MICA User Group Newsletter   July 2014 Issue #10

Life expectancy is a commonly used statistic in public health. It is a good gauge for measuring the overall health of a community, region, or state. Generally, the greater the life expectancy at birth, the healthier a population. Intuitively, this makes sense: people with better health live longer. If a population's health is poor, a lower life expectancy can be assumed. The World Health Organization defines life expectancy as "the average number of years a person can expect to live, if in the future they experience the current age-specific mortality rates in the population."[1] Information on how life expectancy is calculated is included on pages 2-3 of the 2008 methodology report by the National Center for Health Statistics at http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_03.pdf.[2]

Life expectancy is a population-based statistic. It is not designed for calculating individual life expectancy. However, more customized estimates can be prepared for certain groups within a population. For example, demographers usually calculate life expectancy for the total population, for males and females, and by race. Insurance companies often calculate life tables tied to specific behaviors or characteristics, such as tobacco use or congenital health conditions, and many other health factors.

Life expectancy in the U.S. increased dramatically during the twentieth century. In 1901, life expectancy was 49.2 years.[3] By the end of the century, life expectancy had risen by almost 28 years to 76.9.[4] More recently, life expectancy has continued to increase but at a slower rate. The most recent data available show that U.S. life expectancy for residents born in 2011 was 78.7 years.[5]

The Department of Health and Senior Services (DHSS) has Missouri life expectancy data going back to 1970. Missouri includes statewide life expectancy values by age and sex in the *Annual Vital Statistics* reports. (Electronic copies of the 1999-2012 reports are available at http://health.mo.gov/data/vitalstatistics/data.php.) The following chart shows the increases in Missouri life expectancy that occurred during the 1970-2012 time period.[6]
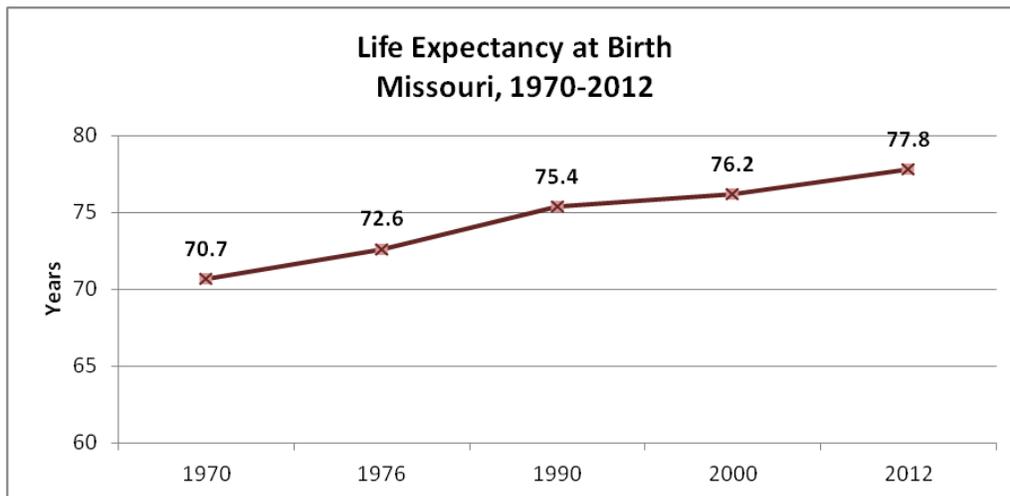

Source: Missouri Department of Health and Senior Services, Bureau of Health Care Analysis and Data Dissemination

The Bureau of Health Care Analysis and Data Dissemination (BHCADD) recently developed a new website (http://health.mo.gov/data/lifeexpectancy/) to distribute more information on life expectancy. This website provides total, male, and female life expectancy at birth for Missouri's 115 counties, its 7 BRFSS regions, and the 4 non-county local public health agencies (LPHAs) of Joplin, Independence, Kansas City, and (Eastern) Jackson County. Life expectancy by race is also available for the state and for counties and cities with large Black/African American populations. This new website contains valuable information on overall health status at a more local level than had previously been available. Data can be viewed by downloading Microsoft Excel workbooks. Workbooks are available for the 2004-2012 and 2000-2008 time periods. The BHCADD uses nine years of data in order to produce stable rates for counties with small populations. The same number of years is included for all geographies so that comparable values are available.

