; Table 1). Respondents tended to be older; at Wave 4, 39.9% were aged 35 to 54 and 32.9% were aged 55 and older, and were predominately non-Hispanic White (at Wave 4, 73.9% White, 12.0% Hispanic, 9.4% non-Hispanic Black and 4.7% another race or multiple race/ethnicities). A total of 5.4% identified as either lesbian, gay, bisexual or transgender identity (using two separate survey questions, one for sexual orientation and one for gender identity) and 45.3% reported living in a home with someone under the age of 21 (Table 1).

Limitations of the Sample

Due to the scope of the evaluation effort, and the difficulty recruiting some populations to a random digit dial survey (the methodology used to recruit the registry members from which this sample was drawn) there are relatively small numbers of some populations of interest, particularly Spanish speakers and individuals with minority sexual orientations or gender identification.

Media Awareness, Knowledge of Laws, Opinion of Laws, and Marijuana Use

At Wave 4, 28.3% of respondents reported they had heard or or seen the Good To Know slogan in the past 6 months (Table 3a). Younger individuals (ages 18-34) recognized the slogan more than older individuals (Table 3b). Nearly two thirds of participants (65.6%) correctly answered four questions regarding marijuana laws, which was significantly lower among Black respondents, higher among the younger age category, higher among current marijuana users, and higher among LGBT respondents (Tables 3a, 3b). There were no differences in knowledge of the law by sex; however there was significantly lower knowledge among Black respondents regarding being cited for a DUI. Younger individuals were more likely to know the legal age to buy, that marijuana cannot be used in outdoor public places, that one can get cited for a DUI and that marijuana cannot be taken out of state (Table 3b). Similarly, current users were significantly more likely to know most components of the laws. Those who reported awareness of the Good To Know slogan were more likely to know that one can usually use marijuana in a private home. Younger participants, current marijuana users, and LGBT respondents were more likely to say they would vote again to make marijuana legal. Males and LGBT respondents were more likely to be current marijuana users.

Among the participants who completed all four waves of data collection, there were significant changes in media awareness and knowledge of the laws over time (Table 4). There was a decline in awareness of Good To Know from Wave 2 to 3, which coincided with much smaller media

buys and fewer broadcast media placements during that time. Accurate knowledge of several aspects of the laws increased from Waves 1 to 2 but then declined in later waves for the composite score, legal age to buy, that one may not use outdoors, and may not take out of state. There was a decline in those who would vote again to make marijuana legal from Wave 3 to 4.

We compared responses from Waves 3 to 4 among Hispanics who completed the survey in English and separately among Hispanics who completed the survey in Spanish (Table 5). Among English speaking respondents there was a significant increase in familiarity with Drive High, Get a DUI from Wave 3 to 4 and significant decline in accurate knowledge that one cannot use marijuana in a private business. Among Spanish speaking respondents there was a significant increase in awareness of Good To Know and the fake slogan. There was a significant decline in accurate knowledge on the composite score, which may be driven by a decline in accurately reporting that one cannot use outdoors, despite an increase in knowing that one can use in a private home.

Discussion of Media Awareness, Knowledge of Laws, Opinion of Laws, and Marijuana Use

It is challenging to assess awareness of the Good To Know campaign for evaluation purposes due to the commonness of the idiom which makes it both familiar and yet not distinct from other messaging. This is particularly the case considering respondents are asked about the slogan tagline rather than shown images from the campaign, which would not be possible for respondents participating by telephone. Furthermore, some respondents may have seen campaign materials but not associated them with the Good To Know campaign because the slogan is not featured as a dominant part of every message (e.g., pregnancy or parenting campaign materials). Relatedly, the decline in awareness of Good To Know from Wave 2 to 3 may have been expected due to a change in focus of messaging from the general population to a focus on marijuana users and tourists. It is interesting that awareness has rebounded in Wave 4, although not statistically significantly from Wave 3.

It is noteworthy that knowledge of some laws may be declining at recent waves, although certainly not below the levels at baseline. This is contrary to the expectation that accurate knowledge should be retained once it is achieved. There are several possibilities of what might be contributing to this change. First, it is possible that knowledge of the laws should not be expected to be stable and may require ongoing education to sustain. Second, marijuana related laws in many parts of the state continue to evolve and the media coverage or other public discourse related to proposed or actual changes may lead people to question what they thought they knew to be the case. A prominent example of this is the passage of laws allowing social use clubs in some parts of the state which would allow marijuana to be used in private businesses.

Finally, the social norms and enforcement of marijuana laws across the state, and the country, also continue to evolve. If marijuana use becomes more visible or normalized in a neighborhood or nationally, people may question some restrictions about the laws they thought to be true. All of these possibilities suggest the need for continued education efforts to help residents maintain knowledge of the laws and educate them on changing laws.

It is positive that younger adults are both more likely to be aware of the Good To Know campaign and have accurate knowledge of the laws because this population is more likely to use

marijuana (although not statistically significantly so in this non-representative sample) and may be more likely to associate with friends who use marijuana. Their accurate knowledge of the laws may be related to having to know the laws due to their personal exposure to marijuana use. It is reasonable to continue to focus campaign messaging to those populations using marijuana, who are most in need of accurate knowledge of the laws, and marijuana users most at risk for problematic use.

Spanish speakers had high awareness of Lo Que Debes Entender, higher than Good To Know. Spanish speakers continue to respond to the survey in a manner that distinguishes them from English speakers by reporting that the laws are more restrictive (both accurately and inaccurately). However, the changes from Wave 3 to Wave 4 suggest the knowledge among Spanish speakers is becoming increasingly similar to English speaking Hispanics. It should be noted that the sample size for Spanish speakers is low, making it difficult to draw definitive conclusions.

Media Awareness, Knowledge of Laws, Opinion of Laws, and Marijuana Use Recommendations

Based on the data available, we recommend:

1. Continued promotion of the Good To Know campaign, particularly among groups more likely to use marijuana, which include young adults, males, and adults who are LGBT.
2. Evolving messaging to reflect the changing regulations across the state, such as social clubs.
3. Continued promotion of a Spanish-language campaign tailored to the concerns of the Spanish-speaking population.

Perceptions of Risks and Health Effects

The majority of respondents agreed or strongly agreed with the evidence-based health statements and endorsed moderate or a lot of risks associated with each scenario presented in the survey (Table 6a). The statement with the lowest endorsement was “marijuana users can become addicted to marijuana” and the statement with highest endorsement was the risk associated with “a child eating an edible marijuana product.”

There were significant differences by sex for several statements with females consistently reporting risk or agreement with health effects at a higher proportion than males in all domains during pregnancy and breastfeeding. There were few differences by race/ethnicity except for lower endorsement of risk with a child eating an edible or an adult driving after using marijuana among those of a race other than Hispanic, White, or Black. Respondents who are Hispanic or Black also had lower endorsement of risks associated with driving after using marijuana. When considering differences by age, there was a pattern of the youngest age group reporting the lowest level of endorsement of agreement with health effects or perception of risks for 12 of the 18 items. There were no significant differences in endorsement of risks or health effects by awareness of the Good To Know campaign. Current marijuana users were significantly less likely to endorse risks or health effects than non-users, sometimes by large margins. Respondents

identifying as LGBT were also less likely to endorse risks or health effects, particularly related to pregnancy or child exposures or teenage use.

Among the participants who completed all four waves of data collection, there was a significant increase, between at least two waves, in endorsement of risks or health effects for the effects of marijuana for all but one of the statements (weekly use during pregnancy). There were increases in endorsement of risks or health effects from Wave 1 to four for an adult using daily, that marijuana is addictive, effects on memory, the effects on IQ and attention problems in children if exposed during pregnancy, the risks of use while breastfeeding, the risks associated with teenagers using once a week or daily, storing marijuana in a home with children, that a person should wait at least six hours to drive after marijuana use, and overconsumption of edibles (Table 7).

We compared responses from Waves 3 to 4 among Hispanics who completed the survey in English and separately among Hispanics who completed the survey in Spanish (Table 8). Among English speaking respondents there was a significant increase from Wave 3 to 4 in endorsement of effects on memory, the effects on IQ and attention problems in children exposed during pregnancy, the risks associated with use during pregnancy, and that one should wait six hours before driving. Among Spanish-speaking respondents there was an increase from Waves 3 to 4 in risk of addiction, effects on memory, and overconsumption of edibles by an adult. Overall, Spanish-speakers continued to endorse higher risk and health effects than English-speaking Hispanics.

Discussion of Perceptions of Risks and Health Effects

Although there was relatively high endorsement of risk and health effects across the statements there are some differences among groups that highlight a need for additional prevention messaging. When looking specifically at evidence-based statements for health effects, three groups stand out as having significantly lower endorsement of risk: young adults, current marijuana users, and LGBT respondents. Additionally, Hispanics (particularly Spanish-speaking Hispanics) and non-Hispanic Blacks had lower endorsement of risk related to driving after using, a finding consistent with their lower knowledge of the laws related to DUI.

It is striking that there were consistent increases in perceptions of risk across the four waves. This is somewhat unexpected given a national social norm shifting toward liberalized recreational marijuana policies. However, it is internally consistent with fewer cohort respondents saying they would vote again to legalize recreational marijuana (although a majority still would). This may reflect experiences with negative consequences of marijuana use or experimental use, either personally or among friends or family members. Additionally, media or news reports may have publicized public health consequences of marijuana use. Finally, it may reflect exposure to the Good To Know campaign to the extent that the campaign included content related to each statement.

Perceptions of Risks and Health Effects Recommendations

Based on the data available, we recommend:

1. Improve messaging on the perceptions of evidence-based health effects associated with adult use, such as risk of addiction, impaired memory and the risks associated with driving after using and overconsumption of edibles.
2. Educational campaign directed at Hispanic or non-Hispanic Blacks that highlights the risks associated with impaired driving.

Special Populations

Women of Childbearing Age

Tables 9a and 9b highlight findings relevant to women of childbearing age. There were no significant differences in these indicators by age group, race/ethnicity, or campaign exposure at Wave 4. We examined change from Wave 3 to 4 and found a significant increase in the proportion of women of reproductive age endorsing effects of marijuana on their offspring, particularly among the two older age categories, white women, and regardless of awareness of the *Good To Know* campaign (Tables 9a-9b). There was also a significant increase in those reporting risks from using marijuana during pregnancy, particularly among white women. Women between 25 and 34 years old had a significant decline in recent marijuana use; however, it should be noted that this sample includes an oversampling of marijuana users. Few women who saw a health care provider in the past 12 months discussed marijuana use with that provider.

Discussion of Women of Childbearing Age

Women of childbearing age from Wave 3 to 4 increased in the endorsement of risk of use during pregnancy and the health effects for the child. This is somewhat consistent with the overall sample of respondents, among which there was an increase in the proportion who endorsed risk associated with prenatal marijuana use. There was not a significant difference by awareness of the *Good To Know* campaign. This could be because those campaign materials do not prominently feature the *Good To Know* slogan, and therefore might not be associated with the campaign among our respondents. Additionally, the pregnancy-related campaign materials and ad buys are directly focused on reaching pregnant women, whereas our respondents are women of childbearing age, though very few, if any, were pregnant during our Wave 3 or Wave 4 surveys. Recruiting a representative group of pregnant women for evaluation purposes is difficult because of the transient nature of being pregnant and the rarity of this in the population. Thus, this sample of women of childbearing age is a proxy for pregnant women but does not necessarily represent campaign awareness among pregnant women.

Women of Childbearing Age Recommendations

Based on the data available, we recommend:

1. Continued emphasis on risks associated with marijuana use during pregnancy and materials directed toward pregnant women.
2. Explore more effective evaluation methodologies to sample this hard to reach population

Parents

Among parents at Wave 4 there was a high endorsement of risks and health effects for all statements (Tables 10a-10b). As with the overall sample, parents who currently use marijuana were significantly less likely to endorse risks or health effects associated with child and

adolescent exposure and use and significantly more likely to report someone smoked marijuana in the home in the past month. Those who had seen the *Good To Know* campaign were also more likely to report someone has smoked in the home. Hispanic parents were less likely to report risks associated with a teenager using daily compared to non-Hispanic parents. Parents of teens were much more likely to have talked to their children about marijuana.

From Wave 3 to Wave 4 there was a significant increase in endorsement of risk associated with a teenager using marijuana weekly and storing marijuana in an open container in a home with children or teenagers. These increases were also seen among several subgroups. A very small number of parents report that their health care provider discussed marijuana use and risks with them; however, among those who did there was a decline from Waves 3 to 4 in those that discussed safe storage with a health care provider, particularly among parents with teenagers. There was a decline in those that reported talking to their children about the risks of marijuana yet an increase in those that plan to talk to their children when they are older.

Discussion of Parents

The continued high perception of risk associated with the various adolescent and child marijuana use or exposures continues to be encouraging. However, the differences observed between parents that use marijuana and those that do not suggest this population may be particularly important to reach. Parents who use marijuana are less like to endorse risks from secondhand smoke exposure and much more likely to report someone has smoked in the home in the last month. This is important not only due to the smoke exposure but do to the possibility of role modeling or normalizing marijuana use behaviors, which are both contributing factors to the strong correlation between parental substance use and later child use.

