Centers for Disease Control and Prevention


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Online Editor, MMWR

Collaborative Team

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- Jamila Jones
- Goldie MacDonald

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- James Kucik

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- Leslie Dorje
- Valerie Daniel
- Thomas Simon

Sleep and COPD
- Anne Wheaton
- Sher’ye Walton
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- Dana Tumblin
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- Michele Walsh

* Presentation co-authors

Only seconds to catch people's attention
**What is a Visual Abstract?**
Adapted from “A Primer on How to Create a Visual Abstract” by Dr. Andrew Ibrahim

- Visual summary of an abstract
- Quickly conveys the study’s key findings
- Not meant to replace the article
- Helps readers quickly find the most relevant journal content

**Visual Abstract Design Principles**
Adapted from “A Primer on How to Create a Visual Abstract” by Dr. Andrew Ibrahim

- Focus on the user experience. What does my audience want to know?
- Clarity of purpose. Narrow down the key messages.
- Rapid prototyping. Your first one won’t be the best, keep trying.
- Iterative improvement. Solicit feedback and study other designs.
- Thoughtful restraint. Prioritize key message over completeness.
- Relevant creativity. Balance your design creativity with thoughtful restraint and clarity of purpose.

**Components of an Effective Visual Abstract**

- **Summary of Key Question Being Addressed:** Impact of treating Iron Deficiency Anemia Before Major Abdominal Surgery
- **Summary of Outcomes:**
  - Decreased Need for Blood Transfusions (33% vs. 12%
  - Shorter Hospital length of stay (9.7 vs. 7.0 days)
  - Hemoglobin at discharge (9.8 vs. 11.9 g/dL, p<0.05)
- **Visual Display of Outcome:**
  - State Outcome Comparison
  - Data of Outcome (Units)
  - Who Created the Visual Abstract (often the journal)
- **Author, Citation:**
  - Fressler et al. Am Surg. July 2018
  - SURGERY
Visual Abstract Example

Bevacizumab and Lomustine for Progressive Glioblastoma

Phase II International Multicenter Randomized Trial

<table>
<thead>
<tr>
<th>Lomustine + Bevacizumab</th>
<th>Lomustine</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=288</td>
<td>N=149</td>
</tr>
<tr>
<td>Median overall survival:</td>
<td>P=0.055</td>
</tr>
<tr>
<td>9.1 mo</td>
<td>8.6 mo</td>
</tr>
<tr>
<td>Median progression-free survival:</td>
<td>1.5 mo</td>
</tr>
<tr>
<td>4.2 mo</td>
<td></td>
</tr>
<tr>
<td>Grade 3+ adverse events:</td>
<td>38%</td>
</tr>
</tbody>
</table>

*New England Journal of Medicine*

Weik et al. 2016

Visual Abstracts Increase Article Dissemination: a prospective, case-control crossover study

<table>
<thead>
<tr>
<th>IMPRESSIONS</th>
<th>RETWEETS</th>
<th>ARTICLE VISITS</th>
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</thead>
<tbody>
<tr>
<td>x7.7 fold</td>
<td>x8.4 fold</td>
<td>x2.7 fold</td>
</tr>
<tr>
<td>3k</td>
<td>11</td>
<td>65</td>
</tr>
<tr>
<td>23k</td>
<td>92</td>
<td>175</td>
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</table>

*Annals of Surgery*


Morbidity and Mortality Weekly Report (MMWR)

- The “voice of CDC”
- Timely, reliable, useful public health information and recommendations
- MMWR Weekly 2016 Journal Impact Factor: 11.48
- Website: more than 23 million page views annually
- Traditional media, social media (Facebook and Twitter)
**MMWR Visual Abstract Pilot Concept**

- **Purpose**: Provide clear language summaries in graphic form to extend the reach of the science and actionable public health messages
- **Novel approach**: Include recommendations, not just results
- **Strategy**: Develop four visual abstracts to pilot feasibility; iterative refinements made to the process in real time
- **Dissemination**: Visual abstracts disseminated on social media and with media briefing materials

**MMWR Visual Abstract Pilot Goals**

- Create a branded template
- Determine the level of resources needed
- Determine a production timeline
- Measure reach and note new audiences

**Template piloted by MMWR**

<table>
<thead>
<tr>
<th>Press Release-like Header, and Subhead</th>
<th>Main message on data trend</th>
<th>Main message on burden (&quot;bad news&quot;)</th>
<th>Prevention message</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XX% of this</strong> down from <strong>XX%</strong> in <strong>YEAR</strong></td>
<td><strong>XXX,XXX deaths</strong> or <strong>cost per year</strong></td>
<td><strong>Text</strong></td>
<td><strong>Text</strong></td>
</tr>
</tbody>
</table>

*Footnote used to reference data or disease/condition definition*  
First author et al. MMWR. Month 2018 [shortened link]

CDC and HHS branding
Initial Qualitative Feedback

Andrew M. Ibrahim MD

Thrilled to see @CDCgov @CDMMWRR launch their first #VisualAbstract as part of their weekly report #MedEd #SciComm

Share Comment

Happy to see @CDCgov adopting #VisualAbstract to more effectively disseminate info. Hope more #publichealth orgs professionals follow CDC's example. @AndrewM Ibrahim
Timeline

<table>
<thead>
<tr>
<th>MON</th>
<th>TUES</th>
<th>WED</th>
<th>THURS</th>
<th>FRI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Content locked down</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st graphic version</td>
<td>1st round of edits</td>
<td>2nd graphic version</td>
<td>2nd round of edits</td>
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<tr>
<td></td>
<td>3rd graphic version</td>
<td>Graphic version locked down</td>
<td>Released under embargo</td>
<td>MMWR Released at 1pm ET</td>
</tr>
</tbody>
</table>

Revised Template with Character Counts

Press Release-like Header (35)

Main message on data trend (20-40)
Second message on data trend (20-40)
Actionable public health message (20-40)

(85)

XX% of this*
Down/up from XX% in YEAR

(85)
XXX,XXX deaths
Or cost per year

*Footnote used to reference date or disease/condition definition
First Author et al. MMWR. Month 2018 [shortened link]

CDC and HHS branding

Revised Template with Character Counts

INITIAL VIEW FIRST PANEL SECOND PANEL FINAL VIEW
More Resources

#Visual Abstract
A Surgeon’s Journey Through Research and Design
https://www.surgeryredesign.com/resources/

Video: How to Make a Visual Abstract
https://www.youtube.com/watch?v=7z23a4b7442d5989469d5981

A Primer on How to Create a Visual Abstract

Use of a Visual Abstract to Disseminate Scientific Research

Publication—Seeing is Believing: Using Visual Abstracts to Disseminate Scientific Research
http://www.nature.com/articles/s41596-017-0069

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348
www.cdc.gov

The findings and conclusions in this report are those of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention.