MOPHIMS User Group Newsletter
May 2021- Issue #25

IN THIS ISSUE:

- ❖ Evolution of MOPHIMS Newsletter
- ❖ Smoking/Tobacco Patterns
- ❖ Smoking Indicators on MOPHIMS
- ❖ COVID-19 in Rural Missouri

- ❖ EPHT Spring Update
- ❖ Data Updates
- ❖ Q & A
- ❖ Practice Exercise
- ❖ Training Update

Greetings, and happy spring to our MOPHIMS users! It is an anniversary year for the Newsletter as we celebrate its 10th year. In this edition of the newsletter, we wanted to take time to do a retrospective on the last decade. While COVID-19 has thrown us all through a loop, we have not forgotten about the successes that we have had in providing useful data products to the many public health stakeholders.

Evolution of MOPHIMS Newsletter

In 2011, the MICA and Profile system, which was already more than a decade old, had won awards for innovation at the state level as well as being recognized as a national leader in the field of health data dissemination. The MICA training was still a fledgling program that had just completed its second year, and 2011 was the first year where we offered two training days. While enhancements to the MICA system were made throughout the first 10 years, the platform change to MOPHIMS was still a few years away from being initiated.

The purpose of MICA/MOPHIMS and in particular the Newsletter has always been to inform and communicate different data and health statistics to not only local public health agencies (LPHAs), but also the general public throughout Missouri and beyond. Despite several challenges, a decade later we continue to strive to serve the citizens of Missouri by providing high quality data in creative ways.

In the below comparison, there is a stark difference in the visual appearance between the County Level Study in our 2012 version (left), and the 2021 version (right). In addition to visual appearance, the options for changing the table display are enhanced, there are also several new indicators, 95% confidence intervals are included on the main page and options for graphing have expanded.

This is only one minor example of how the MICA/MOPHIMS platform has changed throughout the years. We have also added new geographical regions to search, such as Behavioral Risk Factor Surveillance System (BRFSS) regions, ZIP Code and Census Tract level data, as well as adding additional data years and including new data sets. These past changes, as well as any in the future, will continue to be highlighted as this Newsletter continues to trek on its journey of keeping our fellow MOPHIMS users up-to-date.

New Short Survey on MOPHIMS

Updates and additions could not have been made possible without our dedicated team, as well as insightful opinions from Newsletter readers! We are always looking for constructive feedback on this system, and how we can continue to provide MOPHIMS users with the data they are searching for. With that end in mind, we have developed a short survey for our valued users to take, in order to see how we can continue to serve you through our data sources in the future. You can access this survey at https://www.surveymonkey.com/r/65ZKPMX, we would greatly appreciate your participation and responses. We are looking forward to the future of MOPHIMS and continuing on this journey to provide accurate and accessible data and health statistics to Missourians!

Smoking Indicators Found in MOPHIMS

There are several indicators in the MOPHIMS system related to smoking. Birth MICA and WIC MICA have maternal-child health related smoking indicators, and the County-Level Study Profile has information on smoking behaviors for the adult population. In this quick learning piece, however, we're going to focus on a smoking related indicator found on the *Leading Causes of Death* Profile. We'll explain the statistic, give steps on where to find it, and show you graphics that can be used to see how things have changed over the last decade. The statistic we want to find is listed under the **Death Profile** subheader from the **Community Data Profiles** page, shown below.

As the name implies, the Leading Causes of Death Profile provides information on many of the most frequently requested topics associated with deaths. Many of these categories are similar in definition to what is found on Death MICA, however, the Smoking Attributable indicator is only found on the Profile page. It is circled in the screen shot below near the bottom of the table layout.

Missouri Resident Death - Leading Causes Profile					Print Profile

Choose Your Profile Data

Geography: STATEWIDE State: Missouri Demographic: All

Submit

State: Missouri

Leading Cause of Death Indicators

	Data Years	Count	Rate	Graphics Link	Download Data
Leading Causes of Death					
All Causes	2009 - 2019	642,662	809.76	Graphics	
Heart Disease	2009 - 2019	157,199	193.95	Graphics	
All Cancers (Malignant Neoplasms)	2009 - 2019	140,621	173.88	Graphics	
Lung Cancer	2009 - 2019	41,762	51.08	Graphics	
Breast Cancer	2009 - 2019	9,518	11.97	Graphics	
Colorectal Cancer	2009 - 2019	12,341	15.37	Graphics	
Chronic Lower Respiratory Disease	2009 - 2019	41,224	51.03	Graphics	
Total Unintentional Injuries	2009 - 2019	36,686	52.44	Graphics	
Accidental Poisoning	2009 - 2019	11,650	18.12	Graphics	
Motor Vehicle Accidents	2009 - 2019	9,749	14.37	Graphics	
Stroke/Other Cerebrovascular Disease	2009 - 2019	33,176	41.02	Graphics	
Alzheimer's Disease	2009 - 2019	23,967	29.21	Graphics	
Diabetes Mellitus	2009 - 2019	16,267	20.28	Graphics	
Kidney Disease (Nephritis and Nephrosis)	2009 - 2019	15,233	18.85	Graphics	
Pneumonia and Influenza	2009 - 2019	13,878	17.17	Graphics	
Suicide	2009 - 2019	11,177	16.46	Graphics	
Septicemia	2009 - 2019	8,969	11.19	Graphics	
Chronic Liver Disease and Cirrhosis	2009 - 2019	6,816	8.75	Graphics	
Other Causes of Interest					
Smoking-Attributable (estimated)	2009 - 2019	109,492	134.56	Graphics	
All Injuries and Poisonings	2009 - 2019	55,248	80.23	Graphics	
Homicide	2009 - 2019	5,596	8.80	Graphics	

Smoking-attributable deaths estimate the number of resident deaths over an 11-year period that were assigned to smoking related causes. Smoking-attributable deaths are estimated based on smokers' greater likelihood (or relative risk) of dying of various diseases. The CDC has developed a table that assigns certain percentages of deaths as 'smoking attributable'. As an example, using this methodology estimates that 84% of deaths from bronchitis/emphaseyma for females age 35-64 are attributed to smoking. In contrast, only 15% of deaths from ischemic heart disease for males 65 and over are estimated to be smoking related. Like most of the other variables on this table, this indicator contains data for the years 2009-2019.

At the state level 109,492 deaths in Missouri were attributed to smoking over that time period. While the smoking attributable indicator is not a rankable category, the value for it is higher than every cause of death except heart disease and cancer.

Next, we're going to look at two neighboring counties and compare smoking-attributable deaths to the state overall. This can tell us how these counties compared to the state within the 11-year time span. Select the *Graphics* link, then click on the Full Version button located below the trend analysis chart as displayed to the right.

Tulsa
Missouri Department of Health and Senior Services
Full Version

Tulsa
Missouri Department of Health and Senior Services
Full Version

Graphic is not available

Trend Analysis

Three Year Moving Average Rates
Geography: Missouri, Demographic: All
Indicator: Other Causes of Interest - Smoking-Attributable (estimated)

Missouri

Years

Full Version

Comparison Bar Graph

Comparison Bar Graph
Geography: Missouri, Demographic: All
Indicator: Other Causes of Interest - Smoking-Attributable (estimated)

2009 - 2019 Rates

134.56

Missouri
Geography

Full Version

A new tab will open, and at the top you will need to change the 'Geography' setting to County and then on the County drop down menu, check Cole and Osage and then hit submit. The graph will be updated to include both the state and the two new counties. The rates here on the trend line are based on three-year moving averages. Note that trends are available only if each three year period of the moving average has an average of 20 or more events.

The chart above shows that Cole and Osage county had rates of smoking-attributable deaths that were less than the state throughout nearly the full duration of the time span. The only exception to this trend occurred during the 2010-2012 time period in which Osage had slightly higher rates than that of both the state and Cole. Despite that deviation, overall Osage had the lowest rates of all three geographies in our comparison. Cole county experienced minor fluctuations, but consistently remained lower than that of the state.
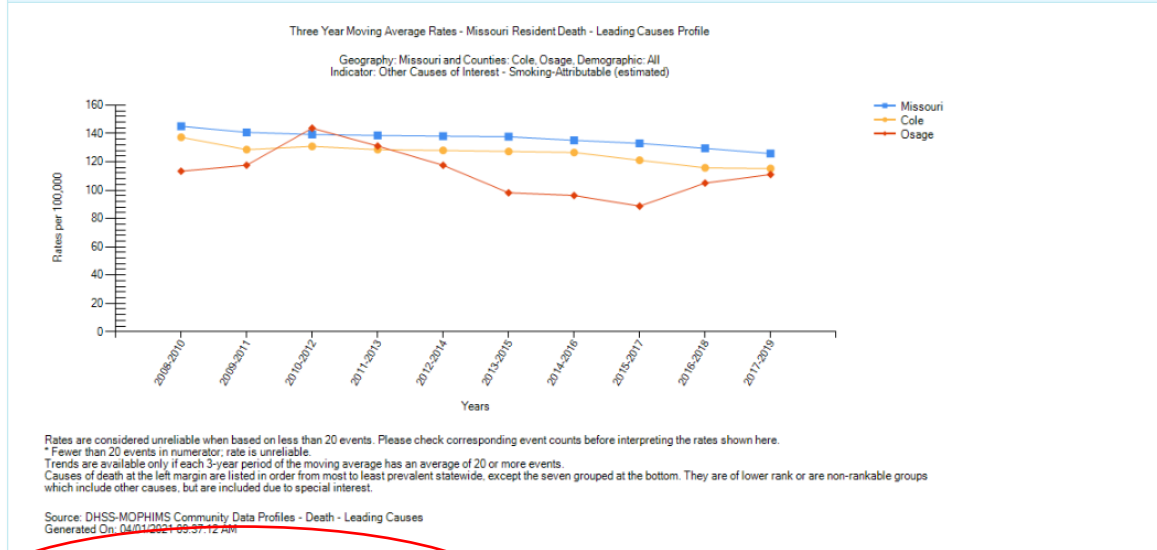
The Trend Analysis section (circled in red above) gives additional insight showing that the decreasing line was statistically significant for the state of Missouri and Cole, but for Osage there was no significant change over the 11 years.

Effects of COVID-19 on Rural Health in Missouri

At DHSS, the health of rural Missourians is a priority. The Bureau of Health Care Analysis and Data Dissemination (BHCADD) works in conjunction with the Office of Rural Health and Primary Care to provide a Rural Health Biennial Report. The most recent report focuses on five aspects: Demographic and Population Characteristics, Social Determinants of Health and Access to Care, Health Status of Missourians, Maternal and Child Health, and Health Care in Rural Missouri. We are currently working on the 2020-2021 edition. Among other things, we are reviewing the potential effects COVID-19 has had on rural areas versus their urban counterparts. Preliminary 2020 data show that while urban areas in Missouri have seen greater positivity rates and testing totals, rural areas have seen a higher rate of testing, as well as higher mortality rates.

COVID-19 Mortality, 2020*

Rural: 140.2
Urban: 91.7
Statewide Rate (108.1

Crude rate per 100,000 population

*2020 mortality data is considered provisional and subject to change
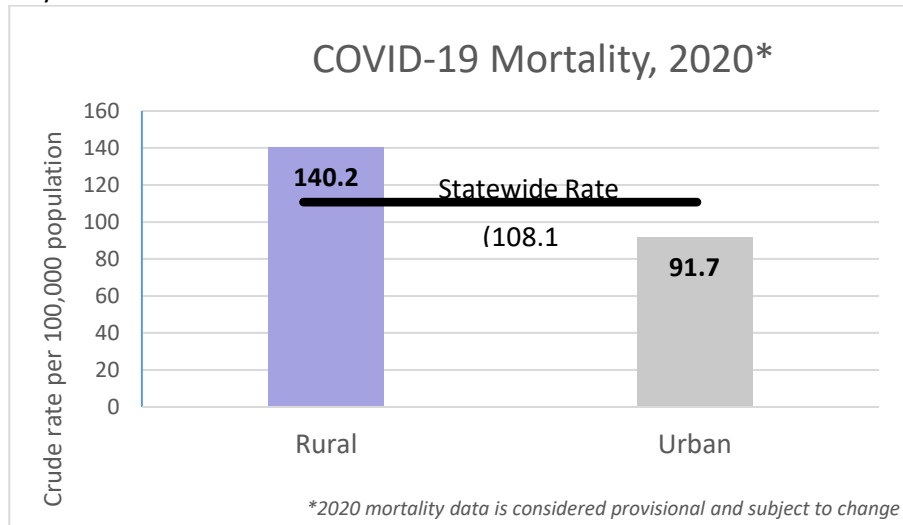
Source: Epitrax, Missouri Department of Health and Senior Services

Data analysis related to COVID-19 is ongoing, and we are eager to explore other ways that the pandemic may be impacting rural areas. While we begin the process of our next Rural Health Biennial Report, let us know if you have any suggestions or topics to include, either related to COVID-19 or other general topics of interest. If so, please email MOPHIMSUserGroup@health.mo.gov and we will get back to you as soon as we can. Previous Biennial Reports can also be found at https://health.mo.gov/living/families/ruralhealth/publications.php.

EPHT Spring Update

It's been 50+ years since Joni Mitchell wrote her environmental protest song "Big Yellow Taxi", and we're still talking about issues she raised, including the need for preservation of our green spaces and natural surroundings, and their implications for people's health. Studies show that access to parks and connecting with nature can have a significant impact on our health and quality of life. An hour on the nature trail has been found to improve memory and attention span by 20%. A few days in the woods could boost immune function for as long as a month. Getting out and enjoying nature lowers blood pressure, fights anxiety and depression, and reduces stress. And what sounds better than an unpaved paradise after months of winter and isolation due to COVID-19? Check out the State of Missouri's many resources (https://www.mo.gov/outdoors/) for finding state parks, helping to protect our natural resources and environment, and enjoying the outdoors.
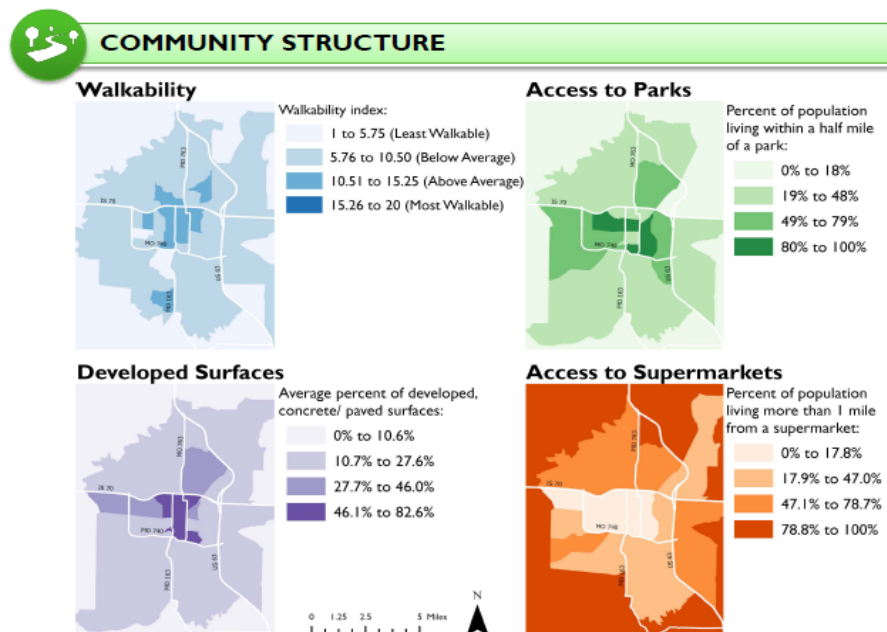
In the Environmental Public Health Tracking (EPHT) program, we issue a lot of precautions: use sunscreen, avoid ticks and mosquitoes, stay indoors if the air quality is poor. However, we also want to encourage people to spend more time outdoors for its many health benefits. Americans spend approximately 90% of their time indoors, where air pollution can be two to five times higher than in outdoor air (https://health.mo.gov/living/environment/indoorair/index.php). Even in backyards, physical activity replaces screen time and sunlight elevates people's moods and generates vitamin D.