The decline in the proportion of parents who report they have talked to their children appears to be driven by those parents with children ages 5 to 9. The reason for this is unclear, but it is possible that some respondents with younger children aged into this category but their children are not yet old enough to have a conversation about marijuana use. Alternatively, it is possible parents have reconsidered what constitutes a quality conversation about marijuana use and raised expectations for that conversation.

Beyond asking parents if they have talked to their children about marijuana, it may be useful to ask about the content and quality of those conversations and their level of confidence in effective communication. Parents who currently use, or have used at some point in the past, may find it particularly difficult to communicate an expectation of non-use for their child without appearing hypocritical. Additionally, if a parent chooses to share their own experience with marijuana use, it may serve to promote adolescent experimentation. Finally, parents may not have the specific information they want about health effects or the laws related to underage marijuana use and potential sanctions that could affect their child if that child were to use.

Parents Recommendations

Based on the data available, we recommend:

1. Considering going beyond promotion conversations between parents and children to consider the content, quality, and effectiveness of parental conversations with adolescents about the risks of marijuana use.
2. Emphasis on messaging for parents who use marijuana in regards to storage of marijuana in the home, secondhand smoke exposure, and modeling of marijuana use.

Secondary Data Analysis of Tony Grampas Youth Services Surveys

Methods

A team from Colorado State University developed a 7-question Marijuana Attitudes assessment for grades 1-5, a Marijuana Use and Attitudes assessment for grades 6-12, and a Marijuana Use and Attitudes assessment for ages 18-25. Survey questions for grades 6 through 12 were derived from the following sources: (1) A marijuana use survey developed by the OMNI Institute to help evaluate youth exposure to marijuana prevention campaigns in Colorado; (2) the Healthy Kids Colorado Survey; (3) The American Drug and Alcohol Survey (ADAS); and (4) a survey designed to assess marijuana use expectancies among this age group.¹ Surveys were administered among youth by TGYS-funded organizations, and data were analyzed by the CSU Evaluation Team as part of an initiative to evaluate self-reported marijuana use, attitudes, and use expectancies, along with youth-experienced consequences related to the use of marijuana.

An original set of questions was compiled and disseminated to 12 TGYS-funded grantees that administer programming that focuses specifically on decreasing substance use. Feedback from these grantees about concepts and wording, as well as feedback and discussion with the TGYS team at CDHS was applied to finalize the current set of survey questions.

Several risk and protective factors are measured by the assessments including conflict management skills, perceived harm associated with using marijuana, consequences and perceived “wrongness” associated with using marijuana, age at first use (among those who reported they have tried marijuana), and peer/social influences around marijuana use. Identification of existing risk and protective factors and their relationship to reported marijuana use is instrumental in assessment of which factors are most strongly related to using marijuana as reported among participating youth. This information may be used by programs as a way to target the factors important to reducing or preventing youth use of marijuana and other substances.

To understand youth use of and attitudes toward marijuana, pretest and post-test data were collected among TGYS-funded program participants with the assessments described above. Similar to data collection with other TGYS survey instruments, grantees assigned unique identifying numbers to each program participant in order to match youth responses at two time points. Youth completed a marijuana use and/or attitudes assessment appropriate to their age group prior to participating in programming (pretest), as well as at program end (post-test). Completing the assessments was voluntary, and where appropriate or necessary, participant or

¹ Torrealday, O., Stein, LA, Barnett, N., Golembeske, C., Lebeau, R., Colby, SM., & Monte, PM. (2008). Validation of the marijuana effect expectancy questionnaire-brief. *J Child Adolesc Subst Abuse*, 17(4), 1-17.

parental consent was collected. Data were submitted to and aggregated by the Colorado State University Evaluation Team for analysis.

We conducted a post-hoc analysis on TGYS data to see whether there were significant differences for 22 risk and protective factors included in the survey between youth exposed and not exposed to the “What's Next” campaign tag line. We examined post-test data for the period between 4/12/15 - 11/20/16 using Chi-square analysis. Significance was determined using a p-value of 0.05. Subsequent differences in category levels were determined using a standardized residual +/-1.96.

Results

Of the 1,633 respondents, 216 people reported seeing the “What’s Next” campaign (exposed group). In the 22 separate comparisons of risk and protective factors, there are few differences between exposed and unexposed individuals or discernible patterns (Table 11). Youth exposed to “What’s Next” were more likely to agree that marijuana made it harder to think and do things (34% vs. 26%, $p = .032$). Youth exposed to the campaign believed that marijuana affected one’s body and caused cravings (36% vs. 26%, $p = .025$). Rates of no marijuana use in the last 30 days were similar between groups (80-85%). We failed to see any discernable patterns based on respondent age (data not shown). Of note, a major limitation with this comparison is that participants in exposed group did not view the What’s Next campaign in its entirety, rather, they only saw the slogan. This brief exposure without additional context may be responsible for the lack of significant findings between groups.

Overall Discussion of Goal 1

The initial evaluation plan for Goal 1 was designed to evaluate a well-funded media campaign designed to reach a broad audience. The multi-mode survey was administered to a relatively large sample of adults drawn that was reasonably generalizable to the state population. In the latter two waves of administration, the campaign messaging has focused on various segments of the population such as Spanish-speakers, parents, marijuana users, and pregnant and breastfeeding women. As educational efforts shift toward these subgroups more diverse strategies may be necessary to evaluate campaign recall among the individuals that may reasonably come in contact with campaign messaging. As discussed previously in the results for women of childbearing age, the results from the multi-mode survey are a rough proxy for what may actually be observed if it were possible to recruit and survey pregnant women. Similarly for the parent population, depending on where and how the majority of the campaign materials were distributed it may not be surprising if the parents in this sample do not have strong recall of the campaign. Future evaluation efforts could consider different strategies for reaching each population such as recruiting pregnant women at parental clinic visits or recruiting parents at locations where they may see printed materials. Additionally, future evaluation efforts could shift from a primary focus on measuring campaign recall and the relationship between campaign recall and changes in attitudes or behaviors to a focus on message testing.

GOAL 2 METHODS

Objectives

The program evaluation focus for Goal 2 is to examine system-level activities related to the distribution and utilization of retail marijuana prevention and educational resources. This report reviews performance for the first 11 months of the 2016-2017 fiscal year, July 1, 2016-May 31, 2017.

Background

During the current phase of the marijuana program evaluation, Goal 2 focused on three main system-level objectives:

Objective 2.1) Document the distribution and assess the utility and implementation of retail marijuana prevention and educational resources provided at Colorado Department of Public Health and Environment's (CDPHE's) Regional Trainings.

Objective 2.2) Document the distribution and assess the utility and implementation of retail marijuana prevention and educational resources provided by CDPHE's Technical Assistance services.

Objective 2.3) Assess the effectiveness of clinical training resources provided by CDPHE to health care providers.

Regional Trainings

Two types of regional trainings are offered to the public – the Positive Youth Development training and the Marijuana and Public Health training. The Positive Youth Development trainings were held during the entire report period whereas the Marijuana and Public Health training underwent curriculum changes and held its first training of this fiscal year in March, 2017.

Positive Youth Development Regional Trainings

Training Synopsis, Priorities and Audience

The *Positive Youth Development* (Positive Youth Development) framework focuses on collaborative work between young people and adults to help youth acquire the knowledge and skills they need to become healthy and productive adults. Positive Youth Development trainings are targeted towards professionals who work with young people, both directly and indirectly and are hosted in partnership with Colorado 9 to 25. CDPHE holds the trainings in urban and rural Colorado towns.

Training Curriculum

The full-day Positive Youth Development curriculum reviews adolescent development and specific ways to organize services and strengthen prevention work, locate and implement Positive Youth Development resources, and exchange ideas from other youth engagement attendees. The

trainings include a discussion and viewing of Colorado’s primary resources for Positive Youth Development information, including the State of Colorado’s website, evidence-based and best practices information, data from the State Youth Advisory Report, and an overview of the Youth Partnership for Health. In addition to reviewing educational resources, attendees participate in breakout sessions so that participants can inform one another about the Positive Youth Development activities occurring at their respective organizations. All participants receive take-home materials including the Positive Youth Development Fact Sheet and Positive Youth Development Action Tool.

Training Modifications

Based on feedback from prior attendees, CDPHE modified Positive Youth Development trainings for Fiscal Year 2016-2017. The training originally presented two focus areas: Positive Youth Development and youth-focused information about retail marijuana. Beginning in Fiscal Year 2016-2017, the Positive Youth Development training removed the retail marijuana information entirely, although this information will still be available through the *Marijuana and Public Health* training (detailed below).

Positive Youth Development Assessment tool changes included:

Positive Youth Development Baseline Survey

- Removed all questions and references about retail marijuana information
- Modified multiple support/follow-up questions to one general question
- Added a question to assess the use of the “Positive Youth Development Tool”
- *Positive Youth Development 4-Month Follow-up Survey*
- Removed all questions and references about retail marijuana
- *Marijuana & Public Health Baseline Survey*
- Changed: “Identify how to access regional data for marijuana use/prevalence” to “Identify regional data for marijuana use/prevalence”
- Collapsed facilitator ratings into one item

Assessment Processes and Procedures

Participants receive a baseline survey in their packet of training materials and are reminded to return the completed form prior to leaving the session. The survey asks attendees to rate their familiarity with the curriculum before and immediately after training is complete. Participants estimate their likelihood to use the training information (i.e., the perceived value) and identify specific components of the program that can be immediately incorporated into their work with youth. Four months after the training, attendees receive a request to complete a follow-up survey via an online Internet link. The follow-up survey documents attendees’ use of the training materials/resources since the event and ask them to identify additional information needs.

Marijuana and Public Health Training

Training Synopsis, Priorities and Audience

The objectives of the Marijuana and Public Health Training are to provide public health and prevention professionals with retail marijuana resources and data tools in order to educate their communities about safe, legal and responsible marijuana use. The training strives to provide

networking opportunities, local presentations and round table discussions. The Marijuana and Public Health Trainings were modified for Fiscal Year 2016-2017 to include up-to-date research and regulatory information.

Training Curriculum

The Marijuana and Public Health curriculum drew upon the results of a CDPHE needs assessment survey issued to LPHAs. The training summarizes current marijuana legislation (including differences in medical and retail laws) and presents the updated *Retail Marijuana Public Health Advisory Committee's* literature review process and results released in January 2016. The summary findings from the Committee's literature review drive the framework and health effects information for the workshop. In addition, information pertaining to the State's high-priority populations (pregnant or breastfeeding women and youth) and specific age groups is provided. The curriculum includes information on marijuana use data across the lifespan (including pregnant and breastfeeding women, children and adolescents, young adults and adults 21 and over), marijuana health impact data (e.g., emergency department and poison control center calls), and marijuana education and prevention programs and resources for various populations.

Assessment Processes and Procedures

Participants receive a baseline survey in their packet of training materials and are reminded to return the completed form prior to leaving the session. The survey documents attendees' understanding of marijuana and public information resources before and immediately after the training. Participants identify which information they are most likely to use at work and areas where more information is needed. In addition, attendees rate the quality of the presenters and are able to suggest ideas to improve future trainings or identify additional information needs. In a 4-month follow-up assessment, attendees report which, if any, of the training materials/resources they used and additional information needs.

Technical Assistance Services

Training Synopsis, Priorities and Audience

In September 2014, CDPHE formalized technical assistance services to provide information and resources to the public about retail marijuana. While technical assistance services are open to the public, the information provided is primarily directed towards community agencies, community coalitions, marijuana retailers, State partners and those working with youth or other groups with special informational needs. Technical assistance may include, but is not limited to, the distribution of retail marijuana campaign materials and toolkits, State and local policy and legislation information, updates on State retail marijuana activities, and youth prevention strategies. The service can be requested via an online portal ([Retail Marijuana Technical Assistance](#)), by phone, or in-person.

Assessment Processes and Procedures

CDPHE's technical assistance services data is examined using information gathered from an administrative database (baseline survey needs assessment), which consists of information collected at the time of request. The baseline survey documents clients' needs and affiliation and

is collected for every individual. A one-month follow-up survey assesses clients' satisfaction and utilization of technical assistance information. Each individual who submits a request for technical assistance is invited to complete a follow-up survey, delivered via an online platform.

Clinician Marijuana Education Module

Training Synopsis, Priorities and Audience

In Fiscal Year 2016-2017, CDPHE developed a continuing education course, *Marijuana Pregnancy and Breastfeeding Clinical Guidance*. The module is was developed for clinicians (e.g., physicians, nurses, and physician assistants) and reviews current research, assessment recommendations, and clinical talking points specific to the use of marijuana while pregnant or breastfeeding. Delivered via the COTrain website (www.train.org/colorado), the module consists of a 22-minute PowerPoint with a voice-overlay. Throughout the module, participants are asked 10 optional comprehension questions about the module content.

