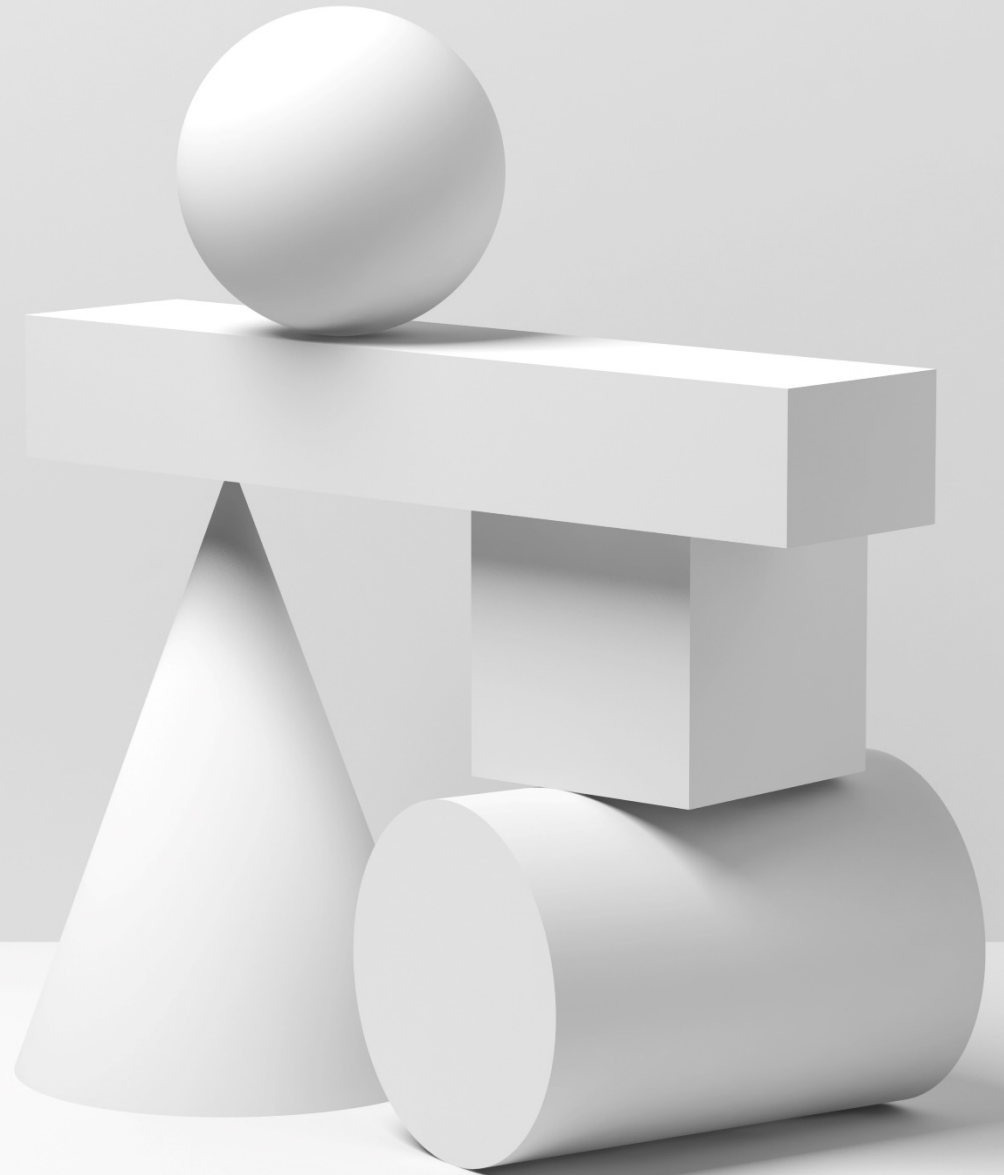


E2A Tool Kit:



Tips for Developing Great Evidence to Action (E2A) Products

Samia Amin, Carolyn Corea,
Phomdaen Souvanna, and
Siobhan Mills de la Rosa

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I. A Tool Kit Overview

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I. A Tool Kit Overview

We strive for a world where decisionmakers use evidence to improve people’s lives. For that to happen, we—as a research community—need to produce intentionally designed research products that help practitioners apply evidence to action (E2A).

We invest a lot of time in generating evidence. We spend time developing and executing rigorous designs, collecting and analyzing data, writing up results, and reviewing them for accuracy. What we don’t do enough of is think *upfront* about how to design research products with clear messages that stick and make it easy for practitioners and policymakers to apply findings. Too often, we think about sharing evidence once we have completed our research. By then, much of the design work is done and we are either ignoring user needs or hastily retrofitting our research products for dissemination.

It doesn’t have to be this way. There are so many great examples of accessible research writing and dissemination that have shaped both individual and group behavior. (Books like *Nudge*, *Atomic Habits*, and *Deep Work* present research insights in easy and actionable ways. Publications like the *New York Times* and *Washington Post* use data visualizations to convey nuanced insights from research and data in memorable ways). We can learn from and apply the examples offered by those works to our work.

Goals and scope

We have designed this tool kit to help research teams plan for and develop effective evidence-to-action research products. While we hope that it will be useful for a wider audience, we have written this for research contractors who work for the U.S. Department of Labor (DOL) and for DOL staff who review and provide guidance on research contracts. Moreover, we have written this guide to help research contractors reach and influence practitioner audiences (referred to in this toolkit as users). We hope this toolkit will help DOL contractors and DOL:

- **brainstorm options** for evidence products and services,
- devise effective **dissemination strategies**,



- **share expectations** on what DOL wants from evidence products and services,
- **build contractor and staff capacity** to deliver products and services that lend themselves to E2A, and
- conduct **quality assurance reviews** to assess whether they are E2A-ready.

When we say *products*, we don't just mean reports – we mean the full spectrum of products that describe or present evidence. We have begun by developing useful tips for more common research products, and we hope to add more over time. Our hope is that this aid will be useful at multiple stages of the research design, execution, and dissemination process.

Naming and taming our nemeses

Developing effective E2A products can be difficult work. Let's name the barriers to doing this so we can proactively address them.

- **Writing for researchers:** Many of us are trained to write effectively for other researchers or technically oriented project officers and reviewers. Those audiences value rigor, detail, and nuance. But the busy decisionmaker often looks to us for concise and clear answers on a few discrete questions. To shake loose from our defaults, we start with a special emphasis on planning for E2A early and identifying and understanding target users and their needs.
- **Teamwork under time and budget constraints:** We often develop research products collaboratively with teams of three or more people who likely have varying technical talents and communication skills. Even when a team intends to develop E2A-friendly products, the process of collating components often stands in our way. This guide seeks to build capacity by distilling insights on best practices into skimmable bullets and providing illustrative examples. We also include a specific section on how to organize teams.
- **Review processes:** We get multiple rounds of review both from technical research experts and subject matter experts. More is more in this world – it is rare for us for us to get feedback that suggests the deletion, rather than the addition, of detail. Addressing these comments can come at the cost of more effective E2A writing, which is why we provide strategies for handling the review process.



How to use this tool kit

- **Read the planning chapter:** We recommend that everyone read [Chapter II. Planning for E2A Products](#) at the beginning of their research projects and revisit it often. E2A products need intentional design and planning, and some steps are common to all research deliverables.
- **Pay close attention to the writing chapter:** We also strongly advise that everyone read [Chapter III. Written Products: Writing for Impact](#). Simple actionable writing (and the focus on core messages needed to get there) is the foundation for all effective research products.
- **Skip to the remaining chapters based on need.** The remaining chapters focus on deliverables other than written products: presentations, one-pagers and infographics, and data visualization. Each of these chapters has a similar format: an introduction describing the current and desired states, a section on planning, and guidance on content development, reviewing, and finalizing.
- **Check out the sources section at the end of each chapter.** The section on “Sources” in each chapter lists the resources that we drew on for inspiration when developing the content in the chapter to supplement lessons from our own experiences.
 - We intentionally drew on insights from different disciplines that are captured in different formats (e.g., books, toolkits, blogs, websites).
 - These resources are excellent reading. We encourage you to review them as time permits. Many offer helpful deep dives on the given topic area – we just pulled out a few nuggets that can be readily applied and tried to present them in ways that are not overwhelming.
 - For the sake of readability, we avoided using in-text citations. We included these only when we quoted directly from a text or drew heavily on a particular resource.
- **Share feedback and ideas with DOL.** This handbook is a first pass at finding ways to improve the usability of our work. The current addition covers commonly recurring E2A products but we know there are many more. Over time, we hope to update this handbook with additional sections and examples.



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II. Planning for E2A Products

Developing E2A products requires that we update our default ways of producing research. Too often we only begin thinking of dissemination and communication planning after we complete the research and start to draft our reports. Instead, we need to think about and plan for products that take evidence to action upfront *during* the research design stage.

We are designing for people who are busy and distracted by many different demands on their time. For our research to shape action, we’ve got to make our research findings easy, attractive, social, and timely (Behavioural Insights Team, 2014). We can only do this effectively with the limited time and resources we have if we are intentional and tailored in our approach. This chapter outlines five planning steps to develop E2A options more efficiently and cost effectively.

Key Steps

 Identify Users	 Plan User Journeys	 Brainstorm Options	 Organize Teams	 Be Inclusive in Design
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Step 1: Identify users and define E2A goals

Research teams define target audiences (users) and dissemination goals. Unfortunately, their definitions of target users are often too broad to be useful. For instance, “policymakers, practitioners, and researchers” is too broad a definition because the contexts, information needs, and learning styles of each of these groups, and even different types of decisionmakers, are so different. For effective E2A planning, take the following steps during the design phase of the project:

- 1. Define a single *primary* user.** We know your research will have diverse users. But it is important for you to define your primary one. This primary user is not necessarily the funder (e.g., the Chief Evaluation Office) – it could be program administrators and staff at the federal, state, or local level. It may be useful to coordinate with the program office contact on framing “why the agency wanted this study” to help define the primary user.

- **Only then identify some secondary users.** Be specific when identifying both primary and secondary users. For example, if you have findings on youth employment programs, don't just select policymakers on youth programs as an audience. That's too general. Specific target options might be the director of youth programs in the Office of Workforce Investment at DOL, or the state program administrator for the workforce program studied, or the policy directors for the mayor's office in the cities included in your study.
2. **Understand your users' top tasks, the specific information they need, and the actions they need to take.** Do this at the start of your project if you can.
 - **Be specific.** Too often, we determine the broad goals of our target users and partner agencies, but we don't spend time probing the specifics of what they need to know. A broad goal might be "I want to understand how to engage youth in our workforce program better." A specific goal might be "I want to know whether to invest in text messaging capability when I contract for a new case management system for our youth program in January next year and what features to ask for." This level of detail can help you refine your focus and research design on the front end, yielding more actionable evidence. It can also guide your research dissemination strategy.
 - **Understand the timeline for action.** Ask upfront when people will need the information and look for opportunities to share insights throughout the study. The DOL evidence capacity assessment identified a common complaint among agencies that research projects take too long to generate actionable insights. Understanding timing can help you determine whether you can time the interim or final results to inform practitioners' needs.
 3. **Understand what your users already know.** This is important not just for designing your research questions but for understanding how the information you are collecting will fill a gap or need.
 4. **Understand how your users learn.** Where do your users typically go to get the information they need (e.g., peers, search engines, specific websites)? How do they prefer to learn? Where and when and in what contexts do they search for and review evidence?



Step 2: Plan for user journeys through research

Now that you have defined your primary and secondary users and their needs, you should consider how to get them to engage with the products you produce. Consider the steps below to help plan their journey through evidence use.

- 1. Understand that evidence use is a journey.** Remember that evidence adoption rarely happens in a single step. Instead, the audience has to make and follow through on a series of choices. The onus is on researcher producers to invest in and plan strategies that help their audience move from an awareness of relevant research to considering whether to review it, then to reviewing it, applying it, and finally serve as an evidence champion who shares evidence with others and encourages them to use it (see Exhibit II.1).

Exhibit II.1. Steps in the Journey of Evidence Use

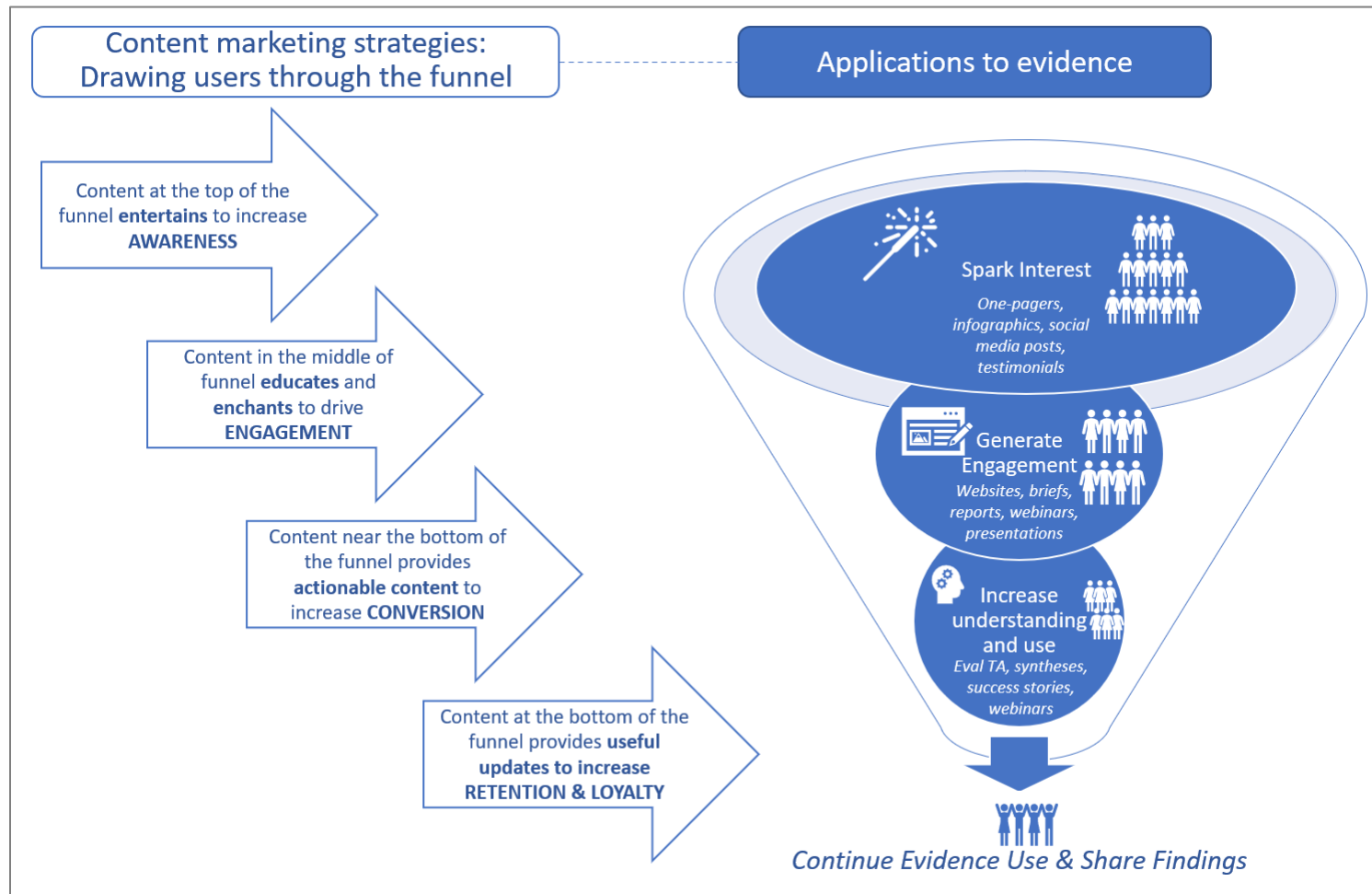


Source: Developed by authors, inspired by the PROSCI ADKAR® model of change management (Hiatt, 2006) and content marketing concepts (See <https://www.lucidchart.com/blog/content-marketing-funnel> as an example).

- 2. Strategize about your “push strategies” to move users along this journey.** Think hard about what types of research products, dissemination strategies, and research product features will move your target audience along from one step to the next. Think also about the features that might deter them. This will help you in your strategic planning around E2A.
- 3. Apply a content marketing approach to research dissemination.** Content marketing focuses on four objectives: attracting attention, driving engagement, propelling conversions, and increasing retention and brand loyalty. Since fewer and fewer users make it from one stage through the next, creating a funnel effect. Exhibit II.2 describes the E2A equivalent for each of these marketing goals and the types of research products that can be helpful in driving users through the funnel from awareness to sustained evidence use and advocacy.



Exhibit II.2. Applying Marketing Strategies for Customer Acquisition to Research Adoption



Source: Developed by authors, adapting concepts from content marketing strategies (See <https://www.lucidchart.com/blog/content-marketing-funnel> as an example).



Step 3: Brainstorm a menu of options for dissemination

You are likely to need different types of research products and dissemination strategies to help advance E2A. There are two reasons for this. First, for each audience, you are likely to need different elements to move them through the different stages of evidence use. Second, while you should have one primary audience, you likely will have multiple secondary audiences, and different audiences find different types of research products compelling. Exhibit II.3 provides a partial list of the different types of research deliverables.

- 1. Start thinking about your dissemination strategy early.** If, at the research design phase, you are already thinking about the kinds of deliverables you might produce, you can use your knowledge development activities to understand user preferences about deliverables.
- 2. Create your planning documents with E2A in mind.** Focusing on E2A from the beginning, include text and visuals in your research design documents (research design plans and slide decks, site recruitment one-pagers) that can be repurposed for sharing findings and results.
- 3. Plan on creating multi-use content from the start.** Different audiences learn and share differently. Audiences also learn best when information is shown in diverse ways. (See next section.) Plan on developing reports with visuals that can be excerpted to slides, infographics, and reports.
- 4. Plan to identify and leverage existing venues for dissemination.** Keep a running list of organizations/partners that could be good audiences for and promoters of your findings. Early on, let them know about the research you are conducting and find out what their members might find compelling. By doing so, you can cultivate a ready audience, and the insights gained can serve as the “hooks” for framing your findings. Think about conferences you can leverage, especially practitioner conferences (e.g., annual conferences and meetings organized by the National Association of Workforce Boards Forum, the National Governors Association, and the National Association of State Workforce Agencies).



Bonus tip: *The hardest deliverables to develop and likely the most useful ones will be the shorter ones (briefs). If you opt for these, set aside enough time to develop, user test, and refine them.*



Exhibit II.3. Menu of Research Products

Product Type	Purpose	Examples
Report	A comprehensive description of the study, including methods, sample, analysis, and findings.	<ul style="list-style-type: none"> Design/Analysis plans Literature review reports Impact and implementation study reports
Brief	A short (3- to 6-page) plain language description of the most important and actionable findings.	<ul style="list-style-type: none"> Overview/summary of study findings Findings summaries for specific audiences/topics Case studies
Presentation Slide Deck	A high-level overview of a study along with a summary of findings that uses easy-to-digest visuals and short, plain language bullets.	<ul style="list-style-type: none"> Report briefing slides Pitch decks Webinars Self-guided resource
Data Visualization	A graphic display of multiple concepts and actionable findings from the evidence through one view.	<ul style="list-style-type: none"> Static data visualization Animated data visualization Interactive tools, such as data dashboards
Clearinghouse	A web-based “storage room” for evidence and research on specific topics. Provides public access to evidence products	<ul style="list-style-type: none"> Targeted to specific users Targeted to specific topics
Marketing product	Diverse deliverables in different media designed to whet the appetite for learning more about evidence	<ul style="list-style-type: none"> Social media posts Short videos Story maps

Source: Developed by authors.

Step 4: Organize Teams to Create E2A-Ready Deliverables

- 1. Assemble multi-skilled teams and emphasize E2A as the primary goal.** To develop effective communication products, it is helpful to assemble teams with diverse skills. You will need individuals with strong technical and content expertise, as well as strong writers who can communicate complex ideas simply and designers with good visual communications skills. Integrating people with these varied skill sets in the brainstorming phase can help set you up for success. Also set expectations that for each research product, teams will likely need to collaborate around the following three steps that are common elements in the subsequent product chapters:



2. Emphasize the four elements that will need to be incorporated into all your products.

- **Simple writing:** Words are the building blocks of evidence dissemination. Often, research teams are well trained on how to communicate with other researchers. However, many of us need more practice in using language simply to share complex ideas with practitioners and policymakers.
 - **Effective visuals:** We are more likely to retain information when it is shown visually. Plan on using visuals to convey complex ideas simply and memorably. Visuals also have the advantage of breaking up walls of text that may otherwise bore or intimidate audiences.
 - **Design to focus attention:** Well before we read text, we form an impression of what it says. Design can be a powerful tool for focusing attention. Key elements of design that teams must plan on playing close attention to are:
 - Using **font** families for consistency and different font sizes to reinforce the hierarchy of ideas.
 - Using **color** to focus attention and make text inviting.
 - Removing **clutter** and only keeping style elements that aid understanding.
- See [Chapter VI. Data Visualization](#) to learn how to leverage design elements effectively.
- **Storytelling.** People are inclined to be moved by stories, which stick with us more than data. Stories that are focused on people motivate us to act more than pure numbers can. Stories, testimonials, case studies, and pictures draw in your audience, vest them in what you have to say, and help them recall your content.



3. **Establish a style guide for products early in your project.** Developing and sharing effective templates and practices upfront make it easier to develop E2A products within the available time and budget constraints. Big teams with multiple content contributors will find them especially useful. Use style guides to prescribe shared practices for writing, formatting, and design elements. Style guides should be shared with DOL for its review and approval before use.
- **Keep content consistent.** Audiences get confused when researchers talk about similar concepts in different ways. Making content consistent at the end can be expensive. Sharing E2A-friendly, language use guidelines upfront can help build team capacity and increase efficiency.
 - **Use design consistently and intentionally.** Developing a consistent design style guide to be applied across a suite of products adds efficiency both for research teams and their audiences.
4. **Plan proactively for keeping a focus on E2A through reviews:** As noted earlier, research teams receive multiple rounds of review, both from technical research experts and subject matter experts. In most instances, researchers are asked to add more information. Our response to this feedback is often to lengthen text or add footnotes or boxes. To help avoid the reaction to add detail in response to all technical comments, we propose that research teams consider the following strategies:
- **Balance E2A principles with the need to show rigor.** Discuss upfront with the contracting officer’s representative (COR) how to balance the need for conciseness and being reader friendly with the need to show rigor. Explore whether the COR can share DOL priorities around E2A-friendly products with reviewers in advance.
 - **Plan for reviews.** Reserve enough resources and time at the review stage not only to address technical concerns but to maintain conciseness, clarity, and focus.
 - The key question to ask at this stage is whether the requested addition will help focus the attention and advance the understanding of our target users or distract them. If the target audience is not an academic or technically oriented one, it’s especially useful to ask this question.
 - Whenever possible, include revisions asking for additional detail in the appendices rather than in the main text. You may be tempted to add footnotes, but remember that footnotes take the reader’s eye (and focus) away from the main text and should be used sparingly.



Step 5: Be inclusive in writing and design

- 1. Lower the reading level.** If writing for a practitioner audience, you want to make it easy for readers to get your point. Writing at an 8th-grade reading level or lower in the main sections of the report makes it easier for your audience to digest the content quickly the first time they read it.
- 2. Assess your writing.** Use a tool like Microsoft (MS) Word's Readability tool to assess reading level. Note though that Microsoft Word's assessment of the readability score of text may be lower than that computed by alternate software like Arte, so aim for a reading score lower than what you intend.
- 3. Design and format for accessibility and 508-compliance**
 - Use uniform and hierarchical headings to structure the document. Use built-in document structure when possible (e.g., titles and slide elements in PowerPoint, headers in Word) as this makes products easier to follow for screen reader users.
 - Use simple table configurations.
 - Choose color contrasts carefully.
 - Ensure the final document is 508 compliant. Draft alternate text for images, charts, and infographics.
 - Avoid using URLs in written products or PowerPoints; give links a descriptive title that would explain to a screen reader user where they lead.
 - Use built-in tools (e.g., Selection Pane in PowerPoint, Reading Order tool in Adobe) to select, review, and confirm the order in which text elements will be read by a screen reader.
 - Use software accessibility checkers (available in Microsoft products and Adobe) to check for issues you may have missed and use your 508 Compliance Office or other organizational resources to check and provide feedback on your products.

Planning Checklist

❖ Identify audiences and define primary goals

- First define a single primary audience, and then identify any secondary audiences
- Understand their top tasks and needs
 - Be specific in defining needs
 - Understand the timeline of information needs
- Understand what your audiences already know
- Understand how they learn

❖ Plan for user journeys through research

- Understand the user journey of evidence use
 - Awareness > Consideration > Review > Application > Championship
- Strategize about push strategies to move users from one stage to the next.
- Apply a content marketing approach

❖ Brainstorm a menu of research products for dissemination

- Start thinking about your dissemination strategy early
- Create planning documents with E2A in mind; create multi-use content wherever possible
- Plan to identify and leverage existing venues for dissemination

❖ Organize teams to create E2A-ready deliverables

- Assemble multi-skilled teams and emphasize E2A as the primary goal
- Develop and use style guides for consistency and efficiency
- Maintain focus on E2A through reviews and revisions

❖ Be inclusive in design

- Write at an 8th-grade reading level or below
- Assess writing for readability
- Format for accessibility

Resources

Accessibility and 508-Compliance

- Accessibility Conformance Checklists (from HHS): <https://www.hhs.gov/web/section-508/accessibility-checklists/index.html>
- Accessibility Resources (from Microsoft): <https://www.microsoft.com/en-us/accessibility/resources>
- U.S. Access Board: <http://www.access-board.gov/>
- Section508.gov: <http://www.Section508.gov>
- WebAIM: <http://webaim.org/>

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III. Written Products: Writing for Impact

“Omit needless words...[make] every word tell.”

Strunk and White, *The Elements of Style*

To capture the attention of your audience, it is important to give them a reason to begin or continue reading. However, researchers often write in a sequential manner, starting with the genesis of their study and moving through the design approach, methods, data collection, and findings. Unfortunately, this approach may not be an effective way to engage readers. After all, people spend very little time (7 seconds or less) before deciding whether to open content and whether to read it.

Learning to write in a way that grabs the audience’s attention and keeps it is critical for evidence adoption. Written products remain the most traditional and commonly used tools for sharing evidence-based findings. Moreover, they often serve as a starting point for other evidence-related products, such as presentations and infographics. High-quality written products can help ensure your findings reach and are read by your target audience.

This chapter offers tips on planning written products, on writing and design, and on how to organize writing teams to produce well-written content that motivates readers to act.

Key Steps

 Plan	 Develop Compelling Content	 Design for Focus	 Organize Teams
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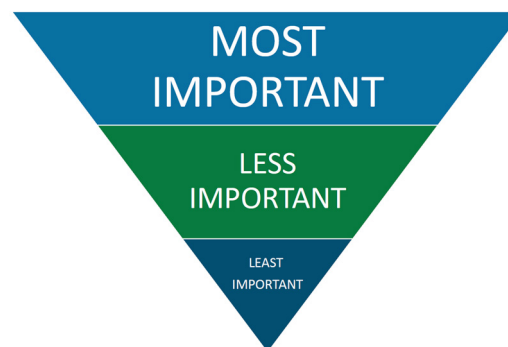
Step 1: Plan

- 1. Define your audience and identify their needs.** While you may have diverse audiences, define your “ideal reader,” what they may already know about the topic, and what more they need to know. Then write to that reader. See [Chapter II. Planning for E2A Products](#) for more details.


- 2. Make simplicity your core goal.** As a researcher you have been trained to design and implement complex analyses. But when you write to motivate action, you must prize simplicity.
- Simplicity helps readers prioritize their attention. When there are too many different takeaways, readers get overwhelmed and don't know how to act on the information. Multiple nuggets of information create uncertainty, leading to inaction.
 - Heath and Heath (2008) offer the following insights for simplicity:
 - Writing simply requires becoming a “master of exclusion” and finding the “core” elements of your story that can guide decisions.
 - Simple = Core + Compact. Both are critical, but neither one is sufficient. Brevity that conveys something unimportant (or worse, false) is not desirable – you must find the key idea that is worth sharing (the core). But lengthy text may be hard to understand and remember, even if it includes useful information.
 - Recognize “the curse of knowledge.” When you know something, it is hard to know what the reading experience is like for those who do not have the same knowledge. This leads you to share information that is too nuanced and complex for your readers to absorb. These nuances risk drowning out your core message.
- 3. Don't bury the lead.** Writers bury the lead when they let the most important finding (the core) slip too far down in the written product. Before writing, ask yourself:
- What is the core of what you want to share?
 - What will feel revelatory in what you say? What is new and unexpected? Draw attention to the information your audience will find immediately helpful or surprising. You want to save the reader's time by avoiding the obvious and focusing on what is newsworthy.
 - Who will care and why? What decisions might it inform? Can you frame the finding in a way that makes it easier to interpret and apply?

- What is the minimum context most readers need to understand findings?
- Adopt the **inverted pyramid approach** to information sharing (See Exhibit III.1 and additional discussion of inverted pyramid in [Chapter IV. Presentations.](#))
 - Allocate the most space to the most important content first. Winnow down to progressively less important information.
 - This works best if you focus each paragraph on a single topic and start the paragraph with a topic sentence.

Exhibit III.1. The Inverted Pyramid Approach



Source: Adapted by authors based on Scanlan (2003).

 **Bonus tip:** *Brainstorm with practitioners on how to prioritize and frame content. A brainstorming/review team that includes members who can represent policymaker or practitioner perspectives can be invaluable in helping to guide, prioritize, and review content.*



Step 2: Develop Compelling Content

1. Make the value clear early on.

- Develop a catchy, informative title that speaks to a broad audience. The opening sentence must include the key elements of the topic.
- Use the opening to capture attention. In the first page or so:

Don't:	Do:
X Lead with historical goals	✓ Motivate why your topic matters now
X Focus too much on the funding agency or the research team	✓ Highlight the decisions it can inform
X Use long sentences or paragraphs	✓ Provide a visual with key takeaways
	✓ Provide a roadmap

Source: Developed by authors.

- Help readers go to sections of interest easily. Hyperlink sections, so readers can jump ahead.

“If it’s possible to cut a word, always cut it out...Never use a long word when a short word will do.”

George Orwell

2. Be concise. Less is more in each unit of writing.

- **Words:** Use short words (1 to 2 syllables) in place of long ones (e.g., “use” instead of “utilize”). Don’t use multiple words when one will do - See Exhibit III.2 for tips on deleting needless words.
- **Sentences:** Use short sentences. Break sentences longer than 12 words into two. Drop adverbs entirely. Use adjectives sparingly. Remove redundant words. Use “we” instead of “the research team” where possible, both for brevity and to forge a connection with the reader.
- **Paragraphs:** Long paragraphs may confuse and deter the reader by signaling that the content is daunting. Treat the paragraph as a unit of thought, with one main idea in each paragraph. Within each paragraph, don’t repeat similar ideas across multiple sentences. Assess whether the additional sentence is worth the thought it conveys. Can its “value added” element be added easily to an existing sentence?
- **Chapters:** In each section and chapter, decide what is essential. Move non-essential background information to boxes or appendices.



Bonus Tip: Cut by 10 percent. Write your first draft freely. Then cut ruthlessly. Stephen King’s book “On Writing” (2010) recommends cutting by at least 10 percent and offers useful examples.

- Use word limits and formats to force brevity (See Step 4: Organize Teams to Write Well).



Exhibit III.2. Removing excess words

<i>Don't say:</i>	<i>Say:</i>
a number of	several, a few, many
a sufficient number of	enough
at this point in time	now
is able to	can
on a monthly basis	monthly
on the ground that	because
an amount of X	X
be responsible for	must
in order to	to

Source: Federal Plain Language Guidelines (2011).

3. When explaining technical content simply, you may sometimes need to write more.

- First ask yourself whether the technical detail is essential for your audience to know in order to understand your material. Dynarski and Kisker (2014) offer a useful test: What does your reader need to know to understand your research and explain it to someone else? They offer useful examples to illustrate how to make decisions about this, which we include in the bullets below.
 - Only include the technical detail if necessary. For example, saying “an acceptable statistical technique” may be more helpful for lay audiences than saying “Ordinary Least Squares.”

- If the technical detail is necessary, add enough for it to be useful. “The study used random assignment” is concise but may trip up lay readers. A more useful description might be: “We created groups by using an approach analogous to flipping a coin. This process yielded groups that were similar on average. Statistical analyses confirmed that groups were similar.” This is lengthier but clear.
- But do not go far down the road by providing too much detail. Following the example above, it might also feel useful to say, “Because this approach was used, unobserved characteristics of groups will be similar”; however, it might not be essential to add this information because the reader will have to take your word for it. Adding a citation won’t help either because the reader will wonder what the citation confirms.

4. Write for skimmers.

- Position main findings prominently in the introduction and each chapter.
- Devote each paragraph to a single main idea.
- Write useful headings that provide a concise summary of the main idea.
- Useful headings can either be question headings (e.g., Why invest in youth workforce programs?) or statement headings (e.g., Youth workforce programs help disconnected youth). Both are more informative than topic headings (e.g., youth workforce programs).
- Informative chapter and section headings effectively turn the table of contents into a report summary. For examples, See Exhibit III.3 Table of Contents from the Federal Plain Language Guidelines and Exhibit III.4 comparing a sample labor report TOC with non-descript section headings with one that has more precise headings.
- Avoid overusing acronyms and abbreviations. Spell out acronyms in the first instance if they must be used. After first use, avoid overusing the acronym. Write the bureau instead of ILAB (International Bureau of Labor Affairs).
- Exercise good judgment on when to make exceptions to the guidance to avoiding using acronyms. For example, WIOA might be so commonly known to your target audiences and have such specific connotations that using “the Act” might be confusing.