As mentioned above, life expectancy is usually calculated for males and females and by race. Women tend to live longer than men regardless of geography or time period. In Missouri, the life expectancy gender gap is about five years.
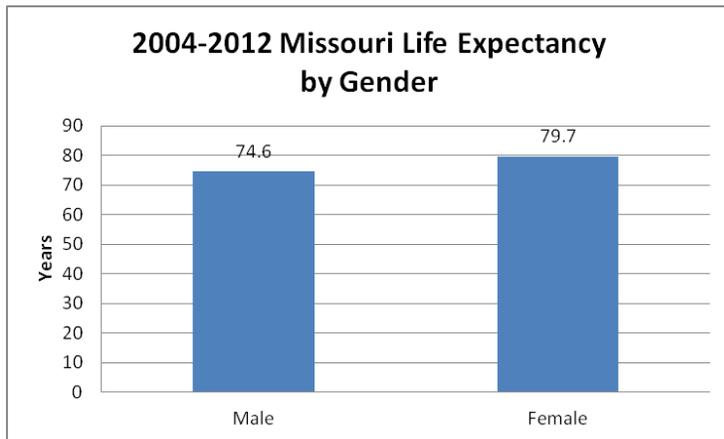
The racial life expectancy gap is similar to the gender gap at nearly five years. White residents tend to live longer than Black/African American residents.
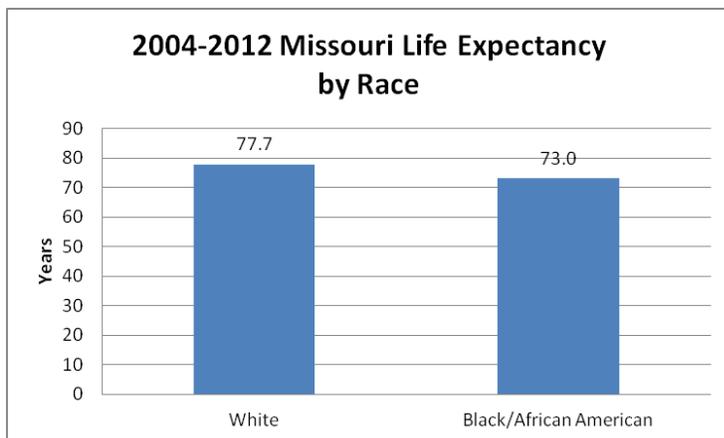
Life expectancy also varies across the state. There is an 8.5-year difference between the county with the highest life expectancy (Platte County, 80.2) and the county with the lowest life expectancy (Pemiscot County, 71.7). Regionally, the St. Louis Metro area has the highest life expectancy rate (77.7), while the Southeast Region has the lowest rate (75.2).

2004-2012 Missouri Life Expectancy by BRFSS Region

Region	
St. Louis Metro Region	
Central Region	
Northwest Region	
Kansas City Metro Region	
Southwest Region	
Northeast Region	
Southeast Region	

(Horizontal axis: 70, 72, 74, 76, 78)
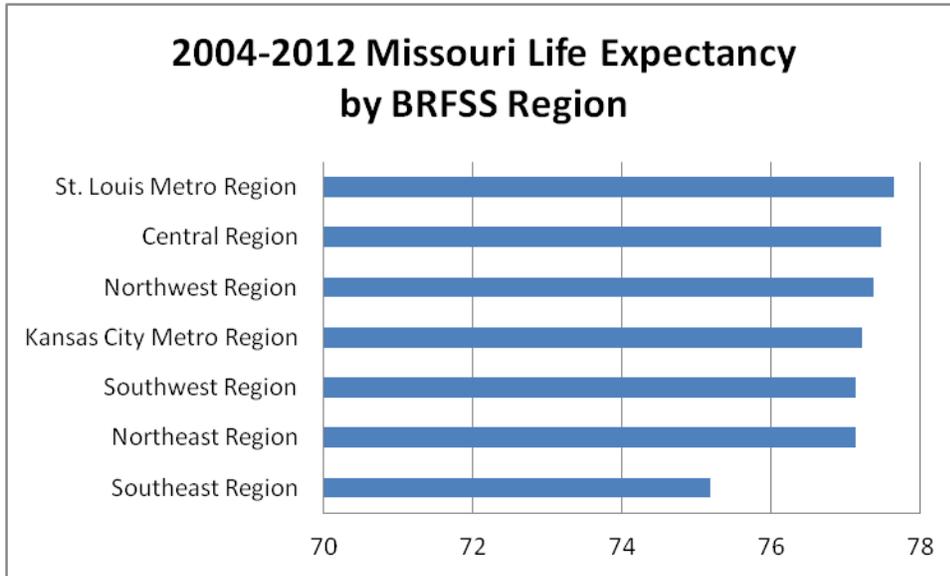
Resources:
[1]World Health Organization. (2014). Health topics: Life expectancy. In *World Health Organization*. Retrieved May 20, 2014, from http://www.who.int/topics/life_expectancy/en/.
[2]Arias, E. United States life tables, 2008. *National vital statistics reports*; vol 61 no 3. Hyattsville, MD: National Center for Health Statistics. 2012. Retrieved May 20, 2014, from http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_03.pdf.
[3]National Center for Health Statistics. (1921). United States life tables 1890, 1901, 1910, and 1901-1910. In *Centers for Disease Control and Prevention*. Retrieved May 20, 2014, from http://www.cdc.gov/nchs/data/lifetables/life1890-1910.pdf.
[4]Arias, E. United States life tables, 2000. *National vital statistics reports*; vol 51 no 3. Hyattsville, Maryland: National Center for Health Statistics. 2002. Retrieved June 9, 2014, from http://www.cdc.gov/nchs/data/nvsr/nvsr51/nvsr51_03.pdf.
[5]Miniño, AM. Death in the United States, 2011. *NCHS data brief*, no 115. Hyattsville, MD: National Center for Health Statistics. 2013. Retrieved June 9, 2014, from http://www.cdc.gov/nchs/data/databriefs/db115.pdf.

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New Years of Potential Life Lost Website

In addition to the new life expectancy website described above, the BHCADD has developed a Years of Potential Life Lost (YPLL) website at http://health.mo.gov/data/ypll/. YPLL is another good indicator of the overall health status of a community. It estimates the number of years of life lost to premature death, which is defined as death under the age of 75. Total YPLL is provided for the state, Missouri's 115 counties, and the 4 non-county local public health agencies (LPHAs) of Joplin, Independence, Kansas City, and (Eastern) Jackson County. Data are currently provided for years 1990-2012. The *Health Data Analysis* course includes a section on YPLL which explains how to calculate this statistic for specific causes of death.

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Public Health Spotlight

This spring we welcomed Doug Phillips, a new Research Analyst III, to the Bureau of Health Care Analysis and Data Dissemination (BHCADD). Doug will work with hospital survey and hospital discharge data and will complete data requests. Doug has now been at DHSS for over two months and says that he likes learning about the SAS (Statistical Analysis System) software used to create the MICA datasets. He also appreciates that the Department provides training for its employees.

Doug was born and raised in Memphis, Tennessee, and attended Harding University, where he received a Bachelor of Arts in Computer Science degree, followed by a Master in Business Administration. After earning his undergraduate degree, Doug joined the U.S. Army and completed his basic training at Fort Leonard Wood, Missouri. He then worked as a computer programmer analyst at Fort Leavenworth, Kansas. After four years with the U.S. Army, he moved to Cedar Rapids, Iowa, to work as a computer programmer analyst for Rockwell Collins, a company that manufactures avionics (communication electronics for airplanes, missiles, etc.). His departure from computer programming came when he moved to Searcy, Arkansas, to invest in real estate.

