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Documenting the "So What?" of Evidence-based Programs: Communicating Results to Stakeholders with Research-based Visual Tools

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Cover Page Footnote

With thanks to the participating members of the Arizona 4-H Community of Practice: Elizabeth Sparks, Natalie Shepp, Eric Thoutt, Juan Arias, Don Alamban, Mike Hauser and Nick Morris. Thanks also to the many UXCE professionals who have helped in developing the Arizona 4-H Common Measures system.

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Documenting the "So What?" of Evidence-Based Programs: Communicating Results to Stakeholders with Research-Based Visual Tools

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Abstract. As part of developing the University of Arizona Cooperative Extension 4-H Common Measures system, we created resources for communicating results to stakeholders with research-based visual tools. We outline the creation of two tools that may be useful to CE personnel to use evaluation findings to better "tell their story" to a variety of stakeholders. Effectively telling this story often means addressing the question "so what?". These tools, 1) Outcome Linkages and 2) Infographics can translate the program's "so what?" in easily interpretable and visually engaging ways. Step by step processes are reviewed to guide creation and use of both tools.

INTRODUCTION

The University of Arizona Cooperative Extension (UACE) has been engaging in efforts to support organizational capacity via the systematic collection and use of evaluation data made possible by the development of a statewide Common Measures project. Collecting and aligning data across programs using common measures provides information for local program planning and improvement, grant writing, and communicating the importance and value of Extension programs to stakeholders throughout the state. One crucial component of the UACE Common Measures project is to provide the tools for UACE professionals to translate the findings of their evaluations into a story they can tell a wide variety of stakeholders. Effectively telling this story often means addressing the question: "so what?". All types of stakeholders commonly ask questions such as "What impact does 4-H programming have?" or "What benefits do youth gain from participating in 4-H programming?". This article describes the creation of two tools that may be useful to Extension personnel in other states to help answer these questions and tell their program's "so what?" in easily interpretable and visually engaging ways. These tools are: (a) outcome linkages and (b) infographics.

OUTCOME LINKAGES

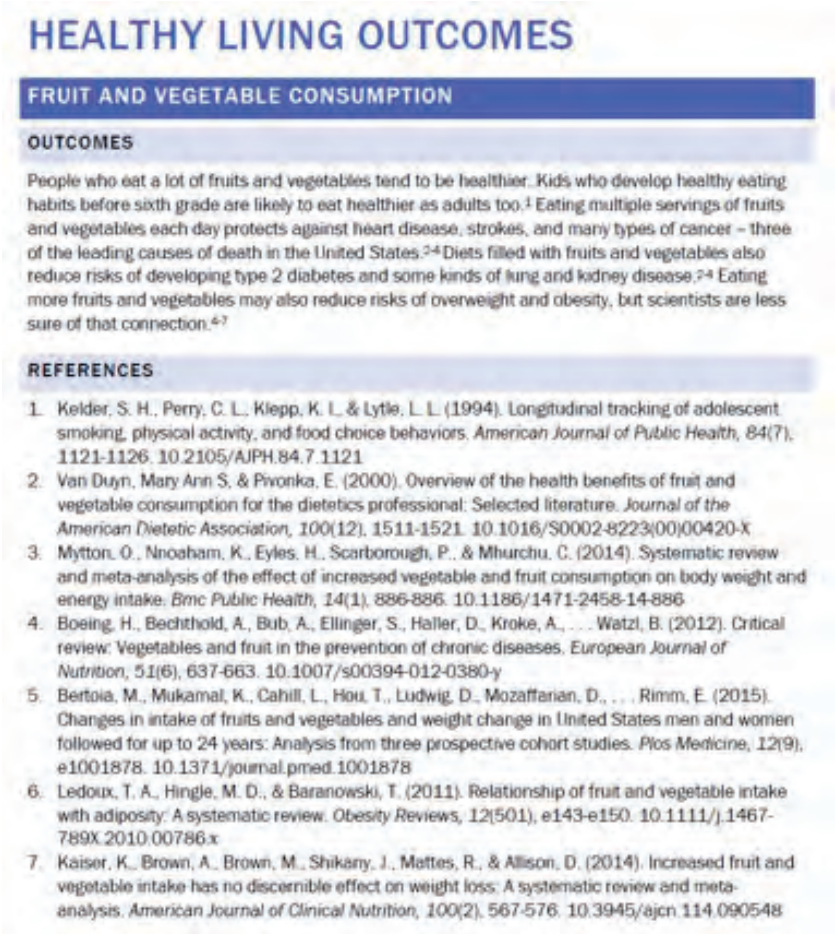
Extension employees can create outcome linkage documents to tie common measures data to the most important outcomes for stakeholders. Our example uses National 4-H Common Measures (see https://4-h.org/resources/professionals/common-measures/), but other states can use the same process with common measures across other program areas or topics. The section below outlines the process for creating an outcome linkage document using the "Healthy Living" National 4-H Common Measures as an example.

