Dissemination of Rural Health Research:

A Toolkit

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Introduction

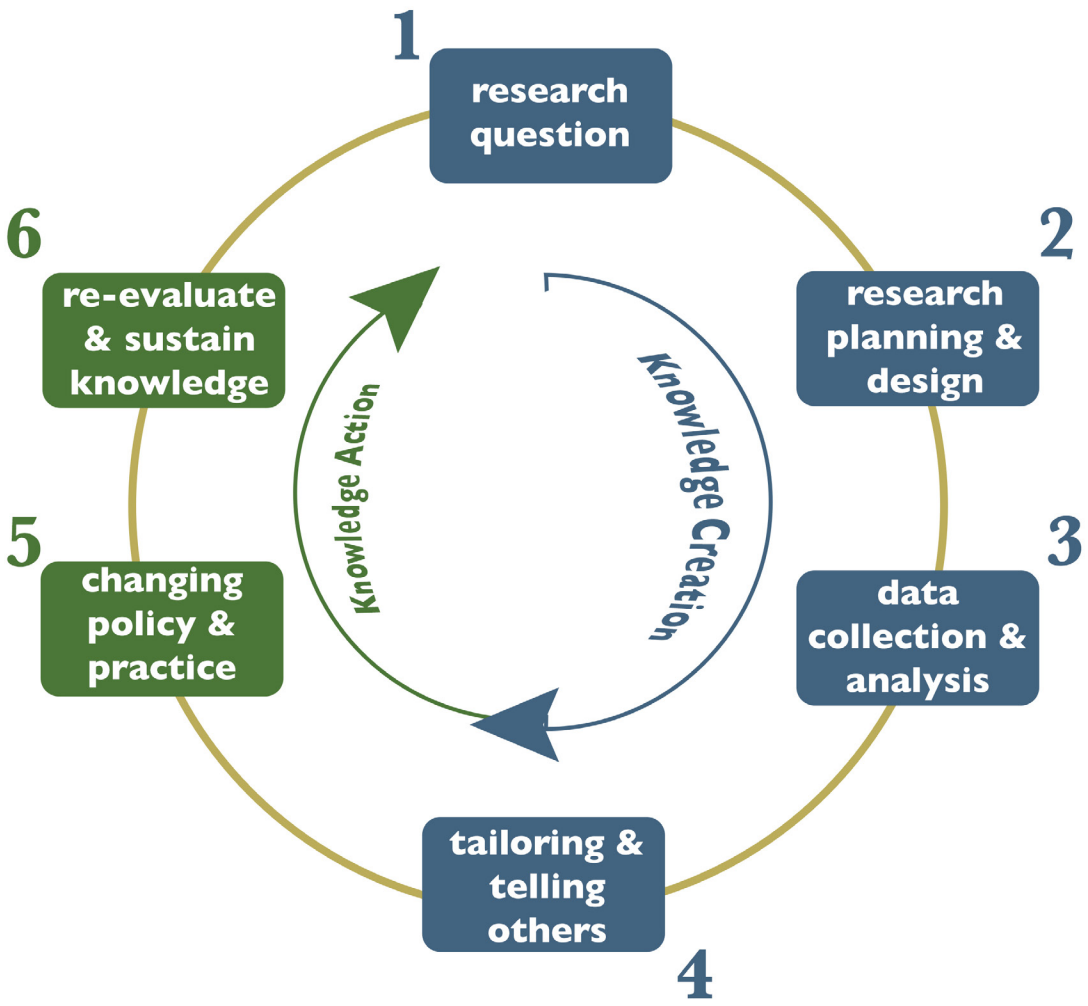
Rural health research will not have an impact on rural people and health systems if it is not accessible and valuable for diverse audiences, including health consumers, stakeholders, and policymakers at the local, state, and national levels.[1-4] The World Health Organization refers to dissemination of health research as knowledge translation.[1-2] Knowledge translation is:

> *A dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen healthcare systems.*[2,5]

The emphasis of knowledge translation is to ensure health providers, consumers, researchers, advocates, and policymakers are aware of, can access, and are able to use health research findings to inform decision making.[2] Differences among audiences make it imperative to know when and how to utilize various modes of dissemination for health research.[6]

This toolkit aims to assist researchers with step four in the knowledge translation process, reaching their target audiences. By developing appropriate, timely, accessible, and applicable products, researchers have the opportunity to inform step five, a change in policy or practice. This toolkit provides descriptions for multiple modes of dissemination and includes discussion of the purpose of each product, which product is appropriate given the topic and audience, and how to develop each. Effective examples are also provided.

Knowledge Translation Process



Original image of knowledge translation process came from https://www.canchild.ca/en/research-in-practice/knowledge-translation-exchange

Rural Health Research Gateway

This toolkit is a product of the Rural Health Research Gateway (Gateway), funded by the Federal Office of Rural Health Policy (FORHP). Gateway is an online library of research and expertise. It's free to use, searchable, and provides access to the work of all federally-funded Rural Health Research Centers and Analysis Initiatives.

The Rural Health Research Center Program is the only federal program that is dedicated entirely to producing policy-relevant research on healthcare in rural areas. The Centers study critical issues facing rural communities in a quest to secure adequate, affordable, high-quality health services for rural residents.

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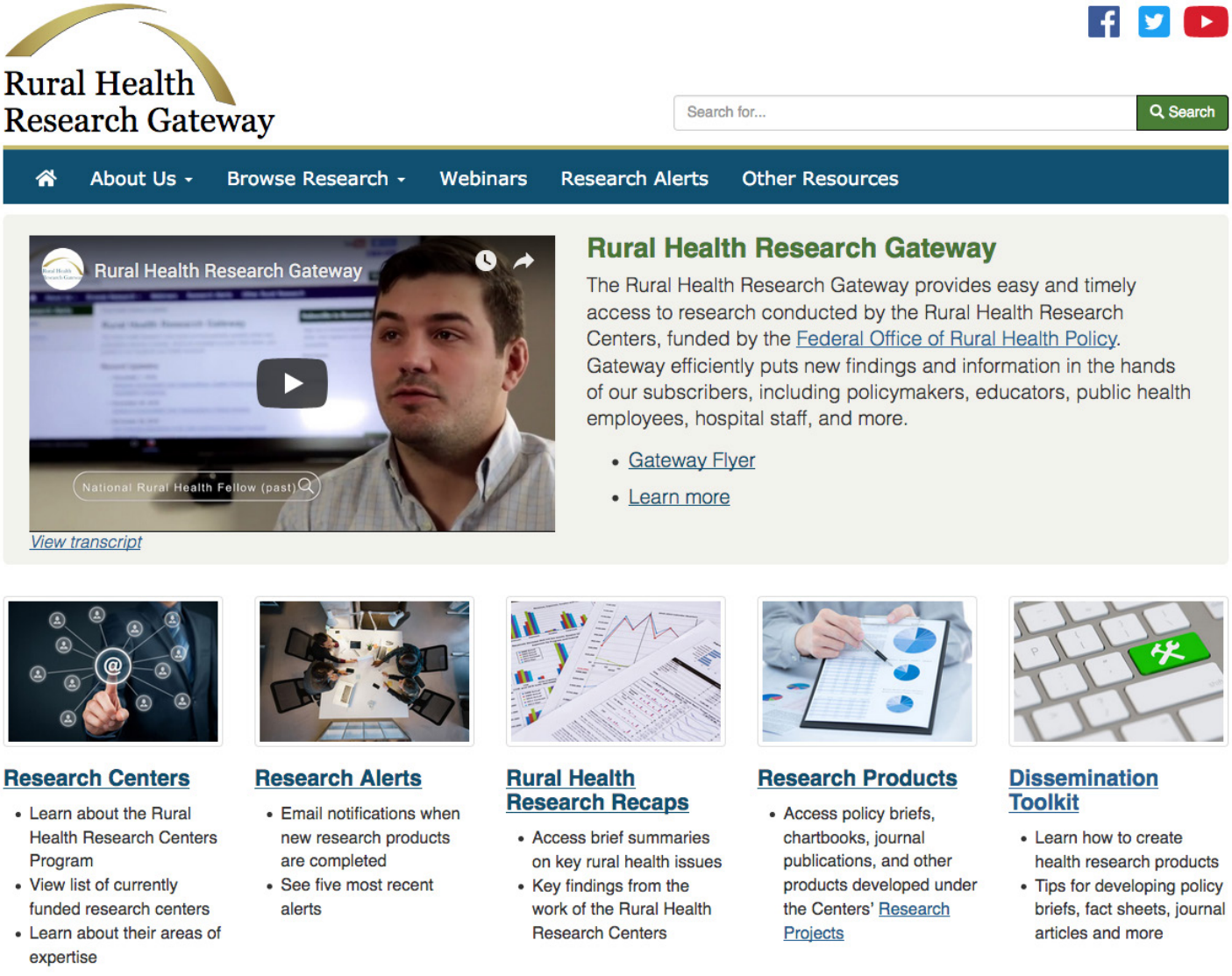


General Rules of Dissemination

The practice of knowledge translation requires that a research team design the initial research question, method, and plan for dissemination with consideration of, and possibly collaboration with, the intended audience. It is imperative for researchers to engage end users when framing research and when identifying how to share the results of their work. Below are general rules to follow regarding the presentation of research findings, regardless of the mode of dissemination (for example, fact sheets, policy briefs, or chart books).

General Rules

- The product (e.g., white paper, fact sheet, poster presentation) and the presentation of key findings must be tailored for the intended audience.
- Consider presenting the results of one study in multiple formats to reach new audiences; be flexible in presentation and format and consider several unique products.
- Collaborate with those using the research results to identify topics of greatest interest and the most effective product type.
- Regardless of product, the most influential elements of any resource are the title, abstract, and introduction; considerable time must be spent writing each.

General Recommendations for Format

- Discuss or highlight the most important information first.
    - ❖ Highlight the main points or key findings and repeat them throughout the product.
    - ❖ End the product by reiterating the most important information.
- Messaging must be clear, concise, and action oriented.
- Discuss policy implications or implications for healthcare delivery or practice.
- Use consistent messaging, and if results are contrary to general knowledge or consensus, address this to make the findings credible.
- Methods sections are largely ineffectual outside of a discipline-specific audience; if included in other products, make them brief and free of jargon.
- Statistical significance and p-values are unnecessary and distracting in products produced for end-users outside of the discipline.

Language

- Identify all acronyms at first use, and avoid unnecessary abbreviations.
- Outside of articles to be published in discipline-specific, peer-reviewed journals, write without jargon, free of technical/scientific language, and eliminate information that the end-users do not need to know in order to interpret the findings and implications.
- Do not use multiple terms for one concept; keep word choice consistent.
- When using terms to describe people, use people-first language.
    - ❖ Correct: Many of the children who are uninsured in North Dakota come from families with low incomes.
    - ❖ Incorrect: In North Dakota, many of the uninsured children come from families with low incomes.

Graphic Design and Layout

When able, utilize a graphic designer to develop figures, tables, and final products. If your organization does not have access to or the budget to contract for graphic design, common layout and design rules include:

- Use simple graphics that are easy to understand and tell a story without additional narrative:
  - Pie and bar charts are more memorable than tables.
  - Label the bars in any figure with the respective percentage or number.
- Pretest your materials with the intended audience to assess the design effect and content.
- For headings, use a font size at least two points larger than the main text.
- Do not use ALL CAPS.
- Limit the use of italics and underlining because they make the text difficult to read.
- Use high quality visuals with sharp resolution, true color and contrast, and good composition.
- Place all visuals (images, graphs, tables) near the related text or reference point.
- Use appropriate color in graphs and other design elements, and ensure they print well in black and white.
- Use fonts that are easy to read both in print and online:
  - Times/Times New Roman
  - Garamond
  - Georgia
  - Caledonia
  - Arial
  - Calibri
  - Century Gothic

Title

Regardless of the mode of dissemination, the title of the document will determine who sees and reads the product. A user will not read further if the title does not entice them. Additionally, indexing and abstracting services rely on accurate titles in extracting keywords for cross-referencing online. Researchers should spend considerable time and thought in developing an interesting and accurate title.

A Title Should

- Clearly and precisely reflect the content. It should be simple, specific, and catchy.
- Omit unnecessary words, and keep the title to 10 or fewer words.

  ~~*Investigation of*~~ *Vacancy Rates by Provider Type among Rural and Urban Hospice Agencies*
  ~~*Study of*~~ *Vacancy Rates by Provider Type among Rural and Urban Hospice Agencies*
  ~~*Research on*~~ *Vacancy Rates by Provider Type among Rural and Urban Hospice Agencies*

- If only a small number of variables were studied, include them in the title.

  Good: *Vacancy Rates by Provider Type among Rural and Urban Hospice Agencies*

- May include a subtitle separated by a colon.
- Focus on what was studied, not the findings.

  Avoid: *Rural Hospice Agencies have Higher Vacancy Rates across all Provider Types when Compared to Urban Counterparts*

A Title Should Not

- Be a complete sentence.
- Include jargon, acronyms, or abbreviations.

  Avoid: *FTEs of RNs, LPNs, NPs, CNAs, and MDs in Rural and Urban Hospice Agencies*

  Better: *Health Provider Staffing Structures in Rural and Urban Hospice Agencies*

- Try to be too clever or humorous.
- Name specific instruments, unless the instrument is the area of focus.

  Avoid: *Quality of Care in Rural and Urban Hospice Agencies: CAHPS Survey Scores*
  Better: *Rural Relevance of the Hospice Consumer Assessment of Healthcare Providers and Systems Survey (CAHPS)*

- Be a question: If writing a title as a question, avoid those that can be answered yes or no.

  Avoid: *Do Rural Hospice Agencies Struggle More than Urban to Fill Provider Vacancies?*
  Good: *To What Extent do Rural Hospice Agencies Struggle to Fill Provider Vacancies?*
  Better: *Rural Hospice Agencies' Barriers to Filling Provider Vacancies*

Abstract

Abstracts provide a summary of the report in less than 300 words; some journals limit to 150. The abstract is the only section of a submission published in conference proceedings, reviewed by potential referees, and accessible to readers when they search electronic databases.

General Rules

- Write the abstract last to ensure the abstract represents the entire paper.
- Provide as much detail as permitted within the word limit.
- The title and abstract will be able to stand on their own.
- Address any unique aspects of the study and/or if this is a new line of inquiry.

Recommendations for Format

- **Background:** This is the shortest section of the abstract (2-3 sentences) and addresses what is known and what is not known about the subject and states the problem/purpose.
- **Methods:** This is the second longest section of abstract and addresses (as relevant) the research design, data set, sample size, participant qualifiers, setting of study, treatment, study duration, instruments, and the primary outcome measure and how it was defined.
- **Results:** This is the longest and most important section and provides as much detail about the findings as word count permits, including, results (along with P values in parentheses), statistics with confidence intervals, and any important negative findings.
- **Conclusions:** Greatest impact on the reader and contains: (1) primary take-away; (2) additional findings of importance; and (3) researcher's perspective and/or implications.

Language, Graphic Design, and Layout

- Use active voice, and write in third person. Include known facts and hypotheses in present tense, and use past tense when referring to past experiments.
- Utilize subheadings whenever permissible, and do not include tables or figures.

Abstract Example

Purpose: Children injured on farms in the United States are hospitalized at 14 times the rate of children with injuries unrelated to farming. This study characterizes pediatric injuries occurring on farms compared to injuries in homes. **Methods:** We examined the National Trauma Data Bank from 2009 to 2014 to identify children ages 0-17 with ICD-9 E-codes reflecting a farm or residential place of injury occurrence. Appropriate nonparametric tests were used to compare patient, injury, and hospitalization characteristics by injury locale. Mixed effects models for binary responses were used to examine the odds of an injury occurring on a farm versus at home, and we controlled for random effects of trauma center after adjustment for potential confounding variables including age, sex, and categorical injury severity. **Findings:** There were 2,776 injuries on farms, and 133,119 injuries at homes. Children injured on farms had a median age of 10 years compared to 4 years at homes ($P < .001$). Machinery injuries were 19 times more frequent on farms ($P < .001$), and injuries to multiple anatomic locations were twice as frequent on farms ($P < .001$). Children injured on farms required helicopter transport 4 times as often as those injured at home. Additionally, children injured on farms were nearly 2.5 times more likely to have a length of stay greater than 7 days. Conclusion: Injuries occur during the course of childhood; however, injuries sustained in a farming environment are more severe and require greater clinical management than injuries which occur in the home.

Example taken from Cooper, G., Zagel, A., Nickel, A., & Ortega, H. (2019). A comparison of pediatric traumatic injuries on farms and residences from 2009 to 2014. *Journal of Rural Health.*

Standards for Accessible Design:

Compliance with Department of Justice's Americans with Disabilities Act (ADA)

On September 15, 2010 the Department of Justice (DOJ) published the Americans with Disabilities Act (ADA) Standards for Accessible Design. The purpose of the ADA was to ensure that all electronic and information technology be accessible to people with disabilities. More specifically, 508 Standards "contain scoping and technical requirements for information and communication technology (ICT) to ensure accessibility and usability by individuals with disabilities."

- ADA Standards for Accessible Design, https://www.justice.gov/accessibility/accessibility-information
- Section 508 of the Rehabilitation Act, https://www.section508.gov/create/pdfs

Organizations Responsible for Providing Accessible Products

Federal agencies, as well as state and local government agencies must comply with these standards. Federal and state agencies have also begun requiring individuals, organizations, and programs that are funded under their respective agencies to comply with the law.

Products and Resources that Need to be Accessible

The Revised 508 Standards include IT tools and systems, as well as electronic content including documents, web pages, presentations, social media content, and blogs. Specific products commonly shared online by rural health researchers, organizations, and agencies that should ensure accessibility include:

- Any research products shared online (policy briefs, fact sheets, infographics, white papers).
- Slide decks from presentations that are shared electronically.
- Promotional products available online (any pdf file).
- Recorded webinars (video and/or audio).
- Videos archived or shared online.

Ensuring Accessibility

A document or publication is "accessible" if it can be used by people with disabilities including those who are mobility impaired, blind, low vision, deaf, hard of hearing, or who have cognitive impairments. The following resources can assist you in understanding usability standards, but also cover a wide range of recommendations for making content more accessible:

Create Accessible Digital Products: GSA Government-wide IT Accessibility Program
This website houses resources provided by the U.S. General Services Administration (GSA) to assist in assuring that digital products conform to the Revised 508 Standards. https://www.section508.gov/create

Web Content Accessibility Guidelines (WCAG) 2.0
WCAGs are part of a series of web accessibility guidelines published by the Web Accessibility Initiative of the World Wide Web Consortium which is the main international standards organization for the Internet. https://www.w3.org/TR/WCAG20/

Characteristics of Accessible Products (PDFs)

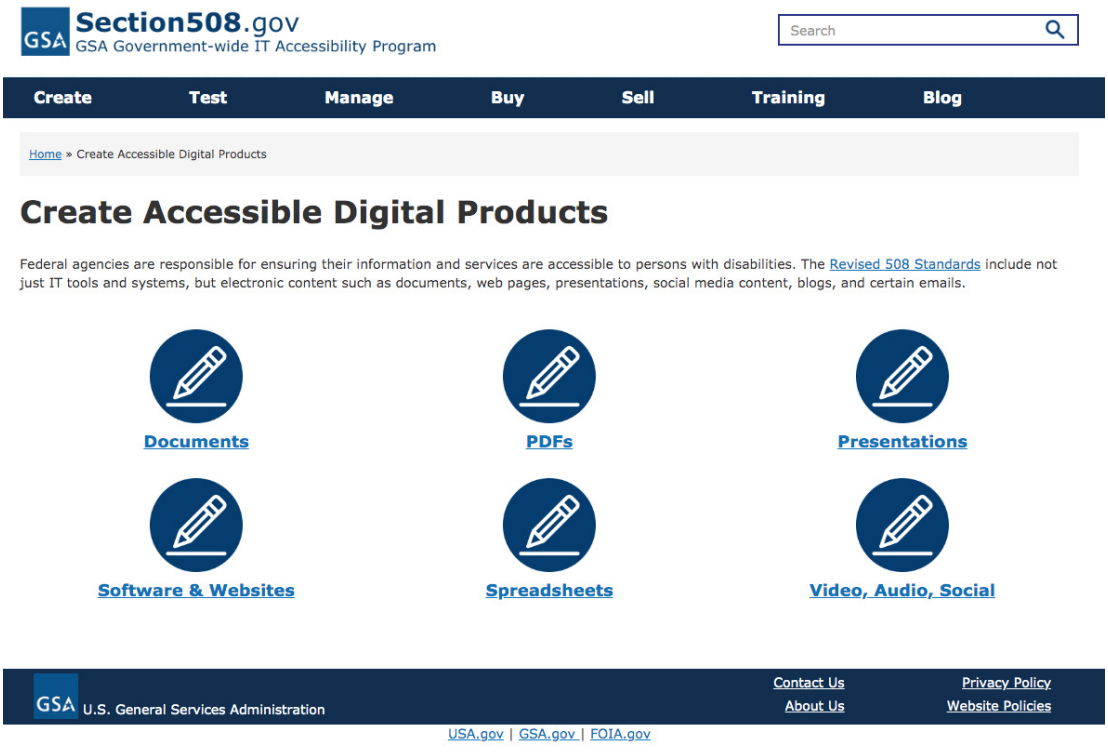
The University of Minnesota Disability Resource Center developed resources to assist in ensuring usability and accessibility of online products (https://www.accessibility.umn.edu/tutorials/documents).

An Accessible PDF Will Have:

- Searchable text that is recognized by the computer (not scanned in).
- Navigational aids including a clear title, bookmarks, clear headings, and a table of contents.
- A specified language in the document to enable people who use a screen reader.
- Document structure tags (these can be made in Adobe or other programs).
- Logical reading order which is governed by the document structure tags.
- Alternative text for non-text elements like graphs, images, or other figures.
- Appropriately formatted tables.
- Hyperlinked text instead pasting the full text link.
- Bulleted lists to organize information into sections and key concepts with numbered lists when there is a sequence, or process. Be sure to use the software's built in list/bullet function and do not create bullet lists manually by inserting symbols.
- Bolding or texture in figures and text to show emphasis or contract; do not use color alone.

Creating Accessible Products

Most people develop products in Microsoft Word, Google Docs, or a similar program. Ensuring accessibility is easier if the original content creator takes accessibility standards into consideration from the beginning. Applications like Adobe Acrobat Pro are required to create accessible PDFs and offer tools to scan documents, conform to accessibility standards, and report and offer tips to fix any issues. More information is available at Creating Accessible PDFs: GSA Government-wide IT Accessibility Program (https://www.section508.gov/create/pdfs) and Adobe: Create and Verify PDF Accessibility (https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html).



Policy Brief

Policy briefs offer research findings and evidence-informed policy options in a synthesized, neutral, and user-friendly format to a nonspecialized audience. Policymakers prefer short, succinct, and easily accessible information that provides both evidence and actionable recommendations. The World Health Organization states that, "policy briefs improve the chances that policymakers will read, consider, and apply the contents of research summaries when reaching policy decisions."

General Rules

- Titles should be short, free of jargon, focused, and relay the key finding(s) or implication(s).
- Focus on a single topic; limit the brief to a specific area of concern.
- Aim for short and to the point, no more than 4-6 pages or no more than 3,000 words.
- Use short paragraphs with several subtitles to entice and direct readers.
- Briefs are more likely to be read if they are attractive, interesting, short, and easy to read.

Recommendations for Format

Introduction and Executive Summary/Key Findings: Both appear on the first page.

- The executive summary or key findings stand out to provide highlights of the brief.
- The introduction discusses the significance of the study, entices the reader, provides a clear statement of the problem or issue of focus, and establishes policy relevance.

Methods/Methodology: Keep it brief; one paragraph.

- The common audience is not interested in research/analysis procedures.
- Address the study aim and design with further details made available as a reference.

Findings: This is typically the largest section of a brief and presents the results of the study.
Conclusion/Discussion: Interprets the meaning of the data and provides concrete, evidence-based conclusions.
Implications/Recommendations: Based on firm evidence.

Language

- Employ nontechnical, jargon-free language, and spell out initial acronyms.
- Do not overuse statistics in text.

Graphic Design and Layout

- **Graphics:** Usually, graphics are viewed first before reading text; bar charts and pie charts are most effective; keep graphics simple with legible labels and an explanatory title.
- **Tables:** Use tables sparingly and consider graphs. Tables have catchy titles, highlight important cells, and are simple (4 columns, 6 rows); statistical significance is not necessary.
- **Bulleted Lists:** Express complete thoughts, and use more than one or two words per bullet, ideally with groupings of 5-7 bullets. This provides a good visual break from the narrative.
- **Callouts:** They are used to **emphasize a salient point** and should be structured as a sentence or sentence fragment in a larger font, bolded and/or in a different color.

Boxes & Slidebars

Reader can understand them without reading the main text; give a title; do not repeat the message from the text; make sure it adds something, is short, descriptive and stimulating

Southwest Rural HEALTH RESEARCH CENTER

Cancer Mortality in Rural America 1999-2016

Timothy H. Callaghan, Alva O. Ferdinand, Samuel D. Towne Jr, Marvellous Akinlotan, Kristin Primm, and Jane Bolin

Purpose

In this study, our primary aim was to understand the scope of cancer mortality in urban and rural areas of the U.S. We analyzed mortality associated with some of the most common cancer types in the U.S.—breast, cervical, lung, prostate, and colon—over an eighteen-year period from 1999-2016 and explored the roles played by rurality and region in this process.

Background

For scholars and policymakers alike, understanding the burden of cancer on society is a critical topic for investigation. It is estimated that in 2016 alone, almost 1.7 million Americans were diagnosed with cancer and the disease consistently ranks as the second leading cause of death in the United States — accounting for one in every four deaths.[1-4] Cancers of the prostate, breast, lung, and colorectal areas are particularly problematic. Prostate, lung, and colorectal cancer account for roughly 50% of cancer cases in men and cancers of the breast, lung, and colorectal areas account for 50% of cancer cases in women.[2,5]

Critically, prior research suggests anecdotal evidence of variation in cancer rates and mortality across rural and urban America. For example, research has found higher rates of colorectal cancer in rural Georgia than urban Georgia,[5-6] higher mortality rates of all cancers combined in rural Appalachian regions as compared to non-Appalachian regions,[5,7] and higher cervical cancer rates among rural as compared to urban residents.[5,8] Our research intends to build on this work to present a comprehensive picture of mortality from common cancers across levels of rurality. In addition, we assess whether the influence of rurality on cancer mortality varies across regions of the U.S.

Methods

In order to analyze cancer mortality in the U.S., we rely on data from the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention (CDC). The data are publicly available using the CDC's Wonder platform and include information on the underlying cause of death collected from state registries. Importantly, this platform provides information on mortality by cause of death while accounting for a variety of geographic and demographic factors including rurality.

Key Findings

- Common cancers such as breast, cervical, lung, prostate, and colon have been responsible for more than 976,000 deaths in America's rural areas from 1999-2016.
- Age-adjusted crude mortality rates are higher for lung, prostate, and colon cancer in rural than urban areas.
- Age-adjusted crude mortality rates are higher for breast and cervical cancer in large central metro areas than in America's rural areas.
- Lung cancer mortality is higher in rural than urban areas for all regions except the Midwest, with particularly large discrepancies in the South and Northeast.
- Cancer mortality rates are consistently lower in the West region of the U.S. for all analyzed cancer types except prostate cancer — where rates in the rural West are higher than in any other region.
- Colon cancer mortality rates are similar across large central metros and rural areas for all regions except the South where mortality rates are higher in rural areas.

Fact Sheet

A fact sheet is a one page document that provides basic information and important facts on a specific topic or issue. The fact sheet is simple and easy to understand. If the subject is complex, and/or there is a lot of information or data, consider creating multiple fact sheets that are self-contained. Fact sheets are particularly useful when disseminating information to an audience with very little time and outside of the discipline.

General Rules

- Focus on a single topic; limit fact sheet to a particular and specific area of concern.
- Contain to one page (can be front and back).
- Keep font simple and between size 10-14.
- The fact sheet must be self-contained – do not refer to previous documents or assume readers have preexisting knowledge.
- Make sure to include the most up-to-date information; revise fact sheets if they are used from year to year.

Recommendations for Format

Format will vary, but typically follows the structure of journalism's inverted pyramid; begin with the most important information.

- In the first paragraph, identify the issue, why it matters, and what action is needed.
- Use several headers to separate points/issues labeling the main message(s).
- Keep text brief and leave plenty of white space.
- Do not include details of study methods or statistical significance.
- Make comparisons when possible and measure against other things the audience will be more familiar with (similar problems or topics).
- Provide clear explanations for statistics and facts that do not speak for themselves.
- Readers are interested in the facts, not where they came from; sources/citations are a footnote or endnote.
- Provide references for more information and include links in electronic fact sheets.

Language

- Write in active voice, present tense, and in lay terms.
- Avoid the use of percentages within the text.
- Avoid being repetitive.

Graphic Design and Layout

- Employ bulleted lists but follow guidelines: Each bullet expresses complete thought, more than one or two words per bullet, and groupings of 5-7 bullets is ideal.
- Use bolding, text boxes, and graphics to emphasize important points.
- Use tables sparingly and consider if information could be presented as a graph.
- Use graphs and charts that provide information at a glance and do not require further explanation in the narrative.

Alcohol Use and Your Health

Drinking too much can harm your health. Excessive alcohol use leads to about 88,000 deaths in the United States each year, and shortens the life of those who die by almost 30 years. Further, excessive drinking cost the economy $249 billion in 2010. Most excessive drinkers are not alcohol dependent.

What is considered a "drink"?

U.S. Standard Drink Sizes

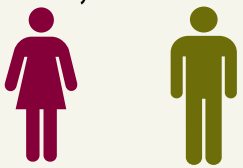
Excessive alcohol use includes:

If you choose to drink, do so in moderation:

DON'T DRINK AT ALL if you are under the age of 21, or if you are or may be pregnant, or have health problems that could be made worse by drinking.

FOR WOMEN, up to 1 drink a day

FOR MEN, up to 2 drinks a day



NO ONE should begin drinking or drink more frequently based on potential health benefits.

National Center for Chronic Disease Prevention and Health Promotion
Division of Population Health

CS246270

Excessive alcohol use has immediate effects that increase the risk of many harmful health conditions. These are most often the result of binge drinking. Over time, excessive alcohol use can lead to the development of chronic diseases and other serious problems.

Short-Term Health Risks

Injuries
- Motor vehicle crashes
- Falls
- Drownings
- Burns

Violence
- Homicide
- Suicide
- Sexual assault
- Intimate partner violence

Alcohol poisoning

Reproductive health
- Risky sexual behaviors
- Unintended pregnancy
- Sexually transmitted diseases, including HIV
- Miscarriage
- Stillbirth
- Fetal alcohol spectrum disorders (FASDs)

Long-Term Health Risks

Chronic diseases
- High blood pressure
- Heart disease
- Stroke
- Liver disease
- Digestive problems

Cancers
- Breast
- Mouth and throat
- Liver
- Colon

Learning and memory problems
- Dementia
- Poor school performance

Mental health
- Depression
- Anxiety

Social problems
- Lost productivity
- Family problems
- Unemployment

Alcohol dependence

http://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm

Example taken from https://www.cdc.gov/alcohol/pdfs/alcoholyourhealth.pdf

Chartbook

A chartbook is a comprehensive report that presents the most complete data available on a particular industry, specialty, or topic. For example, the Centers for Disease Control and Prevention has produced a chartbook to present all data available about health in the U.S. A chartbook may run between 100 and 300 pages. A majority of the document will be tables and figures with little narrative or discussion. The purpose is to illustrate all that is known about a given topic based solely on the most recent available data.

General Rules

- A chartbook has no research question and presents all that is known from the data source.
- Chartbooks should be revised and updated when new data files are released.

Recommendations for Format

Format will vary widely. If a previous chartbook has been written based on the same dataset or source, replicate the previous format. General recommendations include:

- Creating a table of contents, followed by a separate list of tables and figures.
- Have clear organization and distinct sections/subsections of data.
- Include an executive summary, introduction, or brief highlight of the report to address data source(s), purpose, and to provide a guide for the remainder of the document.
- Each section of topic specific data should have a brief introduction following the header.
- Graphics should include a short narrative to describe a finding or topic of consideration.
- Appendices should include a discussion of the data source(s) and a glossary that includes acronyms.
- Do not include a final summary, conclusion, or discussion.

Language

- In the title, or in the reference, it is referred to as chartbook (one word) not chart book.
- Use consistent language, tense, and variable names throughout.

Graphic Design and Layout

- Graphs must be clear and easy to understand.
- Presentation and format of graphs and tables need to be consistent throughout the document, including the colors chosen for each graph.
- If particular variables are measured and presented in a majority of the graphs, maintain the color scheme (for example: green for rural, red for urban; gray for men, blue for women).

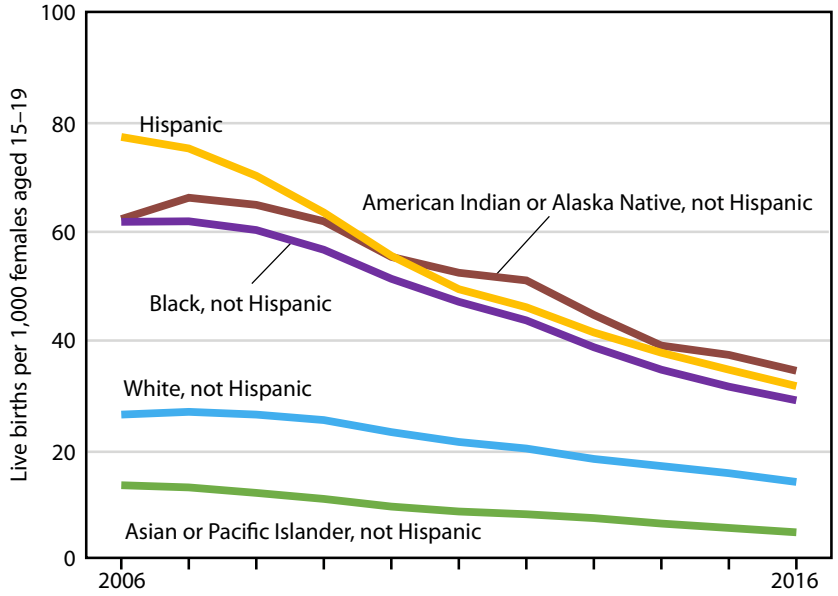
Examples

1. Centers for Disease Control and Prevention. (2017). Health, United States, 2017 with special feature on mortality chartbook. https://www.cdc.gov/nchs/hus/index.htm.

2. Rural and Minority Health Research Center. (2017). Trends in rural children's oral health and access to care chartbook. https://www.ruralhealthresearch.org/publications/1126.

Natality
Teenage Childbearing

Figure 3. Teen childbearing among females aged 15–19 years, by race and Hispanic origin: United States, 2006–2016



Excel and PowerPoint: https://www.cdc.gov/nchs/hus/contents2017.htm#Figure_003

Teen childbearing often limits the mother's educational and occupational opportunities, and babies born to teen mothers are more likely to also become teen parents (2, 3). Birth rates among non-Hispanic white teens aged 15–19 years were stable during 2006–2009, and then declined during 2009–2016. Among non-Hispanic black and non-Hispanic American Indian or Alaska Native teens, birth rates did not change significantly during 2006–2008, but declined during 2008–2016. Among non-Hispanic Asian or Pacific Islander and Hispanic teens, birth rates declined throughout the entire period.

Despite declines in teen birth rates among all groups, racial and ethnic differences persisted during 2006–2016. During the period, non-Hispanic American Indian or Alaska Native, Hispanic, and non-Hispanic black teens had higher birth rates compared with non-Hispanic white and non-Hispanic Asian or Pacific Islander teens. In addition, non-Hispanic white teens had higher birth rates than non-Hispanic Asian or Pacific Islander teens during 2006–2016.

NOTES: Estimates are based on single-race categories; multiple-race data were bridged to single-race categories as needed. See data table for Figure 3.
SOURCE: NCHS, National Vital Statistics System (NVSS), Natality.

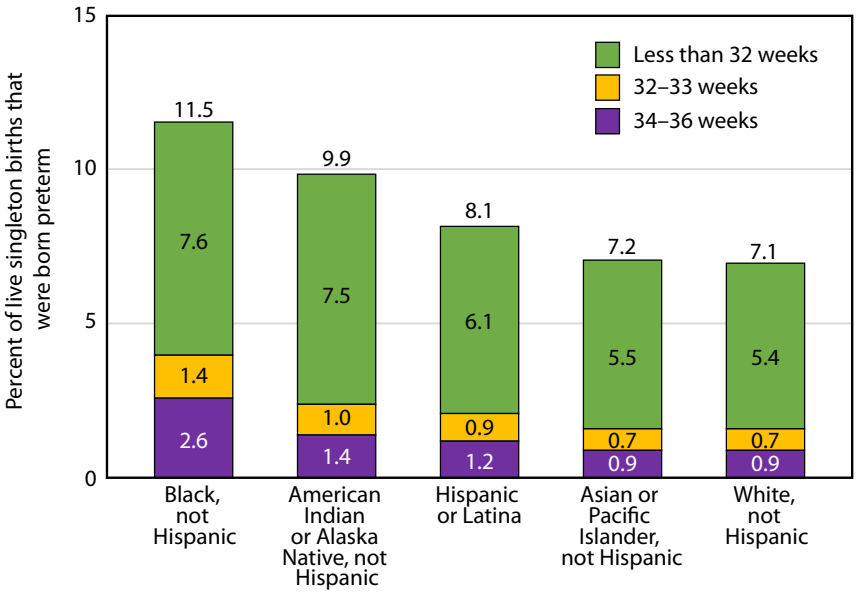
Natality
Preterm Singleton Births

Preterm birth, defined as birth before 37 weeks of gestation, is a leading cause of infant mortality (Figure 23), with the risk of infant death decreasing as gestational age increases (4, 5). Infants born preterm have an increased risk of health complications due to impaired respiration, difficulty feeding, poor temperature regulation, and high risk of infection (6).

In 2016, 8.0% of singleton births occurred before 37 weeks of gestation: 5.9% at 34–36 weeks, 0.9% at 32–33 weeks, and 1.2% before 32 weeks (data table for Figure 4). In 2016, non-Hispanic black and non-Hispanic American Indian or Alaska Native women had the highest percentage of preterm singleton births at each of the three gestational age groups compared with non-Hispanic white, non-Hispanic Asian or Pacific Islander, and Hispanic women.

NOTES: Preterm births are based on the obstetric estimate of gestational age and are for all singleton births. Singleton births refer to single births, in contrast with multiple or higher order births. Estimates may not sum to total percentage due to rounding. See data table for Figure 4.
SOURCE: NCHS, National Vital Statistics System (NVSS), Natality.

Figure 4. Preterm singleton births, by gestational age and race and Hispanic origin of mother: United States, 2016



Excel and PowerPoint: https://www.cdc.gov/nchs/hus/contents2017.htm#Figure_004

PowerPoint Slide Presentation

A PowerPoint slide presentation is an effective way to support speech, visualize a complicated concept, and share research findings with a large audience. PowerPoint presentations have increased in popularity with the growth of web-based meetings and webinars. The purpose of a slide presentation is to provide visual support for the information being discussed. PowerPoint slides do not contain the narrative, nor effectively stand on their own.