Doug's first wife passed away 18 years ago and left him with a son who is now 26 years old and living in Arkansas with his wife. Doug met his current wife at a Bible camp. They have two daughters. Three-year-old Mary likes jumping on the trampoline, and 15-month-old Rachel enjoys following her big sister everywhere. Doug's hobbies include remodeling/renovating houses, gardening, and soccer, which he played while in college and later refereed. When asked what he thinks of Jefferson City, Doug says that it is a friendly city, and he has already found a home church for his family. As you can tell, Doug has a very full life.

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Upcoming MICA Trainings

The summer MICA training schedule is posted at
http://health.mo.gov/data/mica/MICA/healthdatatraining.html. Many of the remaining sessions are full, but we are still accepting waitlist registrations.

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Data Updates

Several of the Profiles and Data MICAs have been updated since the publication of the last newsletter. They include:

Birth MICA – through 2012
Cancer Registry MICA – through 2011; prior years updated
Chronic Disease MICA – through 2012 for deaths, hospitalizations, and ER visits
Death MICA – through 2012
Emergency Room MICA – through 2012
Fertility Rate MICA – through 2012
Hospital Discharges, Charges & Days of Care MICA – through 2012
Injury MICA – through 2012
Inpatient Hospitalization MICA – through 2012
Medicaid Records MICA – through April 2014
Population MICA – through 2012; 2011 estimates revised
Pregnancy MICA – through 2012
TANF (Temporary Assistance for Needy Families) MICA – through April 2014

Delivery Profile – through 2012
Prenatal Profile – through 2012
Social and Economic Indicators Profile – through 2012

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Recent/Upcoming Events

On March 24, Andy, Becca, and Melissa VanDyne from the Office of Primary Care and Rural Health (OPCRH) presented an Epi Grand Rounds session on the *Health in Rural Missouri* report. The full report is available at http://health.mo.gov/living/families/ruralhealth/pdf/biennial2013.pdf. The presentation focused on several of the most notable health disparities identified in the full report. Unfortunately, audio problems prevented this Epi Grand Round from being recorded. The BHCADD and the OPCRH are planning to re-record the material. When completed, the presentation will be available at http://health.mo.gov/information/epigrandrounds/sessions.php.

Andy again spoke about the *Health in Rural Missouri* report on April 25 at the Missouri Health Equity Collaborative's 2014 Healthy Lives, Healthy Communities Conference. Andy served on the "Reducing Health Disparities in Rural Missouri" panel.

At left: Andy Hunter discusses rural health at the 2014 Healthy Lives, Healthy Communities Conference in Columbia.

Andy and Becca traveled to Westphalia to speak at the Fatima High School Career Day on March 26. They had fun explaining how their very different educational and employment paths led them both to careers in health statistics. Students from grades 6-12 attended the event and had several questions about statistics, college, extracurricular activities, and state employment in general. Special thanks to the students who prepared a delicious breakfast for all of the guest speakers!

The following week, Becky and Evan hosted an interactive MICA exhibit for attendees of the annual LPHA New Administrator Orientation held at DHSS. This two-day training allows LPHA administrators hired within the past year to learn about the various programs available at the Department. On the second day of the training, Becca and Whitney provided a one-hour overview of the Profiles and MICA.

Above: Andy Hunter poses by the MICA exhibit at the 2014 Blood Cancer Conference.

Data Dissemination team members were new exhibitors at two conferences in the St. Louis area this spring. Becky and Whitney hosted an exhibit customized with teen pregnancy data at the Teen Pregnancy and Prevention Partnership conference on April 11. A few weeks later, Andy and Whitney shared data on blood cancers with attendees of the Leukemia and Lymphoma Society's 2014 Blood Cancer Conference. The BHCADD had not attended either of these conferences in previous years, so we were excited to have opportunities to share the tools with new audiences.