The overall goal of the outcome linkage document is to tie the short-term and intermediate individual outcomes measured by the Healthy Living Common Measures (such as eating more fruits and vegetables) to the longer-term public value outcomes important to stakeholders (such as reduced health care costs). The following steps outline the process of creating a Healthy Living Outcome linkage document.

1. First, we reviewed the Healthy Living 4-H Common Measures content blocks (For the 4-H Common Measures 2.0 reference table, see https://ucanr.edu/sites/STEM/files/279459.pdf) to identify key concepts to guide literature reviews. The Healthy Living content block, "Healthy Eating Habits," anticipates

outcomes such as youth consuming healthy foods, consuming less unhealthy food, and following healthy eating patterns (such as eating breakfast and eating as a family).

2. The next step was to tie these outcomes to the "so what?"—why is it important that youth consume healthy foods or follow healthy eating patterns? This question was the focus of multiple literature reviews that focused on high-quality peer-reviewed evidence such as meta-analyses, longitudinal studies, and critical reviews. The team developed search terms for the literature review that focused on both 4-H programming and the long-term outcomes linked to the anticipated short-term and intermediate individual outcomes associated with healthy eating habits. For example, we used search terms such as "youth nutrition AND health outcomes AND review" to identify systematic reviews and meta-analyses of studies linking youth nutrition habits to longer-term health outcomes. Using search terms identified for each key outcome allowed the creation of an annotated bibliography of high-quality studies and reviews related to each topic.
3. Next, we matched to key outcomes found in the literature to specific questions from the 4-H Common Measures Healthy Living, Healthy Eating Habits content area assessing youth attitudes or behavior. Figure 1 shows the outcome linkage for National 4-H Healthy Living Common Measure items assessing fruit and vegetable consumption ("Do you pay attention to how much fruit you eat each day?" and "Do you pay attention to how many vegetables you eat each day?") within the "Healthy Eating Habits" content block. This matching process allowed the team to evaluate the match between the Common Measure items and the outcomes measured in the literature and determine the appropriate studies to cite in each outcome linkage block.



HEALTHY LIVING OUTCOMES

FRUIT AND VEGETABLE CONSUMPTION

OUTCOMES

People who eat a lot of fruits and vegetables tend to be healthier. Kids who develop healthy eating habits before sixth grade are likely to eat healthier as adults too.[1] Eating multiple servings of fruits and vegetables each day protects against heart disease, strokes, and many types of cancer – three of the leading causes of death in the United States.[2-4] Diets filled with fruits and vegetables also reduce risks of developing type 2 diabetes and some kinds of lung and kidney disease.[2-4] Eating more fruits and vegetables may also reduce risks of overweight and obesity, but scientists are less sure of that connection.[4-7]