The EPHT program wants to help you promote healthy outdoor activity and healthy community design. In the EPHT **Community Profiles**, we've mapped data on community structure including walkability and access to parks in the 15 most populated cities in Missouri (https://ephtn.dhss.mo.gov/EPHTN_Data_Portal/profiles/index.php). We also provide links to our data sources, including the Centers for Disease Control and Prevention's (CDC's) EPHT data query portal. The data show that while about 70% of Missouri's population lives in an urban area, only 34% of Missourians are living within a half mile of a park. In response to a survey by the Missouri State Parks, nearly 50% of visitors cited distance and lack of information on park locations as reasons for not visiting state parks (https://mostateparks.com/page/55072/facts-and-figures).

If you have specific data or communication needs for promoting community health and resilience, please let us know. Perhaps we can help! Contact EPHT by phone (573) 751-6102 or email at EPHTN@health.mo.gov. You can also provide EPHT with feedback by using the feedback form at https://ephtn.dhss.mo.gov/EPHTN_Data_Portal/feedback.php.

Recent EPHT Updates:
EPHT has developed a new "Application of Agricultural Chemicals" dashboard that includes a decade of data (2017 being the most recent year). It can be found on the MOPHIMS-EPHT homepage at https://healthapps.dhss.mo.gov/MoPhims/EPHTHome. EPHT Blood Lead Level data have been updated to include 2019 data.

COMMUNITY STRUCTURE

Walkability

Walkability index:
- 1 to 5.75 (Least Walkable)
- 5.76 to 10.50 (Below Average)
- 10.51 to 15.25 (Above Average)
- 15.26 to 20 (Most Walkable)

Access to Parks

Percent of population living within a half mile of a park:
- 0% to 18%
- 19% to 48%
- 49% to 79%
- 80% to 100%

Developed Surfaces

Average percent of developed, concrete/ paved surfaces:
- 0% to 10.6%
- 10.7% to 27.6%
- 27.7% to 46.0%
- 46.1% to 82.6%

Access to Supermarkets

Percent of population living more than 1 mile from a supermarket:
- 0% to 17.8%
- 17.9% to 47.0%
- 47.1% to 78.7%
- 78.8% to 100%

Data Updates

Nearly all of our MICAs and Profiles have been updated with the most recent data available. Just a reminder that while the hospital-based datasets aren't being updated online yet, we do have data through 2019 available upon request. The same is true of 2019 BRFSS survey data. Just reach out and we'll get you the info that you need!

MICA	Most Recent Data Year Available	MICA	Most Recent Data Year Available
Birth MICA	2019	Population MICA	2019
Cancer Incidence MICA	2017	Pregnancy MICA	2019
Chronic Disease Death MICA	2019	Preventable Hospitalization MICA	2015
Chronic Disease Emergency Room MICA	2015	Procedures MICA	2015
Chronic Disease Inpatient Hospitalization MICA	2015	WIC Prenatal MICA	2019
Death MICA	2019	WIC Postpartum MICA	2019
Emergency Room MICA	2015	WIC Linked Prenatal – Postpartum MICA	2019
Fertility and Pregnancy Rate MICA	2019	WIC Infant MICA	2019
Injury MICA	2015	WIC Child MICA	2019
Inpatient Hospitalizations MICA	2015		

Q & A

Q: I ran a query in the Death MICA for the number and rates of 2019 suicide deaths for people ages 10-19, by county, and the results are a table of zeroes and X's. I understand the zero means that there were no suicides in that age group in that county, but what do the X's mean?