Exhibit III.3. Table of Contents from the Federal Plain Language Guidelines

Table of Contents	
Introduction	
Revision 1 Changes	
Table of Contents	
I. Think about your audience	
a. Identify and write for your audience	
b. Address separate audiences separately	
II. Organize	
a. Organize to meet your readers' needs	
b. Address one person, not a group	
c. Use lots of useful headings	
d. Write short sections	
III. Write your document	
a. Words.....	
1. Verbs	
i. Use active voice	
ii. Use the simplest form of a verb	
iii. Avoid hidden verbs.....	
iv. Use "must" to indicate requirements	
v. Use contractions when appropriate	
2. Nouns and pronouns.....	
i. Don't turn verbs into nouns	
ii. Use pronouns to speak directly to readers.....	
iii. Minimize abbreviations	
3. Other word issues	
i. Use short, simple words.....	
ii. Omit unnecessary words	
iii. Dealing with definitions	
iv. Use the same term consistently for a specific thought	
v. Avoid legal, foreign, and technical jargon	46
vi. Don't use slashes.....	48
b. Sentences	49
1. Write short sentences.....	50
2. Keep subject, verb, and object close together.....	52
3. Avoid double negatives and exceptions to exceptions	54
4. Place the main idea before exceptions and conditions	56
5. Place words carefully	60
c. Paragraphs.....	62
1. Have a topic sentence.....	63
2. Use transition words.....	64
3. Write short paragraphs	66
4. Cover only one topic in each paragraph.....	68
d. Other aids to clarity	69
1. Use examples	70
2. Use lists.....	71
3. Use tables to make complex material easier to understand	74
4. Consider using illustrations	77
5. Use emphasis to highlight important concepts	82
6. Minimize cross-references	83
7. Design your document for easy reading	88
IV. Write for the web	89
a. How do people use the web?	90
b. Write for your users.....	92
c. Identify your users and their top tasks	93
d. Write web content.....	94
e. Repurpose print material for the web	95
f. Avoid PDF overload.....	96
g. Use plain-language techniques on the web	97
h. Avoid meaningless formal language	98

Federal Plain Language Guidelines, March 2011,
Rev. 1, May 2011

Federal Plain Language Guidelines, March 2011,
Rev. 1, May 2011

iv

I. A Tool Kit Overview

II. Planning for E2A Products

III. Written Products

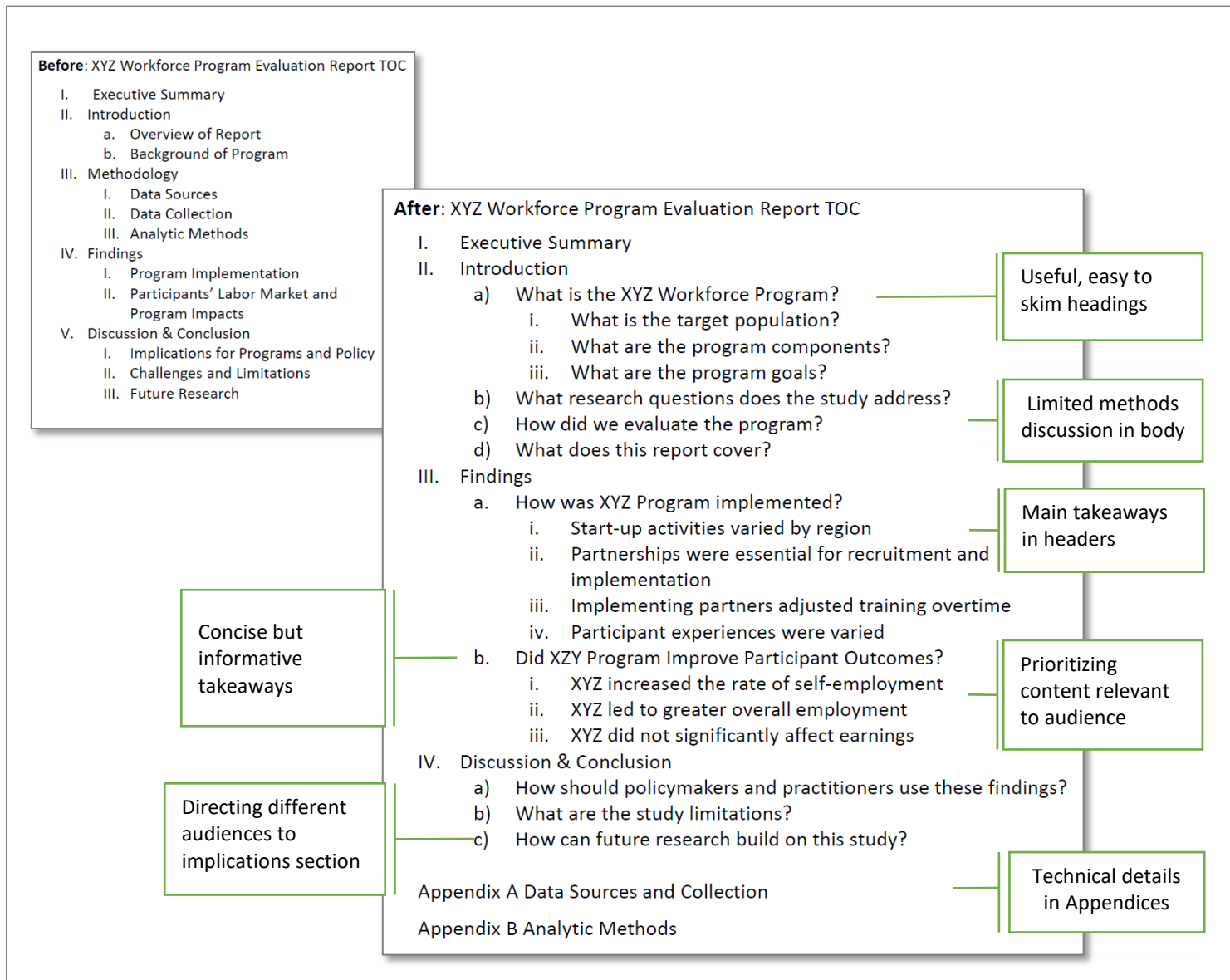
IV. Presentations

V. Infographics & One-pagers

VI. Data Visualization

Source: Federal Plain Language Guidelines, 2011.

Exhibit III.4. Table of Contents of Sample Workforce Report: Before and After



Source: Developed by authors.

5. Write with vigor. Draw in your audience.

- Use the active voice. The active voice makes it clear who did what or who has to do what. Moving from passive to active usually increases brevity.
- You may be tempted to use the passive voice to stress the objectivity of the research, but it just makes the writing harder to follow. Compare “We interviewed 15 participants in May 2022” with “Interviews were conducted with 15 participants over the course of two weeks in May 2022.” Which is easier to digest?
- Do not use hidden verbs – these are verbs that have been turned into nouns and only make sense with the addition of another verb. “Making an application” is a hidden verb. It can be more simply written as “applying.” Review your text for these and replace them.
- Avoid clustering a lot of nouns together. When three or more nouns are strung together in succession, all the nouns before the last one serve as adjectives (e.g. worker rights protection procedures or mixed methods research integration or longitudinal data tracking and analysis). This type of sentence is hard to follow. Delete non-essential descriptors or
- Use pronouns to make the language more compelling. Use “you” to pull the reader into your text and make it relevant to them. Use “we” to make the research team or sponsoring agency seem more accessible.
- Use commonly used contractions (e.g., don’t).

“The habitual use of the active voice, however, makes for forceful writing.”
Strunk and White

Exhibit III.5 offers illustrative examples of a few of these principles being applied to revise text.



Exhibit III.5. Applying Plain Language Strategies to Labor Research

Examples of:	Don't say	Say
Reducing passive voice and increasing specificity	Data collection occurred over three months and involved interviews conducted over video with program, managers, employers, and frontline staff.	We conducted 15 video interviews with program managers, employers, and frontline staff in May, June, and July 2022.
	The surveys were administered to employees in different sectors	We surveyed 45 employees across 5 sectors.
	The impact of the policy changes was assessed through statistical analysis.	We conducted statistical analyses to assess the impacts of the policy on employment and earning outcomes.
Replacing hidden verbs	The study team conducted an analysis of the impact of technology on job availability	The study team analyzed the impact of technology on job availability...
	The study focused on an examination of wage differentials among various occupational groups.	The study examined wage differentials among various occupational groups.
	There was a decrease in productivity	Productivity declined
	The implementation of new policies led to an improvement in worker satisfaction	Implementing new policies improved worker satisfaction.
Avoiding noun strings	Our interview protocol development procedures included...	To develop interview protocols, we...
	Our observational research data coding approach was	We coded data from our observations by...

Source: Developed by authors.

6. **Be inclusive.** See [Chapter II. Planning for E2A Products](#) for how to develop inclusive content.

 *Step 3: Design for Focus*

1. **Create an inviting cover.** Make the title informative.
2. **Use white space to focus attention.** More space between lines and call-out boxes can make reading easier and text more memorable.
3. **Use bold text to focus attention.** It does, however, detract attention from the remaining text. Use bold text judiciously.
4. **Use icons and graphical elements** to create clues to content. (See [Chapter V. Infographics and One-Pagers](#) and [Chapter VI. Data Visualization.](#))

 *Step 4: Organize Teams to Write Well*

Research products often are written by teams of people with different skill sets. This section provides advice on how to guide teams to write well.

1. **Provide guidance and templates upfront.**
 - Share the goals and vision of the final product and the audiences you want to move.
 - Impose limits. Writers will exceed those limits but not by as much as when they write without direction. (See the recommended limits in Exhibit III.6.)
 - Lay out the report using placeholder text. Writing to a format can force writers to write concisely and think carefully about what detail belongs where.

Exhibit III.6. Recommended Limits

- Report:** 25 pages
- Brief:** 4-8 pages
- Paragraphs:** Ideally, 100 words. Don't exceed 150 words.
- Sentences:** Ideally, 12 words to a line. No more than 2 lines.
- Bullets:** Aim for a single line of text (two at most).
- Spacing:** Text that is spaced 1.5 lines apart is easier to skim.

Source: Developed by authors.

- Sequence report segments. Write technical appendices with greater detail first and draw from them to create user-friendly text. This strategy is especially effective when co-writing with technical writers who struggle to draft concise, simple text.

2. Outline early.

- Before drafting, create a detailed outline. Outlines make the structure of the content and hierarchy of ideas clear. Outline how you will spread content across chapters and sections. Assign specific page numbers to sections and subsections and stress that your team must stick with them. Decide both on the overall length and on the combination of text, graphs, case studies, infographics, and call-out boxes.
- Use topic sentences. Give sections and paragraphs useful headings with clear ideas (i.e., topic sentences) and nest supporting statements below.
- In outlines, format section headings either as question headings (e.g., Why invest in youth workforce programs?) or statement headings (e.g., Youth workforce programs help disconnected youth) rather than as generic headings (e.g., youth workforce programs). See Exhibit III.4 Table of Contents: Before and After as an example.
- Writing team members tend to default to generic headings, which makes it difficult to discern at the outline stage what content they plan to include. Set expectations early and reinforce them.
- Balance rigor with readability by using appendices/boxes for technical details. The main body of the report should only have content that is important for your “ideal” reader.
- Outlining before conducting data analysis is feasible and useful. It can help focus the analysis as it can highlight specific questions you want your analysis to answer.

3. If feasible, finalize the text *after* presenting findings to policymaker/practitioner audiences.

- Developing slides for a timebound presentation forces you to focus on what matters.
- Audience questions and feedback will help you clarify the policy or program relevance of findings. Put those insights in the report.





Written Products Checklist

❖ Plan written products

- Define your ideal reader and identify their needs.
- Make simplicity your main goal:
 - What is your core message? Have you said it as clearly and concisely as you can?
- Train teams not to bury the lead.

❖ Develop compelling content

- Make the value clear early on:
 - Use a catchy title and a cover page with a compelling photo or graphic.
 - Craft an opening sentence with key elements of the topic, a first page that provides context on why the topic matters, and a visual with key takeaways.
- Be concise:
 - Ideal targets: short words, 12 words to a sentence, 100 words to a paragraph, 25 pages in a report, line spacing: 1.5.
 - Acceptable: 15 words to a sentence, 140 words to a paragraph, 35 pages in a report, line spacing: 1.2.
- Be selective in what technical detail to include. If you do include it, explain it well.
- Write for skimmers.
- Write with vigor, draw in your audience: Use active voice and present tense.
- Be inclusive: Lower the reading level

❖ Design for Focus

- Create an inviting cover.
- Use white space to focus attention and for easier reading.
- Use bold text and color to focus attention.
- Use icons and visuals to improve the understanding and recall of content.

❖ Organize Teams to Write Well

- Provide guidance, templates, and limits upfront.
- Outline early and require topic sentences.
- If possible, finalize the text after the initial presentation of findings to target audiences.

Resources

Plain Language

- Federal Plain Language Guidelines: <https://www.plainlanguage.gov/media/FederalPLGuidelines.pdf>
- Plain Writing Checklist: <https://www.archives.gov/open/plain-writing/checklist.html>

Translating Research Concepts Into Non-Research Language

- *Going Public: Writing About Research in Everyday Language*: https://ies.ed.gov/ncee/pubs/REL2014051/pdf/REL_2014051.pdf

Writing for Busy People

- *The Science of Corresponding with Busy People with Todd Rogers* (Video): <https://www.hks.harvard.edu/science-corresponding-busy-people-todd-rogers>
- *How to Write So Busy People Will Read* (Slide deck): https://assets-global.website-files.com/60f998ee966fd623d55b7838/61156a515b7f134ed5cd3923_Leadership%2BEssentials%2BSlides%2BApril%2B22.pdf

Accessibility

- *Create and Verify PDF Accessibility: Acrobat Pro* (reviews all the potential accessibility issues that Adobe's accessibility checker might find and how to fix them): <https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html>
- Web Content Accessibility Guidelines (WCAG) for any products that are posted or shared online: <https://www.w3.org/WAI/WCAG21/quickref/> and <https://www.w3.org/WAI/test-evaluate/preliminary/>

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I. A Tool Kit
Overview

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IV. Presentations

“Presenting is a fundamentally different form of communication than writing.”
Jonathan Schwabish, *Better Presentations*

Let’s begin with a scenario. You learn about a research presentation on an important topic. You make time to attend. You are excited about learning something new and applying it. But the researcher presenting starts with a wordy slide deck. The content seems to be excerpted from a report: full sentences, detailed graphs, and tables. The font is small. The slides are full of detail that is hard to read. You start reading the slides, instead of listening. That might be okay because the presenter is also reading the slides verbatim. The phrase “death by PowerPoint” springs to mind. Half an hour in, on slide 30, you finally start to hear findings and conclusions. By this time, you’ve started multitasking. At the end, you retain little of what the key takeaways were and how to apply them. Should you just have read the report instead? Then again, it’s probably very long as well.

This chapter provides guidance on planning, content development, design, and delivery to make this scenario the exception, not the norm. We draw on multiple sources, which are listed at the end of this chapter, most notably Jonathan Schwabish’s *Better Presentations* (2016).