A maximum of 1.00 AMA PRA Category 1 Credit(s)TM is awarded to physicians who complete the course and take an additional evaluation. The additional evaluation captures respondents' background, personal beliefs about the impact of marijuana use, clinical behavior, perceptions of practice changes since legalization, external efforts to disseminate marijuana information, and course quality. CME credit is optional and administered by the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Colorado Medical Society and CDPHE. The module went live Aug 8, 2016.

Training Curriculum

The comprehensive curriculum reviews CDPHE's development of marijuana pregnancy and breastfeeding guidelines. The module discusses the results from a 2014 statewide provider survey, which, in part, demonstrated the need for the training. The course acknowledges current gaps in research and the need for updated, long-term information. It reviews CDPHE's clinical guidance for assessing and talking about marijuana use and pregnancy, with a focus on the *National Survey on Drug Use and Health*. It further discusses recommendations for screening, such as using motivational interviewing techniques, testing, and mandatory reporting.

Breastfeeding considerations are reviewed and include a discussion about current research and the use of appropriate language for patients. The module content details information on postpartum screening. Providers are encouraged to talk to patients about safe storage, accidental or intentional ingestion, second hand smoke, and creating safe environments. Case studies are presented throughout the course. Respondents receive links to downloadable resources, including the CDPHE clinical guidance handout, a practice flow handout, and billing information.

Module objectives:

- Explain the Marijuana guideline development process in Colorado
- Describe current research related to marijuana use during pregnancy & breastfeeding
- Practice specific patient language when talking with patients about marijuana use during pregnancy & breastfeeding

- Integrate marijuana discussions & screening into your clinical practice setting

Assessment Processes and Procedures

The *Marijuana Pregnancy and Breastfeeding Clinical Guidance* module is broken into two sets of assessments. Knowledge questions are given throughout the module to assess respondents' comprehension. Seven of these questions are multiple-choice which measure respondents' comprehension of the material; three open-ended question document respondents' advice to patients in a given scenario. Evaluation questions document respondents' backgrounds, personal attitudes, clinical behavior, perceptions of practice impact, information dissemination, and perceptions of the course quality. Unlike the knowledge questions, the evaluation questions have no right or wrong answers, but rather, gauge current clinical practices and perspectives about marijuana. The 37 questions consists of multiple choice, rating scales, and open-ended questions and are available only if the respondent wants to earn CME credit. Completion time for the evaluation questions is approximately 5-7 minutes. Response to both the knowledge and evaluation questions are optional. A reminder and log-on directions to complete the evaluation questions are emailed to all CME registrants about once every six weeks; reminders are not an option for the knowledge questions because they are embedded within the module.

Data Collection Tools

Regional Trainings

- Positive Youth Development Baseline Survey: captures the attendees' impression of the training and their expectations for implementing the information.
- Positive Youth Development 4-Month Follow-up Survey: captures attendees' use of the Regional Training materials/resources four months after the event.
- Marijuana & Public Health Baseline Survey: captures the attendees' impression of the training and their implementation of retail marijuana prevention and education efforts since the event.
- Marijuana & Public Health 4-Month Follow-up Survey: captures attendees' use of the Regional Training materials/resources four months after the event.

Technical Assistance Service

- Phase 2 Baseline Survey Needs Assessment: documented requestors' satisfaction and implementation of technical assistance material.
- Phase 2 Post Technical Assistance Survey: captured requestors' perceptions about the appropriateness and utility of the technical assistance, their satisfaction with technical assistance services, and their subsequent implementation of technical assistance information.

Clinician CME Education Module

- Knowledge survey: captures respondents' comprehension of the module information, available to all respondents.
- Evaluation survey: captures respondents' backgrounds, personal beliefs about the impact of marijuana use, clinical behavior, perceptions of practice changes since legalization, external efforts to disseminate marijuana information and course quality.

GOAL 2 RESULTS AND RECOMMENDATIONS

Positive Youth Development Training

Participant Characteristics

In FY 2016-17, 391 people attended Positive Youth Development trainings in 9 Colorado cities. An additional two trainings occurred but data was not available for inclusion in this report. The total number of Positive Youth Development trainings offered since the program began is 24. An additional Positive Youth Development training is planned for the remainder of the year. The response rate for the initial training evaluations were high and varied by location, averaging 86% (min 76% - max 97%) (Table 12).

Nearly all attendees worked with organizations that interacted with youth, while the majority worked with adolescents 14 to 17 years old (Table 13). Groups serving young adults 18-25 and youth 9-13 were also well represented. This suggests that the Positive Youth Development trainings effectively drew in members of their target demographic and the needs of the attendees' organizations were well suited to the training material, at least in terms of the age of the populations respondents served.

Participant Satisfaction

Satisfaction ratings for regional trainings were high. Eighty-nine percent of respondents rated the facilitator's engagement style as "very engaging", the uppermost option of three response choices. This exceeds ratings from the prior year-end report, which averaged 80%. Using a Likert-type scale ranging from 1-4 (1: Strongly Disagree – 4: Strongly Agree), high ratings were given for measures of facilitator impact, including "Facilitators used a variety of effective facilitation strategies" (average 3.8), "Facilitators effectively acknowledged/answered questions and concerns" (average 3.8), and "Facilitators created an effective learning environment" (average 3.8). These ratings, near the top of the scale, show a slight improvement over the prior year-end report period. This information indicates that the Positive Youth Development trainings effectively delivered information to their target audience and served as a good resource for attendees who wish to use or to disseminate the information (Table 14).

Immediate Impact

In order to evaluate the impact of the regional trainings, we asked attendees to use a Likert-type scale and rate: 1) their understanding of Positive Youth Development principals, 2) ability to integrate Positive Youth Development principals into current work efforts, and 3) understand adolescents from a developmental standpoint before and after the training. The scale ranged from 1-4 (1: Not skilled at all – 4: Very Skilled). Participants reported statistically significant improvement for each ability, with an increase of 1.9, 1.4, and .7 points, (Table 15). Increases in ability, although self-perceived, indicate that the trainings improved attendees' knowledge in these areas.

Participants rated their likelihood to use the Positive Youth Development principals between "likely" or "highly likely" (Figure 1). The ratings suggest that information distributed at the regional trainings improved attendees' knowledge of State resources, that the material was appropriate to the needs of the audience, and the information that could be readily incorporated.

Impact of Positive Youth Development Training after 4 Months

In the six training locations with 4-month data available, 40 individuals responded to the follow-up survey (response rate = 11% [Table 16]). Using a Likert-type scale ranging from 1-4 (1: Low – 4: High), respondents rated the impact of the training for “improving their skill for integrating Positive Youth Development approach at work” as 3.2 and “comfort level for explaining Positive Youth Development approach to others” as 3.1.

Integration into Current Practice

Four months post-training, 80% of respondents reported integrating the information into their current work. Some reported integrating the information into their organizational programming (37.5%) and practice (22.5% [Table 17]). Participants reported that barriers to integrating Positive Youth Development into their current work included problems engaging youth, working with diverse stakeholders, organizational constraints (including funding) and the need for more training (Table 18).

Additional Requests for Information

Both the immediate and 4-month surveys captured open-ended comments for training improvement or expansion. While many attendees left positive comments about the workshop and facilitators, several offered suggestions for improvement. As a carryover from prior years, there were multiple requests for real-world examples of Positive Youth Development in action and access to the presentation PowerPoints. A large number of attendees requested opportunities for additional and ongoing trainings. Several people specified that additional trainings should be available virtually. Given the high satisfaction rating of the regional training, it may be assumed that additional training requests reflected interest in and the need for Positive Youth Development-focused work. Some people specifically requested trainings that are in development by CDPHE, such as train-the-trainer information and parent-focused trainings. Many attendees requested hard-copy materials to aid in the dissemination and utilization of the Positive Youth Development approach. A large number of respondents requested personal coaching and evaluation metrics for new programs. External networking was supported by respondents, with one person suggesting the use of a listserv. Grant opportunities were requested by a few individuals. Barriers to implementing Positive Youth Development included difficulty engaging youth and the need for additional training before organizations had the skills to teach Positive Youth Development efforts. Lack of time and resources were mentioned by several respondents (Table 19). An examination of comments between this year and last suggest that attendees are requesting more detailed information that is specific to the communities they serve.

Positive Youth Development Regional Training Recommendations

For the third year in a row, CDPHE Positive Youth Development Regional Trainings received a high number of participants and high satisfaction ratings. In a 4-month follow up survey, 80% of respondents used the training materials. This indicates that the trainings are satisfactorily outreaching to Colorado residents with information that is valued by the community.

Based on the data available, we recommend:

1. To ensure wide distribution, new **resources/presentations should be developed** at a basic comprehension level (or level appropriate for a given community).
2. As available, update training information with **local, state and national marijuana research efforts**.
3. Providing a compendium of current, evidence-based, **youth prevention programs** in Colorado.
4. Continuation of **networking time** during the training.
5. Consider the development of **new, brief presentations** for specific audiences (e.g., clinicians working with breastfeeding patients, organizations working in youth substance use prevention). Short or video-based presentations are a particularly important consideration when reaching clinical audiences.
6. **Continued evaluation** of Marijuana and Public Health training.

Marijuana and Public Health Training

Participant Characteristics

Between July 1, 2016-June 30, 2017, four Marijuana & Public Health trainings occurred in Colorado; data for three of these trainings was available for inclusion in this report. In total, 123 people attended the events. The response rate for the initial training evaluations was high (average 87.9%, range: 82.9-94.9%) [Table 20.] Most attendees worked in public health (42.6%), non-profits (25.0%) and/or worked in education (23.1%). This is similar to the prior year (Table 21).

Immediate Impact

To evaluate the immediate impact of the regional trainings, attendees rated their abilities in six competency areas before and after the event. Participant competencies rose significantly for each measure post-training, indicating good immediate impact within the targeted focus areas. After the training, attendees' skill ratings ranged between "skilled" and "highly skilled" using a Likert-type scale (1-Not Skilled – 4-Highly Skilled). Specifically, attendees said they were better able to describe marijuana use prevalence (3.4), describe the marijuana health impact in Colorado (3.3), identify how to access marijuana data (3.5), identify marijuana public health statements (3.3), incorporate marijuana prevention into programming (3.4), and access marijuana campaign messages (3.7 [Table 22).

Using a Likert-type scale (1-Not Likely – 4-Highly Likely), attendees rated the probability of using the marijuana resources they received at the Marijuana and Public Health trainings between "likely" or "highly likely" for a variety of tasks (Table 23). Participants highest use ratings were for sharing the public health prevention data and campaign materials with others (3.7). Across the six measures, ratings of potential use were high, suggesting that information distributed at the regional trainings was appropriate to the needs of the audience and could be readily incorporated into their work.

Participant Satisfaction

Satisfaction ratings for Marijuana and Public Health trainings were good. Over 80% of respondents said that the facilitators effectively answered questions and concerns. Less satisfaction was found for regional presenters (i.e., community members presenting special topics at each training – 65.7%). Most reported that the training offered sufficient opportunities for networking (73.1%). High satisfaction for networking is noteworthy because it was commonly requested by participants in prior trainings. Sixty-two percent of respondents rated the facilitator’s engagement style as “very engaging”, the uppermost option of three response choices. (Table 24).

Satisfaction with the trainings was most apparent in the evaluation comments left by attendees. Nineteen people left positive messages about the training information, structure, and presenters. An example of these comments:

“Thank you! These marijuana workshops in past years have helped provide me the information I now use to share with parent and colleagues.”

“Excellent training and great to see so many people from all around the state.”

“Well-informed presenters.”

“Great training! Loved the data...campaign plans, etc.”

“Excellent campaigns.”

“Great presentation!”

“Great job! Learned a lot of info about marijuana I did not know.”

“Really loved the resources and campaign information!”

Additional Information/Materials Requested

Marijuana and Public Health training attendees had the opportunity to specify additional information they needed to support their work. Comments were categorized into content additions and logistic suggestions (Table 25). A continuing theme from last year is attendee requests for additional data about marijuana health effects and prevention information (promising programs). Respondents also requested information about child welfare laws and wanted to gain a better understanding about why current evidence is limited. The most common logistic suggestion was having more breaks in the workshop/shorter workshops, followed by access to the presentation PowerPoints during the training for notetaking. These requests were commonly voiced in the prior year. Other attendees noted that they would like to receive more printed information for sharing with others.

Impact of Marijuana & Public Health training after 4 months.

There is no long-term data available for this report as the required follow-up period of 4-months has not yet elapsed for any site.

Marijuana and Public Health Training Recommendations

Based on the data available, we recommend:

1. To ensure wide distribution, new **resources/presentations should be developed** at a level geared to the community, as appropriate.
2. As available, update training information with **local, state and national marijuana research efforts**.
3. Providing a compendium of current, evidence-based, **youth prevention programs** in Colorado.
4. Continuation of **networking time** during the training.
5. Consider the development of **new, brief presentations** for specific audiences (e.g., clinicians working with breastfeeding patients, organizations working in youth substance use prevention). Short or video-based presentations are a particularly important consideration when reaching clinical audiences.
6. **Continued evaluation** of Marijuana and Public Health training.