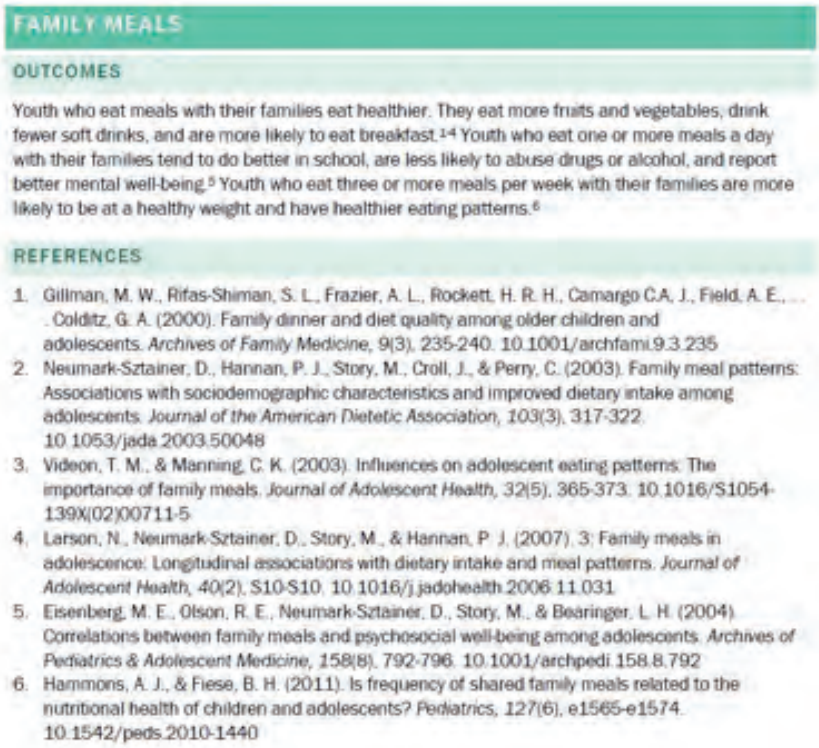
REFERENCES

1. Kelder, S. H., Perry, C. L., Klepp, K. I., & Lytle, L. L. (1994). Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviors. *American Journal of Public Health, 84*(7), 1121-1126. 10.2105/AJPH.84.7.1121
2. Van Duyn, Mary Ann S., & Pivonka, E. (2000). Overview of the health benefits of fruit and vegetable consumption for the dietetics professional: Selected literature. *Journal of the American Dietetic Association, 100*(12), 1511-1521. 10.1016/S0002-8223(00)00420-X
3. Mytton, O., Nnoaham, K., Eyles, H., Scarborough, P., & Mhurchu, C. (2014). Systematic review and meta-analysis of the effect of increased vegetable and fruit consumption on body weight and energy intake. *Bmc Public Health, 14*(1), 886-886. 10.1186/1471-2458-14-886
4. Boeing, H., Bechthold, A., Bub, A., Ellinger, S., Haller, D., Kroke, A., . . . Watzl, B. (2012). Critical review: Vegetables and fruit in the prevention of chronic diseases. *European Journal of Nutrition, 51*(6), 637-663. 10.1007/s00394-012-0380-y
5. Bertoia, M., Mukamal, K., Cahill, L., Hou, T., Ludwig, D., Mozaffarian, D., . . . Rimm, E. (2015). Changes in intake of fruits and vegetables and weight change in United States men and women followed for up to 24 years: Analysis from three prospective cohort studies. *Plos Medicine, 12*(9), e1001878. 10.1371/journal.pmed.1001878
6. Ledoux, T. A., Hingle, M. D., & Baranowski, T. (2011). Relationship of fruit and vegetable intake with adiposity: A systematic review. *Obesity Reviews, 12*(501), e143-e150. 10.1111/j.1467-789X.2010.00786.x
7. Kaiser, K., Brown, A., Brown, M., Shikany, J., Mattes, R., & Allison, D. (2014). Increased fruit and vegetable intake has no discernible effect on weight loss: A systematic review and meta-analysis. *American Journal of Clinical Nutrition, 100*(2), 567-576. 10.3945/ajcn.114.090548

Figure 1. Fruit and vegetable consumption summary from Healthy Living Outcome linkage document.