Key Steps





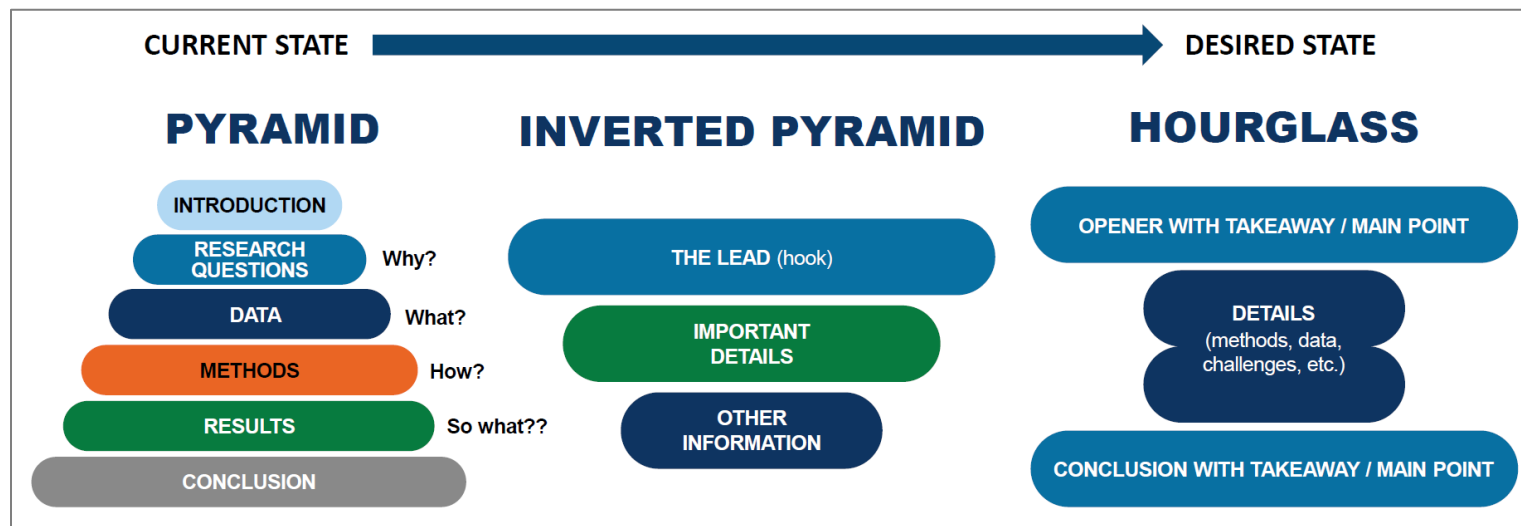
Step 1: Plan

- 1. Embrace that presentations offer a unique opportunity to “sell” research findings.** Good presentations make findings enticing and memorable to the audience. They increase the odds that the audience will understand, apply, and share what they learned. They are *not*, in most instances, a chance to sell your methods – unless you’re presenting at a technical research conference.
- 2. Plan on customizing the content for your audience.**
 - It’s important to understand and customize the presentation for each audience and their needs (see [Chapter II. Planning for E2A Products](#)).
- 3. If presenting for an hour, plan on following the 10-20-30 rule of thumb.**
 - Aim for a maximum of **10 slides** with substantive content, not counting the cover, transition, and final slides. (This is a target, not a hard-and-fast rule; you may slip to 12 and that is okay.) There are exceptions – where slides are complex, it is better to break them into multiple slides, with each consecutive slide layering in more information.
 - Limit your planned remarks for the presentation to **17-20 minutes**. This allows time for introductions, questions, discussion, and unanticipated delays. Research shows that longer presentations create more “cognitive backlog” or information that an audience is likely to forget. Sticking to 20 minutes keeps the audience engaged and makes it easier for the audience to retain and act on information.
 - Keep the font size to a minimum of **30 points**. This helps to reduce the number of words on each slide and focus on words that matter.
 - If developing a presentation with a team, **develop shared expectations** around the 10-20-30 rule so you will have less revising to do on the back end.
 - These are targets, not hard-and-fast rules.** They assume you have an hour for the presentation, questions, and discussion. However, it is important to consider your audience, the time allotment, and presentation delivery mode (e.g., in-person, web-based) when determining the number of slides, time for presenting, and font size.

4. Choose story structures that lead with findings.

- **Avoid the pyramid style of presentation (See Exhibit IV.I).** This is the default in most research presentations. If you follow this structure, you risk spending too much time upfront on the first four steps (i.e., introduction, why, what, how) instead of the findings that audiences want to hear. Remember, your audiences have questions. They've come to your presentation to find answers. Get them to their goals quickly.
- **An inverted pyramid style is preferable, especially for virtual settings.** This structure takes a page out of journalism where the leading paragraph is devoted to the headline and what matters most, and the remaining sections provide information in the order of importance. This format may be ideal for virtual presentations where there is a higher likelihood of attendees leaving early or multitasking towards the end of the presentation.
- **An hourglass structure may be ideal for in-person presentations.** This presentation style opens and closes with what matters most. Schwabish (2016) recommends this style because it grabs the audience's attention early on when they are most likely to be paying attention and concludes by reiterating the main takeaways to encourage retention. We think that advantage is more likely to hold for in-person presentations where audiences are more likely to stay till the end.

Exhibit IV.I. Presentation Structure



Source: Adapted from Schwabish (2016).



Step 2: Develop content

1. Start by outlining the presentation.

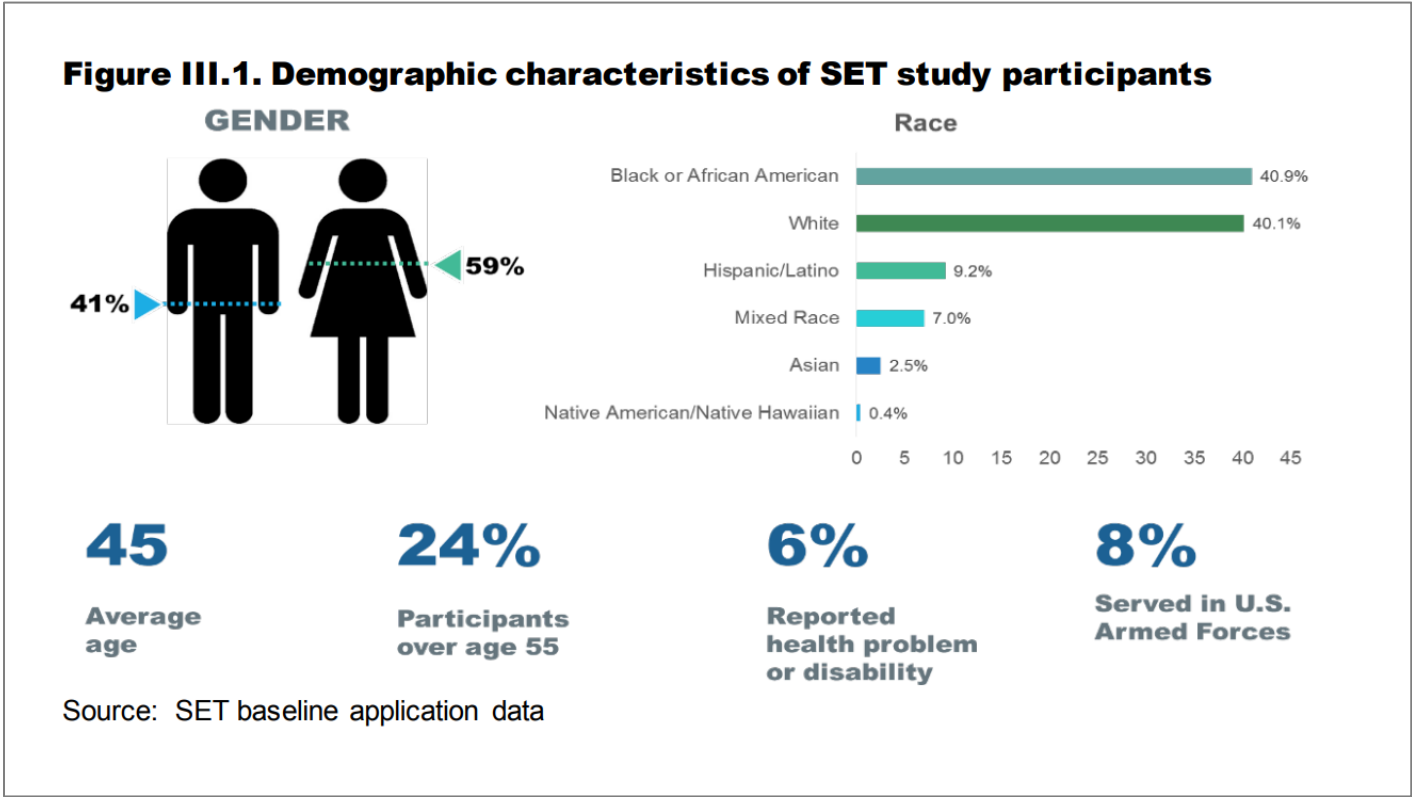
- **Use 7 index cards or post-it notes (or their online equivalents) to brainstorm and sequence the main components** (one each for the opening and closing statements and up to 5 for the intervening sections).
 - The limited space will force you to concisely articulate your main topics.
 - Being able to move the cards around will make it easier to visualize flow before you commit to writing out a script.
 - Adding a timestamp on each card will allow you to plan how you will use your time before you draft comments.
- **Do not outline by excerpting from your report directly into a slide deck or a word document.** While quicker, this will lure you into the pyramid structure we discussed above.
- **Spend time figuring out your opening statement.** Don't waste your opening sentences on introducing yourself and/or the goals of your organization. Instead, craft and share a compelling statement on the core elements of your presentation. (See [Chapter III. Written Products: Writing for Impact](#) on developing simple but compelling leads.) This is the hook that will grab the audience's attention when they are paying the most attention. For example: "Our study has direct implications for your work as workforce development practitioners. Today we are going to share five key findings and discuss the related action items you can implement to help improve the outcomes of the job seekers you serve."
- **Craft your closing statement.** Presenters often sign off with a generic thank-you. Instead, use your final statement to highlight the importance of your findings and how they fit into the bigger picture.
- **Then figure out up to 5 sections that will lie between the opening and closing.** Having more than five discrete topics can overload your audience. The advantage of thinking of your presentation in terms of sections is that you can swap them out or change the distribution of time you devote to each depending on different audiences' needs.

2. **Write concisely.** The guidance we provide in [Chapter III. Written Products: Writing for Impact](#) on concise writing is just the starting point. To develop a presentation for easy viewing that follows the 10-20-30 rule you will need to cull words ruthlessly.

 *Bonus tip: Turn off the “autofit” function in PowerPoint to keep the font size consistent.*

- **Prepare the presentation to optimize the attention of the audience.** Having long, wordy text on slides (a) distracts the audience into reading rather than listening, (b) bores the audience since they can read faster than you can talk, and (c) tempts you to read from the slides. If needed, prepare annotated slides for those who might view it later.
 - **Do not use complete sentences or articles (e.g., an, the).** You are using words to support, not replace, what you are saying. The words and visuals on the slide are there to prime the audience to listen carefully to what you will say and retain it.
3. **Use visuals** to convey and reinforce the content as well as limit the use of text. Visuals (including graphs and charts, infographics, pictures, and icons) can help make the presentation content more visually appealing and easier to digest. They can also aid the audience in recalling topics and concepts. See Exhibit IV.2 for a slide combining charts, smart art and text to summarize data insights.
- **Keep the visuals simple and intuitive** so that they are easy to read quickly.
 - **Use charts and graphs only when they add value.** Otherwise, consider presenting only the key takeaways.
 - **Use existing and free resources,** including icon libraries, smart art, and free images and art available under the National Gallery’s Open Access Policy (see resources section).
 - **Layer in elements one at a time** when telling a complex story. Use colors and font to help distinguish each layer (Exhibit IV.3).

Exhibit IV.2. Using Diverse Visual Elements to Convey Data



Source: https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/SET_Pilot_Program_Implementation_Study_Report.pdf.

Exhibit IV.3. Layering in Complex Elements, One at a Time



Source: AIR DOL Capacity Assessment Findings PPT (2022), developed by authors.

4. Finalize the presentation through iteration.

- **Edit down aggressively.** The first version will be wordy despite the guidance to write concisely. Exhibit IV.4 shows how much the final version of slides can evolve from the initial version.
- **Leave time to review, practice, and refine.** You will want to refine it again after you have practiced your delivery.

Exhibit IV.4. Presentation Iteration Example

First Draft (Version 1): Text Heavy, no visual elements

Unemployment Insurance (UI) in State X

What is Unemployment Insurance (UI)?

- Temporary income replacement for eligible workers who are fully unemployed or have hours involuntarily reduced
- An economic stabilizer during economic downturns that replaces roughly half of a worker's income (inclusive return to work)
- In State X:
 - Receive up to 26 weeks of benefits in a 12-month period
 - Max. weekly benefit is \$514 (half of avg. weekly wage, up to max.)
 - UI side / Employment Services side***

Who is eligible?

- To be broadly eligible for UI, individuals must:
 - Be unemployed through no fault of their own (e.g., laid off)
 - Be sufficiently attached to labor force, based on work history
 - Have earned wages from insured employers
- When filing initial claim, claimants must also be:
 - Available and physically able to work
 - Available to accept new work
 - Actively looking for work
 - Legally authorized to work in the United States

Who is eligible?

- To continue to receive UI benefits each week, claimants must:
 - File a weekly claim or certification for each week they are unemployed; only receive payment for weeks in which they certify
 - Remain able, available, and actively looking for work
 - In NE, complete the "reemployment activities" each week, two of which must be applications for suitable work
 - Complete RESEA activities, if selected

Who is typically not eligible?

- Self-employed workers/business owners
- Independent contractors, 1099 recipients, and gig economy workers
- Workers who do not meet work history requirements
- Low-wage workers
 - Workers with irregular schedules, e.g., some seasonal employer
- Individuals who are incarcerated
- Employees of education institutions, during breaks
- Full-time students (with exceptions)

How do individuals apply for UI benefits?

- In Nebraska, individuals must file online via the Nebraska portal
 - Must visit American Job Center for in-person assistance
- Create account, submit claim, create a public resume for jobs portal
- Claim requires a 300, 18-month work history, contact information, and valid ID (includes list of "reemployment activities" completed, e.g., work search)
- Must submit a weekly claim/certification to continue receiving benefits
 - Includes list of "reemployment activities" completed, e.g., work search
 - If selected, must complete all required RESEA activities
 - For questions or issues, call UI hotline/call center

How do claimants interact with staff and systems?

- What systems do applicants and claimants use? At what stages?
 - Online: Initial claim and weekly certification, identity verification, resume creation and reemployment activities; Update contact information or payment method
 - Small mail: Submit supporting documentation (proof of income for initial claim) via mail to AODL
 - In person: Visit AOC if computer or internet access, assistive technology or accommodations, or general guidance? are needed
 - Phone: Call UI hotline with questions or for assistance; request language assistance or translation services

How do claimants interact with staff and systems?

- How do they interact with staff? What are staff roles?
 - UI staff: Receive communications from, may speak over the phone if assistance is needed; staff assess eligibility and mitigate fraud risk
 - Employment Services staff: administer RESEA to selected claimants; assist with other reemployment activities (e.g., career counseling)
 - How well do these systems interact with each other? And coordinate across applicants/claimants?

Final draft (Version 4): Reduced text, heavy use of visuals and color

Unemployment Insurance (UI) in State X

Unemployment Insurance (UI) Overview

What is UI?

- Temporary income replacement for eligible workers who are unemployed or have hours involuntarily reduced. **Probes and procedures and benefits vary widely by state.**

In X, workers can receive...:

- Up to 26 weeks of benefits in a 12-month period
- A weekly maximum of \$514, depending on previous wages

How does it interact with other programs?

- State UI office administers UI, checks eligibility & fraud
- AOC provides reemployment services through RESEA
- RESEA required for those selected; not applying → Disqualification from UI
- Federal government sets performance thresholds for states

Who is eligible?

To be broadly eligible, workers must:

- Be unemployed through no fault of their own (e.g., laid off)
- Be sufficiently attached to labor force, based on work history
- Have earned wages from insured employers (workers who have paid into the UI tax system)
- Legally authorized to work in the United States

To be eligible (continuing eligibility), workers must also:

- Be available and physically able to work
- Be available to accept new work
- Actively looking for work

In X, this means completing 3 work search efforts every week

What types of workers are not typically eligible?

Workers who do not meet work history or earnings requirements

Full-time students

Employees of educational institutions on breaks

Incarcerated individuals

Self-employed workers

What is the UI claims process?

1. Assessment & Eligibility
2. Request for UI Claim
3. File Initial Claim
4. Pending Initial Claim
5. File Weekly Claim

How do individuals apply for UI benefits?

Apply for UI Online

- Create account & file claim application online in Nebraska
- Upload proof of UI through Nebraska
- Create and attach online resume to UI works
- Keep an eye out for any communications about initial claims and request promptly

Apply for UI In Person

- Submit weekly claim (after filing initial claim) through Nebraska
- Submit proof of reemployment activities (e.g., work search, etc.) if selected, attend RESEA training and reemployment services

Apply for UI by Phone, Email, or Text

- Call UI call center with questions
- Obtain "reasonable assistance" of AOC
- Request assistance portal for filing personal or additional
- If diagnosed with depression, request

What systems do claimants interact with?

NE Works (online)

- Submit initial claim and weekly certifications
- Verify identity, create resume, and submit proof of reemployment activities
- Receive updates & requests from AODL

UI Call Center

- Request for the phone assistance with applications, claims, appeals, or qualifications
- Request language assistance or translation services

AOCs (in person)

- Review job assistance & services (including RESEA)
- Receive "reasonable assistance" with UI claims
- Access computer labs, internet, or assistive technology & accommodations

Phone, Email, Text

- Review updates & requests from AODL about claim, rehabilitation, and appeal status
- Submit supporting documentation (proof for claim)

How do claimants interact with staff?

UI Staff and Employment Services (ES) staff work together to help claimants access benefits and services to become reemployed.

UI Staff + **Employment Services Staff** = **Assisting UI Claimants**

UI Staff:

- Receive weekly claim for UI
- Provide assistance on claims, appeals, and qualifications
- Continuing eligibility
- Mitigate fraud risk

Employment Services Staff:

- Work with reemployment activities
- Provide "reasonable assistance"
- Offer assistance or support
- Cannot provide assistance on UI claims, appeals, & qualifications
- Some can see what some can't

Claimants can be frustrated because they cannot access the right staff to help them.

Source: Developed by authors.



Step 3: Design to focus attention

1. Declutter your presentation for easy reading.

- **Remove any distracting visual elements** built into the default template that do not aid understanding.
- **Use drawing guides** to maintain symmetry.
- **Consider using slide titles for the headline takeaway.** This keeps the attention of the audience on what you want them to remember. It also allows you to free up space for visuals.