Technical Assistance Services

Requestor Affiliation and Information Needs

From July 1, 2016-May 30, 2017, the technical assistance service received 62 unique requests for information, down from 113 in the prior year-end report period (Table 26). Most requests (71%) stemmed from Colorado, primarily in the Denver metro area but included several rural and hard-to-reach counties. Most requests were made through CDPHE's online portal. As seen in Figure 2, the emphasis of organizations requesting technical assistance spanned many domains but was primarily represented by public health (22.6%), followed by those working in education, which has consistently been true since the technical Assistance portal was established in Fall 2014.

Participants asked for variety of information (Table 27). The two most requested items included prevention/education information and media campaign resources. Others requested legal information, school resources, health effect data, and information for talking to the community. Eleven people requested speaking engagements or other type of public presentation by CDPHE.

Technical Assistance Use and Dissemination

Since July 1, 2016, 21 individuals responded to the 2-month online follow-up survey, yielding a response rate of 34%. Thirteen respondents (61.9%) reported using the information (Table 28), an increase from 33% in the last report. Uses of the information included incorporation into a presentation, followed by increasing one's knowledge about marijuana law and marijuana health research. Two respondents reported that they would use the information to develop or modify existing programs. The use of the technical assistance information was often shared with others (66.7% [Table 29]). Survey respondents reported providing the information most frequently to colleagues, followed by students, the community, and the general public.

Respondent Satisfaction

Respondents' average satisfaction rating with the technical assistances efforts was 76.5% and 81.3% said they would recommend CDPHE's technical assistance program to others (Table 30).

Effectiveness of Technical Assistance Service/Information

From July 1, 2016 through May 31, 2017, respondents rated the ease of understanding information they received as 4.5, met their needs as 3.9; and improved their knowledge as 4.3 (Likert-type scale; 1 = low - 5 = high). This data suggests that the information is helpful and appropriate to the needs of the requestors (Table 31).

Requests for Additional Information

In open-end comments, respondents provided suggestions that they would like to see developed for the technical assistance service, as shown in Table 32. Respondents wanted additional information about daily consumption, surgical pain management for daily users, and updated statistical information for ER visits, printed campaign materials, and presentations for educating youth at schools.

Technical Assistance Recommendations

Based on the data available, we recommend:

1. Development of **additional prevention and educational resources at a comprehension level appropriate for the general population** to encourage sharing.
2. Disseminating **information about currently funded projects and new initiatives** in Colorado.
3. **Sharing funding opportunities for marijuana research early** to increase diversity of organizations involved in such work.
4. **Expanding marketing** methods to promote the technical assistance service.
5. **Continued evaluation** of technical assistance service.

Clinician Marijuana Education Module

Since August 2016, 207 registered for and 200 completed the clinician course. The majority of respondents were from Kansas (n=107), Florida (n=21), and Colorado (n=20). The remainder of respondents were distributed across other U.S. states.

Knowledge Survey

The knowledge survey was completed by 46 respondents. Across the seven questions assessing comprehension of the clinical training module, respondents scored an average of 88.0% (Table 33). Respondents were best able to correctly identify recommendations for how frequently to assess for marijuana (100% correct response rate). Respondents were least able to correctly identify safe storage talking points (52% correct response rate).

Evaluation Survey

Sixty-six respondents completed the non-mandatory evaluation (response rate = 39%). Most respondents were trained as registered nurses (n=36; 54.5%); 17 were dietitians or WIC counselors (grouped in “other” category) and 14 were certified professional midwives. Of these, 92% (n=61) served pregnant or breastfeeding populations; indicating that the online training was appropriate for most of its audience (Table 34).

Personal Attitudes

Respondents generally believed that there was risk involved when using marijuana, particularly when using during pregnancy, while breastfeeding, or second-hand smoke exposure (Table 35). Respondents were in less agreement about whether or not it was difficult to recommend a wait-time before driving (average score 2.8 on a 1 (low agreement) to 4 (high agreement) Likert-type scale). If asked today, 53.0% of respondents would not vote to legalize marijuana, 22.7% would legalize, and 19.7% were unsure.

Practice Behaviors and Marijuana Communication

A little more than half (56%) of survey respondents reported that they (or somebody in their office) discussed marijuana use with pregnant or breastfeeding patients at least 75% of the time. Generally, issues such as marijuana risk (63.6%) and cessation of use during pregnancy/breastfeeding (62.1%) were addressed. Only a third of respondents addressed second-hand smoke exposure and less than 15% talked about accidental consumption, marijuana interactions, safe storage, and variable levels of THC in marijuana products (Table 36).

We queried clinicians about the questions patients asked them about marijuana. The majority of questions posed by patients regarded the benefits of using marijuana (66.7%) (Table 37). This is followed by questions about the health impact on children/adolescents (48.5 %) and adults (25.8%), using marijuana to control nausea (25.8%), and alternatives to marijuana use during pregnancy (16.7%). About a quarter of respondents (28.8%) said they were uncomfortable answering patients’ questions about marijuana.

Information Dissemination and Practice Modifications

To understand how to best disseminate new recommendations for marijuana clinical guidelines, the survey queried respondents about their preferred method to share new information factors that affected their adoption of practice changes (Table 38). Videoconferencing-based trainings received the greatest endorsement (43.9%). Other ideas included email, in-person trainings, e-newsletters, and posting on the CDPHE website (endorsed between 27%-33% of respondents); the need for trainings and easy-to-understand data was further supported in open-ended evaluation comments. Factors that impacted organizational adoption included: the availability of evidence-based data (45.5%), workplace leadership (24.2%), reminders/prompts in the electronic medical record (13.6%), reimbursement (12.1%), and workplace champions (12.1%); the need for additional evidence-based data was supported in open-ended evaluation comments. Almost a quarter of respondents (22.7%) said that their personal beliefs prevented making practice changes.

Course Impact and Quality

After taking the online course, respondents noted a significant increase in certain clinical abilities; specifically, they reported improvement in explaining the marijuana guideline development process, describing current marijuana pregnancy/breastfeeding research, integrating specific language when talking with patients about marijuana, and integrating marijuana

discussions and screening into a clinical practice setting (average range 2.6-2.7 on a Likert-type scale of 1 – Little to no ability to 4 – A great deal of ability. About a third of respondents (36.4%) said they anticipated changes in their clinical practice after reviewing the course material (Table 39). Respondents rated the course quality between “somewhat useful” and “useful”. Only one individual perceived commercial bias. Most respondents learned about the course through the WIC newsletter (16.7%) or work (15.2%) (Table 40).

Clinician Discussions (carryover from MMEP [Goal 1] data)

MMEP Waves 3 and 4 (see Goal 1) queried women (age 18 years and older) about talking to their provider about marijuana. Approximately 12% of women said they discussed marijuana use with their provider (Table 9a). Few adults who lived with youth and children (those under the age of 21) discussed marijuana safety topics (i.e., second hand smoke, underage use, safe storage, overconsumption); ranging from 1-3%. (Table 10a) In open-ended comments, respondents noted several discussion topics. (Table 41) Fifteen respondents talked to their doctor about the potential medical benefits of marijuana. Several of these discussions were about marijuana’s impact on pain, anxiety, and sleeping. Nine respondents discussed the potential negative outcomes associated with marijuana use. Other respondents said that they talked to their physician about: safer practices of marijuana use (dabbing, smoking out of a glass); co-use with opioids, other drugs, or under anesthesia; safe driving; and talking with children about marijuana use.

Clinician Module Recommendations

Based on the data available, we recommend:

1. Increasing **outreach efforts to Colorado** clinicians, particularly physicians.
2. Reinforcing information about **marijuana safety recommendations**, particularly wait times for driving after marijuana use.
3. Adding **continuing education credit opportunities for other training** backgrounds (e.g., nurses) to make the course more relevant given the current audience.
4. Including additional emphasis about **patient screening** at each visit.
5. Creating **additional online training opportunities** for a variety of disciplines to educate about marijuana safety information, health benefits, drug interactions, and variable levels of THC in marijuana products.
6. **Incorporating and disseminating current, peer-reviewed data about the potential benefits of marijuana** as it becomes available. In its absence, understanding the limitations and lack of current work in this area is important information to share.
7. **Continued evaluation** of technical assistance service.

TABLES

Mixed Mode Tables

Table 1. Unweighted Demographic Characteristics of English-Speaking Respondents, Marijuana Media Evaluation Mixed-Mode Cohort inclusive of Wave 4						
	Wave 4 (n=700)			Waves 1-4 (n=146)		
		Sex			Gender	
	Total % (n)	Male % (n)	Female % (n)	Total % (n)	Male % (n)	Female % (n)
Total	100 (700)	33.7 (236)	66.3 (464)	100 (146)	39.0 (57)	61.0 (89)
Age						
18-34	26.3 (184)	17.4 (41)	30.8 (143)	26.0 (38)	14.0 (8)	33.7 (30)
35-54	39.9 (279)	36.9 (87)	41.4 (192)	31.5 (46)	24.6 (14)	36.0 (32)
55+	32.9 (237)	45.8 (108)	27.8 (129)	42.5 (62)	61.4 (35)	30.3 (27)
Race/Ethnicity						
Non-Hispanic White	73.9 (517)	75.9 (179)	72.80 (338)	62.3 (91)	68.4 (39)	58.4 (52)
Hispanic	12.0 (84)	11.9 (28)	12.1 (56)	21.3 (31)	21.1 (12)	21.4 (19)
Non-Hispanic Black	9.4 (66)	8.1 (19)	10.1 (47)	12.3 (18)	5.3 (3)	16.9 (15)
Other	4.7 (33)	4.2 (10)	5.0 (23)	4.1 (6)	5.3 (3)	3.4 (3)
Sexual Orientation/ Gender Identity						
Hetero and Cisgender	94.6 (650)	94.4 (221)	94.7 (429)	93.8 (136)	89.3 (50)	96.6 (86)
LGB and/or T	5.4 (37)	5.6 (13)	5.3 (24)	6.2 (9)	10.7 (6)	3.4 (3)
Parent/lives with child						
Yes	45.3 (258)	40.2 (76)	47.9 (182)	--	--	--

Table 2. Unweighted Demographic Characteristics, Marijuana Media Evaluation Mixed-Mode, Hispanic Participants at Wave 3 & 4 (n=121)

	Hispanic (English) % (n)	Hispanic (Spanish) % (n)
Total	100 (66)	100 (55)
Gender		
Male	33.3 (22)	21.8 (12)
Female	66.7 (44)	78.2 (43)
Age		
20-34	45.5 (30)	16.4 (9)
35-54	34.9 (23)	61.8 (34)
55+	19.7 (13)	21.8 (12)

Table 3a. Unweighted media awareness, knowledge of laws, opinion of law, and marijuana use at Wave 4 (English Speaking)

	Gender			Race/Ethnicity			
	Total % (n)	Male % (n)	Female % (n)	Non-Hispanic White % (n)	Hispanic % (n)	Non-Hispanic Black % (n)	Other/ Multi-race % (n)
Media Awareness: Slogans (seen once or more)							
Good To Know	28.3 (170)	28.3 (58)	28.2 (112)	28.1 (126)	29.4 (20)	30.5 (18)	23.1 (6)
Drive high, get a DUI	69.7 (424)	70.2 (146)	69.5 (278)	68.4 (309)	83.1 (59)	69.5 (41)	57.7 (15)
Don't Fly High (foil)	20.5 (123)	21.1 (43)	20.2 (80)	19.6 (88)	33.8 (18)	29.5 (15)	11.5 (2)
Knowledge of laws							
% correct for 4: age 21, no use outdoor, DUI, no taking out of state	65.6 (455)	63.5 (148)	66.6 (307)	67.8 (348)	63.4 (52)	50.0 (33)	68.8 (22)
Must be at least 21 to buy	79.5 (544)	80.3 (183)	79.2 (361)	79.9 (405)	83.5 (66)	71.2 (47)	81.3 (26)
May use in a private home	94.5 (631)	95.1 (211)	94.2 (419)	94.8 (477)	93.3 (70)	96.6 (57)	87.1 (27)
May <u>not</u> use in a business	81.7 (546)	82.5 (184)	81.4 (362)	81.1 (408)	85.3 (64)	79.7 (47)	87.1 (27)
May <u>not</u> use in outdoor place	90.6 (605)	90.6 (202)	90.6 (403)	90.1 (453)	93.3 (70)	89.8 (53)	93.6 (29)
Can get cited for DUI	92.4 (640)	92.2 (214)	92.4 (436)	93.2 (478)	96.3 (79)	83.3 (55)	87.5 (28)
May not take out of state	93.9 (651)	93.1 (217)	94.4 (434)	94.0 (482)	95.1 (78)	93.9 (62)	90.6 (29)
Opinion of the law							
Would vote to make it legal	66.1 (459)	68.5 (159)	64.9 (300)	67.3 (346)	58.5 (48)	65.2 (43)	68.8 (22)
Marijuana use							
Current use	28.92 (199)	35.1 (81)	25.8 (118)	30.1 (153)	29.3 (24)	19.7 (13)	28.1 (9)

Note. Bolding indicated significant differences with demographic category, p<.05

Table 3b. Unweighted media awareness, knowledge of laws, opinion of law, and marijuana use at Wave 4 (English Speaking) - continued