4. Finally, we summarized supporting literature for each key concept with the aim of writing a brief paragraph (3-6 sentences) at an approximately eighth-grade reading level; the brevity and readability accommodate all kinds of stakeholders. The resulting outcome linkage document provides an accessible summary of the research literature that assesses why these healthy eating habits are important; the summary serves as a tool to communicate these outcomes to stakeholders.

This approach culminated in a 2-3-page brief for each of the Common Measures topic areas. Figure 2 is an additional example from the Outcome Linkage document for Healthy Living.



FAMILY MEALS

OUTCOMES

Youth who eat meals with their families eat healthier. They eat more fruits and vegetables, drink fewer soft drinks, and are more likely to eat breakfast.[1-4] Youth who eat one or more meals a day with their families tend to do better in school, are less likely to abuse drugs or alcohol, and report better mental well-being.[5] Youth who eat three or more meals per week with their families are more likely to be at a healthy weight and have healthier eating patterns.[6]

REFERENCES

1. Gillman, M. W., Rifas-Shiman, S. L., Frazier, A. L., Rockett, H. R. H., Camargo C.A. J., Field, A. E., . . . Colditz, G. A. (2000). Family dinner and diet quality among older children and adolescents. *Archives of Family Medicine*, 9(3), 235-240. 10.1001/archfami.9.3.235
2. Neumark-Sztainer, D., Hannan, P. J., Story, M., Croll, J., & Perry, C. (2003). Family meal patterns: Associations with sociodemographic characteristics and improved dietary intake among adolescents. *Journal of the American Dietetic Association*, *103*(3), 317-322. 10.1053/jada.2003.50048
3. Videon, T. M., & Manning, C. K. (2003). Influences on adolescent eating patterns: The importance of family meals. *Journal of Adolescent Health*, 32(5), 365-373. 10.1016/S1054-139X(02)00711-5
4. Larson, N., Neumark-Sztainer, D., Story, M., & Hannan, P. J. (2007). 3: Family meals in adolescence: Longitudinal associations with dietary intake and meal patterns. *Journal of Adolescent Health*, *40*(2), S10-S10. 10.1016/j.jadohealth.2006.11.031
5. Eisenberg, M. E., Olson, R. E., Neumark-Sztainer, D., Story, M., & Bearinger, L. H. (2004). Correlations between family meals and psychosocial well-being among adolescents. *Archives of Pediatrics & Adolescent Medicine*, *158*(8), 792-796. 10.1001/archpedi.158.8.792
6. Hammons, A. J., & Fiese, B. H. (2011). Is frequency of shared family meals related to the nutritional health of children and adolescents? *Pediatrics*, *127*(6), e1565-e1574. 10.1542/peds.2010-1440

Figure 2. Family meals summary from Healthy Living Outcome linkage document.

VISUALIZING THE "SO WHAT?" FOR STAKEHOLDERS

Although outcome linkage documents summarize high-quality studies to tie the outcomes measured by the Common Measures to longer-term public value outcomes that stakeholders care about, this text-heavy resource can be dense for many stakeholders and does not explicitly link evaluation findings to outcomes. One additional way of linking data to outcomes is the use of topic-based infographics to support easy comprehension of key findings for a wide array of audiences (Dunlap & Lowenthal, 2016; Scott et al., 2016). These infographics are simple, visual documents connecting Common Measures items to outcomes in the literature (based on the outcome linkage documents) in an easy-to-read, easily editable format. The process for developing an infographic is outlined below, once again using the National 4-H Healthy Living Common Measures as an example.