2. Use fonts to focus attention.

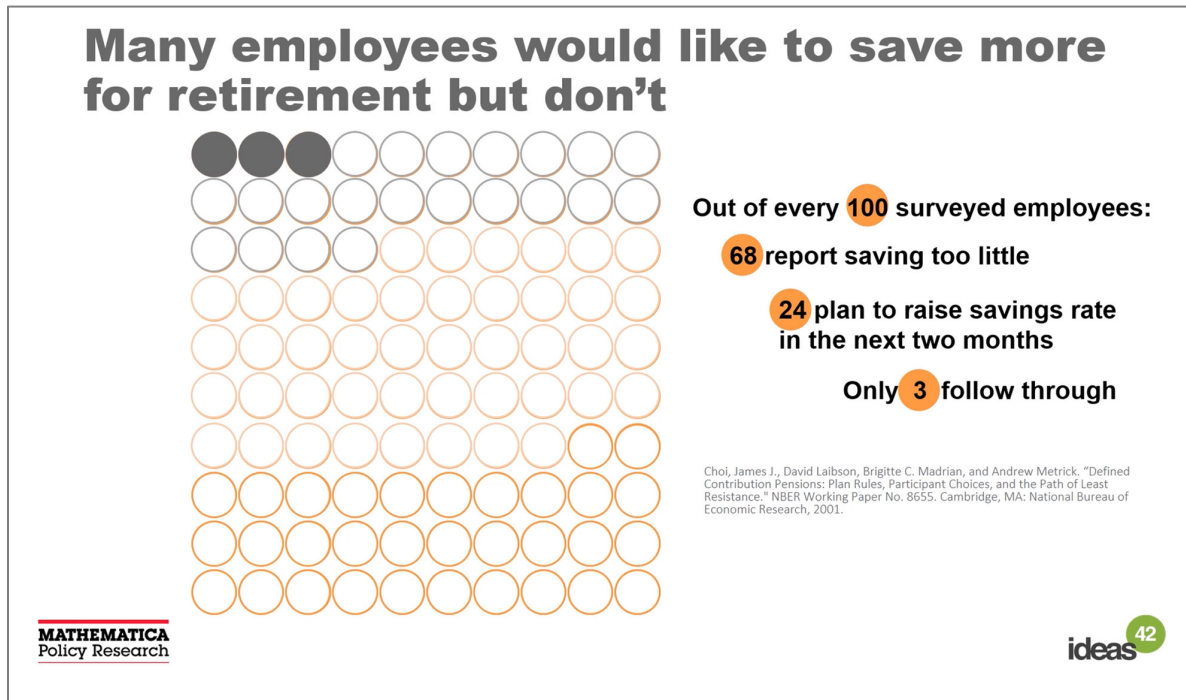
- **Use easy-to-read fonts** (e.g., use Arial rather than Blackadder ITC).
- **Choose a large font size.** Decrease the spacing between lines of type if necessary.
- **Use different-sized fonts for headings and subheadings** to help reinforce the hierarchy of thoughts.

3. Use color to focus attention.

- **Use color to focus attention on the main data point** or to make salient words in a wall of text pop. (See Exhibit IV.5 below for an example. [Chapter VI. Data Visualization](#) provides further discussion on this topic).
- **Keep the design and color scheme consistent** throughout the presentation. Use the slide sorter view to review for consistency in design and structure across slides.
- **Use contrasting colors** (e.g., dark background, bright text) to focus attention.

4. Limit transitions and animations. Reserve these for specific purposes, such as showing the stages of a process.

Exhibit IV.5. Using Color and Transitions to Focus Attention



Source: https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/3b_EBSA-narrated-video.zip.



Step 4: Deliver/Disseminate

1. Develop a delivery plan.

- **Develop a script** to stay on message but do not memorize it verbatim.
- **Practice delivery and timing** until you are not dependent on your written remarks.
- **Distinguish between essential and "nice to have" content** in case you need to adjust in real time.
- **Allow time for questions** and discussion with the audience.



2. Use an equity lens.




- Make the presentation **accessible and inclusive**. See [Chapter II. Planning for E2A Products](#) and the Resources listed below for more information on accessible design.
- **Consider the abilities and special needs** of the audience when planning your delivery.

3. Engage your participants.

- **Identify opportunities for audience participation** throughout your presentation (see Exhibit IV.6).
- For virtual presentations, **consider using the chat feature and polls** to engage with the audience.

4. Share slides with the audience for their review after delivering your presentation.

Exhibit IV.6. Engagement Strategies

In-person	Virtual	Self-guided
		
<ul style="list-style-type: none">▪ Ask questions▪ Facilitate discussions	<ul style="list-style-type: none">▪ Use the chat feature▪ Poll the audience	<ul style="list-style-type: none">▪ Use notes for guidance

Source: Developed by authors.



Presentations Checklist

❖ Plan

- Define your target audience.
- Specify what your target audience needs to know.
- Sketch out your story structure. If you are presenting findings from a report, consider how to shift report components around to tell a more compelling story.

❖ Develop Compelling Content

- Outline your presentation:
 - Choose a story structure that leads with findings (inverted pyramid or hourglass).
 - Write your opening and closing statements.
 - Choose up to five sections that will support those statements.
- Draft your slides:
 - Limit the amount of text.
 - Use visuals to convey and reinforce messages.
 - Follow the 10 substantive slides – 20 minutes of planned remarks – 30-point font rule.

❖ Design to Focus Attention Design to Focus Attention

- Use font and color to focus attention.
- Edit down text and declutter slides.

❖ Delivery/Dissemination

- Prepare for and practice a script until you don't need it.
- Identify “nice to have” content that you can skip if time is tight.
- Plan how you want to engage your audience.
- Share your slides with the audience after delivering your presentation.

I. A Tool Kit
Overview

II. Planning for
E2A Products

III. Written
Products

IV. Presentations

V. Infographics
& One-pagers

VI. Data
Visualization

Resources

Presentation Guides

- Policy Viz Data Visualization Resources: <https://policyviz.com/resources/>

Color Palette Generators

- Colors Color Palettes: <https://colors.co/>
- Designs.AI Color Palettes: <https://designs.ai/colors>

Images

- Free art from the National Gallery's Open Access Policy: <https://www.nga.gov/open-access-images.html>
- Icon collections: <https://policyviz.com/resources/icon-collections/>

Design & Visual Aids

- Forbes. (2020, April 20). *Best Practices for Virtual Presentations: 15 Expert Tips that Work for Everyone*. <https://www.forbes.com/sites/maryabbajay/2020/04/20/best-practices-for-virtual-presentations-15-expert-tips-that-work-for-everyone/?sh=730e684d3d19>
- Virtual Speech. (2018, September 20). *Best Practices for Designing Presentation Slides*. <https://virtualspeech.com/blog/designing-presentation-slides>
- Fox, P. (2022, February 10). *10 PowerPoint Tips to Make your Slides More Effective*. <https://www.ispringsolutions.com/blog/10-powerpoint-tips-to-make-your-slides-more-effective>

Accessibility

- Best Practices for Creating Accessible PowerPoints and Inclusive Presentations: <https://www.jmu.edu/accessibility/files/presentation-best-practices.pdf>
- Best Practices for Making Power Point Presentations Accessible: <https://support.microsoft.com/en-us/office/make-your-powerpoint-presentations-accessible-to-people-with-disabilities-6f7772b2-2f33-4bd2-8ca7-dae3b2b3ef25>



- Tips for Making Accessible PowerPoint Presentations for the Web:
<https://webaim.org/techniques/powerpoint/>

Additional Sources

- Forbes. (2020, April 20). *Best Practices for Virtual Presentations: 15 Expert Tips that Work for Everyone*.
- Fox, P. (2022, February 10). *10 PowerPoint Tips to Make Your Slides More Effective*.
- Gallo, C. (2014). *Talk Like TED: The 9 Public Speaking Secrets of the World's Top Minds* (1st ed.). New York: St. Martin's Press.
- IMPAQ International. (2019). *A Framework & Process for Creating an Awesome Presentation Series*.
- Schwabish, J. (2016). *Better Presentations: A Guide for Scholars, Researchers, and Wonks*. Columbia University.
- Virtual Speech. (2018, September 20). *Best Practices for Designing Presentation Slides*.

I. A Tool Kit
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V. Infographics and One-Pagers

“Form follows function.”

Louis Sullivan

We’ve all seen them – a one-page summary or infographic that is designed to synthesize findings for busy people. Sometimes these are well done – sharing a few skimmable and relevant insights where graphics help you anticipate, understand, and remember content. More frequently, they fall within one of two extremes:

- A text-heavy page that’s hard to read – with too much content and too many graphics jammed together, with tight margins and every available space filled with information.
- An infographic with so little information that you struggle to know what to do with it or how to place it in context.

This happens when we don’t pay sufficient thought to why we are creating the one-pager, for whom, and what we want it to achieve. Mastering how to create effective one-pagers and infographics is critical for advancing E2A. Most people have such limited time that they are unable to read reports, even those that are well written. Infographics and one-pagers allow researchers to share study findings with their target audience in a meaningful way. They enable audiences to review the information and understand its implications for their work.

Infographics can be used independently of or incorporated into other evidence products, such as reports, presentations, and one-pagers. One-pagers provide easy-to-read snapshots of key action steps, findings, or takeaways. This chapter provides guidance on planning, content development, and design to help you develop effective infographics and one-pagers.

Key Steps

 Plan	 Develop Compelling Content	 Design for Focus
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Step 1: Plan

- 1. Define the target audience and topic.** When developing infographics and one-pagers, it is important to define your audience and their unique needs and what you want them to do after reading your infographic and one-pager.
 - Define and prioritize your users. Given the tough choices you will need to make on what to include in and what to exclude from your one-pager/infographic, you will need to prioritize your users. (See the discussion in [Chapter II: Planning for E2A Products](#) on selecting primary and secondary audiences.)
 - Think about where your audience is in their evidence use journey and how you want them to use your one-pager/infographic to move them along from one stage to the next.
- 2. Define your key goal by asking the right questions.** You might be tempted to begin with the question “What type of infographic or one-pager do I want to develop?” Instead, focus on: “What is my key goal in developing this infographic/one-pager? What’s the primary ‘call to action,’ i.e., the one thing I want the audience to do after they read it?”
 - If your first response is simply “know about my study,” push yourself to answer why that goal is important. Defining the call to action can be challenging but will simplify later decisions, such as:
 - Determining the infographic type (see Step 2 below)
 - Identifying the core message(s) to include
 - Deciding what to exclude due to limited space
 - In the exhibits below, we illustrate four potential goals and their associated calls to action, using examples of varying complexity. The types of goals illustrated are listed below, but please note that this is not an exhaustive list:
 - Understand the importance of the problem (Exhibit V.1)
 - Understand and retain selected study findings (Exhibit V.2)
 - Share a snapshot of the study (Exhibit V.3)
 - Encourage the use of evidence-based practices (Exhibit V.4)

Exhibit V.1. Sample Goal: Understand the Importance of the Problem

Call to action: Care about the topic and develop appetite to pay attention to it

48% OF CALIFORNIA PRIVATE SECTOR EMPLOYEES HAVE NO RETIREMENT ASSETS*

*Private sector workers age 25-64 with no IRA, 401(k) or pension. Source: Staff of California Private Sector Workers Have No Retirement Assets. LABOR CENTER

Older Workers and Age Discrimination

The Age Discrimination in Employment Act (ADEA), signed into law in 1967, forbids discrimination in the workplace against anyone 40 or older. A recent survey shows that many workers still believe there are signs of age discrimination on the job today.

1 in 5 workers in the U.S. is age 55 or older

64% of workers say they have seen or experienced age discrimination in the workplace.

58% of adults believe age discrimination begins among workers in their 50s.

Source: Bureau of Labor Statistics. Staying Ahead of the Curve 2013: AARP Multicultural Work and Career Study: Perceptions of Age Discrimination in the Workplace — Ages 43-74. GRAPHIC: AARP Digital Design

THE ROOT OF THE SKILLS GAP

10,000 jobs remain unfilled each day for the next 10 days.

2/3 OF HIRING MANAGERS say they struggle to find qualified people to hire.

69 MILLION people work in middle-class jobs.

1.5 MILLION shortage of college graduates.

IF YOU FAIL TO PREPARE, PREPARE TO FAIL.

*We have a responsibility to show the advantages of getting prepared that are needed for the workforce ahead.

inspiringexperts | randstad

One data points from one study

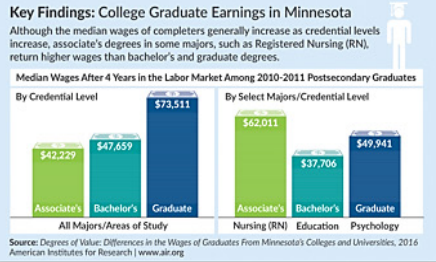
Several data points from one study

Many data points from many studies

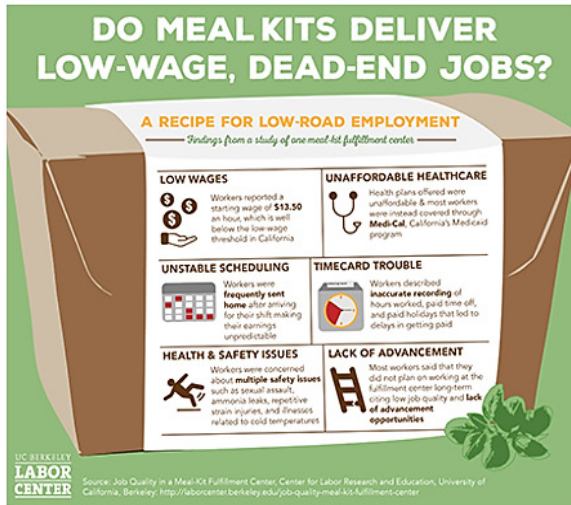
Source: Collated and annotated by authors. Infographics sourced from: <https://laborcenter.berkeley.edu/tools-resources/>; <https://www.aarp.org/work/age-discrimination/workplace-age-discrimination-infographic/>; and <https://elearninginfographics.com/the-root-of-the-skills-gap-infographic/>.

Exhibit V.2. Sample Goal: Understand and Retain Selected Study Findings

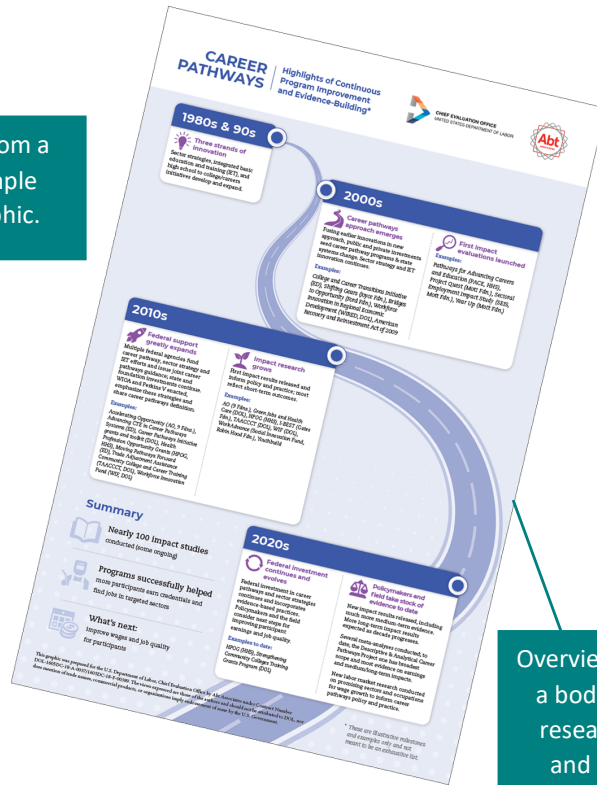
Call to action: Drive interest in findings and a desire to learn more



A single insight from a single study. Simple comparison graphic.



Key findings from a single study. Strong visual design reinforces each finding.



Overview of a body of research and its significance. Simple but effective design.

Source: Collated and annotated by authors. Infographics sourced from: <https://news.berkeley.edu/2018/10/30/popular-meal-kit-companies-may-be-creating-low-wage-dead-end-jobs-study-finds/> and https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/Career%20Pathways_Highlights%20of%20Continuous%20Program%20Improvement%20and%20Evidence%20Building_one%20pager.pdf.

Exhibit V.3. Sample Goal: Share Study Snapshot, Including Context, Methods, and Findings

Call to action: Increase recall, application and sharing of study context and findings

Behavioral Interventions to Advance Self-Sufficiency

As the first major effort to use a behavioral economics lens to examine human services programs that serve poor and vulnerable families in the United States, the BIAS project demonstrated the value of applying behavioral insights to improve the efficacy of human services programs.

What are behavioral insights?
Focus on the way staff and clients **actually make decisions and behave**, rather than relying on traditional economic assumptions of "rational" behavior.
Apply insights and tools from decades of behavioral science research to influence real-world decisions and actions.