General Rules

- Keep the audience, their current knowledge base, and desired outcomes in mind.
- Keep the number of slides to a minimum.
- Generally plan to spend at least one minute per slide.
- Use one line per thought; avoid line wraps if possible.
- Use graphs and figures. They are more powerful than tables or narrative.
- Do not read the slides during the presentation.

Recommendations for Format

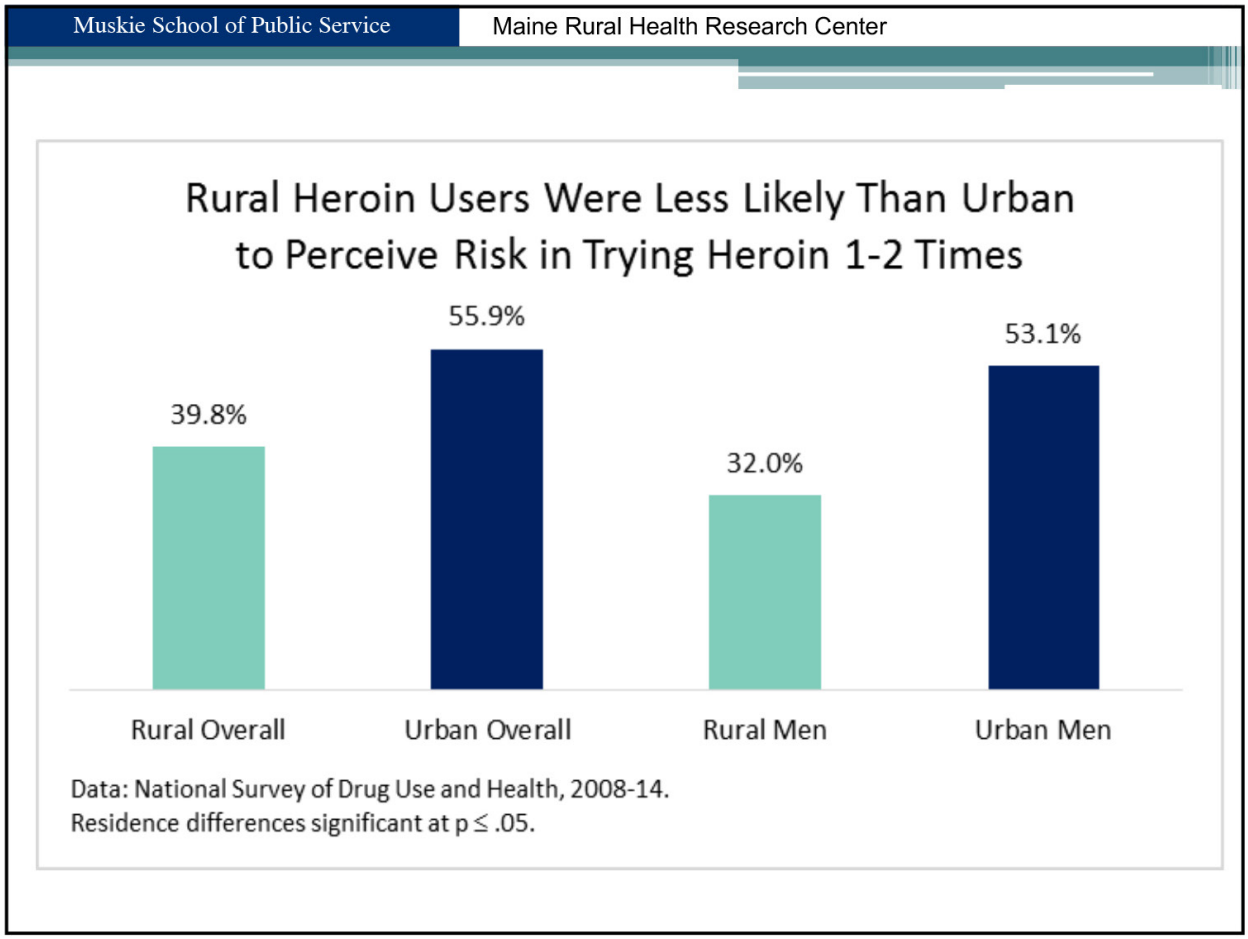
- Clearly label each slide.
- Use bullets and short phrases or keywords.
- Follow the 6 x 6 rule, no more than 6 words per line and no more than 6 lines per slide.

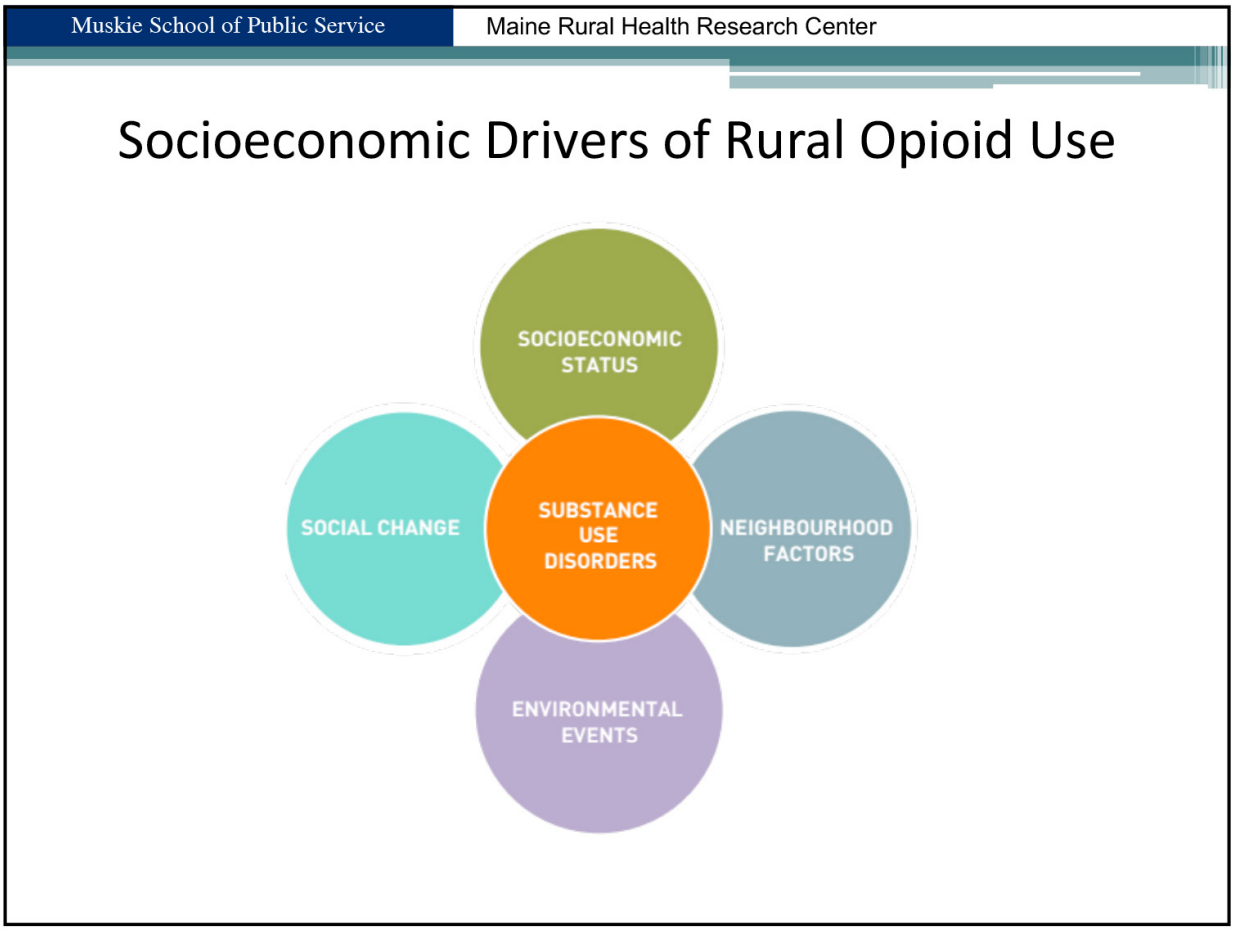
Language

- Avoid the use of jargon and acronyms.
- Do not write in complete sentences or paragraphs, and avoid a lot of punctuation.
- Do not use abbreviations.

Graphic Design and Layout

- Keep the design simple.
- Avoid busy backgrounds and Microsoft templates that contain distracting images.
- Consistently use same font and font sizes on all slides:
    - ❖ Helvetica or Arial are preferred; avoid Arial Narrow or Times/Times New Roman.
    - ❖ Use a font size 24 or larger.
    - ❖ Italics are hard to read.
- It is more effective to have one bullet appear at a time so the audience will not read ahead.
- Keep graphs simple and easy to read and understand.
- Make sure no part of the graph is difficult to read from a distance (for example, data labels)
- Utilize empty space to enhance readability.
- Use dark letters on a light background instead of light letters on a dark background.
- Do NOT use clip art or images to decorate; every image must have a content purpose (to visualize or explain an idea), and each must be cited appropriately (including photographs).
- Do not use animations between slides or to introduce new content.





Example taken from a presentation by John Gale, Maine Rural Health Research Center available at https://www.ruralhealthresearch.org/webinars/strategies-to-combat-opioid-use.

Poster Presentation

Poster presentations efficiently communicate concepts and data to an audience using a combination of text and visuals. They allow the author to network, speak with interested viewers, promote their work, and facilitate the exchange of ideas. An effective poster is focused, graphic, and well ordered. There is momentum to move away from the traditional poster format and to a more visually focused presentation of the key-finding or result. Both visuals are provided as examples. The conference may also have specifications. Regardless of format, both designs follow general rules.

General Rules

- Limit the focus of the poster, and provide supplemental resources as needed (handouts, or QR codes that link to the complete work or journal publication).
- Accentuate the most important information (key finding).
- Use graphics to tell the story, and limit narrative; average viewing time is three minutes.
- If the poster will be judged, ask for the judging criteria, and use it as a guide.
- Design the poster for the location and manner in which it will be displayed.
- Secure funding to hire a graphic designer and/or print the poster professionally.
- Ensure the objectives and main points stand out and are easy to identify.

Recommendations for Format

Format will vary, but typically includes:

- Title: Place at the top center of poster in largest font and make it finding-focused.
- Authors: Place below the title, in smaller font; list the authors and their affiliations.
- No Abstract: It is redundant and wasted space given the poster is a large, graphic abstract.
- Introduction: BRIEFLY presents the importance, purpose, and hypothesis if appropriate.
- Methods: Briefly address the research design, setting, data set, participants, and the method of analysis. Use bulleted lists to identify variables or sample characteristics.
- Results/Findings: Present the statistically significant results and data in a visual way.
- Discussion: State data-based conclusions and implications for policy or practice.

Language

- Use phrases in place of sentences when possible and use active rather than passive verbs.
- Keep titles free of jargon and fewer than 10 words.

Graphic Design and Layout

- Rely on text as little as possible and keep visual focus on the key finding or takeaway.
- Use bolding, text boxes, and graphics to emphasize important points.
- Use tables sparingly (no long tables); consider if information can be presented as a graph.
- Use plenty of white space, to include clear sections with spacing and headers.
- Use only high quality images.
- Use a light background with dark-colored text.
- Use no more than three font styles and sizes with no font smaller than 18; 24-point is preferred.
- Use color, but use it thoughtfully and with purpose.

Provider Confidence and Satisfaction with Communication Strategies to Address Vaccine Hesitancy

Paul J Carson, MD, FACP[a,b]; Lauren L Dybsand, MPH[a]; Jon C Ulven, PhD[b]; Kylie J Hall, MPH[a]

[a] North Dakota State University Center for Immunization Research and Education, [b]Sanford Health

BACKGROUND

Parental concerns about vaccine safety and necessity have led to increasing vaccine hesitance. Because parents recognize healthcare providers as the most reliable source of vaccine information, providers may have the greatest potential to impact vaccine acceptance.

Many interventions have been tried by researchers and healthcare providers to increase vaccine acceptance, specifically among hesitant parents, but none have been validated in any prospective study. The American Academy of Pediatrics suggests using a presumptive approach, the C.A.S.E. approach, and motivational interviewing (MI) as potential tools to garner vaccine acceptance. Yet these strategies differ significantly in their fundamental premises and methods of approach. (Table 1)

Presumptive/C.A.S.E. Approach	Motivational Interviewing*
Presumptive approach → "Your child needs the following immunizations today…."	Participatory approach → "What is most important on your agenda today? What would you like to do about vaccines?"
Provider-centered. Provider is the expert and directs the vaccine conversation to the patient/parent.	Patient-centered. Provider guides the patient/parent through their natural ambivalence.
Key Concepts: CASE → Corroborate, About me, Science, Explain/Advise	Key Concepts: PACE → Partnering, Accepting, Compassion, Evocation
Communication is short and to the point.	Communication may be short, but continuous dialogue may span multiple visits.
Structured response to the questioning parent.	Facilitative approach to communication to evoke change.
Direct persuasion, while building partnership → expert-authoritative/recipient relationship	Facilitative inquiry while building partnership → patient/parent comes to own conclusion
The Goal: To get patient/parent to agree to vaccination today → person ought to change	The Goal: Also is to direct the patient/parent to vaccination, but places a higher priority on preserving patient/parent personal-autonomy

Table 1: Contrasting a Presumptive/C.A.S.E. Approach to Motivational Interviewing
*Adapted from: E Britt, et al. *Patient Education and Counseling*, 53 (2004) 147-155 and Rollnick, et al. *Motivational Interviewing in Health Care*, New York, NY: The Guilford Press; 2008.