THE ANATOMY OF AN INFOGRAPHIC

We designed our infographics to have five key sections (Figure 3):

- The headline captures the biggest take-away but does not include language regarding causation, which is beyond the reach of simple, post-only survey methodology.
- The "so what" box relates potential outcomes to jobs and/or dollars, which are of key interest to Extension stakeholders. It is important to rely on high-quality sources for these connections, to assure that the linkages are plausible and well-supported.
- We present evaluation data from key survey items that the literature review identified as linked to robust outcomes.

- The "why it matters" content is drawn directly from the Outcome Linkage literature review.
- The infographic is then framed at the bottom by a tagline, again being careful to avoid direct causation or overstatement of contribution. The bottom of the page provides space for logos, non-discrimination statements, citations, and attributions. This design was refined by soliciting feedback from members of the UACE evaluation team, UACE 4-H staff, and UACE student research assistants.

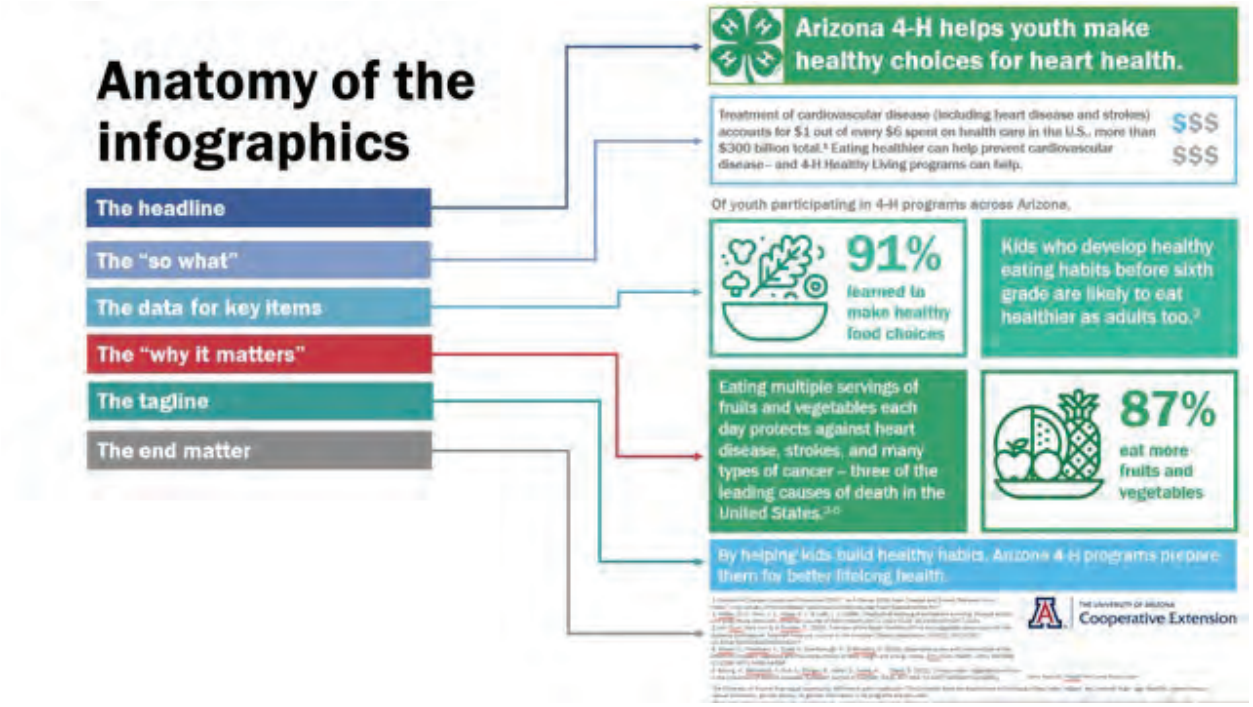


Figure 3. Anatomy of an infographic.