The BIAS project explored behavioral interventions to tackle problems in three primary domains — child support, child care, and work support — across agencies in a dozen states.
35 randomized trials in 7 states, with nearly 100,000 participants
Exploratory research and pilots in 5 states

Behavioral Techniques Employed in BIAS
BIAS used a variety of behavioral principles across the project sites to improve how programs interact and communicate with their clients regarding desired outcomes. These strategies can be illustrated by the SIMPLER framework.

S OCIAL INFLUENCE	Persuade by referencing peers	→	Hundreds of Paperback Plus members just like you had a short conversation with our staff about how to earn an extra \$2,000 next year.
I MPLEMENTATION PROMPTS	Establish steps to a desired action	→	
D EADLINES	Make deadlines prominent	→	
P ERSONALIZATION	Customize for the individual	→	If you aren't attending your appointment, you may LOSE up to \$2,500 year in cash benefits.
E ASE	Reduce steps in a process	→	Your child support payment is due in 7 days. Pay on time to avoid penalties.
E MBOLDENERS	Use phone calls, texts, postcards	→	

EARLY SNAPSHOT:
Shares study goals, locations, and methods.

FINAL SNAPSHOT:
Summarizes study context and design and highlights findings.

BEHAVIORAL INSIGHTS STUDY

EMAILS INCREASED RETIREMENT SAVINGS AMONG U.S. DEPARTMENT OF LABOR EMPLOYEES

Roughly **1 in 4** employees of the U.S. Department of Labor (DOL) contributed less than 5 percent of their salary to the agency's retirement savings program, the Thrift Savings Plan (TSP), in 2015.

Seeking effective ways to improve retirement security for its employees, DOL commissioned a study to determine whether easy-to-implement, low-cost behavioral interventions, such as strategic emails, could increase rates of employee contribution to retirement savings.

EMAILS RESULTED IN BIG BENEFITS

STUDY SNAPSHOT
Quick experiments (randomized controlled trials) to measure the impacts of emails that included

- Two carefully designed emails led to a **7.5%** percentage point increase in the share of employees saving at least 5 percent of their salary, thus getting the full employer match.
- 4,681** employees contributing less than 5 percent of their salary in **2 phases** during 2015 and 2016.
- Administrative data on participation in the TSP was used to measure impacts.

EMAILS ADDRESSED BEHAVIORAL BARRIERS TO ENCOURAGE SAVING

The study identified the following behavioral factors that may affect DOL employees' decisions about contributing to the TSP and designed emails with features to address them:

- Not paying attention to or understanding the importance and ease of saving now
- Being presented with too much information
- Choosing to spend money now, rather than spend money later
- Precommitting and letting hassle factors get in the way

Learn more about this study at <http://www.dol.gov/asp/evaluation/BiStudy/>

MATHEMATICA Policy Research ideas 42

Source: Collated and annotated by authors. One pagers sourced from: https://www.mdrc.org/sites/default/files/BIAS_TwoPageInfographic_11-9-2016.pdf and <https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/4a-50291-EBSA-Infographic-Color-20170501.pdf>.








Exhibit V.4. Sample Goal: Encourage Evidence-Based Practices

Call to action: Increase understanding and application of actionable steps



IMPROVING SECONDARY SCIENCE

Summary of recommendations

<p>1</p> <p>Preconceptions: Build on the ideas that pupils bring to lessons</p>  <ul style="list-style-type: none"> • 1a: Understand the preconceptions that pupils bring to science lessons • 1b: Develop pupils' thinking through cognitive conflict and discussion • 1c: Allow enough time to challenge misconceptions and change thinking 	<p>2</p> <p>Self-regulation: Help pupils direct their own learning</p>  <ul style="list-style-type: none"> • 2a: Explicitly teach pupils how to plan, monitor, and evaluate their learning • 2b: Model your own thinking to help pupils develop their metacognitive and cognitive knowledge • 2c: Promote metacognitive talk and dialogue in the classroom 	<p>3</p> <p>Modelling: Use models to support understanding</p>  <ul style="list-style-type: none"> • 3a: Use models to help pupils develop a deeper understanding of scientific concepts • 3b: Select the models you use with care • 3c: Explicitly teach pupils about models and encourage pupils to critique them 	<p>4</p> <p>Memory: Support pupils to retain and retrieve knowledge</p>  <ul style="list-style-type: none"> • 4a: Pay attention to cognitive load—structure tasks to limit the amount of new information pupils need to process • 4b: Revisit knowledge after a gap to help pupils retain it in their long-term memory • 4c: Provide opportunities for pupils to retrieve the knowledge that they have previously learnt • 4d: Encourage pupils to elaborate on what they have learnt 	<p>5</p> <p>Practical Work: Use practical work purposefully and as part of a learning sequence</p>  <ul style="list-style-type: none"> • 5a: Know the purpose of each practical activity • 5b: Sequence practical activities with other learning • 5c: Use practical work to develop scientific reasoning • 5d: Use a variety of approaches to practical science 	<p>6</p> <p>Language of Science: Develop scientific vocabulary and support pupils to read and write about science</p>  <ul style="list-style-type: none"> • 6a: Carefully select the vocabulary to teach and focus on the most tricky words • 6b: Show the links between words and their composite parts • 6c: Use activities to engage pupils with reading scientific text and help them to comprehend it • 6d: Support pupils to elaborate on their scientific writing skills 	<p>7</p> <p>Feedback: Use structured feedback to move on pupils' thinking</p>  <ul style="list-style-type: none"> • 7a: Find out what your pupils understand • 7b: Think about what you're providing feedback on • 7c: Provide feedback as comments rather than marks • 7d: Make sure pupils can respond to your feedback
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Teaching for engagement

- Effective use of color to distinguish elements
- Concise column headings and subheadings make domains and guidance memorable
- Bulleted text in columns provides actionable steps
- Evidence citations omitted, reducing distracting text for practitioners

Source: Collated and annotated by authors. One pager sourced from: https://d2tic4wvo1iusb.cloudfront.net/eef-guidance-reports/science-ks3-ks4/EEF_science_summary_of_recommendations_poster.pdf?v=1685484361ks4/EEF_science_summary_of_recommendations_poster.pdf?v=1685484361.

3. Consider the dissemination plan. You may need to customize the format of your infographic or one-pager depending on how you plan to distribute it and how your users will receive it.

- For example, an infographic shared solely via social media may stand on its own but, if it is shared as a conference handout, you will likely need to embed it in a one-pager.
- If you are sharing a one-pager electronically, you might prefer that all your content fits on the front of the page. If you are sharing it as a hard copy, you may want to prioritize space on the front for your most important content and use the back to list supporting information, authors, and sources.
- If you anticipate people will view it on a mobile device rather than a desktop, you will need to make different choices about the size of the infographic and what you will include in it.

4. Plan for multiple iterations. Infographics and one-pagers often require significant iteration to winnow down the content to what is most important and finalize the visuals, formatting, and layout. When developing your infographic timeline, allow time for multiple reviews and revisions.

Reminder: See [Chapter II. Planning for E2A Products](#) for tips on assembling a team with diverse skills, which is critically important for one-pager and infographic development.



Step 2: Develop Compelling Content

1. Plan for your infographic or one-pager to have no more than four main components. These include a title, introduction, body (a mix of text and visuals), and source. See [Chapter III. Written Products: Writing for Impact](#) for tips on developing effective written content for your one-pager.

- **Title.** The title should be descriptive, brief, and, if possible, highlight the key takeaway as simply as possible. Creating such a title can often be a challenging and time-consuming task. The brainstorming you did during the planning phase about your audience and call to action will help you determine how to word the title to encourage your audience to read the entire one-pager and take the desired action.



- **Introduction.** The introduction should consist of 1 to 3 sentences. Due to the brevity of infographics and one-pagers, you should consider what your audience already knows about the topic. This will help you focus on presenting new information while providing only the minimum and essential context.
- **Body.** The body should include visuals and limited narrative that communicate your message and highlight your call to action. Developing the body is the hardest part of creating the one-pager and can benefit from input from a diverse team with a mix of skills. We discuss the key content choices below.
- **Source(s).** Cite sources at the bottom of the infographic or one-pager. (Listing a source may not always be necessary when the goal is to convey evidence-based practices.)

The example in Exhibit V.6 at the end of this section demonstrates the effective application of these principles.

2. Winnow down the information you want to convey. Think about how much time your target audience is likely to spend on the infographic or one-pager. Studies suggest that people typically spend less than 7 seconds looking at a visual before deciding whether it is worth their time. Exhibit V.1 on page 47 shows three types of infographics that require very different amounts of time to process and read. Ask yourself:

- How many discrete pieces of data should I present?
- What additional value does each piece of information contribute?
- What is the best way to convey each information element: as text, visuals, or both? This is not always a straightforward choice. A pie chart showing that only 15 percent of people do X may be harder to interpret than a statement saying the same. If that is the only information you want to convey, consider including both text and visuals; however, if you need to include other data elements, you may need to choose one or the other.
- What is the minimum amount of context I need to provide to achieve my main goals?

3. Use visuals to communicate your message.

- Infographics essentially consist of three layers of visual elements, presented below in the order in which audiences experience them.
 - **Design elements that grab attention:** The first layer includes the design elements that make the infographic visually appealing (see the next section on Step 3).



- **Intuitive elements:** The second layer consists of the design elements that help audiences begin to understand content before they even fully pay attention. (This is known as pre-attentive processing, and an example might be the use of a dollar sign icon to cue the reader to think of financial costs or benefits.)
- **Core content:** The third layer is the data elements that present the core content you want to share.

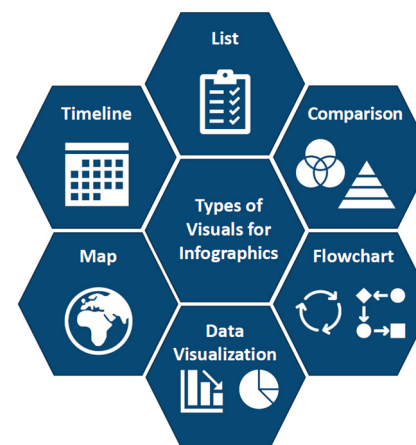
- **Core content:** Combine your understanding of your goals and call to action to select effective visuals. Exhibit V.5 displays some common elements used in infographics and one-pagers. For more detailed guidance on developing effective charts, graphs, and bar charts to highlight trends and patterns in data, see [Chapter VI. Data Visualization](#). When developing your visual content, consider the following:

- Timelines help tell a story.
- Pie and donut charts highlight parts that make a whole.
- Lists can encourage action.
- Flowcharts visually describe a process and can highlight specific parts of it.
- Maps can demonstrate trends across a geographic area.

- Use free infographics templates for design inspiration and/or to develop your infographic. See the options listed in the Resources section of this chapter.

4. **Highlight the key takeaway.** Make it easy for readers to identify the key takeaway and *how* they should use it. In Exhibit V.6 below, for example, the main takeaway is very clear, memorable, and shareable.

Exhibit V.5. Types of Visuals



Source: Adapted by authors from Easelly's 7 Common Types of Infographics.

Exhibit V.6. Example One-Pager (with Infographic) Structure and Design

DO MEAL KITS DELIVER LOW-WAGE, DEAD-END JOBS?

A RECIPE FOR LOW-ROAD EMPLOYMENT
Findings from a study of one meal-kit fulfillment center

<p>LOW WAGES</p> <p>Workers reported a starting wage of \$13.50 an hour, which is well below the low-wage threshold in California</p>	<p>UNAFFORDABLE HEALTHCARE</p> <p>Health plans offered were unaffordable & most workers were instead covered through Medi-Cal, California's Medicaid program</p>
<p>UNSTABLE SCHEDULING</p> <p>Workers were frequently sent home after arriving for their shift making their earnings unpredictable</p>	<p>TIMECARD TROUBLE</p> <p>Workers described inaccurate recording of hours worked, paid time off, and paid holidays that led to delays in getting paid</p>
<p>HEALTH & SAFETY ISSUES</p> <p>Workers were concerned about multiple safety issues such as sexual assault, ammonia leaks, repetitive strain injuries, and illnesses related to cold temperatures</p>	<p>LACK OF ADVANCEMENT</p> <p>Most workers said that they did not plan on working at the fulfillment center long-term citing low job quality and lack of advancement opportunities</p>

UC BERKELEY LABOR CENTER
 Source: Job Quality in a Meal-Kit Fulfillment Center, Center for Labor Research and Education, University of California, Berkeley; <http://laborcenter.berkeley.edu/job-quality-meal-kit-fulfillment-center>

Source and hyperlink to learn more

TITLE: The use of succinct text in large font clarifies the topic and thesis.

INTRODUCTION AND SUBTITLE: Provide key finding and context on scope of study.

TEXT CONTENT: Succinct and memorable findings and sub-findings that are easy to scan. Additional detail in smaller font.

VISUAL CONTENT: Clever use of takeaway box to cue readers to overall topic. Great use of icons to convey sub-findings.

DESIGN: Great use of different font sizes, capitalization, and bold text to focus attention in stages. Effective use of white space and placement and complementary colors.

Source: Annotated by authors. Infographics sourced from: <https://news.berkeley.edu/2018/10/30/popular-meal-kit-companies-may-be-creating-low-wage-dead-end-jobs-study-finds/>.

- I. A Tool Kit Overview
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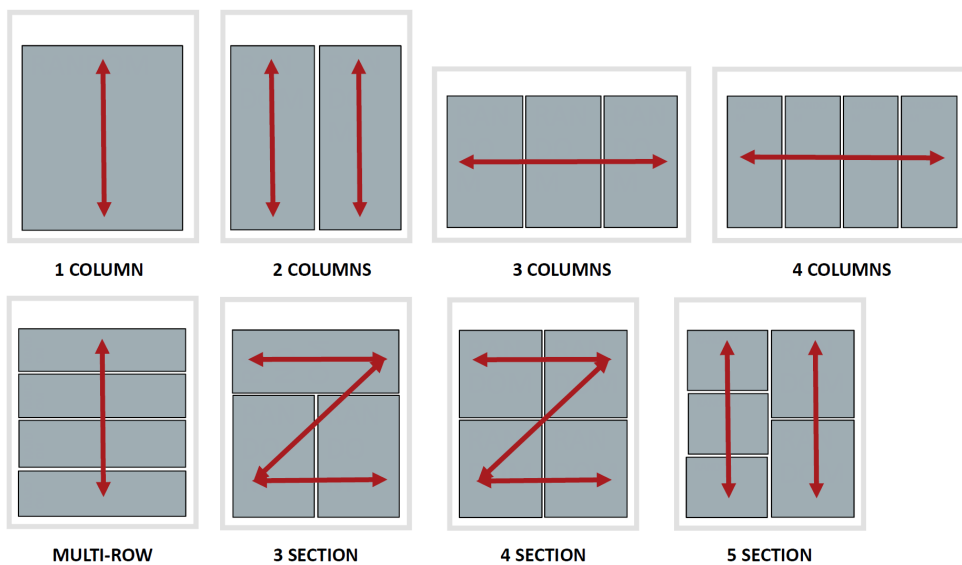


Step 3: Design to Focus Attention

- 1. Use white space.** Infographics and one-pagers can feel overwhelming. To make them inviting, use white space to reinforce that they are easy to read.
- 2. Use fonts and color to highlight key takeaways.** Font choice, color, and size can help the reader differentiate between key takeaways and supporting content.
 - Use bold, bright color and larger fonts for key takeaways. Avoid script fonts, which are hard to read.
 - Limit your color scheme to 2 to 3 main colors to minimize distractions to the reader.
 - When appropriate, choose colors that are relevant to the content (e.g., green might be a prominent color in an infographic or one-pager on retirement savings) and help convey your findings (e.g., using different shades of color to demonstrate scores, scales, or ratings).
- 3. Leverage the flow and layout of your content to focus attention.** The layout dictates how you want the audience to read the content (e.g., top to bottom or left to right).
 - Exhibit V.7 shows common types of layout options with arrows that depict related reading patterns. You want to choose a layout that will help draw attention to the most important information.
 - Consider positioning key text in an F-pattern. Research on how people scan websites may be helpful for written content as well. Eye tracking research suggests that readers' eyes move in an F-pattern (see Exhibit V.8). In other words, they start at the top left corner of the content, scan horizontally, move on to the next line to do the same (but this time scanning less content), and then drop to the next block and scan vertically down. Unless they find something compelling in this scan, they may abandon the effort. Position key content based on this pattern.
 - When comparing different options, a two-column format of presentation may be more effective.

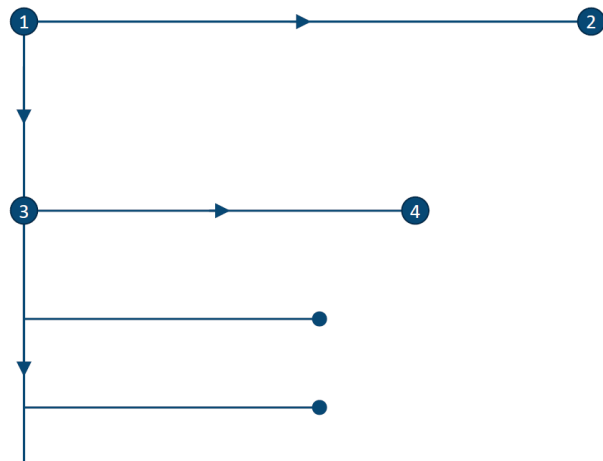
Reminder: See [Chapter II. Planning for E2A Products](#) for tips on developing accessible products.