	Age group			Campaign exposure		Current user status		LGBT	
	18-34 % (n)	35-54 % (n)	55+ % (n)	No % (n)	Yes % (n)	No % (n)	Yes % (n)	Hetero/Cis % (n)	LGBT/T % (n)
Media Awareness: Slogans (seen once or more)									
Good To Know	36.0 (55)	26.1 (63)	25.1 (52)	0 (0)	100 (170)	26.2 (111)	33.0 (57)	27.6 (154)	42.9 (13)
Drive high, get a DUI	72.9 (113)	68.7 (169)	68.6 (142)	66.7 (286)	77.4 (130)	69.0 (292)	72.0 (126)	70.3 (397)	75.0 (24)
Don't Fly High (foil)	18.2 (28)	16.5 (40)	26.8 (55)	15.3 (66)	32.9 (55)	19.4 (81)	22.5 (39)	19.9 (111)	29.0 (9)
Knowledge of laws									
% correct for 4: age 21, no use outdoor, DUI, no taking out of state	80.8 (147)	68.7 (191)	50.0 (117)	66.4 (283)	69.2 (117)	59.1 (289)	80.4 (160)	64.1 (413)	81.1 (30)
Must be at least 21 to buy	89.5 (162)	82.6 (228)	67.8 (154)	78.7 (332)	83.7 (139)	74.0 (366)	92.4 (182)	78.9 (500)	86.5 (32)
May use in a private home	96.7 (173)	95.1 (253)	91.9 (205)	94.1 (384)	98.2 (161)	92.4 (431)	99.0 (194)	94.0 (581)	100 (37)
May not use in a business	80.5 (144)	80.1 (213)	84.8 (189)	84.1 (343)	80.5 (132)	82.8 (386)	79.1 (155)	81.9 (506)	81.1 (3)
May not use in outdoor place	94.4 (169)	92.1 (245)	85.7 (191)	92.4 (377)	89.0 (146)	88.2 (411)	95.9 (188)	90.0 (556)	97.3 (36)
Can get cited for DUI	98.9 (180)	94.6 (263)	84.6 (197)	93.4 (398)	95.2 (160)	91.4 (446)	94.5 (188)	91.9 (591)	97.3 (36)
May not take out of state	97.3 (177)	94.6 (263)	90.6 (211)	94.4 (401)	97.0 (164)	92.6 (453)	97.0 (192)	93.6 (603)	100 (36)
Opinion of the law									
Would vote to make it legal	80.9 (148)	65.1 (181)	55.8 (130)	65.8 (281)	71.6 (121)	53.7 (262)	97.0 (193)	64.6 (416)	91.9 (34)
Marijuana use									
Current use	31.9 (58)	29.8 (82)	25.5 (59)	27.4 (116)	33.9 (57)	0 (0)	100 (199)	27.4 (175)	51.4 (19)

Note. Bolding indicated significant differences with demographic category, p<.05

Table 4. Media awareness, knowledge of laws, opinion of law, and marijuana use among cohort participating in all 4 Waves (English Speaking; n=146)

	Wave 1 % (n)	Wave 2 % (n)	Wave 3 % (n)	Wave 4 % (n)	Significant differences between Waves
Media Awareness: Slogans (seen once or more)					
Good To Know	--	30.9 (42)	20.7 (29)	28.4 (40)	2-3
Drive high, get a DUI	62.1 (90)	83.3 (120)	75.7 (109)	79.3 (115)	1-4; 1-3; 1-2; 3-4
Knowledge of laws					
% correct for 4: age 21, no use outdoor, DUI, no taking out of state	64.8 (94)	82.1 (115)	77.4 (113)	70.1 (101)	1-2; 1-3; 2-4; 3-4
Must be at least 21 to buy	74.7 (109)	88.0 (125)	91.5 (129)	81.6 (115)	1-2; 1-3; 1-4; 2-4; 3-4
May use in a private home	92.4 (134)	95.1 (136)	100 (141)	97.8 (135)	--
May <u>not</u> use in a business	84.8 (123)	85.3 (122)	78.0 (110)	81.2 (112)	
May <u>not</u> use in outdoor place	96.6 (140)	98.6 (141)	95.0 (134)	93.5 (129)	2-4
Can get cited for DUI	92.5 (135)	95.2 (138)	95.2 (139)	95.8 (138)	
May not take out of state	91.1 (133)	95.9 (140)	97.2 (141)	95.1 (137)	1-2; 1-3
Opinion of the law					
Would vote to make it legal	71.5 (98)	71.0 (93)	73.5 (97)	65.8 (96)	3-4

Note. Significant differences between waves calculated with GEE model.

Table 5. Media awareness, knowledge of laws, opinion of law, and marijuana use among Hispanic cohort (English and Spanish speaking)				
	English-speaking (n=66)		Spanish-speaking (n=55)	
	Wave 3 % (n)	Wave 4 % (n)	Wave 3 % (n)	Wave 4 % (n)
Media Awareness: Slogans (seen once or more)				
Lo Que Debes Entender	--	--	76.6 (36)	74.6 (41)
Good To Know	28.3 (17)	32.8 (20)	9.6 (5)	28.9 (15)
Drive high, get a DUI	84.1 (53)	96.9 (64)	47.2 (25)	100 (54)
Don't Fly High (foil)	19.7 (12)	23.0 (14)	25.0 (12)	40.4 (21)
Knowledge of laws				
% correct for 4: age 21, no use outdoor, DUI, no taking out of state	75.8 (50)	65.6 (42)	56.4 (31)	29.1 (16)
Must be at least 21 to buy	84.6 (55)	80.3 (49)	63.5 (33)	64.8 (35)
May use in a private home	96.9 (62)	94.9 (56)	3.6 (2)	65.0 (26)
May <u>not</u> use in a business	28.1 (18)	13.6 (8)	100 (55)	92.5 (37)
May <u>not</u> use in outdoor place	96.9 (62)	96.6 (57)	100 (54)	70.0 (28)
Can get cited for DUI	97.0 (64)	96.9 (64)	96.2 (1)	100 (54)
May not take out of state	96.9 (65)	96.9 (62)	94.2 (49)	90.9 (50)
Opinion of the law				
Would vote to make it legal	62.3 (38)	60.9 (39)	18.4 (9)	16.4 (9)

Note. Bolding indicates significant differences between waves for each group. P value calculated with McNemar's test.

Table 6a. Unweighted perceptions of risk and health effects at Wave 4 (English Speaking; n=654)							
		Gender		Race/Ethnicity			
% agree/strongly agree % moderate/lot of risk	Total % (n)	Male % (n)	Female % (n)	Non-Hispanic White % (n)	Hispanic % (n)	Non-Hispanic Black % (n)	Other/Multi-race % (n)
Adult use							
An adult using marijuana daily or almost daily	69.3 (453)	66.1 (146)	70.9 (307)	71.0 (3471)	69.6 (54)	57.6 (34)	64.3 (18)
Marijuana users can become addicted to marijuana.	64.0 (413)	54.2 (116)	68.9 (297)	63.2 (305)	72.0 (54)	60.3 (35)	65.5 (19)
Daily or near daily use of recreational marijuana can lead to lasting impaired memory	76.8 (443)	69.8 (134)	80.3 (309)	77.2 (336)	75.4 (23)	78.7 (79)	69.2 (18)
Pregnancy and breastfeeding use							
Using marijuana during pregnancy can lead to attention problems and lower IQ problems in the child	86.5 (467)	87.6 (155)	86.0 (312)	87.6 (352)	83.6 (56)	82.6 (38)	84.0 (21)
A woman using marijuana once or twice during pregnancy	70.1 (448)	70.6 (151)	69.9 (297)	68.4 (327)	76.9 (60)	76.4 (42)	67.9 (19)
A woman using marijuana once a week during pregnancy	87.7 (561)	85.2 (184)	88.9 (377)	88.2 (417)	87.3 (69)	84.2 (48)	87.1 (27)
A woman using marijuana during the months when breastfeeding	90.5 (559)	87.6 (183)	91.9 (376)	89.5 (409)	92.1 (70)	93.0 (53)	96.4 (27)
Adolescent use							
A teenager using marijuana once a week	85.5 (567)	80.3 (179)	88.2 (388)	85.0 (415)	87.7 (71)	85.7 (54)	87.1 (27)
A teenager using marijuana daily or almost daily	94.3 (628)	92.0 (206)	95.5 (422)	95.1 (467)	90.1 (73)	93.6 (58)	93.8 (30)
A teenager eating an edible marijuana product	83.3 (547)	78.8 (175)	85.5 (372)	82.3 (401)	87.5 (70)	88.1 (52)	77.4 (24)
A teenager vaping marijuana	85.8 (539)	79.8 (170)	88.9 (369)	85.8 (396)	88.3 (68)	91.1 (51)	85.7 (24)
Child exposure							
Storing marijuana in open containers in a home with children or teenager(s)	95.0 (628)	93.3 (209)	95.9 (419)	95.5 (467)	94.9 (74)	93.7 (59)	90.3 (28)
A child eating an edible marijuana product	97.2 (652)	95.6 (218)	98.0 (434)	97.8 (486)	97.5 (78)	96.8 (60)	87.5 (28)
A child/teen being exposed to someone else's marijuana smoke	82.1 (541)	77.2 (173)	84.6 (368)	81.7 (396)	83.5 (66)	88.9 (56)	71.9 (23)
High Risk Use							
A person should wait at least six hours after using marijuana before driving	75.1 (456)	69.6 (142)	77.9 (314)	75.6 (340)	78.4 (58)	73.6 (39)	63.3 (19)
An adult driving after using marijuana	90.9 (606)	88.4 (198)	92.1 (408)	92.8 (462)	88.6 (70)	79.7 (47)	87.1 (27)
An adult driving after marijuana with child/teen passengers	96.0 (647)	94.6 (212)	96.7 (435)	96.6 (483)	94.9 (75)	90.5 (57)	100 (32)
An adult eating more than one serving of edible marijuana product in a short time	73.7 (471)	69.2 (148)	76.0 (323)	75.5 (360)	71.1 (54)	67.9 (38)	63.3 (19)

Note. Bolding indicated significant differences with demographic category, p<.05

Table 6b. Unweighted perceptions of risk and health effects at Wave 4 (English Speaking) – continued

	Age group			Campaign exposure		User status		LGBT	
	18-34 % (n)	35-54 % (n)	55+ % (n)	No % (n)	Yes % (n)	No % (n)	Yes % (n)	Hetero/ Cis % (n)	LGB/ T % (n)
Adult use									
An adult using marijuana daily or almost daily	62.2 (112)	73.6 (190)	69.9 (151)	69.8 (279)	66.5 (109)	80.2 (371)	42.6 (80)	70.3 (426)	57.1 (20)
Marijuana users can become addicted to marijuana	54.6 (95)	70.4 (183)	64.0 (135)	63.9 (255)	59.2 (93)	74.5 (339)	38.9 (72)	65.8 (393)	45.7 (16)
Daily or near daily use of recreational marijuana can lead to lasting impaired memory	71.6 (111)	80.0 (192)	76.9 (140)	76.5 (267)	75.0 (108)	86.8 (354)	53.1 (87)	78.1 (416)	61.3 (19)
Pregnancy and breastfeeding use									
Using marijuana during pregnancy can lead to attention problems and lower IQ problems in the child	78.4 (109)	88.2 (194)	90.6 (164)	88.1 (295)	83.1 (108)	93.4 (369)	68.1 (96)	87.4 (437)	78.6 (22)
A woman using marijuana once or twice during pregnancy	63.8 (108)	71.1 (182)	74.9 (158)	70.6 (279)	68.2 (107)	77.8 (358)	50.3 (89)	71.3 (423)	51.5 (17)
A woman using marijuana once a week during pregnancy	84.3 (145)	88.9 (231)	88.9 (185)	88.4 (350)	86.5 (135)	92.8 (423)	74.9 (137)	88.5 (524)	80.6 (29)
A woman using marijuana during the months when breastfeeding	85.8 (139)	89.6 (225)	95.1 (195)	90.3 (345)	89.3 (133)	95.1 (425)	78.1 (132)	91.2 (521)	80.0 (28)
Adolescent use									
A teenager using marijuana once a week	75.8 (135)	90.2 (240)	87.7 (192)	87.1 (352)	82.2 (134)	89.5 (423)	75.7 (143)	86.8 (532)	73.0 (27)
A teenager using marijuana daily or almost daily	89.9 (160)	96.6 (256)	95.1 (212)	95.8 (390)	92.7 (153)	96.0 (455)	90.1 (172)	94.5 (582)	91.9 (34)
A teenager eating an edible marijuana product	69.7 (122)	89.0 (235)	87.1 (190)	85.3 (341)	79.8 (130)	86.5 (403)	75.3 (143)	85.9 (517)	61.1 (22)
A teenager vaping marijuana	75.0 (129)	90.9 (230)	88.7 (180)	88.0 (338)	83.1 (128)	89.4 (397)	77.1 (141)	86.9 (505)	74.3 (26)
Child exposure									
Storing marijuana in open containers in a home with children or teenager(s)	91.1 (162)	97.0 (254)	95.9 (212)	94.8 (383)	96.3 (155)	97.0 (453)	90.1 (173)	95.1 (582)	94.4 (34)

