Visualizing *Health, United States*: Exploring the Use of Infographics to Enhance the Uptake of a Statistical Report

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Board of Scientific Counselors Meeting
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VISUALIZATION OBJECTIVES

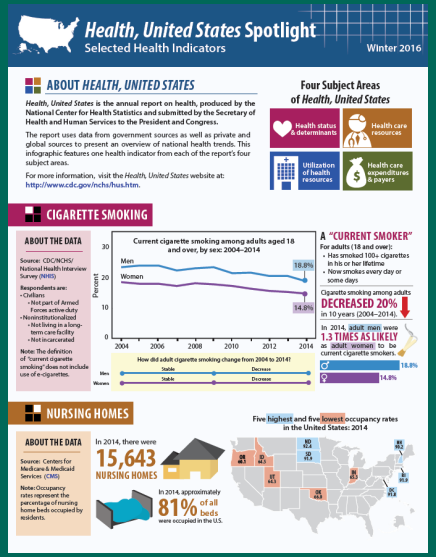
Broaden the audience of *Health, United States* using more visual content to improve dissemination

- Is it possible to create a product that is succinct and attractive without losing the statistical rigor of the full report? (Usefulness vs. readability)

Provide timely data updates for selected indicators of public health interest from the report

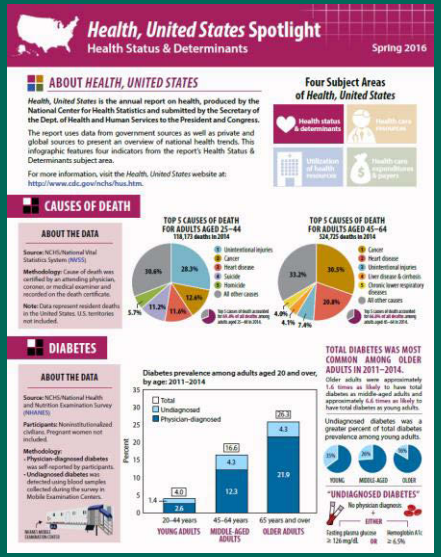
Generate interest in *Health, United States* beyond the annual publication date, using the visualization as a point-of-entry

- Can we increase reach with a more deliberate social media strategy, especially on Twitter?