OBJECTIVES

This pilot study assessed these communication strategies in a small group of pediatric providers. Measures included provider confidence in managing vaccine-hesitant parents and their subjective appraisal of the contrasting approaches.

METHODS

- Five pediatric providers were recruited to implement the communication strategies.
- All providers attended a day-long retreat and eight, one-hour training/debriefing sessions. Training topics included: vaccine safety, efficacy, and licensure; how to refute common vaccine myths; and the two communication strategies.
- Providers were supplied with books, journal articles, and videos to complement the training.
- Providers implemented a presumptive/C.A.S.E. approach for four months, and then used an MI approach for four months.
- Providers received scripted tools for both approaches.
- Vaccine education materials were placed in each exam room for providers to give to parents with vaccine questions.
- A research assistant shadowed the providers weekly to observe progress and provide coaching with the communication methods.
- Providers completed anonymous online surveys regularly to assess their confidence in addressing vaccine hesitancy and satisfaction with the strategies.
- Individual interviews were conducted at the end of the study to gather provider feedback on strategy preference and opinions and recommendations for project improvement.

RESULTS

- Providers were more confident in their ability to address vaccine hesitancy and parental concerns as the study progressed. (Figure 1)
- Providers believed the seven-hour retreat was valuable because it increased their knowledge of vaccines and confidence in vaccine promotion.
- They acknowledged that education and training on vaccines and communication strategies to address hesitancy are insufficient in medical school and residency.
- Proficient provider implementation of the communication strategies was a gradual process that required frequent practice and coaching. Ongoing trainings/support were critical to ensure provider accountability in adopting the strategies.

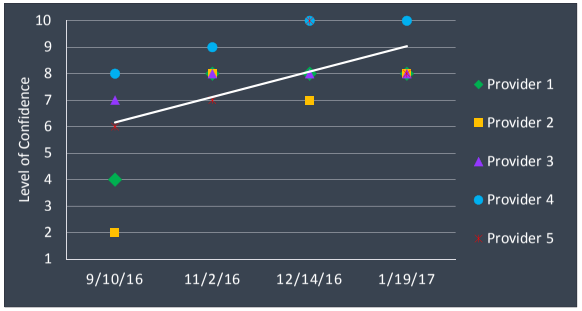


Figure 1: On a scale of one to ten, with ten being the most confident and one being the least confident, providers self-reported confidence in their ability to discuss a parent's concerns about vaccines.

- Before the project, providers acknowledged they felt significant stress/anxiety when having to confront vaccine-hesitant and resistant parents. At project completion, providers noted that they experienced less stress/anxiety because they were better able to address parental concerns.
- Providers found the presumptive/C.A.S.E. approach was easier to learn and provided a convenient script for vaccine-accepting and minimally hesitant parents. This strategy was found to be quite successful at obtaining vaccine acquisition at the medical encounter
- Providers found that MI was harder to learn and more time consuming to implement. They believed MI was a better approach for the very hesitant parents as it facilitates building and maintaining a long-term relationship of trust.
- Changing strategies was difficult. Providers recommended that future interventions include: 1) implementing the strategies for longer periods of time, 2) beginning with MI and switching to C.A.S.E., and 3) testing the strategies separately in different clinics.
- Providers had mixed opinions on the best communication approach for strongly resistant parents, often stating that nothing will convince this group to vaccinate.

CONCLUSIONS

A presumptive/C.A.S.E. approach was easier to learn and more readily used with the accepting and minimally hesitant parent. MI was perceived to be useful for the more strongly hesitant parent. Changing provider communication required persistent coaching and training. Meaningful change is not likely to occur with a single educational encounter.

Increased provider training opportunities in vaccine safety, efficacy, and licensure, countering common anti-vaccine myths, and communication strategies may help improve provider confidence in managing vaccine hesitancy.

A prospective study to validate increased vaccine acceptance with MI versus presumption/C.A.S.E. vs a combination of the two methods is warranted.

Limitations:

Generalizability of the study findings may be limited due to the small sample and homogeneity of the assessed providers. The study was not designed to assess if increasing provider confidence translates into greater vaccine acceptance in parents.

Acknowledgements:

The research team would like to acknowledge the Sanford Health Pediatric Clinic in Moorhead, Minnesota for participating in this pilot project. Participating providers included: Amanda Oney, CPNP, Dr. Melissa Kunkel, Dr. Samantha Perleberg, Dr. Brennan Forward, and Dr. Stephanie Hanson.

Title

Authors

Intro

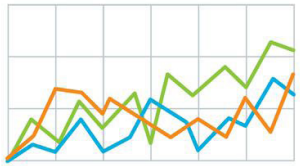
H1

H2

Methods

1.
2.
3.
4.

Results



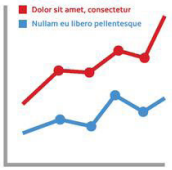
Discussion

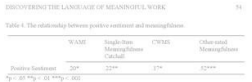
More research is needed, but...

Main finding goes here, translated into **plain english**. **Emphasize** the important words.

Take a picture to download the **full paper**

Extra Tables & Figures





Example taken from A Better Scietific Poster available at https://osf.io/8ajqs/

Discovering the Language of Meaningful Work

Mike A. Morrison,
Saakshi Kale

INTRO

- **How does work meaningfulness show up in natural language?**
- **H1:** There are certain features of written language that signal whether a person finds their work meaningful.

METHODS

1. **n=200 page-length work stories. Full-time employees.** Several measures of meaningfulness.
2. **"In 500 words, tell me about your work."**
3. **Machine Learning** via scikit-learn and NLTK to discover common language features with meaningful vs. not meaningful stories.

RESULTS

	Identity words at beginning of story. ("I am a ___")
Single-item Work Meaningfulness	.31***
Comprehensive Work & Meaning Scale	.20***
Work And Meaning Inventory (WAMI).	.19***

Starting to describe their work with the words "I am a[n]..." significantly correlated with 3 self-report measures work meaningfulness.

DISCUSSION

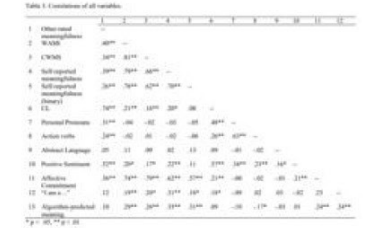
- Work meaningfulness seems related to identity.
- Could be related to achieving a 'final' identity, a la Maslow's self-actualization.
- "I am" is especially correlated with extremes of meaningfulness (correlation jumps to from .3 to .4 in polarized dataset of high/lows only.

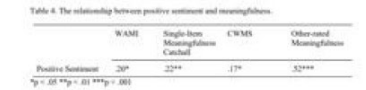
MICHIGAN STATE UNIVERSITY

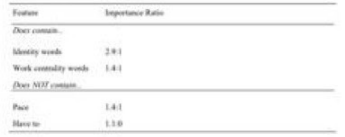
When people **find their work meaningful**, they talk about it using **identity words**, like...

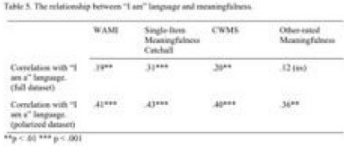
"**I am** a writer" vs. "**I work for** a magazine."

Take a picture to **download** the **full paper**









Example taken from A Better Scientific Poster available at https://osf.io/6ua4k/?pid=ef53g

Infographic

Information graphics, also known as infographics, are visual explanations of data, information, or knowledge. A well-developed infographic is an excellent tool for clearly and immediately explaining complex data. An infographic may stand alone as a one-page flyer, be presented as a slide in a larger presentation, provide summation in a report, or be printed as a large poster for display.

General Rules

- The final product will clearly present complex information/data and be easy to consume.
- Identify your take-away, and present supporting, accurate, and statistically significant data.
- An infographic is creatively designed, colorful, lively, shocking, and educational.
- Make it easy for readers to share the infographic by creating a code to embed it.
- Be able to explain the infographic in one sentence and have one overarching idea.
- Use up-to-date, reputable sources for your data, and make sure to site those sources.

Recommendations for Format

There is no standard format, but the story of the infographic needs a structure. While the graphic designer will generate ideas for visual representation, a researcher or the one creating the message must provide content with the following in mind:

- A short title (six words or less) will tell readers what they will discover from the infographic.
- A title tag (no more than 55 words) offers a short description to further elaborate the title and provides a summary of the infographic.
- People are more interested in a story than just facts or data. Position the information around a focal point.
    - ❖ Visit Piktochart for more information on structuring your story: http://piktochart.com/structuring-a-story-for-your-infographic/.
- Write a compelling conclusion to close the case or to leave the reader with lingering thoughts or the urge to act as the call to action dictates.

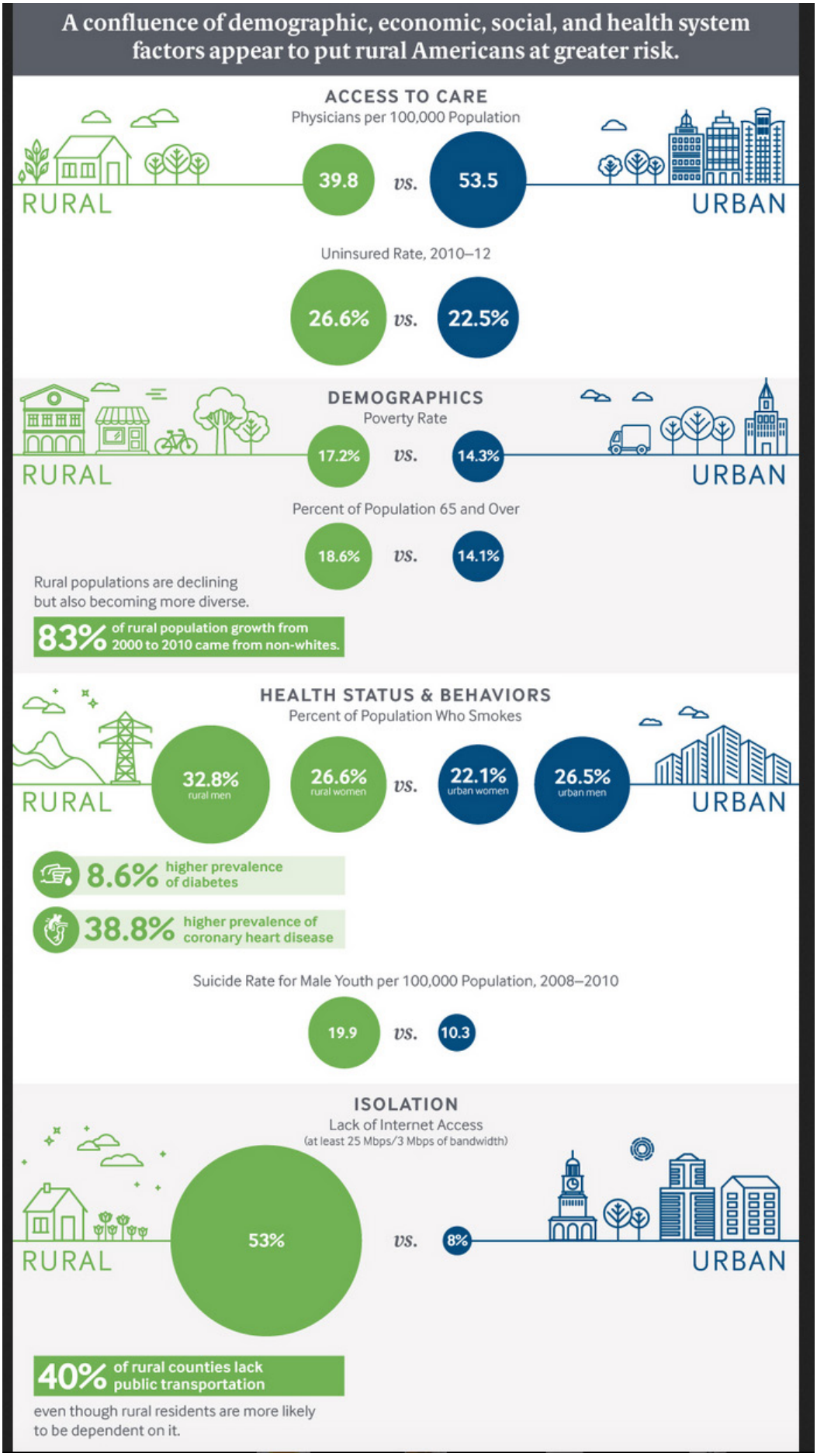
Language

- Infographics are visual and do not contain much explanation or narrative.
- Instead of noting that a finding is statistically significant, only report important findings.
- Avoid acronyms, abbreviations, and jargon.

Graphic Design and Layout

Work with a graphic designer if possible. Infographics that are not created by a professional nor done well run the risk of being ineffective or not being taken seriously.