Figure 4 displays an alternative format with a data focus to demonstrate additional program results.

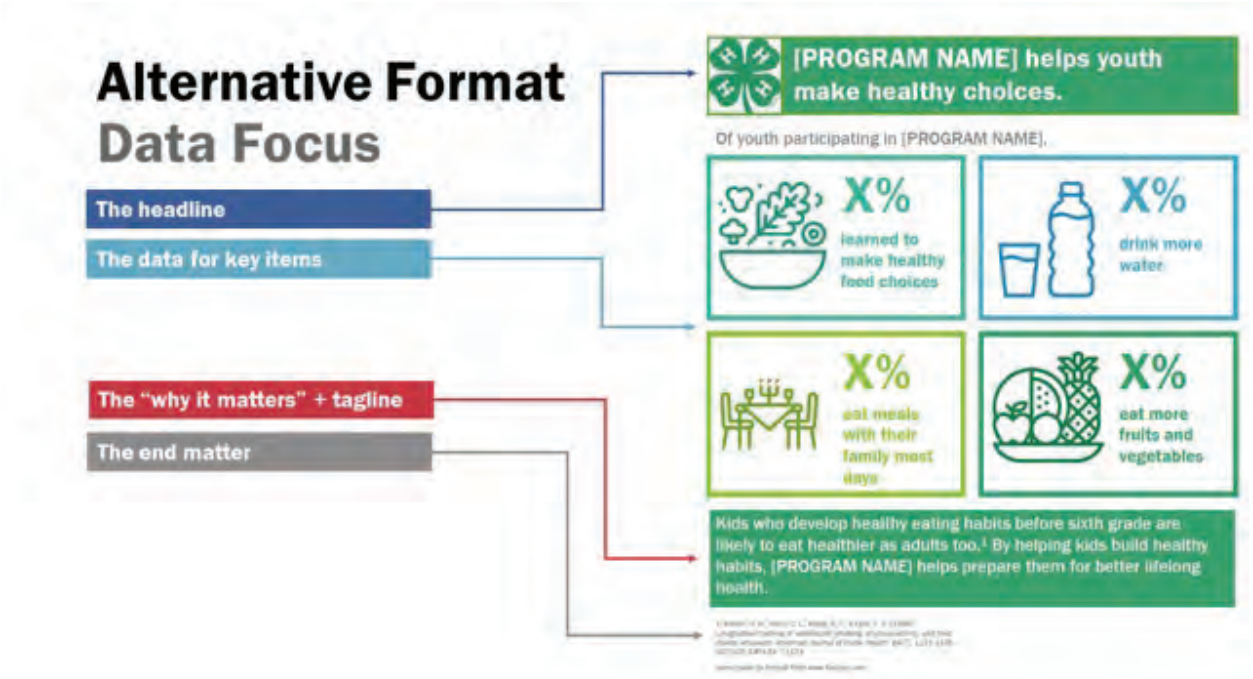


Figure 4. Anatomy of a data-focused infographic.

CREATING AN INFOGRAPHIC TEMPLATE

Each infographic was created using a custom template in Microsoft PowerPoint (see Figure 5 for an exemplar template for a 4-H Healthy Living program); with some additional guidance, Extension professionals can edit the infographics themselves as they hold programs and collect more data. Infographic templates are easy to adapt to illustrate county-level or program-specific data. It's possible to create similar templates using more advanced software such as Adobe InDesign or online tools such as Canva. We recommend PowerPoint over these other options, because it is a software most Extension professionals are already familiar with and frequently have access to via an institutional license; it does not rely on internet access, which can be poor in rural areas; and it is easy to embed instructions in the templates via the comment feature.