A: We get this type of question fairly often. The X's mean that the confidentiality rules have been triggered. The confidentiality rule comes into play whenever a MICA query results in a count that is a very small number. It is our duty to not report any confidential information to the public, even when that confidential information is not immediately obvious. When there are very small numbers that result from a MICA query, one could relatively easily combine the MICA result with other publicly available information to determine the identities of the individuals indicated in that MICA query. To prevent this, we automatically X out the numbers when the MICA query results in small counts. If you are a local public health official and need the ability to view those very low numbers, you can submit an ASAP request to obtain special MOPHIMS permissions which will allow you to see the complete table without any suppression.

∧∨Table Results		
Save Table As ▾		Send Table to Side by Side
	Title:	Missouri Resident Deaths
Data selected in addition to rows and columns below:		Age: 10 - 14, 15 - 17, 18 - 19;
Year:	2019	2019
Statistics:	Count	Rate
County		
Adair	x	x
Andrew	x	x
Atchison	0	0.00
Audrain	x	x
Barry	x	x
Barton	0	0.00

Q: I'm looking at a MICA table of 2015 asthma ER visits, by county, and I notice that several of the rates listed have an asterisk next to them. The footnote at the bottom of the table says that the asterisk means that the "Rate is unreliable". What does that mean?

See new table including multiple years below:

A: It is a common theme in statistical calculations that the smaller the numbers used in the calculation, the less predictable the statistic is. That theme holds true here as well. In MOPHIMS, rates based on counts of less than 20 are marked as unreliable through the use of asterisks. By saying that, we are indicating that the rate has an extremely wide range of variability, and thus has a greater chance to have large increases or decreases between different periods. All decisions based on an unreliable rate should be taken with caution.

When you do get an unreliable rate, one method to make the rate more reliable is to increase the time span. For example, instead of viewing just 2015 asthma ER visits, you could combine several years of asthma ER visits, such as 2011 through 2015. This combined data will often increase the numerator used in the rates calculations, and therefore increase the likelihood of achieving a reliable rate.

Practice Exercise

The Healthy People 2020 Objectives included reducing the diabetes death rate with a target of a 10% decrease from 2007. As a local public health practitioner, you want to check if the state is on track to reach that goal. Using the **Death MICA**, let's take a look at the past two decades of diabetes data.

In the Death MICA, select the years 2007 and 2019 from the dropdown menu in **Choose Your Data**. Make sure the statewide geography is selected, and under **Cause** deselect all major items so you can select only **Diabetes** for the cause of death. Next, in **Build Your Results** make sure both counts and rates will be shown and the data is age-adjusted. Following those steps will produce the table below.

Title: Missouri Resident Deaths						
Data selected in addition to rows and columns below:	Cause: Diabetes#;					
Year:	2007	2007	2019	2019	Total for selection	Total for selection
Statistics:	Count	Rate	Count	Rate	Count	Rate
Statewide						
Missouri	1,435	22.20	1,652	20.85	3,087	21.43
Rate:	Death rates are annualized per 100,000 residents and are age adjusted to the U.S. 2000 standard population.					
Source:	DHSS - MOPHIMS - Death MICA					

In Missouri, there were 1,435 deaths due to diabetes in 2007 for a rate of 22.2 deaths per 100,000 residents. In 2019, there were 1,652 diabetes deaths in the state, at a rate of 20.85 deaths per 100,000 residents. To see how these death rates fare in relation to the Healthy People 2020 target, we must calculate percent change using the formula below:

$$Percent\ Change = \frac{(New\ Value - Original\ Value)}{Original\ Value} \times 100\%$$

Here is the calculation for percent change between 2007 and 2019:

$$= \frac{(20.85 - 22.2)}{|22.2|} \times 100$$

$$= \frac{-1.35}{22.2} \times 100$$

$$= -0.0608108 \times 100$$

$$= -6.08108\%\ change$$

$$= 6.08108\%\ decrease$$

To simplify, there was a 6% decrease in the diabetes death rate between 2007 and 2019. That means Missouri has fallen short of the target of a 10% decrease as we approach 2020.