The first session of the summer MICA trainings was held in Joplin on May 13-14. Special thanks to Missouri Southern State University for not only hosting us but also for providing lunch!

At right: Evan Mobley presents a section of the Introduction to Profiles and MICA course in Joplin.

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Q&A

How do I properly cite data from MODHSS?

Citing sources can be a daunting task, especially if you are unfamiliar with citations or if it has been some time since you last prepared them. Nonetheless, properly citing where you find your data is a crucial step in the research process. There are several citation styles that all have different approaches. At the beginning of your project, you will need to identify which citation format you are expected to use. APA, or American Psychological Association, style is commonly used for scientific and health-related publications, but you should check with your organization to determine if some other style is preferred. Below are a few excellent sites that provide additional information on the APA citation style, as well as several other common styles.

- https://owl.english.purdue.edu/owl/resource/560/01/
- http://bcs.bedfordstmartins.com/resdoc5e/index.htm
- http://www.calvin.edu/library/knightcite/

APA style recommends in-text citations, which list source information within parentheses at the end of a sentence. Other styles recommend footnotes or endnotes instead of in-text citations. Footnotes appear at the bottom of each page that contains a citation, while endnotes appear at the end of the chapter or sometimes at the end of the entire document.

What is the difference between an in-text citation and a bibliography reference?

An in-text citation refers to a specific idea, quote, or statistic from an outside source that you are using within your report and points to the specific part of the outside source you used. For example, if you quoted a passage from a book, the in-text citation would include the page number where you found the passage. The bibliography, also known as a references or works cited page, lists all of the sources used in your report and contains information on the overall sources. The bibliography entry for a book would include the name and location of the publisher. The entry for a website would include the URL and the date the data were retrieved.

Below are examples of in-text citations and bibliography entries for the MICAs and Profiles. These examples are based on APA style. You may need to use a different citation style or wish to modify these examples. For instance, we abbreviated the author as MODHSS for the in-text citations but provided the full name in the bibliography. You may wish to spell out the full name in your in-text citations. Regardless of the format used, the key pieces of information provided here need to be included.

Profile in-text citation:
A total of 95,514 Missouri children under the age of 6 were tested for lead poisoning in 2010 (MODHSS, Child Health Profile).

Profile bibliography entry:
MODHSS (Missouri Department of Health and Senior Services). *Community Data Profiles*. In
      Child Health Profile. Retrieved 2012, April 30, from
      http://health.mo.gov/data/mica/ASPsChildHealth/header.php?cnty=929.

MICA in-text citation:
The death rate for Barry County residents decreased from 992.7 (per 100,000 residents) in 2008
to 800.1 in 2009 (MODHSS, Death MICA).

MICA bibliography entry:
MODHSS (Missouri Department of Health and Senior Services). *MICA*. In Death MICA.
      Retrieved 2012, April 30, from http://health.mo.gov/data/mica/DeathMICA/.

Note that the URL for the Profile refers to the actual Child Health table, but the URL for the
MICA refers to the Death MICA homepage. Because the Profiles are static reports, the web
addresses for particular tables do not change. However, MICA tables are generated only when
queries are submitted. As a result, MICA table URLs are temporary.

Why is it important to cite data?

Citation of sources is necessary for several reasons. The most important reason is avoiding the
risk of plagiarism. Plagiarism occurs when a writer includes someone else's work in his or her
own material without giving proper credit. The consequences of plagiarism can be harsh. By
properly citing your sources, you are giving credit where it is due and reducing the chance that
someone may construe your work as plagiarism. In addition, citing sources is helpful to you as
the author. Citations provide an organized method of documenting information so that you can
check to see if a resource has been changed or updated since the last time you used it. Citations
are also beneficial to readers, giving them extra sources of information they may need, as well as
providing a way for them to verify the information if they have questions.