Our team uses the following procedure to create infographic templates:

1. Create an empty PowerPoint document with slide dimensions suitable for printing single page handouts—in our case, 8x10 in.
2. Insert rectangular shapes to provide visual frames for each key piece of information. We recommend a filled header box for the headline; a framed box for the "so what"; four framed or filled boxes for key survey items and supporting "why it matters" text; a filled box for the tagline; and white space at the bottom for sources, attribution, and logos.
3. Set the color palette for the document. For the 4-H Common Measure infographics, we created the color palette by color-matching the 4-H logo and using a free color palette generator (coolors.co) to identify complementary colors.
4. Identify graphics related to the key survey items highlighted in the infographic. You can search icons from Flaticon.com by topic (e.g., "vegetables" or "water bottle"); icons from FlatIcon and photos from Unsplash.com are free to use with appropriate attribution. Use the built-in picture tools in PowerPoint to color each icon to match the color palette.
5. Customize the size of text boxes to fit the content. For each program area, it may be necessary to adjust text boxes to fit the "why it matters" and "so what" content. Aim to keep all text except sources and attributions at a 14pt font size or higher and use a medium- to heavyweight font to ensure readability. Using built-in alignment guides and the ruler in PowerPoint can help keep all text boxes properly aligned.
6. Use the "group" option to set content blocks—such as a framed box, its icon, and the associated survey data. Grouping the content blocks allows easy maneuvering of these blocks on the page to experiment with different layouts (e.g., survey items on top with "why it matters" text on bottom or alternative survey items and text).
7. Finalize the layout by grouping all items on the page into a single content group to ensure that placeholder text for the survey data can be edited without accidentally changing the alignment of content items.
8. Add comments to each survey data placeholder to indicate which survey question and response options to report in that box.

It is important to note and communicate any limitations of the data included in the templates (e.g., if it is pilot data and how representative of the population of interest it is) and to specify the population included in the data presented in the infographic. We drafted the following instructions to accompany all infographic templates:

- Replace the [PROGRAM NAME] with the name of your program and the 'X%' with the appropriate percentage from your program data.
- Note that each percentage has a comment saying which question and which response should be used. Delete these comments before you print or save as a PDF; otherwise, a comment icon will end up on your final infographics.
- Save a copy of the original templates before making any edits so that you can return to it if necessary.
- If you want to share these with stakeholders digitally, save the final copy (with your program name and percentages) as a PDF.

- As a rule of thumb, try not to report percentages for questions that had fewer than 10 respondents. If you are reporting for a small program (e.g., only 9 kids, and all of them took the survey), you could use whole numbers instead (e.g., 3/5 or 7/9).

Figure 5. Exemplar infographic template.

CONCLUSION

Outcome linkages and infographics are useful tools for Extension personnel to convey the impacts of their programs on their communities. By linking evaluation data with well-supported outcomes based on high-quality research literature, these products can help personnel explain why Extension does the programming it does and what potential impacts may be seen over time as programs—like 4-H—are implemented. One key component of sustainable evaluation practices is promoting communication about and use of the evaluation findings (Preskill & Boyle, 2008). These tools provide a starting point for discussions about more intensive impact studies while providing personnel with a tangible product to engage with local stakeholders. We recommend this approach to other Extension professionals to support stakeholder engagement and evaluation capacity building across program areas.

REFERENCES

4-H. (2022). *Common measures*. https://4-h.org/professionals/common-measures/

Dunlap, J. C., & Lowenthal, P. R. (2016). Getting graphic about infographics: Design lessons learned from popular infographics. *Journal of Visual Literacy, 35*(1), 42-59. https://doi.org/10.1080/1051144X.2016.1205832

Preskill, H. & Boyle, S. (2008). A multidisciplinary model of evaluation capacity building. *American Journal of Evaluation, 29*(4), 443-459. www.doi.org/10.1177/1098214008324182

Scott, H., Fawkner, S., Oliver, C., & Murray, A. (2016). Why healthcare professionals should know a little about infographics. *British Journal of Sports Medicine, 50*(18), 1104-1105. www.doi.org/10.1136/bjsports-2016-096133