1. Now, let's look at our progress in the past two decades separately by selecting additional years in Choose Your Data. What is the percent change in diabetes deaths from 2000-2010 and from 2010-2019? Was there a larger change in one decade compared to the other?

   _____
   _____

2. Include 95% confidence intervals in your table for years 2010 through 2019. Is the rate of diabetes deaths in 2019 significantly different from the rate of diabetes deaths in 2010?

   _____
   _____

3. Use the 'Create a Chart' feature under Build Your Results in the Death MICA to visualize a trend line showing the changes in diabetes deaths over the years and observe any notable changes.

_____

_____
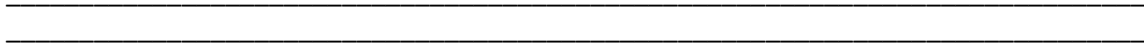
Tip: Percent change is taking the difference between two numbers, and describing that difference in relation to the original value. When using percent change, it is good practice to use the context of the original values. E.g. If a health program reports a 73% increase in childhood vaccination rates, you need to know the size of the program to determine the amount of people being impacted. If it is a small county, the increase might reflect an additional 5-10 kids. If the program cover the whole state, the increase could be 10,000-20,000 kids or more. Context here is crucial.

Training Updates

As many of you know, COVID-19 has taken a toll on several aspects of our everyday careers. Unfortunately, it has also continued to delay any MICA trainings that we are doing for the time being. This being said, there are no MICA trainings currently scheduled. We are truly looking forward to when the time comes that we are able to engage with you all and provide these great in-person and online opportunities again. In the meantime, if you have any questions regarding the utilization of MOPHIMS, do not hesitate to reach out to MOPHIMSUserGroup@health.mo.gov and we will get back to you as soon as we can! In the theme of our 10th anniversary, here are some throwback pictures of our previous trainings throughout the years.

About the MOPHIMS User Newsletter Group

The MOPHIMS User Group Newsletter was created in response to user requests for communication on updates to the MICA system, descriptions of new features, additional practice exercises, announcements of training opportunities, and any other new information about data that might help them perform their jobs more efficiently.

Newsletters will be published on a semi-annual basis. If you have ideas for content, please send them to Andrew.Hunter@health.mo.gov or Whitney.Coffey@health.mo.gov. We would especially like to feature stories describing your success at completing projects or obtaining grants using the MICA tools as well as interviews with public health professionals about your duties and how you use MICA to accomplish them.

Past issues are available at http://health.mo.gov/data/mica/MICA/newsletters.html.

Contributors: Andy Hunter, Whitney Coffey, Jeremy Rowles, Tiffany Tuua, Elizabeth Semkiw, Chase Schlesselman, James Owen, LeighAnna Hentges, and Haley Stuckmeyer

How to Sign Up or Opt Out

If you have enjoyed this newsletter, please feel free to share it with your colleagues and community partners. We encourage them to sign up for the MICA User Group by sending an email to MOPHIMSUserGroup@health.mo.gov with the subject line MOPHIMS User Group. This will let us know to send newsletters to them directly so they do not miss any information. Also, we may occasionally distribute time-sensitive information on topics such as training opportunities via e-mail if the newsletter is not scheduled for publication prior to a registration deadline. Finally, the MOPHIMS User Group list helps us track the types of organizations using the tools, which is one of our performance measures.

If you would like to opt out of the MOPHIMS User Group, please send an e-mail with Unsubscribe in the subject line to MOPHIMSUserGroup@health.mo.gov. PLEASE NOTE: Depending on your position title, you may still receive other types of e-mail messages from us. For example, we are requested to send training information to all LPHA Administrators, even if they have unsubscribed from the MOPHIMS User Group.

Contact Information

MOPHIMS User Group	Andy Hunter	Whitney Coffey
MOPHIMSUserGroup@health.mo.gov	Andrew.Hunter@health.mo.gov	Whitney.Coffey@health.mo.gov
(573)751-6285	(573)526-0444	(573)751-6285