- Limit infographics to 8,000 pixels, and compress the image so it is under 1.5MB.
- Include necessary logos with a link to the website and other contact information.
- Site sources at the bottom of the infographic.



Example taken from https://www.commonwealthfund.org/publications/newsletter-article/2017/mar/focus-reimagining-rural-health-care?redirect_source=/publications/newsletters/transforming-care/2017/march/in-focus

Promotional Products

Research centers and rural health organizations can use brochures, flyers, and other promotional pieces to inform diverse audiences of their missions and current activities. Promotional items inform the public about the organization and are not meant to highlight a specific project or topic.

General Rules

Regardless of the promotional product, adhere to the following:

- Ask intended audience(s) what they need to know about the organization.
- A one-page flyer has greater usability than a trifold brochure.
- Never have more than one page.
- Use high quality paper.
- Make promotional pieces accessible in an electronic format to share online.
- Include only relevant information. Provide links to more information if needed.

Recommendations for Format

- Divide content into sections that flow. Keep the layout clean and simple.
- When considering content, think of how often the information would need to be updated.
- Include a call to action (for example, call today, sign up for alerts, visit the website today).
- Insert testimonials when appropriate.
- The contact information comes last (back page of brochure, bottom of a flyer).

Language

- Avoid using acronyms and jargon.
- Write promotional materials at a grade eight reading level.

Graphic Design and Layout

- Provide content, but leave design, layout, and format to professionals when possible.
- Use visuals to help communicate the message, but ensure they have meaning.
- Limit the number of fonts to no more than three.
- Keep font sizes between 10 and 14.
- Use only high quality images.
- Use colors and images to attract and keep the attention of the audience.
- Utilize page breaks, bullets, callouts and other graphics to reduce the amount of narrative.
- Design the promotional piece so the audience can grasp the main idea at first glance.
- One large photo or graphic usually communicates better than many small ones.

Web or Electronic Version

Creating a web-based promotional piece is an eco-friendly alternative to paper. Web products are easily emailed to large audiences, linked in social media, and forwarded on to others. It is important to ensure the product is compatible with multiple email systems before sending. Consider uploading all printed materials online as well.

Rural Health Research Gateway

ruralhealthresearch.org

The Rural Health Research Gateway is an online library of research and expertise. It's free to use, searchable, and provides access to the work of all eleven federally-funded Rural Health Research Centers and Analysis Initiatives. The best part is, anyone can use it.

The Rural Health Research Center (RHRC) is the only federal program that is dedicated entirely to producing policy-relevant research on healthcare in rural areas. The centers study critical issues facing rural communities in a quest to secure adequate, affordable, high-quality health services for rural residents.

This online resource of research connects you to:

- Research and Policy Centers
- Products & Journal Publications
- Fact Sheets
- Policy Briefs
- Research Projects
- Email Alerts
- Experts
- Dissemination Toolkit

Connect with us

info@ruralhealthresearch.org
facebook.com/RHRGateway
twitter.com/rhrgateway

This project was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS).

Example taken from https://www.ruralhealthresearch.org/assets/1127-4559/gateway-flyer.pdf

White Paper, Working Paper, Full Report

A white paper (working paper) or full report is a technical paper that combines expert knowledge and research into a document that argues for a specific solution or recommendation. The white paper allows the reader to understand an issue, solve a problem, or make a decision. Papers may include preliminary results of research that have yet to be tailored for publication in a professional journal. It provides an opportunity to publish results quickly, especially when it is a topic currently receiving significant attention in the field. Full reports provide an opportunity to describe the study's method in detail, so others may replicate the research. It also provides significant background to the topic as well as a strong justification for study.

General Rules

- Lead with a topic or problem that your readers want solved so they continue reading for the solution or recommendation.
- Tell the story of the study using visual aids when possible (use figures or infographics).
- Clearly explain the results and make recommendations or identify solutions.

Recommendations for Format

Begin with the bigger picture, provide background information, detail the methods, and lead a reader through the results to the proposed solution or specific position/implication. The format should make sense and guide the reader. White papers and full reports follow a general format.

Abstract/Summary: A brief summary of the research, results, and position/implications.
Introduction/Literature Review: May be written as two separate sections.

- Identifies the importance of the research and what is or is not already known.
- Establishes the need for the research and rationale for the study.

Methods/Methodology: Describes participants, instruments, and other study details.

- This may have several subheadings (research questions, participants, data set, etc.).
- Include enough detail for someone outside of the project to replicate the study.
- Detail informed consent, confidentiality of data, sampling method, reliability, validity, and survey design as appropriate.
- If known, describe participants' demographics.
- Address limitations and/or problems during data collection, if any.
- Detail process for data analysis.

Results: Detailed interpretation of major findings.

- Provides data/support/answers to research questions or hypotheses.
- Organize the results section around the research hypotheses, purposes, or questions.
- In quantitative research, this section may be brief but includes several tables and will include discussion of statistical significance.
- In the narrative, only address the important data from each table.
- Provide descriptive statistics before inferential statistics.
- In qualitative research, this section is lengthy and describes major themes from the data to include participants' quotes and or observations.

Discussion: Presents the researcher's interpretation.

- Discuss the study's strengths and limitations.
- Provide the specific implications of the findings and detailed suggestions for future research and/or practice.
- Refer to previous research/literature, and discuss if the current study is consistent/inconsistent.

Language

- Use plain language to explain the complex issues in a straightforward manner.
- Should be free of jargon but use technical language in describing methods and results.

Graphic Design and Layout

When able, utilize a graphic designer to develop figures, tables, and final products. Common layout and design rules for a white paper include:

- The use of clear and precise headings and subheadings in large font throughout.
- Utilize graphics (charts, graphs, diagrams, and tables) to increase readability.
- Ensure that all data figures and tables indicate statistical significance, have clear axis labels, and include detailed titles to explain the graphics.

Examples

1. RUPRI Health Panel. (2018). Assessing the unintended consequences of health policy on rural populations and places. Retrieved from https://www.ruralhealthresearch.org/publications/1235.

2. North Carolina RHRC. (2010). Rural hospital support for emergency medical services. Retrieved from https://www.ruralhealthresearch.org/publications/786.

Assessing the Unintended Consequences of Health Policy on Rural Populations and Places

Prepared by the
RUPRI Health Panel

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A. Clinton MacKinney, MD, MS
Timothy D. McBride, PhD
Paula Weigel, PhD – *Guest Author*

December 2018

RURAL POLICY RESEARCH INSTITUTE

Acknowledgements

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The Health Panel would like to thank Erin Mobley for research assistance and Susan Nardie for editing this document.

Table of Contents

Example taken from http://www.rupri.org/wp-content/uploads/Evaluating-the-Impact-of-Policy-Changes-on-Rural-Populations.pdf

Introduction

The purpose of this paper is to illuminate the unintended consequences of health policy so that past is not prologue to future. We explore a series of health policies that have affected, or had the potential to affect, rural people, places, and/or providers in ways counteractive to policy intent. Two realities drive the need for this analysis: 1) Rural health care systems are living with the legacy of policies having unintended consequences because the full impact of such policies on rural stakeholders was neither predicted nor understood; and (2) Policymakers have recognized the need to apply a rural lens to new and ongoing programs and policies to inform the pathways by which equitable rural health status and health care can be achieved, as articulated by the Centers for Medicare & Medicaid Services (CMS) Rural Health Council in its first explicit Rural Health Strategy.[1] We conclude with a framework for health policy evaluation that considers potential and unintended rural impacts.

Background

Researchers, stakeholders, and policymakers have long been concerned about the unintended consequences of policy, or the unforeseen repercussions of shifting regulatory levers that have been designed around an "average" policy target.[2,3] Health policies are designed to achieve a particular objective or effect a desired outcome, but often have unanticipated negative consequences. This is particularly likely when policies have not considered place-related fundamentals (e.g., poor underlying economic characteristics, low numbers of providers, or very low population densities or patient volumes) that can act as impediments to achieving health policy goals (e.g., ensuring access to high-quality and affordable health care to all citizens in rural settings).

In the process of developing and implementing health policy, there must be thoughtful consideration of how policy changes will impact rural people and communities (both positively and negatively). Of special concern is impact on local access to essential health services. That concern makes the impact on local providers important to understand, including the ability of providers and networks of providers and public agencies to transform the organization and delivery of services. The definition of rural, too, must be clarified; for example, it has been

Example taken from http://www.rupri.org/wp-content/uploads/Evaluating-the-Impact-of-Policy-Changes-on-Rural-Populations.pdf

Journal Publication

Peer-reviewed journal articles are an important resource in the research community and speak to a study's credibility. Journal articles addressing health are written to inform other academicians and/or clinicians as well as to document emerging scientific knowledge or best practices in care delivery. Publishers look for innovative and original research that will either impact patient care or add to the field of study. Conclusions must be supported by sufficient and robust data.

General Rules

- Identify and decide upon the journal (prior to writing). You can find journals by:
  - ❖ Reviewing journals where others in the field have published.
  - ❖ Scanning published journal abstracts for topics/methods similar to your own.
- Review the selected journals' Aim, Scope, Impact Factor, and the Guide for Authors. Write the article following the format specified in the Guide for Authors.
- Submit the article with a cover letter following the journal's specified submission process.
- Articles are either accepted, rejected, or receive a revise-and-resubmit request.

Recommendations for Format

Format of a published article will reflect the preferences and requirements of the publishing journal. Format is specified in the Guide to Authors, but there are standard headings:

- **Introduction:** Refer to other literature, and provide context and purpose for the study.
- **Method:** Explain how the data were collected and analyzed, and report statistical significance.
- **Results:** Describe what was discovered, and answer research question(s).
- **Discussion and Conclusions:** Describe the implications of the study for practice, policy, and/or future research, address limitations, and make recommendations.
- **Acknowledgments:** Recognize those who helped with the research but are not authors.
- **Supplementary Material:** Additional resources may include raw data, video, or audio.

Read *Understanding the Publishing Process: How to Publish in Scientific and Medical Journals*[1] or *Understanding the Publishing Process: How to Publish in Scholarly Journals*[2] for more information.

Language

- Use active voice, and write in third person.
- For known facts and hypotheses, use the present tense; use past tense when referring to experiments that have been conducted.
- Noted differences should be statistically significant and have an accompanying p-value.

Graphic Design and Layout

- Each journal will have specific guidelines, and likely a limit, for figures and tables; review the Guide to Authors before developing any data visualizations.

[1]https://www.scribd.com/document/150605791/Understanding-the-Publishing-Process-How-to-publish-in-scientific-and-medical-journals
[2]https://www.elsevier.com/__data/assets/pdf_file/0008/185687/Understanding-the-Publishing-Process_May2017_web-1.pdf

THE JOURNAL OF RURAL HEALTH

ORIGINAL ARTICLE

Rural Healthy People 2020: New Decade, Same Challenges

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Abstract

Purpose: The health of rural America is more important than ever to the health of the United States and the world. *Rural Healthy People 2020's* goal is to serve as a counterpart to *Healthy People 2020,* providing evidence of rural stakeholders' assessment of rural health priorities and allowing national and state rural stakeholders to reflect on and measure progress in meeting those goals. The specific aim of the Rural Healthy People 2020 national survey was to identify rural health priorities from among the Healthy People 2020's (HP2020) national priorities.

Methods: Rural health stakeholders (n = 1,214) responded to a nationally disseminated web survey soliciting identification of the top 10 rural health priorities from among the HP2020 priorities. Stakeholders were also asked to identify objectives within each national HP2020 priority and express concerns or additional responses.

Findings and Conclusions: Rural health priorities have changed little in the last decade. Access to health care continues to be the most frequently identified rural health priority. Within this priority, emergency services, primary care, and insurance generate the most concern. A total of 926 respondents identified access as the no. 1 rural health priority, followed by, no. 2 nutrition and weight status (n = 661), no. 3 diabetes (n = 660), no. 4 mental health and mental disorders (n = 651), no. 5 substance abuse (n = 551), no. 6 heart disease and stroke (n = 550), no. 7 physical activity and health (n = 542), no. 8 older adults (n = 482), no. 9 maternal infant and child health (n = 449), and no. 10 tobacco use (n = 429).

Key words access, Healthy People 2020, RHP2020, rural disparities, Rural Healthy People 2020.

The health of rural America is more important than ever to the overall health of the United States.[1] Rural populations and regions serve the nation not only as an "agricultural and resource basket" providing people with needed crops and raw resources for an increasingly hungry nation and the world,[2] but they also provide important recreational and historic opportunities and cultural experiences. According to the 2010 US Census Bureau data, 59 million people, or 17% of the US population, live in rural or remote communities. Yet, only 9% of doctors and 16% of registered nurses practice in rural areas.[3,4] Rural America also has a documented undersupply of nurse practitioners, dentists, pharmacists, and limited access to specialty care, including but not limited to general surgery and obstetrics.[3] Rural hospital closures that left many rural counties without a hospital in the 1980s had slowed with the passage of federal legislation creating special categories of rural hospitals (eg, critical access hospitals [CAHs]) with special protections. However, rural hospital closures appear to be on the rise again due to cutbacks in Medicare reimbursement, reduced funding, and imminent deadlines for instituting

Exhibit

Conferences provide the opportunity for many primary organizations and leads in the rural health industry to network. Effectively exhibiting at a conference or other event requires significant preparation and presence. A display should not stand on its own but always have a representative available to speak to the mission and purpose. This provides an opportunity to speak to a research agenda, share recent reports, and learn about what interests others.