Exhibit V.7. One-pager Layout Options



Source: Adapted by authors from: <https://mention.com/en/blog/infographics-best-practices/>.

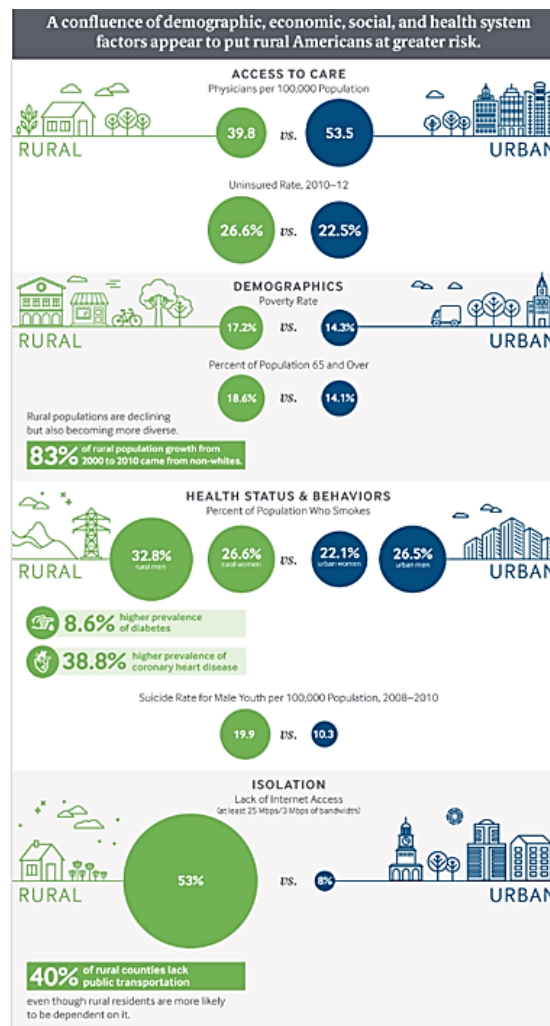
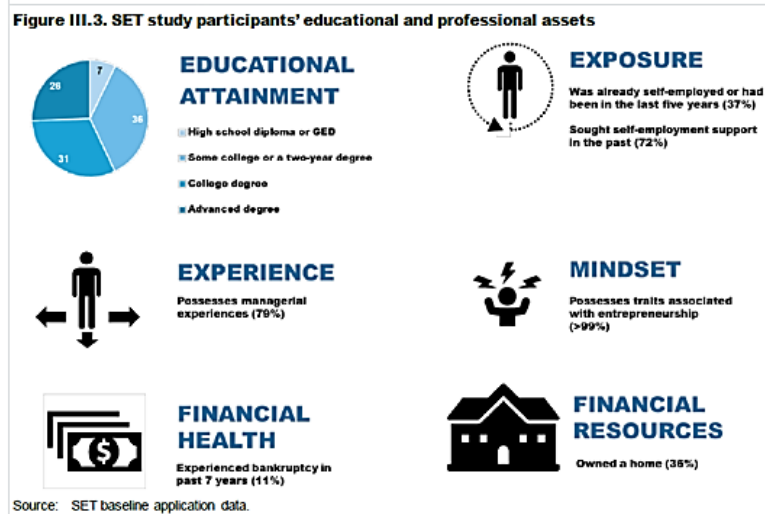
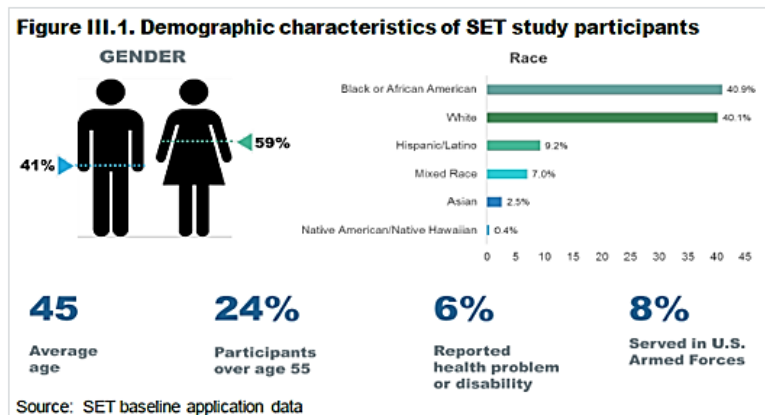
Exhibit V.8. F-format Reading Patterns



Source: Adapted by authors from: <https://sproutreach.com/blog/f-shaped-reading-pattern-on-the-web-revisiting-its-meaning/>.

4. Explore if data surfaced early in a study lends itself to infographic. Developing infographics to describe study populations provides a visual element that can be used across study products (interim briefs and presentations, informational material to drum up interest in the study, final reports) (see Exhibit V.9 for examples)

Examples V.9. Using Icons and Data Visualization to Share Participants' Characteristics



Source: https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/SET_Pilot_Program_Implementation_Study_Report.pdf and <https://www.commonwealthfund.org/node/15471>.



Infographics and One-Pagers Checklist

❖ Plan

- Define the target audience and topic
- Define your key message and call to action
- Select your approach and dissemination plan
 - Plan for multiple iterations

❖ Develop Compelling Content

- Stick to a simple structure
- Use visuals to communicate your message
- Highlight the implications

❖ Design to Focus Attention

- Consider the flow and layout of your content
 - Think about how the layout will shape how your audience reads
- Use fonts and color to highlight key takeaways
 - Use bold, bright, and larger fonts that are easy to skim
 - Limit your color scheme to 2 to 3 colors
 - Where possible, choose colors that cue your audience to the content

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Resources

Infographic templates

- Visme infographic templates: <https://www.visme.co/templates/infographics/>

Infographic rubrics

- Simple rubric: https://guides.lib.unc.edu/ld.php?content_id=35032138
- In-depth rubric: https://www.schrockguide.net/uploads/3/9/2/2/392267/schrock_infographic_rubric.pdf

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VI. Data Visualization

“Clutter and confusion are not attributes of data – they are shortcomings of design.”
Edward Tufte

A data visualization is a schematic display of numeric data and information. In your work, you have likely encountered numerous examples of bad data visualization: they are hard to interpret and create more questions than answers. While a bad data visualization can create confusion, a high-quality one can build a connection between your audience and the study data. It empowers your audience to further explore the data and apply the evidence in their work. This chapter provides an introduction to planning, developing content for, and designing quality data visualizations. We cover static, animated and interactive data visualization. For all three types, we discuss concepts applicable to making simple ones. Additional resources for developing more advanced data visualization are presented at the end of the chapter.

Key Steps



Step 1. Plan

- 1. Understand your audience’s needs.** At its core, a data visualization’s purpose is to communicate complex data insights clearly and effectively. It is important to understand who you are creating the data visualization for and how they might use it before starting the development process. When thinking about your audience, you should:
 - **Be as specific as possible about who your target audience is and consider what they need to know.** See [Chapter II. Planning for E2A Products](#) for more information.

- **Determine your audience’s level of expertise.** Does your audience consist of technical experts (e.g., research staff within agencies) or non-technical professionals (e.g., policymakers or practitioners)? Your audience’s level of technical expertise has implications for your data visualization’s design, level of detail, and format. For instance, researchers will likely be interested in seeing technical details (e.g., confidence intervals). In contrast, policymakers or practitioners will likely be more interested in simplified charts that tell a story and prominently display the key insights and actionable steps.
 - **Identify the time constraints of your audience.** In other words, how much time will your audience have or be willing to spend looking at your data visualization?
 - If they are likely to have limited time, you may want to stick to a simple static chart. If they have more time (and interest), an interactive dashboard may be appropriate. We will discuss the difference between static and interactive data visualization in more detail a little later.
- 2. Know your data.** How you visualize your data will depend in part on the type of data you have. Before deciding on a type of data visualization, you should:
- **Understand what kind of data you have.** Different types of data lend themselves to different types of visualizations. Solid foundational knowledge about the variables your data contains and the data type will help ensure that you choose an appropriate visualization. For instance, it will be difficult, if not impossible, for you to create a map without having location data.
 - **Define a clear purpose.** For a static data visualization, figure out what story or message you want to tell based on the data. For an interactive data visualization, think about how you want your users to navigate through the data and what patterns you want them to explore. This will be one of the main driving factors behind the decisions you make about the types of data visualization and elements to include. You will want to make choices that help to reinforce the story or message.
- 3. Create a data visualization style guide.** A style guide provides visual and editorial guidelines to produce a cohesive look and feel across your charts. It will also help to save valuable time by limiting the number of decisions you need to make and ensure that all team members apply data visualization best practices. Exhibit VI.1, below, is an example of a chart style guide.

Exhibit VI.1. Example Data Visualization Style Guide



Source: Urban Institute Data Visualization Style Guide. <https://urbaninstitute.github.io/graphics-styleguide/>.



Step 2. Develop compelling content

- 1. Choose the right type of data visualization.** This is a critical choice that may be the most important driver of audience adoption.
 - **Evaluate your choices.** There are three broad types of data visualizations.
 - A **static visualization** refers to a data display that cannot be changed by users. It is predetermined by the author and does not change over time or based on real-time data. Static visualizations typically incorporate no movement. All the information is presented at the same time.
 - An **animated data visualization** reveals data in stages. For example, instead of showing a trend line for all years at the same time, the image moves, revealing additional years and changes in the trend line over time.
 - An **interactive visualization**, such as a data dashboard, allows people to make selections that change what data, trends, and comparisons they see. Users interact typically by clicking, filtering, or doing some type of action that triggers more information to become visible.
 - **Make sure you have adequate resources.** Costs for developing different types of visualization can vary substantially, depending on the software tools, staff, and data that the study team has available. An interactive visualization is likely to be substantially more expensive to develop compared to the first two, in part because user testing is critical for developing that research product.
 - Consider **audience engagement patterns and levels of prior knowledge** when selecting the type of visualization.
 - A static visualization offers greater control of the key takeaway message but may be less engaging. Research suggests that audiences enjoy animated data visualizations more but may leave with a less accurate recollection of the data presented.
 - An interactive visualization allows the audience to explore the data more and develop customized views applicable to their context and use cases.
- 2. Pick the best chart.** Whether your visualization is static or interactive, you will need to decide what type of chart to use. As shown in Exhibit VI.2, there are numerous types of charts from which you can choose.

Exhibit VI.2. Chart Types

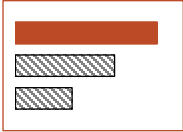

Chart Type	What is it? When to use it?
<p>Bar Chart</p> 	<p>Bar charts consist of one or more series of vertical or horizontal bars. Bar charts with vertical bars are also referred to as column charts. There are several types of bar charts, including grouped, stacked, and waterfall charts.</p> <p>Bar charts are one of the most common types of charts. The frequency with which people encounter bar charts gives them an advantage over other types of charts. Bar charts are easier for most people to interpret and understand.</p> <p>Consider a bar chart if you want to:</p> <ul style="list-style-type: none"> Compare information for two or more categories Illustrate comparative rankings Highlight differences between categories <p>Best practices for bar charts:</p> <ul style="list-style-type: none"> Use a zero baseline (i.e., the point at which the x-axis intersects with the y-axis) to ensure that you are providing a visually accurate comparison. Make your bars wide and ensure the gap between the bars is smaller than the bars themselves. Do not include too many categories. Doing so will clutter your chart and make it difficult to interpret.
<p>Line Chart</p> 	<p>Line charts connect continuous data points using a line. The term “continuous data” refers to numeric values that are not fixed. The data can change over time and can be broken down into more precise measurements.</p> <p>Consider a line chart if you want to:</p> <ul style="list-style-type: none"> Show changes in data over time Show differences or relationships between multiple categories of information over time <p>Best practices for line charts:</p> <ul style="list-style-type: none"> Use consistent intervals between data points. For instance, if you are showing trends over time, you will want to make sure that you are consistent with the time points plotted. Limit the number of lines you display to 5 to 7 lines. Too many lines can make the chart difficult to interpret and overwhelm your audience.

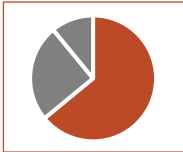




Chart Type	What is it? When to use it?
<p>Pie Charts</p> 	<p>Pie charts show information as segments of a circular image. Pie charts are particularly useful for displaying proportions of a specific category.</p> <p>Consider pie charts if you want to:</p> <ul style="list-style-type: none"> Show parts that add up to 100%. Display information so it can be easily eyeballed and does not require precise comparisons. <p>Best practices for pie charts:</p> <ul style="list-style-type: none"> Do not include too many portions. The more wedges there in the pie, the harder it is to decipher. Keep it flat. In other words, do not make it 3D. A 3D pie chart can distort the proportions. This will make it more likely that your audience will misinterpret the information.
<p>Maps</p> 	<p>Maps are used to show information by location. This can be done using different colors or markers, such as bubbles.</p> <p>Consider using a map if you want to:</p> <ul style="list-style-type: none"> Focus attention on a specific geographic location <p>Best practices for maps:</p> <ul style="list-style-type: none"> Don't use a map if location is not an important part of the analytic story.
<p>Scatter charts</p> 	<p>Scatter charts—also referred to as a scatter plot—are used to show a relationship, trend, or pattern for two numerical variables. Information in this type of chart is depicted as dots. Scatter charts allow viewers to easily understand a relationship or trend by observing how the dots (or data points) cluster together or remain scattered. It is also helpful for detecting possible anomalies in the data. Scatter charts may also include a trend line that is used to highlight the direction of the relationship.</p> <p>Consider using a scatter chart if you want to:</p> <ul style="list-style-type: none"> Show correlation and clustering, especially if you have a lot of data points. Identify possible anomalies or outliers. <p>Best practices for scatter charts:</p> <ul style="list-style-type: none"> Make sure your y-axis starts at zero and the scale is evenly distributed to prevent visual distortion of the data, which could potentially lead to incorrect conclusions. Vary the color of the dots to include additional relevant information to the chart. Include enough data points to show a visible pattern or relationship in the data. But be careful not to include so many data points that they look like a large blob.

Chart Type	What is it? When to use it?
<p>Bubble charts</p> 	<p>Bubble charts are used to show the relationship between three or more variables, with each data point represented by a bubble. The size of a bubble serves to highlight an additional aspect of the relationship.</p> <p>Consider using a bubble chart if you want to:</p> <ul style="list-style-type: none"> Show the relationship between three or more variables. <p>Best practices for bubble charts:</p> <ul style="list-style-type: none"> Minimize the amount of data depicted. Too much data can make the chart confusing and difficult to understand, as the bubbles may start overlapping or clumping together. Bubbles can only represent data with positive values. It is not possible for bubbles to represent data with negative values.
<p>Area charts</p> 	<p>Area charts are a form of a line graph with the area under the line filled in with a color. Area charts are useful for showing trends over time for one or more categories of data.</p> <p>Consider using an area chart if you want to:</p> <ul style="list-style-type: none"> Make comparisons between categories or groups over time. Show the component parts of a whole. <p>Best practices for area charts:</p> <ul style="list-style-type: none"> Minimize the number of categories or groups shown in the chart. Take into consideration the order of the lines if they are stacked or overlap. Use zero as your baseline to prevent distortion of the data.

Source: Developed by authors.

CHECK OUT THESE RESOURCES TO HELP YOU CHOOSE THE RIGHT CHART

There are many resources available to help you choose the right chart.

- Data Viz Project: <https://datavizproject.com/about/>
- Visual Vocabulary: <https://public.tableau.com/app/profile/andy.kriebel/viz/VisualVocabulary/VisualVocabulary>
- Data Wrapper: <https://app.datawrapper.de/river/>
- Datylon Chart Library: <https://www.datylon.com/product/chart-library>
- From Data to Viz: <https://www.data-to-viz.com/>

3. For interactive visualizations to be effective, you will need to consider the following additional questions:

- **How do you want potential users to move through the interactive chart or dashboard?** Answering this question requires thinking about your potential users' journey through the data and the functionalities needed to provide them with that experience. You will need to think about the sequence of actions users will take and the order (if any) of the charts and information they will see or experience.
- **How much data and how many features should you include?** The answer to this question is particularly important for dashboards. You may be tempted to add as many charts and data streams as possible to your dashboard. But doing so is more likely to detract from than enhance the user experience. You will need to decide what cuts of the data you want users to see and what parameters to use. For instance, if your dashboard involves exploring changes in labor market demand over time, you will need to decide if it is important for users to see the data by year, decade, or some other time interval.
- **What software/platform will you use?** There is a wide selection of software available to support the development of interactive data visualizations. Commonly used software includes Tableau, Power BI, Dundas BI, JupyterLab, D3.js, Shiny, FusionCharts, and Infogram. Each of these has its own strengths and weaknesses that you will need to assess to determine which is the right one for the job.