A child eating an edible marijuana product	95.5 (168)	98.1 (263)	97.4 (221)	96.1 (394)	98.8 (162)	98.3 (469)	94.3 (181)	97.3 (607)	97.1 (34)
A child/teen being exposed to someone else's marijuana smoke	72.2 (127)	82.6 (218)	89.5 (196)	82.1 (330)	93.3 (135)	88.8 (413)	66.2 (127)	83.4 (508)	64.9 (24)
High Risk Use									
A person should wait at least six hours after using marijuana before driving	75.2 (127)	75.9 (189)	74.1 (140)	78.2 (287)	68.6 (107)	85.8 (362)	51.4 (93)	75.1 (420)	71.4 (25)
An adult driving after using marijuana	90.6 (163)	92.1 (245)	89.6 (198)	92.4 (376)	87.9 (145)	95.8 (454)	79.1 (151)	90.4 (558)	94.6 (35)
An adult driving after marijuana with child/teen passengers	95.6 (173)	97.0 (289)	95.1 (215)	96.2 (396)	95.2 (159)	99.0 (472)	89.2 (174)	96.0 (600)	97.2 (35)
An adult eating more than one serving of edible marijuana product in a short time	65.7 (117)	73.5 (186)	80.8 (168)	74.6 (291)	70.9 (112)	80.6 (366)	56.8 (104)	74.8 (443)	62.9 (22)

Note. Bolding indicated significant differences with demographic category, $p < .05$

Table 7. Perceptions of risk and health effects among the cohort participating in all 4 Waves (English Speaking; n=146)					
	Wave 1 % (n)	Wave 2 % (n)	Wave 3 % (n)	Wave 4 % (n)	Significant differences between Waves
Adult use					
An adult using marijuana daily or almost daily	56.2 (82)	66.9 (97)	64.1 (93)	66.2 (88)	1-2; 1-4
Marijuana users can become addicted to marijuana.	45.1 (65)	46.6 (68)	56.2 (82)	56.6 (73)	1-3; 1-4; 2-3
Daily or near daily use of recreational marijuana can lead to lasting impaired memory	46.9 (68)	55.5 (81)	54.8 (80)	73.4 (83)	1-2; 1-3; 1-4; 2-4; 3-4
Pregnancy and breastfeeding use					
Using marijuana during pregnancy can lead to attention problems and lower IQ problems in the child	56.3 (81)	62.1 (90)	65.1 (95)	87.3 (96)	1-3; 1-4; 2-4; 3-4
A woman using marijuana once a week during pregnancy	82.2 (120)	81.3 (117)	82.8 (120)	89.8 (115)	
A woman using marijuana during the months when breastfeeding	74.0 (108)	81.4 (118)	80.7 (117)	94.3 (116)	1-2; 1-4; 2-4; 3-4
Adolescent use					
A teenager using marijuana once a week	66.9 (97)	73.1 (106)	75.2 (109)	86.7 (117)	1-4; 2-4; 3-4
A teenager using marijuana daily or almost daily	85.6 (125)	90.3 (131)	90.3 (131)	94.9 (130)	1-4
Child exposure					
Storing marijuana in open containers in a home with children / in a home with children or teenager(s)	85.4 (123)	92.4 (134)	91.7 (132)	97.1 (133)	1-2; 1-4; 3-4
A child or teenager being exposed to someone else's marijuana smoke	78.8 (115)	83.3 (120)	75.7 (109)	82.1 (110)	2-3
High Risk Use					
A person should wait at least six hours after using marijuana before driving.	50.4 (72)	53.4 (78)	58.9 (86)	73.1 (87)	1-4; 2-4; 3-4
An adult eating more than one serving of edible marijuana product in a short time / consuming more than one serving of edible marijuana	62.8 (91)	64.1 (93)	71.5 (103)	75.2 (97)	1-3; 1-4; 2-4

Note. Significant differences between waves calculated with GEE model.

Table 8. Perceptions of risk and health effects among Hispanic cohort (English and Spanish speaking)				
	English-speaking (n=66)		Spanish-speaking (n=55)	
	Wave 3 % (n)	Wave 4 % (n)	Wave 3 % (n)	Wave 4 % (n)
Adult use				
An adult using marijuana daily or almost daily	63.6 (42)	72.1 (44)	92.3 (48)	98.1 (54)
Marijuana users can become addicted to marijuana.	63.6 (42)	69.6 (42)	86.5 (45)	98.1 (45)
Daily or near daily use of recreational marijuana can lead to lasting impaired memory	60.6 (40)	72.2 (39)	84.6 (44)	98.0 (50)
Pregnancy and breastfeeding use				
Using marijuana during pregnancy can lead to attention problems and lower IQ problems in the child	63.6 (42)	86.5 (45)	86.5 (45)	96.2 (50)
A woman using marijuana once or twice during pregnancy	63.6 (42)	78.3 (47)	98.1 (51)	98.1 (52)
A woman using marijuana once a week during pregnancy	81.8 (54)	90.2 (55)	96.2 (50)	98.2 (54)
A woman using marijuana during the months when breastfeeding	83.3 (55)	93.1 (54)	96.2 (50)	100 (55)
Adolescent use				
A teenager using marijuana once a week	81.8 (54)	87.3 (55)	86.5 (45)	94.6 (52)
A teenager using marijuana daily or almost daily	90.9 (60)	90.5 (57)	100 (55)	100 (55)
A teenager eating an edible marijuana product	83.3 (55)	88.7 (55)	84.6 (44)	94.6 (52)
A teenager vaping marijuana	83.3 (55)	89.8 (53)	86.5 (45)	98.1 (51)
Child exposure				
Storing marijuana in open containers in a home with children or teenager(s)	93.9 (62)	96.7 (58)	100 (52)	100 (54)
A child eating an edible marijuana product	100 (66)	96.8 (60)	98.1 (51)	100 (55)
A child or teenager being exposed to someone else's marijuana smoke	75.4 (49)	82.3 (62)	96.2 (50)	100 (55)
High Risk Use				
A person should wait at least six hours after using marijuana before driving.	60.6 (40)	79.0 (45)	75.0 (39)	75.0 (39)
An adult driving after using marijuana	87.9 (58)	86.9 (53)	98.1 (51)	100 (54)
An adult driving after using marijuana with children or teenaged passengers	90.9 (60)	93.4 (57)	100 (52)	100 (55)
An adult eating more than one serving of edible marijuana product in a short time	69.7 (46)	72.4 (42)	75.0 (39)	94.4 (51)

Note. Bolding indicates significant differences between waves for each group. P value calculated with McNemar's test

Table 9a. Perceptions of risk and health effects at among reproductive-age women (18-45 years old), at Wave 4 and direction of change from Wave 3 (English speaking, n=189)

	Overall		Age					
	Total % (n)	% change	18-24 % (n)	% change	25-34 % (n)	% change	35-45 % (n)	% change
Health Effects (% agree/strongly agree)								
Using during pregnancy can lead to attention problems lower IQ problems in the child	84.7 (128)	17.0 ↑	76.5 (13)	11.8	83.3 (50)	20.0 ↑	85.5 (80)	15.8 ↑
Perceptions of Risk (% moderate/a lot of risk)								
A woman using marijuana once or twice during pregnancy	69.3 (124)	2.2	65.2 (15)	0	70.7 (53)	6.7	69.1 (56)	-1.2
A woman using marijuana once a week during pregnancy	90.0 (162)	5.6 ↑	91.3 (12)	4.3	89.3 (67)	8.0	90.2 (74)	3.7
A woman using marijuana during the months when breastfeeding	88.1 (149)	5.3	91.3 (21)	13.0	85.5 (59)	8.7	89.6 (69)	0
Marijuana use								
Past 30 day use	24.5 (46)	-3.2	30.4 (7)	5.9	20.8 (16)	-9.5 ↓	26.1 (23)	0
Discussed with health care providers								
Discussed use, past 12 months	12.0 (19)	-0.6	10.0 (2)	-10.0	15.4 (10)	-1.6	8.9 (7)	14.7
Risks associated with use during pregnancy, past 12 months	3.1 (5)	2.0	0 (0)	0	4.8 (3)	2.5	2.6 (2)	2.3
Risks associated with use during breastfeeding, past 12 months	1.9 (3)	-2.0	0 (0)	-13.3	3.2 (2)	0	1.3 (1)	0

Note. A bold arrow indicates a significant difference from Wave 3 to 4 and the direction of change is shown by an arrow; analyzed using McNemar's test, p<.05

Table 9b. Perceptions of risk and health effects at among reproductive-age women (18-45 years old), at Wave 4 and direction of change from Wave 3
(English speaking, n=189) – continued

	Race/Ethnicity						Media Awareness			
% agree/strongly agree % moderate/lot of risk	Non- Hispanic White % (n)	% change	Hispanic % (n)	% change	Other/ Multi-race % (n)	% change	No % (n)	% change	Yes % (n)	% change
Health Effects (% agree/strongly agree)										
Using during pregnancy can lead to attention problems lower IQ problems in the child	85.7 (90)	20.0 ↑	85.2 (23)	11.1	71.4 (15)	9.5	86.8 (92)	14.2 ↑	76.1 (35)	21.7 ↑
Perceptions of Risk (% moderate/a lot of risk)										
A woman using marijuana once or twice during pregnancy	65.6 (82)	0	80.0 (24)	13.3	75.0 (18)	0	71.1 (86)	1.7	64.9 (37)	1.8
A woman using marijuana once a week during pregnancy	90.4 (113)	7.2 ↑	93.3 (28)	10.0	84.0 (21)	-8.0	92.6 (113)	4.1	86.0 (49)	8.8
A woman using marijuana during the months when breastfeeding	85.6 (101)	5.1	96.4 (27)	7.1	91.3 (21)	4.3	89.8 (102)	6.1	86.8 (46)	3.8
Marijuana use										
Past 30 day use	26.9 (35)	-5.3	22.6 (7)	8.7	14.8 (4)	-5.3	22.7 (29)	1.0	28.8 (17)	-9.8
Discussed with health care providers										
Discussed use, past 12 months	11.2 (13)	0.9	17.4 (4)	0	8.0 (2)	-8.7	11.6 (13)	0	11.8 (6)	-2.1
Risks associated with use during pregnancy, past 12 months	4.4 (5)	5.8	0 (0)	-6.7	0 (0)	-6.7	4.6 (5)	4.5	0 (0)	-3.0
Risks associated with use during breastfeeding, past 12 months	2.6 (3)	1.5	0 (0)	-6.7	0 (0)	-13.3	2.7 (3)	0	0 (0)	-6.1

Note. A bold arrow indicates a significant difference from Wave 3 to 4 and the direction of change is shown by an arrow; analyzed using McNemar's test, p<.05

Table 10a. Perceptions of risk and health effects, marijuana use, and conversations with health care providers among adults who live with children <21 years old at Wave 4 and direction of change from Wave 3 (English Speaking; n=250)

	Overall		Age of Oldest Child					
	Total % (n)	% change	4 and under % (n)	% change	5-9 yrs % (n)	% change	10-21 yrs % (n)	% change
% agree/strongly agree								
% moderate/lot of risk								
Health Effects (% agree/strongly agree)								
A teenager using marijuana once a week	91.6 (218)	10.5 ↑	100 (11)	0	94.1 (32)	11.8	90.4 (113)	8.0 ↑
A teenager using marijuana daily or almost daily	95.8 (227)	1.1	100 (11)	0	100 (34)	8.9	96.0 (120)	0
A teenager eating an edible marijuana product	86.9 (205)	1.3	90.9 (10)	0	91.2 (31)	-3.0	86.3 (107)	0.8
A teenager vaping marijuana	89.2 (198)	2.3	75.0 (6)	-12.5	94.1 (32)	8.8	88.7 (102)	-0.9
An adult driving after using marijuana with child/teen passengers	96.7 (233)	2.1	100 (11)	0	100 (34)	0	96.9 (124)	1.6
Storing marijuana in open containers in a home with children/teenager(s)	95.2 (222)	3.9 ↑	100 (11)	9.1	97.0 (32)	0	96.8 (119)	3.3
A child or teenager being exposed to someone else's marijuana smoke	81.3 (191)	4.3	100 (11)	9.1	79.4 (27)	6.1	80.3 (98)	2.5
A child eating an edible marijuana product	97.4 (233)	0.9	100 (11)	9.1	100 (34)	0	96.8 (121)	0
Perception of adolescent marijuana use								
Proportion who think 21% or more of teens currently use marijuana	75.0 (244)	-11.0 ↓	54.5 (6)	-42.9	70.6 (24)	-15.4	77.5 (100)	-4.2 ↓
Marijuana use; use in home								
Past 30 day use	24.0 (59)	-4.7	18.2 (2)	-10.0	26.5 (9)	3.9	19.2 (25)	-0.9
Anyone smoked marijuana inside home in past 30 days	13.7 (34)	-2.2	9.1 (1)	0	11.8 (4)	0	10.8 (14)	-2.3
Conversations with health care providers								
Discussed risks of exposure to secondhand marijuana smoke	3.3 (7)	-0.8	0 (0)	0	6.9 (2)	4.8	2.5 (3)	-2.7
Discussed risks of underage use	3.3 (7)	-0.8	0 (0)	0	3.5 (1)	4.8	3.4 (4)	-1.4
Discussed safe storage of marijuana products in the home	2.3 (5)	-7.0 ↓	0 (0)	0	6.9 (2)	-4.6	2.5 (3)	-6.7 ↓
Discussed overconsumption of edibles	0.9 (2)	-7.0	0 (0)	0	0 (0)	0	1.7 (2)	-9.5
Conversations with children								
Talked to child(ren) about the risks of using marijuana	65.6 (147)	-6.3 ↓	0 (0)	-36.4	17.7 (6)	-23.5	83.9 (109)	1.6
Plan to talk to child(ren) about the risks of using marijuana when they are old enough	70.8 (75)	11.6 ↑	100 (11)	0	100 (28)	21.1	88.9 (16)	27.3