General Rules

- Plan ahead, identify the appropriate conferences, and fill out applications on time.
- Market prior to the conference, letting the target audience and members of existing networks know when and where the exhibit will be displayed.
- Always follow up with contacts/leads after the exhibit.
- Update the exhibit to ensure that relevant material, graphics, and information are displayed. The older the display, the less innovative booth visitors will perceive the organization/company.
- Ensure that people staffing the booth are well informed, able to answer questions, and engage the audience. Never assume visitors know who you are or what you do.
- Use technology to your advantage.
- Be aware of the booth size and what is included, (for example, access to internet or a power cord if necessary).
- Share the exhibit experience on social media in real time.

Recommendations for Format

- The display should include who you are, what you do, and how you can help.
- Keep the space clear, open, and not crowded with display items and promotional materials.
- Provide something the attendee can take with them. Items may include:
    - ❖ Brochure/flyer
    - ❖ Copies of recent publications/research products
    - ❖ Promotional items (e.g., pens, flash drives, note pads)

Language

- Avoid jargon, acronyms, and abbreviations.
- The more words on the trade show display, the fewer times they will be read.

Graphic Design and Layout

- Have the display and products for dissemination developed by professionals.
- Use bright colors, bold images, dynamic graphics, and photos/illustrations that are appealing.
- The bigger the main visual image on the trade show exhibit, the better the audience will understand the message. Use high quality graphics.
- Ensure that the words on the exhibit are legible and that text is not too small, has high contrast with the background, uses a font that can be easily read, and presents information that is not hidden by other exhibit components.


Rural Health
Research Gateway
ruralhealthresearch.org
Gain Access to Rural Health:
• Research & Policy Centers
• Reports & Journal Publications
• Email Alerts
• Policy Briefs
• Factsheets
• Experts
Providing Access to
Rural Health Research
and Analysis Initiatives
A free online library of rural
health research & expertise
Rural Health
Research Gateway
EXPLORE
DISCOV
Rural Health
Research Gateway
ruralhealthresearch.org
1608

Press Release

Press releases are short, compelling documents that detail new information, research findings, event announcements, and other newsworthy items. Great press releases are meant to pique the interest of journalists who may seek to cover the topic further. While the format for a press release is basic, the content of the release should be alluring. Media releases should follow Associated Press guidelines.

General Rules

- The best time to send a news release is early in the week and early in the day.
- Tailor a press release to meet the needs of the media outlet. The research should contain a "hook" or main point of interest for the reader and journalist.
    - ❖ The hook should provide an identifiable audience, main point of focus for the release, and headline for the article.
- When possible, have a professional write the press release.
- Focus on the facts.
- Make sure to wait until there is a topic with enough substance to issue a release.
- Sending news releases simultaneously to several news outlets increases the likelihood of coverage.
- Use short sentences, and always provide a resource and/or contact for more information.

Recommendations for Format

- Keep to one page, two maximum.
- Grab attention with a good headline.
- Answer who, what, when, where, and why in the first paragraph.
- Quantify the argument, and present data to support the argument or analysis.
- Include quotations from an expert or the subject of the press release whenever possible. This increases the chances of the release getting printed or "picked up" for further media coverage.

Language

- Use active voice, and include quotes when possible.
- Use plain language, and avoid excessive use of adjectives.
- Write at a grade six to eight reading level.

Graphic Design and Layout

- Present the most important information first.
- Tell the audience the information is intended for them and why they should continue to read it.
- If providing photos, maps, or figures to support the press release, ensure they are high quality and in a format that can be printed or added digitally.

Format for Writing an Effective Press Release

Headline (highlighting the main news point)

For immediate release or Embargoed for release until...

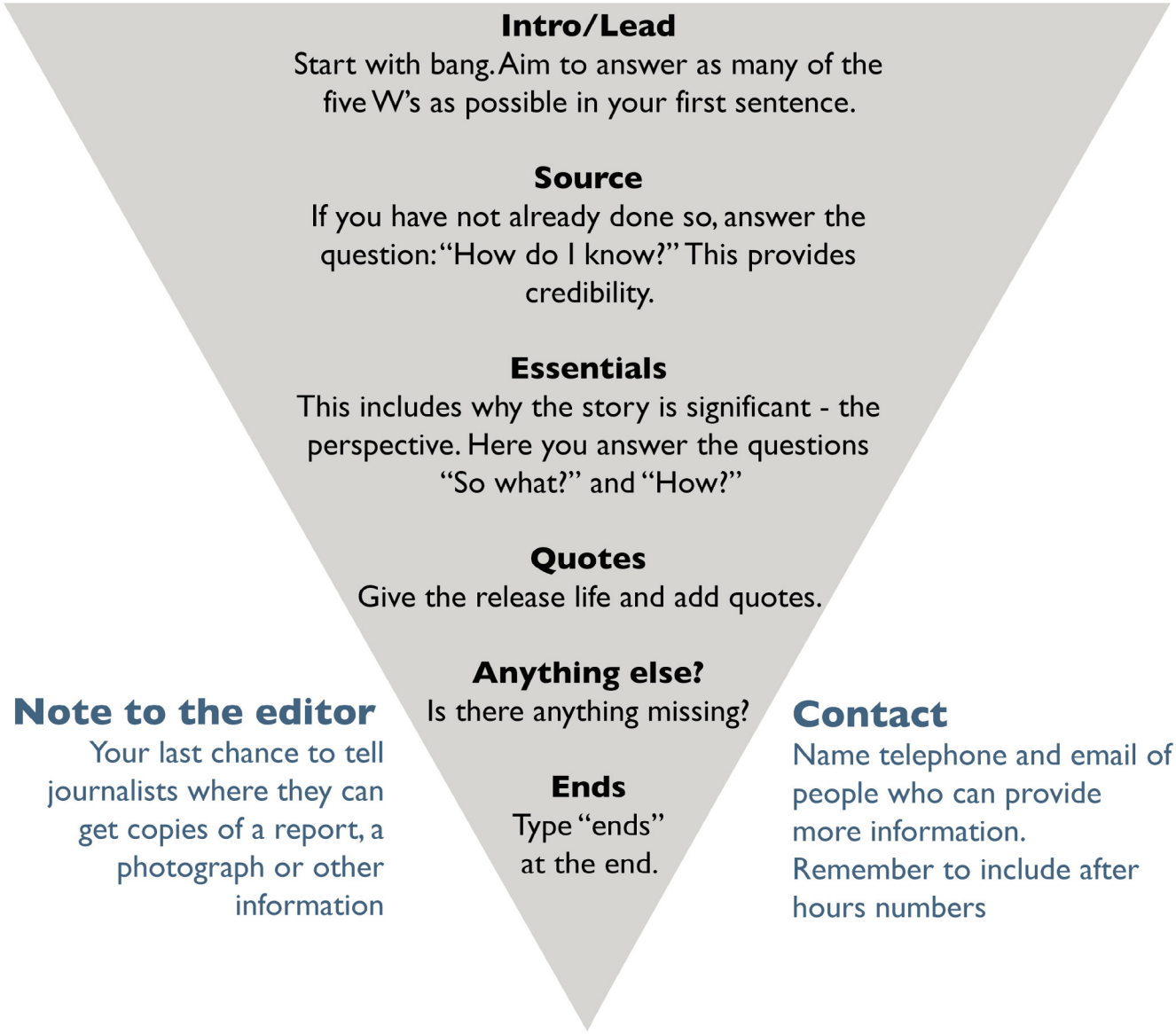

Image adapted from original source at https://neilpatel.com/blog/ironclad-rules-for-press/

Media Interviews

The media plays a significant role in setting the country's social and policy agenda. News coverage of health issues is perhaps the greatest single source of health education in the U.S. Researchers may be invited to speak to or explain their work in relation to a news story. Interviews may occur for print, radio, web video, or television. Regardless, there are general guidelines.

General Rules

- Always return a reporter's phone call to confirm the date/time/location, confirm the topic and type of interview, and ask about the intended audience.
- Rehearse answers to typical questions.
- Tell the truth, and if not authorized to give certain information, refer them to who can.
- Smile, speak slowly, and enunciate clearly.
- Use the interviewer's title.
- Do not interrupt the interviewer.
- Take your time. It is perfectly acceptable to take a moment or two to collect your thoughts.
- If the interview is done in person, maintain eye contact with the interviewer/reporter.
- Reporters will likely expect you to draw conclusions from your research.
- If given an opportunity to review the interview before release, only make changes to significant errors that relate to your content and not the article or video overall.
- Understand that nothing is "off the record," including conversations before and after the formal interview.

Recommendations for Format

- Plan up to three main messages you want to convey, and get the main points across right away. Repeat these messages as much as possible.
- Use bold, short, catchy statements to increase the chance of being quoted.
- Make your final comment clear and concise, reemphasizing the main point.

Language

- Avoid complicated language that would be difficult for the audience to understand.
- Do not use jargon and acronyms.
- Give short answers, and refrain from using filler words such as "um," "uh," and "okay."
- Tell stories and anecdotes that illustrate your point, and give examples.
- Speak confidently. You are the expert.
- Mention your subject by name during the interview rather than saying "it" or "they."
- Never say "no comment." Instead, explain why you cannot or do not want to answer.
    - ❖ Example: "I can't answer that because I haven't seen the research paper to which you are referring."
- Let your passion for the topic show.
- Prepare transitional bridges to guide the interview back to your message if it is off track:
    - ❖ The bottom line is . . .
    - ❖ Let me explain something . . .
    - ❖ I would like to make this point before I continue . . .

Television Interview Guidelines

- Television interviews are generally prerecorded, but may be done live.
- Learn the format of the program and what stories have recently aired.
- Wear a dark jacket with a light colored shirt, and avoid patterns, bright colors, and clunky jewelry.
- Avoid glasses with thick, dark frames.
- Sit or stand straight, and look at the reporter, not at the camera or the floor.
- Speak at a normal volume, enunciate, and speak slowly.
- Do not repeat the reporter's question(s).
- When giving out a web address or phone number, do it twice and slowly.
- It does not matter if the interview is 60 seconds or 60 minutes, communicate the main message in the first 30 seconds. Additional time should be spent expanding basic points.
- During the interview, do not look up when thinking of what to say. It is better to look down if you need to look away for a moment.
- Move your eyes down, not your entire head when glancing at notes.
- Use relaxed, confident, and friendly body language.

Radio Interview Guidelines

- Radio interviews are generally done live but may be taped.
- Keep your answers short.
- Be conversational and quotable.
- Speak clearly and slowly, limit lengthy pauses, and do not say "um" or "uh."
- Prior to the interview, request a list of questions that may be asked.
- Be honest when unsure of the answer and follow up.
- The interview should be conducted in a quiet room.
- Do not use an intercom phone or mobile phone because the audio will be distorted.

Print Interview Guidelines

- This interview is typically conducted on the phone and may or may not be recorded.
- Learn the purpose of the interview, the type of story to be written, the angle, profession/title/name of others being interviewed, and the reporter's background.
- Read other articles written by the same reporter.
- Print interviews can run anywhere between 10 and 60 minutes.
- Identify the main message prior to the interview and repeat the message throughout.
- Send the reporter information on the topic prior to the interview and any additional relevant resources following the interview.

Interview Follow Up

- Thank the reporter.
- Give the reporter a business card.
- Ask when to expect the interview to appear.
- If pleased with the interview, send a complimentary email or a thank you note.

Social Media

The use of social media tools to disseminate health messages and health research has grown exponentially, specifically with regard to Twitter, Facebook, and YouTube. Using social media tools is an effective way to expand reach, foster engagement, spread key messages, and increase access to credible health research.

As of February 2019,

- 72% of the American public used some form of social media (40% of those ages 65+).
- 74% of Facebook users, 63% of Instagram, and 42% of Twitter users are on the sites daily.
- 69% of American adults (18+) used Facebook.
- 37% of American adults (18+) used Twitter.

General Rules

- Be strategic and purposeful in the use of social media.
- Monitor the efficacy of posts to ensure the intended audience is engaged. Employ social media management tools, such as Hootsuite, to plan and monitor audience engagement.
- Be aware of the target population and their preferred medium (Facebook, Twitter, etc.).
- Make sure all postings are accurate, consistent, and science-based.
- Encourage participation by interacting with end users and promoting action.
- Share research in multiple formats.

Recommendations for Format

- Time social media posts to concur with highest traffic times and take advantage of popular celebrations or trending topics, such as National Rural Health Day.
- Make content portable and easy for the intended audience to share with others.
- Use marketing strategies to capture attention. Numbered lists are very effective.

Language

- Create various messages on the same topic to engage diverse audiences.
- Use clear language, and avoid jargon and academic acronyms. Common social media abbreviations, hashtags, and jargon are okay.
- Quickly engage the reader and keep your messages short.
- Write in active voice and in a friendly but professional tone.
- Choose words with one definition or connotation.
- Use measurements that are familiar to the intended audience.
- Choose familiar terms, and use them consistently.
- Use contractions, (can't, don't, etc.) but avoid using trendy abbreviations (UR as your).
- Consider using alternatives to words expressing mathematical concepts or measurements such as risk, normal, significant, range if those words do not have meaning for the audience.
    - ❖ Avoid: Breathing secondhand smoke is correlated with incidence of SIDS.
    - ❖ Better: Breathing smoke from someone else's cigarette or pipe (secondhand smoke) can cause sudden infant death syndrome (SIDS).