Step 3: Design for Focus

- 1. Create a coherent design with a visual hierarchy.** The use of a coherent and consistent design will enable users to focus on the information, while the use of a visual hierarchy will make it easier for people to see and find the information that is relevant to them. This approach will also help to ensure that the most crucial data points and messages are prominently displayed. Strategies for creating a visual hierarchy include:
 - **Using colors to highlight and clarify your message.** Contrasting colors can help guide your audience's attention to the key points. To emphasize the most important information, consider using a color that stands out from the rest of the chart. For example, you may want to use muted colors (e.g., gray) throughout the chart and for baseline data, and a vibrant color (e.g., red) for the main insight and/or data point.
 - Intentional use of **font type and size** to guide your audience to the important information.
- 2. Put the key insight in the title.** Instead of a generic title, such as Number of XXX, use a descriptive title that tells the audience the main finding. Your audience may not spend more than 30 seconds looking at your chart. Ask yourself, what is the one thing you want someone to remember? A 6- to 12-word descriptive title will make it easier for your audience to understand and remember the key insight.
- 3. Reduce the noise.** Visual elements that do not contribute to the informative value of the chart create clutter and divert people's attention from the intended focus. The more visual elements there are, the more brain power is required to process the information. This increases the likelihood that people will move on before absorbing the message that the visual is trying to convey.

Below (Exhibit VI.3) is an illustration of how decluttering your chart can help your audience focus on the message you are trying to communicate.

Reminder: See [Chapter II. Planning for E2A Products](#) for tips on developing accessible products.



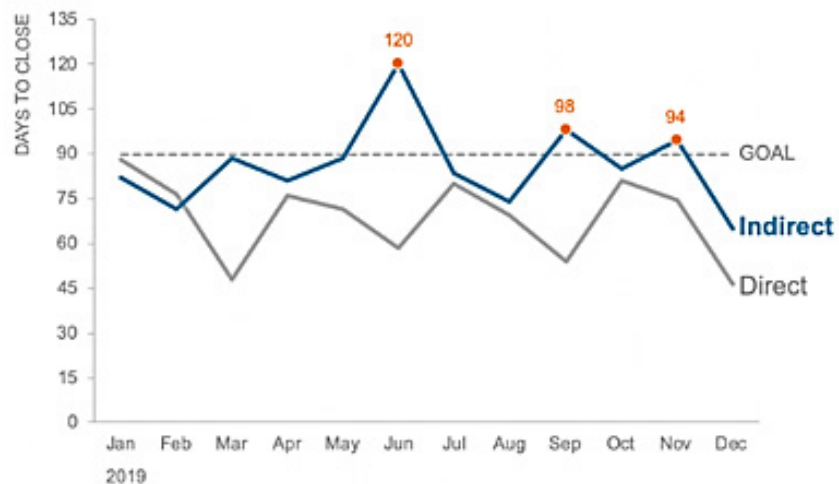
Exhibit VI.3. Decluttering Example

Original graph:



Decluttered & focused:

Time to close deal: **indirect sales missed goal 3 times**



TITLE: Summarizes topic in a bold takeaway in a bright color

CONTENT: Removes repetitive content (year) and distracting data (point estimates for each bar)
 Includes informative axis labels and goal as a dotted line

FORMAT: Removes distracting grid lines, uses bright colors only for key trend and data points

Source: Adapted by authors from: #SWDchallenge: Declutter & focus. <https://www.storytellingwithdata.com/blog/2022/2/1/swdchallenge-declutter-and-focus>.

Methods for reducing visual noise include:

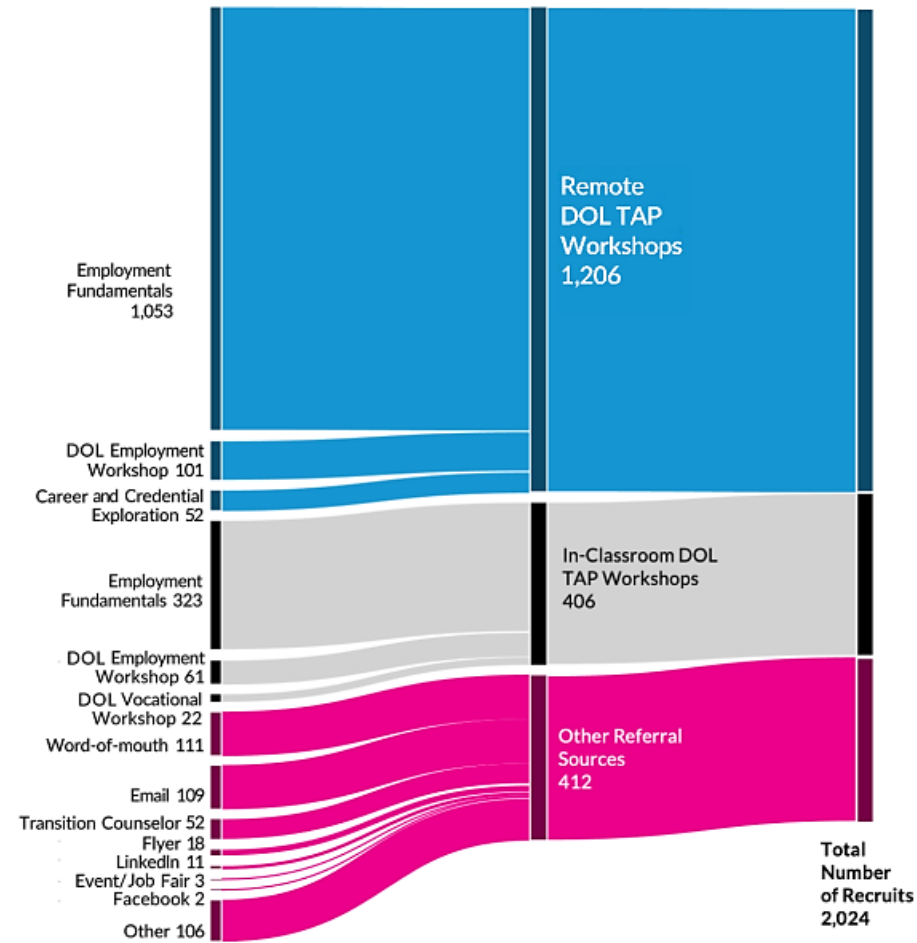
- **Removing the legend and labeling your data directly** – Positioning data labels close to the data helps your audience establish clear connections between them. Legends can cause people to do more work to understand the data visualization by forcing them to move back and forth between the data and the legend.
 - **Deleting grid lines** – if you choose to use grid lines, make them a light gray or another muted color.
 - **Limiting the number of colors** – Too many colors can overwhelm your audience. Instead, choose a limited number of colors and use them intentionally to guide your audience to the main points.
4. **Design for inclusion.** Charts with low contrast can be challenging for people with visual impairments. Use tools that allow you to assess how an image will be visualized by people with visual impairments, such as the color blindness proofing feature in Photoshop and Illustrator.
 5. **Make sure that the proportions are not distorted.** Distorted proportions in a chart can lead your audience to draw incorrect conclusions. For this reason, we recommend avoiding the use of 3D charts.



Additional Data Visualization Examples

Example: Example of Sankey Chart

Figure 3.2: Referral Sources and Number of Recruits for the Apprenticeship Pilot, April 2020 to March 2021



Source: TAP4ME data.

Source: https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/VETSApprenticeshipPilot_ImplementationFinalReport.pdf.

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Example: Data Dashboard

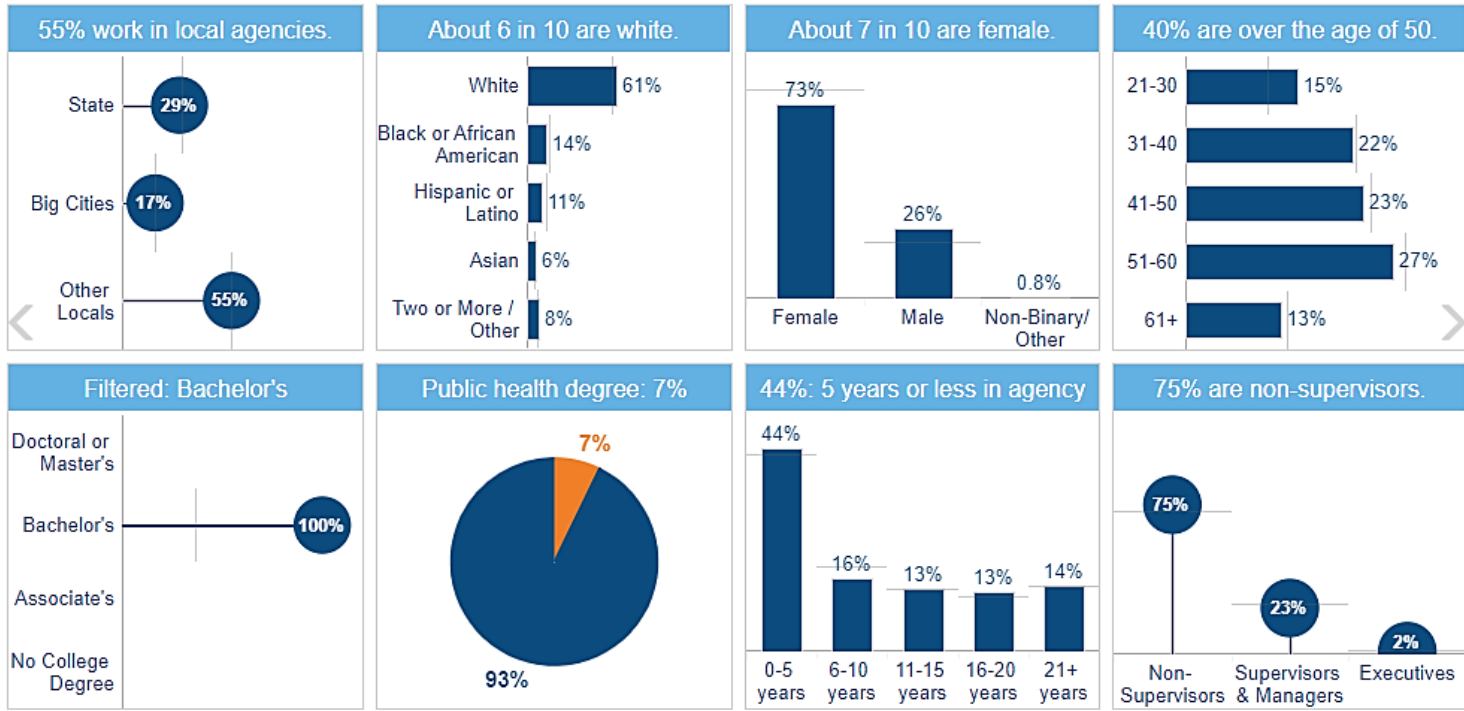
Demographics: Employees with a Bachelor's Degree



Currently showing data for employees with a Bachelor's degree.

[Reset Filter](#)

Bachelor's



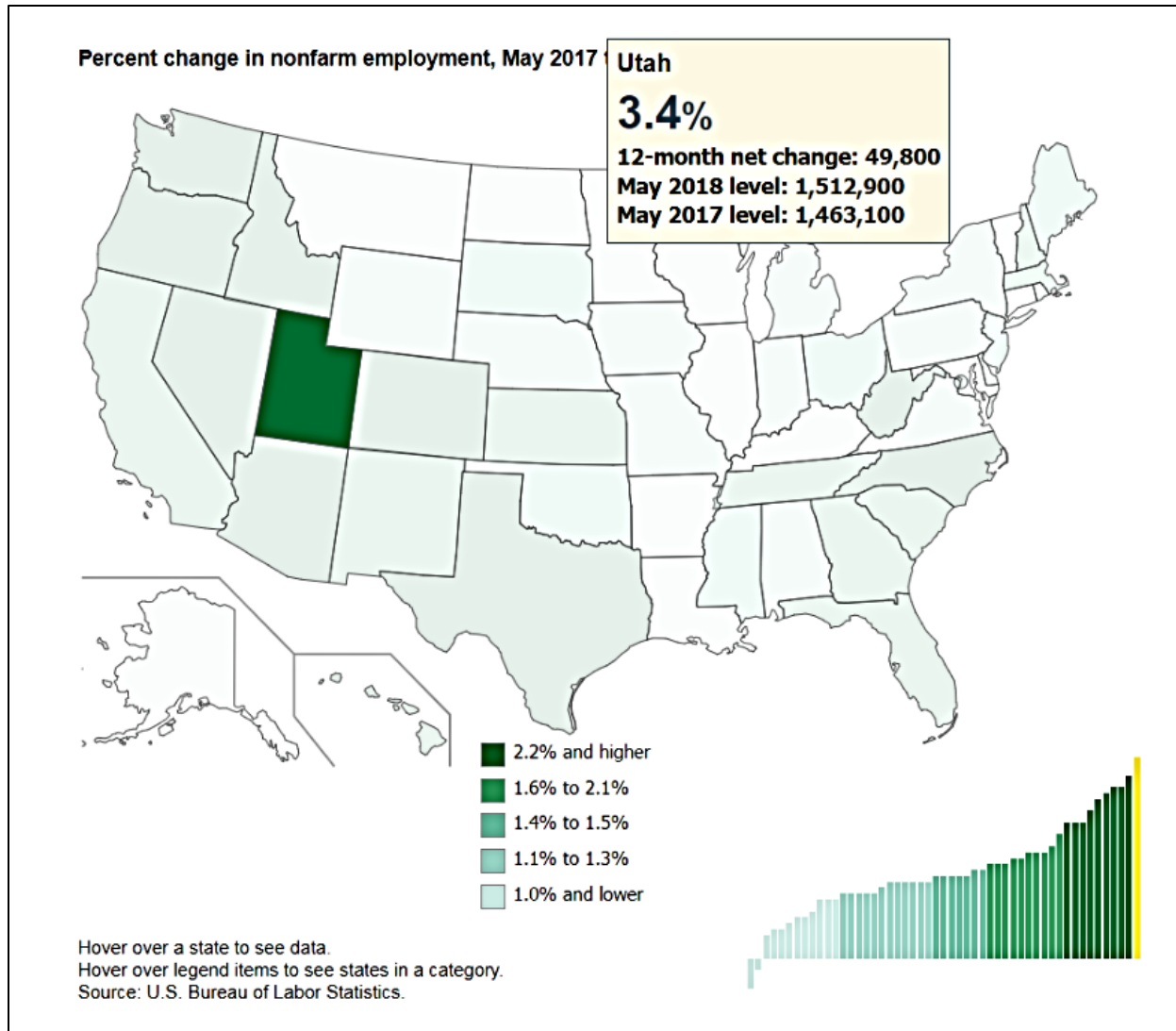
Source: de Beaumont Foundation and Association of State and Territorial Health Officials, *Public Health Workforce Interests and Needs Survey: 2017 Findings*. Online. <https://www.debeaumont.org/programs/ph-wins/explore>. April 14, 2023. (Max Margin of Error: +/- 3.4%.)



Source: <https://debeaumont.org/phwins/explore-the-data/>.

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Example: Interactive Map



Source: <https://palewire.github.io/usa-style-guides/bls/data-viz/index.html#maps>.



Data Visualization Checklist

❖ Plan

- Understand your audience's needs.
- Know your data
 - Understand the strengths and limits of the data you have
 - Figure out what story or message you want to tell
- Create a data visualization style guide

❖ Develop compelling content

- Choose the right type of data visualization
 - A static visualization conveys a specific story all at once
 - An animated visualization unfolds a specific story in stages
 - An interactive visualization allow data exploration
- For effective interactive visualizations, spend time on the following questions:
 - How do you want users to move through the interactive chart or dashboard?
 - How much data and how many interactive elements should you include?
 - What software/platform will you use?
- Pick the best chart

❖ Design to Focus Attention

- Create a visual hierarchy using color, font type, and font size
- Put the key insight in the title
- Reduce the noise – remove visual elements that do not have informative value
- Make sure proportions are not distorted – avoid 3D charts

Resources and Sources

Data Visualization Design Principles

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- Racial Equity in Data Visualization Checklist. (2021). Urban Institute. <https://www.urban.org/sites/default/files/2021/06/08/do-no-harm-guide-checklist.pdf>
- Schwabish, J., & Feng, A. (2021) *Do no harm guide: Applying equity awareness in data visualization*. Urban Institute. <https://www.urban.org/research/publication/do-no-harm-guide-applying-equity-awareness-data-visualization>



Inclusive & Accessible Design

- The Best Charts for Colorblind Viewers: <https://www.datylon.com/blog/data-visualization-for-colorblind-readers>
- Colour Contrast Checker: <https://colourcontrast.cc/>
- Designing Accessible Data Visualizations: <https://accessibility.huit.harvard.edu/data-viz-charts-graphs>
- Tips for Writing Alternative Text for Images: <https://accessibility.huit.harvard.edu/describe-content-images>

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About this Project

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