Note. Bolding indicates a significant difference within group at Wave 4 tested with chi square; An arrow indicates a significant difference from Wave 3 to 4 and the direction of change is shown by an arrow, tested using McNemar's test, p<.05

Table 10b. Perceptions of risk and health effects, marijuana use, and conversations with health care providers among adults who live with children <21 years old at Wave 4 and direction of change from Wave 3 (English Speaking) - continued MIXED-MODE TABLES

	Media Awareness		Current use					
	No % (n)	% change	Yes % (n)	% change	No % (n)	% change	Yes % (n)	% change
Health Effects (% agree/strongly agree)								
A teenager using marijuana once a week	92.9 (158)	10.6 ↑	87.7 (57)	9.2	95.0 (172)	12.2 ↑	80.7 (46)	5.3
A teenager using marijuana daily or almost daily	97.0 (164)	2.3	92.3 (60)	1.5	97.8 (176)	1.7	89.5 (51)	3.5
A teenager eating an edible marijuana product	88.7 (149)	2.4	81.5 (53)	-3.1	88.3 (159)	0	82.1 (46)	5.3
A teenager vaping marijuana	89.9 (143)	3.2	86.9 (53)	0	92.2 (153)	3.6	80.4 (45)	-1.8
An adult driving after using marijuana with children or teenaged passengers	96.5 (165)	2.9	97.0 (64)	0	99.5 (181)	2.8	88.1 (52)	0
Storing marijuana in open containers in a home with children or teenager(s)	95.2 (159)	1.8	95.2 (60)	9.5 ↑	97.8 (174)	4.5 ↑	87.3 (48)	1.8
A child or teenager being exposed to someone else's marijuana smoke	82.1 (138)	3.6	79.7 (51)	4.8	88.2 (157)	5.7	59.7 (34)	0
A child eating an edible marijuana product	96.5 (165)	-0.6	100 (65)	0	97.8 (178)	0.5	96.5 (55)	1.8
Perception of adolescent marijuana use								
Proportion who think 21% or more of teens currently use marijuana	78.3 (37)	-4.8	66.2 (43)	-24.4 ↓	75.1 (139)	-9.4 ↓	74.6 (44)	-16.2
Marijuana use; use in home								
Past 30 day use	21.6 (38)	5.0	30.3 (20)	-7.0	0 (0)	4.6	100 (59)	-4.7
Anyone smoked marijuana inside home in past 30 days	10.8 (19)	0	20.6 (14)	-6.6	5.4 (10)	-2.4	40.7 (24)	-1.9
Conversations with health care providers								
Discussed risks of exposure to secondhand marijuana smoke	3.4 (5)	-1.2	3.2 (2)	0	2.4 (4)	-2.2	6.0 (3)	3.3
Discussed risks of underage use	3.4 (5)	-1.2	3.2 (2)	0	2.4 (4)	0	6.0 (3)	-3.3
Discussed safe storage of marijuana products in the home	2.7 (4)	-.5	1.6 (1)	10.8 ↓	1.8 (3)	-4.2 ↓	4.0 (2)	-13.31
Discussed overconsumption of edibles	0.7 (1)	-7.4	1.6 (1)	-6.3	1.2 (2)	-3.5	0 (0)	-14.3
Conversations with children								
Talked to your child(ren) about the risks of using marijuana	63.7 (100)	-9.0 ↓	68.3 (43)	-3.2	63.5 (33)	-4.7	66.3 (114)	-11.5
Plan to talk to your child(ren) about the risks of using marijuana when they are old enough	73.8 (59)	18.0	64.0 (16)	0	66.7 (18)	9.3	72.2 (57)	20.0

Note. Bolding indicates a significant difference within group at Wave 4 tested with chi square; Bolding with an arrow indicates a significant difference from Wave 3 to 4 and the direction of change is shown by an arrow, tested using McNemar's test, p<.05

Table 10c. Perceptions of risk and health effects, marijuana use, and conversations with health care providers among adults who live with children <21 years old at Wave 4 and direction of change from Wave 3 (English Speaking) - continued						
	Race/Ethnicity					
% agree/strongly agree % moderate/lot of risk	Non-Hispanic White % (n)	% change	Hispanic % (n)	% change	Other/ Multi-race % (n)	% change
Health Effects (% agree/strongly agree)						
A teenager using marijuana once a week	92.2 (152)	9.1 ↑	87.5 (35)	2.5	93.9 (31)	27.3 ↑
A teenager using marijuana daily or almost daily	97.0 (159)	1.2	87.5 (35)	-5.0	100.0 (33)	15.1
A teenager eating an edible marijuana product	86.0 (141)	0.6	85.0 (34)	-2.5	93.8 (30)	9.4
A teenager vaping marijuana	88.2 (134)	0.7	86.8 (33)	2.6	96.9 (31)	9.4
An adult driving after using marijuana with children or teenaged passengers	97.0 (163)	1.1	92.3 (36)	5.1	100.0 (34)	5.8
Storing marijuana in open containers in a home with children or teenager(s)	95.7 (156)	4.9 ↑	94.6 (35)	0	93.9 (31)	3.0
A child or teenager being exposed to someone else's marijuana smoke	81.6 (133)	4.9	79.5 (31)	2.6	81.8 (27)	3.0
A child eating an edible marijuana product	98.2 (163)	3.1	95.0 (38)	-5.0	97.0 (32)	-3.1
Perception of adolescent marijuana use						
Proportion who think 21% or more of teens currently use marijuana	75.3 (128)	-9.3	80.0 (32)	-15.4	67.7 (23)	-15.0
Marijuana use; use in home						
Past 30 day use	24.7 (42)	0	31.7 (13)	5.9	11.4 (4)	-3.6
Anyone smoked marijuana inside home in past 30 days	15.2 (26)	-3.9 ↓	16.7 (7)	5.8	2.9 (1)	-3.0
Conversations with health care providers						
Discussed risks of exposure to secondhand marijuana smoke	3.3 (5)	-1.2	0 (0)	-5.0	7.1 (2)	-5.0
Discussed risks of underage use	3.9 (6)	0	0 (0)	-5.0	3.6 (1)	0
Discussed safe storage of marijuana products in the home	2.0 (3)	-6.0	5.9 (2)	-4.6	0 (0)	-10.0
Discussed overconsumption of edibles	1.3 (2)	-3.3	0 (0)	-28.6	0 (0)	0
Conversations with children						
Talked to your child(ren) about the risks of using marijuana	62.8 (98)	-9.0 ↓	72.2 (26)	5.7	71.9 (23)	-6.3
Plan to talk to your child(ren) about the risks of using marijuana when they are old enough	72.2 (57)	7.7	61.5 (8)	14.3	71.4 (10)	30.0

Note. Bolding indicates a significant difference within group at Wave 4 tested with chi square; Bolding with an arrow indicates a significant difference from Wave 3 to 4 and the direction of change is shown by an arrow, tested using McNemar's test, p<.05

TGYS Tables

Table 11 : Risk and Protective Factors Difference between Youth Exposed and Not Exposed to “What’s Next”		
	Not Exposed (n=1362) % (n)	Exposed (n=216) % (n)
% agree/strongly agree		
Marijuana makes it harder to think and do things (harder to concentrate or understand; slows you down when you move).	26.0 (358)	34.0 (73)
Marijuana has effects on a person's body and gives a person cravings (get the munchies/hungry; have a dry mouth; hard to stop laughing).	26.0 (351)	36.0 (77)
% not at all		
How much would your friends try to stop you from using marijuana?	17.0 (233)	12.0 (25)
During the past 30 days, how many times did you use marijuana?		
0 times	85.3 (978)	80.2 (142)
1 or 2 times	6.0 (67)	6.0 (10)
3 to 9 times	3.0 (36)	6.0 (11)
10 to 19 times	1.7 (19)	4.5 (8)
20 to 39 times	1.1 (13)	1.7 (3)
40 or more times	3.0 (34)	1.7 (3)
* Chi-square used for all analysis, <i>Note.</i> Bolding indicated significant differences with demographic category, p<.05		

Positive Youth Development Training Tables

Date	Location	# of People Attending	# of Surveys Returned	Return Rate
8/19/16	Arvada	34	26	76%
8/26/16	Center	19	16	84%
9/20/16	Denver	60	54	90%
10/6/16	Lafayette	36	29	81%
10/21/16	Greeley	39	38	97%
10/24/16	Grand Junction	39	33	85%
3/14/17	Golden	92	81	88%
4/24/17	La Junta	37	30	81%
4/28/17	Cortez	35	28	80%

	# of Training Participants	% of Training Participants
Children (ages 8 or younger)	115	34.3
Early adolescents (ages 9 -13)	227	67.8
Adolescents (ages 14-17)	284	84.8
Young adults (ages 18-25)	176	52.2

*Multiple responses allowed

	n	%
Rated Training as "Very Engaging"	300	89.6
Facilitator Impact*	Participant Average Score	Participant Standard Deviation
Used a variety of effective facilitation strategies	3.8	0.5
Effectively acknowledged and answered questions and concerns	3.8	0.5
Created an effective learning environment	3.8	0.5

*Likert-type scale: 1= Strongly Disagree to 4= Strongly Agree

	Pre-Training Knowledge Avg	Post-Training Knowledge Avg	Change in Knowledge	p-value
Principles of Positive Youth Development	1.6	3.4	1.9	<.001
Ability to Integrate into Current Efforts	2.0	3.4	1.4	<.001
Understand Adolescents from Developmental Standpoint	2.8	3.5	0.7	<.001

*Likert-type scale: 1= Not At All Skilled to 4= Very Skilled

	Participant Average Score	Participant Standard Deviation
Improved skill for integrating PYD approach at work	3.2	0.7
Comfort level for explaining PYD approach to others	3.1	0.6

*Rating on Likert-type scale: 1-No Increase/Not Comfortable to 4-Skills Increased A Lot/Very Comfortable

Table 17. Integration of Positive Youth Development into Current Work		
After training, PYD information integrated into...	# of Participants	% of Participants
Individual Professional Practice	32	80.0
Organizational Practice	9	22.5
Organizational Programming	15	37.5
Organizational Policies	0	0.0

Table 18. Barriers to Implementation of Positive Youth Development Curriculum
Engaging young people to attend programs; youth otherwise unresponsive
Finding time and resources to begin implementation
Involving a diverse group of stakeholders, getting group to agree on PYD methods
Organizational constraints
More training needed to feel comfortable leading implementation

Table 19. Participants' Requests for Additional Information (Immediate and 4-Months Post-Positive Youth Development Training)
Additional Training/Expansion of Information
Personal coaching for programs wanting to implement PYD
Evaluation of PYD efforts in individual programs
Information on how to engage youth
More in-depth, detailed trainings
Train the trainer information
Participation from parents
Dissemination of Information
Offer new training opportunities virtually
Print materials to give to others
Youth-oriented training materials
Training Comments
Facilitators were engaging and did a fantastic job
Provide PowerPoints at start of training
More examples of PYD in action/examples of current programs using PYD

Marijuana and Public Health Training Tables

Date	Location	# of People Attending	# of Surveys Returned	Response Rate
03/07/17	Denver	41	34	82.9%
04/07/17	Pueblo	39	37	94.9%
5/4/17	Greeley	43	37	86.0%

	n	%
Community-based nonprofit	27	25.0
Education	25	23.1
Health care provider	5	4.6
Public health	46	42.6
Substance abuse treatment	9	8.3
Social services	10	9.3
Other	15	13.9

*Multiple responses allowed

	Pre- Training Mean	Post-Training Mean	Difference	p-value
Describe marijuana use/prevalence	2.3	3.4	1.1	<.001
Describe marijuana health impact in CO	3.7	3.3	1.0	<.001
Identify how to access data for marijuana use	2.4	3.5	1.1	<.001
Outline marijuana public health statement procedure	2.0	3.3	1.4	<.001
Incorporate marijuana prevention into programming	2.4	3.4	1.0	<.001
Disseminate regional data on marijuana use/prevalence	2.6	3.7	1.2	<.001