LinkedIn is a professional networking social media page. It allows you to build and engage with our professional network as well as access knowledge, insights, and opportunities. https://www.linkedin.com/

Facebook is one of the original social media sites with a mission of "giving people the power to build community and bring the world closer together." It is a platform where individuals can add connections and interact with friends, family, and others. It is also a platform for sharing major life events, news, photos, and more. https://www.facebook.com/

As per its website, Twitter is "what's happening in the world and what people are talking about right now." It is a platform for immediate thought and information sharing with short messages that can include images, videos, or links to other websites and articles. https://twitter.com/?lang=en

Instagram is a social media platform designed specifically for sharing images and short videos. This images are often accompanied by a short description and can be linked to other Instagram pages and users and shared on other social media sites. https://www.instagram.com/

YouTube is a video sharing social media platform. It is a place where anyone can upload videos on any subject matter as well as create their own channels so that viewers have a fast, easy way of finding content. https://www.youtube.com/

ResearchGate is a professional networking site for scientists and researchers. It is a platform designed for sharing, discovering, and discussing research. https://www.researchgate.net/

Twitter

Twitter is an information network that enables users to send and read messages made up of 280 characters or less, called tweets. Twitter users subscribe to receive tweets by selecting other Twitter users (people or organizations) to follow. Followers then receive messages in their Twitter feed that have been publicly posted by all of those they follow. The short, easy to read, public messages make Twitter a powerful, real time way of communicating. Twitter can be used formally by a research center, university, or organization or individual researchers can utilize Twitter personally taking positions and promoting their work.

General Rules

- Create a profile name (Twitter handle) that is less than 15 characters and describes the subject matter of the account or the name of the organization.
- Write a biography 160 characters or less to describe the profile; if it is a personal Twitter account where you will share your work and not the position of your organization/institution, it is recommended to note "Tweets are my own."
- An organization's profile image should be its logo, and once set, it should not be changed.
- Keep followers engaged and post frequently, at least every other day.
- Provide links to the Twitter profile on other communication materials.
- Follow other appropriate health or rural organizations to be a part of the conversation.
- Set guidelines for what can be tweeted, by whom, and how often.
- Define a policy for engaging and responding with Twitter followers.
- Set standards for what can be retweeted from partner organizations.

Recommendations for Format

- Although 280 characters are allowed, 120 characters or less are recommended, including shortened URLs so more text can be added by those who retweet it.
- Mention appropriate partners when applicable, such as @HRSAgov or @RHRGateway.
- Add a hashtag to contribute to a larger conversation on the topic (#ruralhealth).

Language

- Be reader friendly and action oriented, free of jargon and acronyms.
- Ask questions.
- Show your personality.

Graphic Design and Layout

- Include images, such as a photo or graphic, to illustrate and catch attention.
- Do not use images that are not your own without proper citation.
- Use only high quality images.
- Do not use clipart or stock photos.
- If sharing figures or graphs, make sure all elements are visible.

For more information on Twitter or to better understand Twitter syntax (what is a "follower," how do you "retweet," what is a "hashtag"), visit https://help.twitter.com/en/using-twitter.


Healthy Communities, Healthy People
HRSA
Tweets 6,412
Following 175
Followers 28.2K
Likes 2,796
Lists 1
Follow
HRSA
@HRSAgov
Health Resources and Services Administration (HRSA) This official HRSA account does not collect comments or messages. Comment Policy: bit.ly/2IXwIhY
Rockville, MD
hrsa.gov
Joined June 2009
1,346 Photos and videos
Tweets
Tweets & replies
Media
Pinned Tweet
HRSA @HRSAgov · Sep 5
#HRSA Regional staff visited #healthcenters & thanked them for their efforts in providing high-quality #primarycare & improving quality, efficiency, and value of the health care they provide. #HRSARegions. bit.ly/2m2et3n
Region 3
0:54 380 views
HRSA @HRSAgov · 19s
Want to take advantage of all the new Twitter features?
It's simple – just log in.
Log in
Sign up
You may also like · Refresh
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SAMHSA @samhsagov
CMSGov @CMSGov


RH Research Gateway @RHRGateway · 3h
The SW Rural Health Research Center assessed #diabetes & factors associated with foregoing medical care among people with diabetes: ruralhealthresearch.org/publications/1.... #RuralHealth
CDC Diabetes @CDCDiabetes
Did you know #diabetes can affect women's periods, pregnancies, and menopause? Find out more: bit.ly/2I2S7bY

Facebook

Facebook is an online community where people can interact, share stories, create events, and learn about others in their networks. There are Facebook profiles for individuals and Facebook pages for organizations, groups, brands, and businesses. Unlike profiles, pages are moderated by page administrators who can login to post comments, share stories, and monitor content. Research organizations and other rural health entities host Facebook pages. When someone likes an organization's page, all posts and content shared on that page will appear in the user's news feed.

General Rules

- Create a profile name that is easy to recognize and is based on the organization's name.
    - ❖ Determine if you are developing a personal profile to share your own research or a Facebook page to promote your organization/institution/research center.
- Select a profile photo or logo that reflects the organization. This image should not be changed once it is set. It will appear alongside all posts in users' news feed.
- Select a cover photo. This is a larger image that runs horizontally on the top of the page and can be changed.
- The "About" section provides basic information and includes the organization's mission/purpose and any necessary disclaimers.
- Post daily at a minimum.
- Set guidelines for what can be liked and what can be posted, by whom, and how often.
- Define a policy for engaging with end users and how to respond to posts on the page.
- Set standards for what can be shared from partner organizations.

Recommendations for Format

- Keep original posts at 250 characters or less.
- The length of comments made on other organizations' posts should be 1,000 characters or less and include links for more information when applicable.
- Ask users to share, like, or comment when posting to encourage interaction.
- Respond as soon as possible to comments and other page posts from your followers.
- Map out a plan for your content, including defining your social voice.

Language

- Keep posts reader friendly and action oriented.
- Define your social voice and allow followers to get to know you/your organization.
- Avoid jargon and acronyms.

Graphic Design and Layout

- Do not use images that are not your own without proper citation.
- Use only high quality images.
- Do not use clipart or stock photos.
- If sharing figures or graphs, make sure all elements are visible.


Rural Health Research Gateway
September 6 at 8:25 AM ·
.@NCrural research noted in story about hospital closures & link to mortality rates: https://revcycleintelligence.com/.../rural-hospital-closures-....
Learn more about @NCrural & its research on Gateway: https://www.ruralhealthresearch.org/projects/100002362. #RuralHealth
REVCYCLEINTELLIGENCE.COM
Rural Hospital Closures Boost Mortality Rates by Nearly 6%
Researchers from the University of Washington recently reported that...
Like
Comment
Share


CDC
@CDC
Home
Posts
Videos
Photos
About
Comment Policy
Events
Notes
Community
Create a Page
Like
Follow
Share
Learn More
Posts
CDC
September 9 at 1:23 PM ·
Stop suicidal thoughts and attempts before they start. Know the warning signs of suicide and when to #BeThere. More tips available at National Suicide Prevention Lifeline '1-800-273-TALK (8255)' & bethe1to.com.
Help Prevent Suicide
Increased Substance Use
Feeling like a Burden
Isolation
Expressing Hopelessness
Securing Lethal Means
Increased Anger or Rage
Recognize Warning Signs & Take Action
Increased Anxiety
Extreme Mood Swings
Feeling Unbearable Pain
Talking & Posting About Suicide
Making Plans for Suicide
Sleeping too little or too much
Putting Affairs in Order
go.usa.gov/xRXgN
241
37 Comments 561 Shares
Like
Comment
Share
ABOUT CDC
Our Story
Welcome to the Centers for Disease Control and Prevention. For over 70 years, CDC has been dedicated...
See More
Community
See All
Invite your friends to like this Page
888,776 people like this
910,799 people follow this
Shawnda Schroeder and 7 other friends like this or have checked in
22,456 check-ins
About
See All
(800) 232-4636
www.cdc.gov
Government Organization
Hours
Always Open
Popular hours

Videos

Videos are a creative and quick way to share information on a number of platforms, including, websites, social media posts, and within presentations. Videos may be educational, informational, used as a marketing tool, utilized for video infographics, or employed for a video abstract.

General Rules

- Focus your content and video style to the intended audience.
- Regardless of video length, have a strong introduction that catches attention.
- Keep it short. Educational videos or video abstracts should run between 3 and 4 minutes. Videos for Twitter/Facebook/Instagram should be less than 90 seconds.

Recommendations for Format

- Title: Do not use the title of the paper/project, and instead simplify and grab attention.
- Hit the most important information first, and repeat it at the end of the video.

Language

- Do not use jargon. Keep the language plain.
- When explaining research or a complex topic, give examples or provide comparisons.
- A good narrator is key.
- Use engaging speech, and do not speak too fast or too slow. Practice ahead of time.

Graphic Design and Layout

- Use narration with attention grabbing images instead of talking heads.
- Ensure good lighting and sound quality.

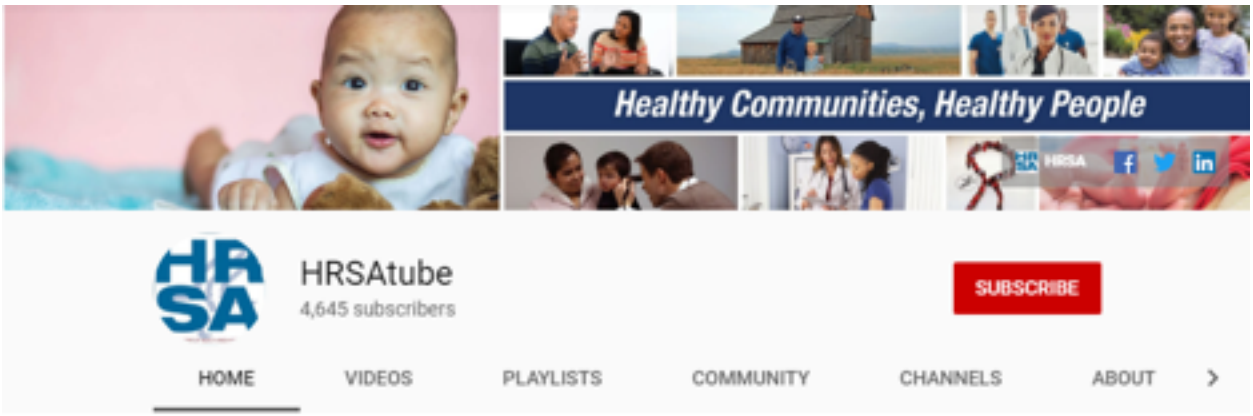
Video Abstracts

A video abstract is a brief description of a scientific paper during which the author(s) explains his/her work, demonstrates methods, uses animation/simulation to demonstrate complex concepts, and discusses implication of the findings. Guidelines specific to video abstracts include identifying the key points that need to be part of the video and having a solid plan/outline.

- Know that you cannot explain the entire project/paper.
- Make sure narration is clear and that any text is easy to read and language is free of jargon.

Social Media Videos

- Ideate/brainstorm before filming, study other similar videos, be creative, and have fun.
- Don't shoot vertical video. Use horizontal framing.
- Don't use digital zoom. Walk toward the subject.
- Use an engaging and attention-getting description, quote, or comment.
- It can be helpful to have subtitles/on-screen text for those who watch but do not listen.
- The video length depends on the platform. Facebook, Twitter, and Instagram videos are generally 90 seconds or less, while YouTube videos tend to be longer.

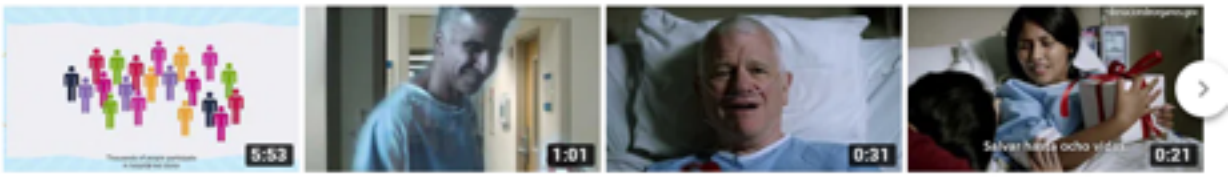


Health Center Program Chalk Talk

7,451 views • 1 month ago

HRSA's Health Center Program is a national primary care network of nearly 1,400 health centers with more than 11,000 sites in communities across America. HRSA-funded health centers provide the highest quality care to people in their communities, regardless of their ability to pay.

Organ Donation ▶ PLAY ALL



Hospital Campaign for Organ Donation Partners...
HRSAtube
82 views • 2 days ago

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Overview of Open Source Health IT Tools and Solutions
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Tips on Open Source EHR Systems in the Safety Net...
HRSAtube
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Overview of Meaningful Use Stage 1 Quality Measures
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Introduction

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