Do you have any tips or advice for keeping track of citations and sources?

- Begin writing your bibliography at the start of your project and maintain it throughout the
  entire research and writing process. Do not wait until you are almost finished with your
  project to begin documenting your sources. Starting and maintaining a bibliography from
  the beginning will help you remain organized and give you a better feel for the types of
  information you still need to research.
- Always provide the source of an idea that is not original, or one that you did not come up
  with on your own. It is much better to over-cite than to fail to provide a citation, thereby
  committing plagiarism. You are much less likely to be criticized for having too many
  sources than for having too few.
- Be sure to examine the bibliographies of resource materials you are currently using. This
  will provide you with additional sources of information and give you an idea of how
  much research has been done on the topic.

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Practice Exercise

Many of you have asked for additional exercises such as the one below so that you can practice the skills you learned at the MICA trainings. If you would like to check your work, a link to the answer key is provided at the bottom of this section.

You are collecting data on various death rates in Pulaski County and Missouri. You need to report and cite these rates. Refer to the Q&A section of this newsletter to see example citations and links to additional resources for citing sources.

1. Use the Unintentional Injury Profile to find the state's motor vehicle accident death rate for the 2002-2012 time period. Write a sentence or two about this rate and provide an in-text citation.

    _____

    _____

    Create a bibliography entry for this source.

    _____

    _____

2. Use the MICA datasets to find the 2010 cancer death rate for Pulaski County.

    In which MICA did you find this information? _____

    Write at least one sentence about this rate and cite it appropriately. _____

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    Prepare a bibliography entry for your source.

    _____

    _____

Visit http://health.mo.gov/data/mica/MICA/solutions.html to check the solution.

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Final Thoughts

Andy and Becca recently received a surprise visit from a former intern. Trevor Maness worked with the Data Dissemination team during the summer of 2012, when he was a student in the Master of Public Health program at the University of Missouri-Columbia. Trevor's internship occurred during a very hectic time in the BHCADD, and he got a lot more public health experience than anyone could have anticipated! Two of the seven positions in existence at that time were vacant, so Trevor stepped in to complete several projects that otherwise might not have been finished in a timely manner. These projects included analyzing and reporting the results of a MICA user satisfaction survey; checking Profiles and MICA data for errors; writing sections of one of the early issues of this newsletter; reviewing and editing documentation of the MICA system; and many others.

Some of our longtime readers may have had the opportunity to meet Trevor. Andy and Becca had initially planned for Trevor to attend the final summer 2012 MICA training session in Columbia as a participant. However, those plans changed when Becca went into early labor on July 6. Luckily for the team, grad students are experts in the art of cramming. Trevor was able to study several sections of Becca's material and assist Andy during the trainings in Kirksville on July 17-18 and in Columbia on August 1-2.

At the end of his internship, when his advisor asked how it went, Trevor could honestly report, "I did a LOT!" Fortunately, all of his hard work in the BHCADD did not dissuade him from public health or health data. In fact, he is now pursuing a doctorate in epidemiology at the University of Texas Health Science Center in San Antonio. We were very happy to hear that one of the faculty members was impressed that Trevor had worked with and provided training on the MICA system. (Becca now states that she no longer feels guilty about making Trevor learn material on such short notice because she did him a favor in the long run.) We wish Trevor all the best in his doctoral program but fear the day when he may become our boss and pay us back for all that hard work we made him do.

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About the MICA User Group Newsletter

The MICA 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 quarterly basis. If you have ideas for content, please send them to Andrew.Hunter@health.mo.gov or Becca.Mickels@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, Becca Mickels, Becky Chitima-Matsiga, Whitney Coffey, and Evan Mobley

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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 e-mail to Andrew.Hunter@health.mo.gov or Becca.Mickels@health.mo.gov with the subject line MICA 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 MICA 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 MICA User Group, please send an e-mail with Unsubscribe in the subject line to Becca.Mickels@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 MICA User Group.

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