*Likert-type scale: 1= Not Skilled At All to 4= Very Skilled

	Average	Standard Deviation
Incorporate marijuana prevalence data to inform prevention	3.4	0.6
Use marijuana health impact data to inform prevention	3.7	0.6
Disseminate regional data on marijuana use	3.3	0.7
Reference the literature on marijuana health effects in prevention	3.4	0.6
Share marijuana prevention resources with colleagues	3.7	0.5
Disseminate regional data on marijuana use/prevalence	3.6	0.6

*Likert-type scale: 1=Very Unlikely to 4= Very Likely

	n	%
Training Rated "Very Engaging"	67	62.0
Data presenter/s effectively answered questions/concerns	4	81.5
Educational & prevention presenter/s effectively answered questions/concerns	95	88.0
Regional presenter/s effectively answered questions/concerns	71	65.7
Training offered sufficient opportunities for networking	79	73.1

Table 25. Other Requests for Marijuana & Public Health Training Information
<i>53 respondents left comments</i>
Suggestions for Additional Content
Provide information about frequent/chronic use of marijuana/long term health effects (5 comments)
Evidenced-based prevention information
Explanation of limited data and expectations for data in the future
Information on child welfare laws
Disseminate regional data on marijuana use/prevalence
More breaks or shorter workshop (11 comments)
Provide a PowerPoint printout with the ability to write notes next to the slide (5 comments)
More printed resources to share with clients, community (4 comments)
All the data was hard to follow, find a better way to present data without overwhelming
Popular Activities
Post it activity

Technical Assistance Service Tables

Table 26. Technical Assistance Requestors' Organization Information			
Total Requests:	62	n	%
Colorado-Based Requests		44	71.0
Colorado Counties*			
	Adams	2	4.5
	Arapahoe	2	4.5
	Boulder	2	4.5
	Denver	10	22.7
	El Paso	3	6.8
	Garfield	1	2.3
	Gilpin	1	2.3
	Gunnison	1	2.3
	Jefferson	4	9.1
	Larimer	2	4.5
	Lake	1	2.3
	La Plata	1	2.3
	Las Animas	1	2.3
	Lincoln	1	2.3
	Morgan	1	2.3
	Pueblo	1	2.3
	Rio Grande	2	4.5
	Summit	2	4.5

*One county not named

	n	%
Prevention/education	12	19.4
Campaign resources	14	22.6
Laws/regulation	6	9.7
School resources	5	8.1
Health effects	5	8.1
Talking to community	3	4.8
Unknown	3	4.8

*Multiple responses allowed

	n	%
Any Use (or intended use) of Information	13	61.9
How Information Was/Will Be Used		
In a presentation	7	33.3
Increase knowledge about marijuana laws	3	14.3
Develop/modify existing program	2	9.5
Increase knowledge about MJ health research	4	19.0
Papers, manuscripts, or reports	1	4.8
Other	3	14.3

*Multiple responses allowed

Table 29. Technical Assistance Information Sharing		
	n	%
Any Information Sharing	14	66.7
How Information was Shared		
Community	3	14.3
Parents	1	4.8
General public	3	14.3
Colleagues, coworkers, workplace	8	38.1
Students	4	19.0
Other	4	19.0

*Multiple responses allowed

Table 30: Satisfaction with Technical Assistance Service		
	#	%
Satisfied with Technical Assistance service	13	76.5
Would recommend Technical Assistance services to others	13	81.3

Table 31. Effectiveness of Technical Assistance Service		
The information I received...*	avg	sd
.... was easy to understand	4.5	0.5
.... met the needs of my request.	3.9	1.3
.... improved my knowledge about current marijuana education and prevention	4.3	0.8

*Likert-type scale: 1=Strongly Disagree to 5=Strongly Agree

Table 32. Requests/Suggestions for Additional Technical Assistance Information
Presentation for schools to educate students
Media campaign resources: print ads
Effects of daily consumption
Surgical pain management for daily users
Updated statistical information for ER visits

Clinician Breastfeeding Course Tables

Question	% with Correct Answers
Safe amount of marijuana during pregnancy	94
Negative effects on children/adolescents	59
Exposure through placenta/breastmilk	94
Exposure through edible/vaporized form	91
Frequency of assessment	96
Safe storage talking points	70
Limitations of marijuana research	78
Overall Average Correctly Answered	83

	N= 88	n	%
Training			
	Medical Doctor	1	1.1
	Nurse Practitioner	7	8.0
	Ob/Gyn	1	1.1
	Physician Assistant	1	1.1
	Registered Nurse	46	52.3
	BA-Nursing	11	12.5
	Certified Professional Midwife	20	22.7
Practice Setting*			
	Private Practice	7	8.0
	Hospital	9	10.2
	University	1	1.1
	HMO	26	29.5
	Other	48	54.5
Serves Pregnant and/or Breastfeeding Patients		82	93.2

*Multiple responses allowed

Table 35. Clinician Breastfeeding Course Respondents' Personal Attitudes About Marijuana		
	avg	sd
Risk Attitudes*		
Minimal Risk When Used Occasionally During Pregnancy	1.7	0.8
Minimal Risk When Used Occasionally While Breastfeeding	1.7	0.7
Minimal Risk for Second-hand Smoke Exposure	1.6	0.7
Difficult to Recommend Wait-time Before Driving	2.8	1.2
	n	%
Would Legalize Today	18	21.2

*Likert-type scale: 1= Strongly Disagree to 4= Strongly Agree

Table 36. Clinician Breastfeeding Course Respondents' Practice Behaviors			
		n	%
Discusses MJ with Pregnant/Breastfeeding Pts <=75% of the Time		25	29.4
Discussion Topics*			
	Risks associated with use during pregnancy and/or breastfeeding	58	68.2
	Second hand smoke exposure	29	34.1
	Cessation of use during pregnancy/breastfeeding	50	58.8
	Safe storage	12	14.1
	Accidental consumption by children/youth	13	15.3
	Variable THC levels in marijuana	10	11.8
	Marijuana drug interactions/using with prescription medications	12	14.1
Anticipates Changing Clinical Practice**		33	38.8

*Multiple responses allowed

**1 person responded N/A

Table 37. Patient Questions about Marijuana among Clinician Breastfeeding Course Respondents		
	n	%
Patients Questions Topics		
Health impact on newborns, children or adolescents	45	52.9
How to talk to youth	8	9.4
Controlling nausea during pregnancy	22	25.9
Alternatives to MJ during pregnancy/breastfeeding	13	15.3
Health impact on adults	25	29.4
Safe storage	1	1.2
MJ and prescription medications	6	7.1
Driving after using MJ	4	4.7
Benefits of using MJ	15	17.6
Other	10	12.0
% Uncomfortable with Patients' Marijuana Questions	25	29.5

Table 38. Information Dissemination and Practice Modifications among Clinician Breastfeeding Course Respondents			
		n	%
Best Method to Share New Evidence			
	CDPHE website	26	30.6
	Electronic newsletters	27	31.8
	Email	30	35.3
	In-person trainings	24	28.2
	Videoconference-based trainings	37	43.5
Factors Affecting Adoption of Practice Changes			
	Additional training	44	51.8
	Reimbursement	10	11.8
	Workplace champion	10	11.8
	Increased worktime/funding/staffing	11	12.9
	Leadership/workplace support	19	22.4
	Professional association support	19	22.4
	Evidence-base support	39	45.9
	Reminders/EMR prompts	11	12.9
	Adoption by other organizations	7	8.2
Personal Beliefs about MJ Prevented Practice Changes		21	24.7
# of New Initiatives Annually			
	1	1.0	1.2
	2 to 3	10.0	11.8
	4 or more	6.0	7.1

*46 respondents reported new initiatives were N/A

Table 39. Course Impact and Quality among Clinician Breastfeeding Course Respondents				
	Before Avg	After Avg	Difference	p-value
Impact				
Ability to explain MJ guideline development process	2.3	3.7	1.4	<.001
Ability to describe current MJ pregnancy/breastfeeding research	2.3	3.7	1.4	<.001
Ability to integrate specific language when talking with patients	3.0	4.0	1.0	<.001
Ability to integrate MJ discussions/screening into clinical practice setting	2.3	3.7	1.4	<.001

* Likert-type scale: 1=Not Very Useful to 4 =Very Useful

Table 40. Heard About the Course		
	n	%
CDC	4	3.5
Government website (state or federal)	10	11.8
WIC newsletter	12	14.1
Other training (online, in-person)	17	20.0
Work (supervisor, email, etc.)	12	14.1

Table 41: Users Reports of Marijuana Conversations with Physician among Mixed-Mode Participants

		# of Comments
Benefits of marijuana use		15
	Pain	3
	Sleeping	2
	Anxiety	3
Risks of marijuana use		3
Safer Use (e.g., dabbing not smoking/smoking out of a glass vessel)		3
Use with Opioids/Anesthesia/Prescription Drugs		1
Safe driving		1
Talking with Children		1

FIGURES

Figure 1. Participant Likelihood to Implement Positive Youth Development Principles (average)*

*Likert-type scale: 1=Not Likely At All to 4=Very Likely

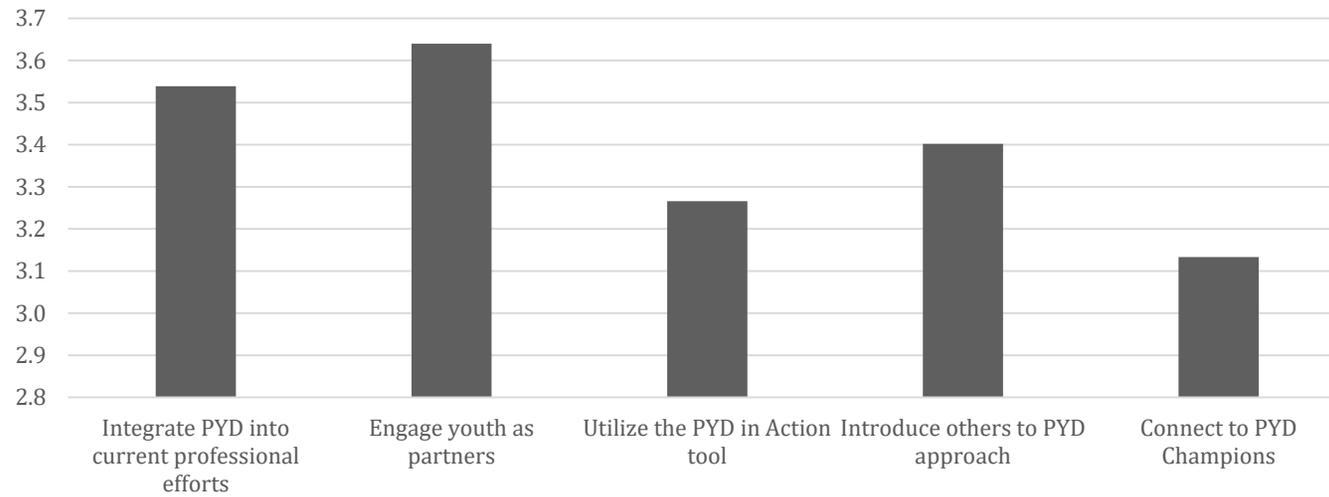
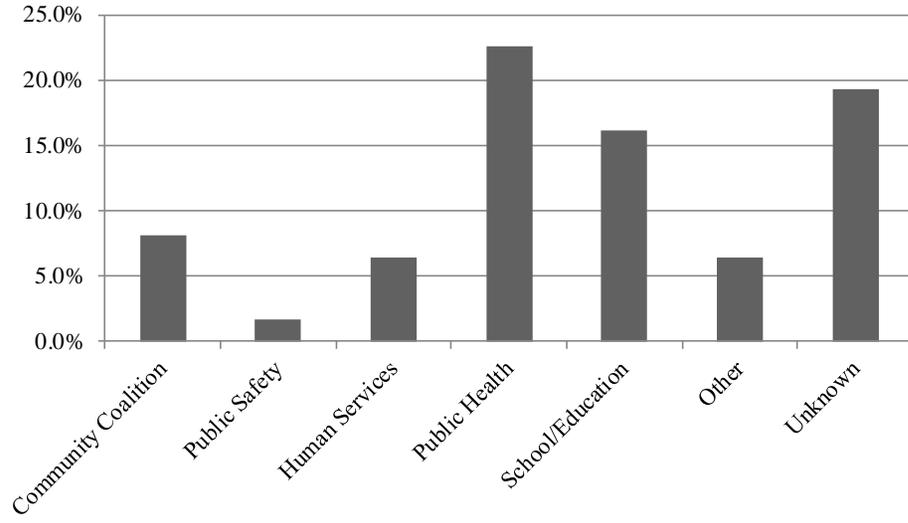


Figure 2: Primary Focus of Technical Assistance Requestor's Organization



APPENDICES

Appendix 1: MMEP Survey

Appendix 2: MMEP Codebook

Appendix 3: MMEP SAS program-merge

Appendix 4: MMEP SAS Program-analysis

Appendix 5: MMEP Dataset