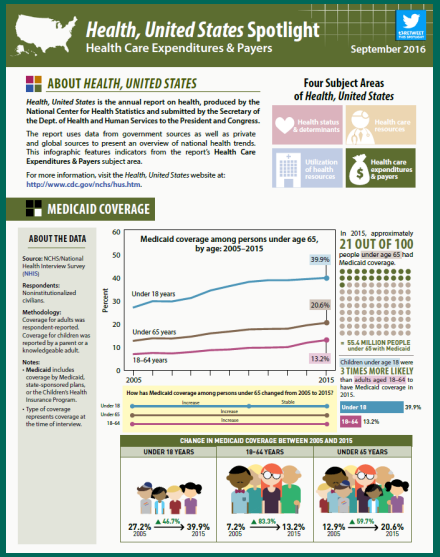
Selected Health Indicators

February 2016



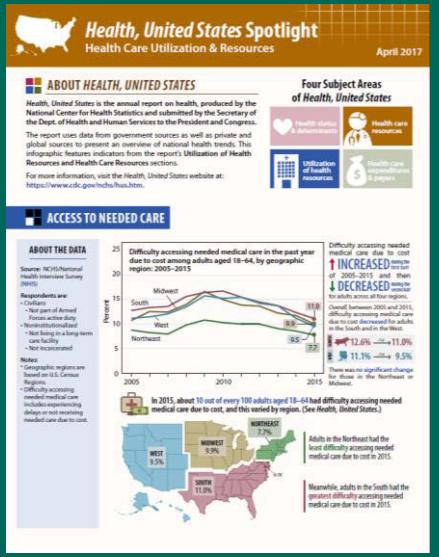
Health Status & Determinants

June 2016



Health Care Expenditures & Payers

September 2016

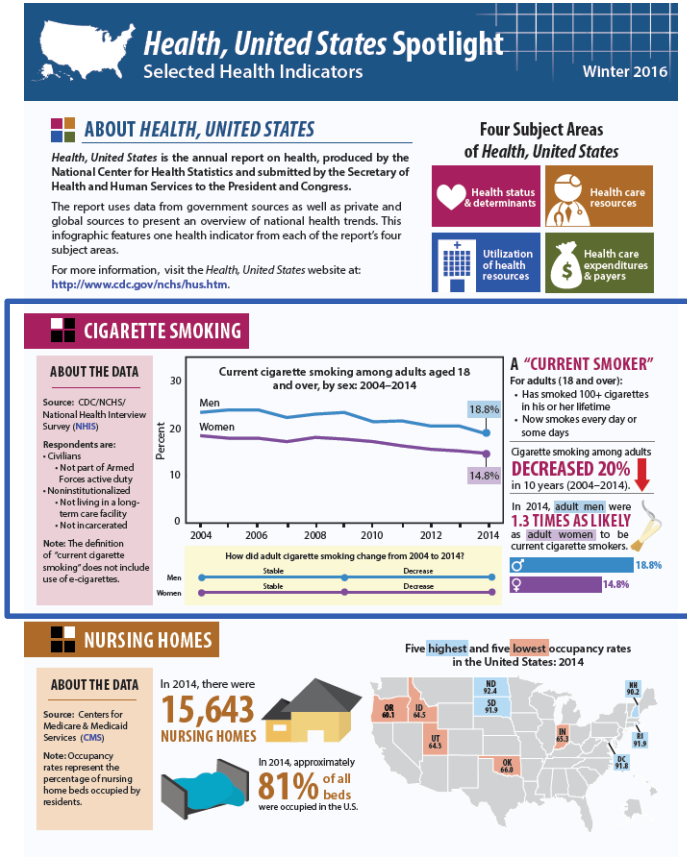


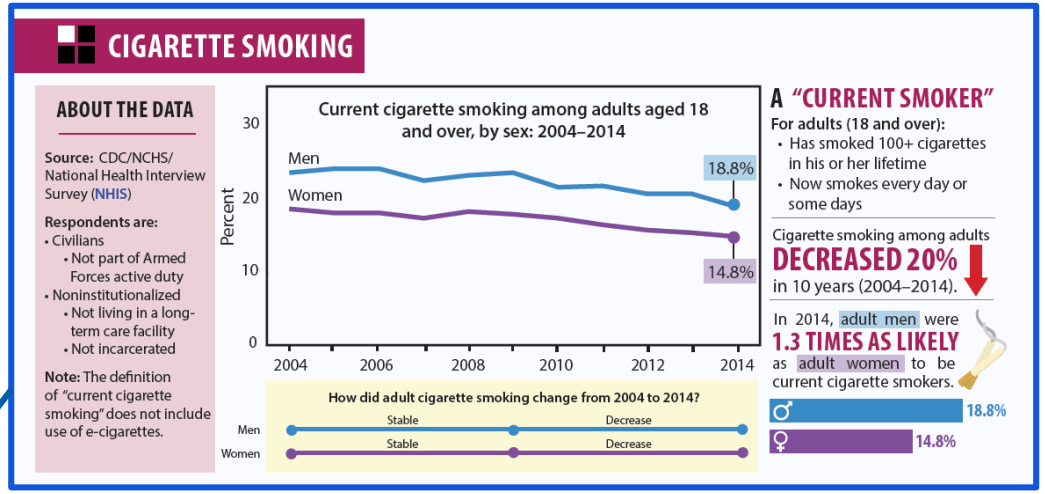
Health Care Utilization & Resources

April 2017

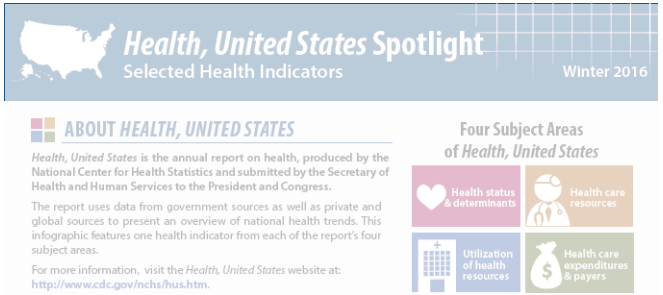
HEALTH, UNITED STATES SPOTLIGHT

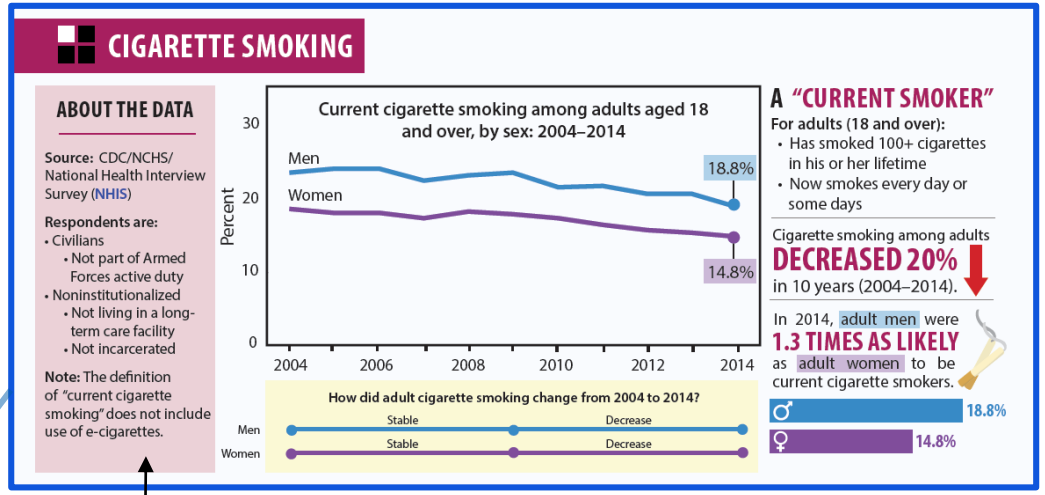
VISUALIZATION RESULTS: Infographic features





VISUALIZATION RESULTS: Infographic features

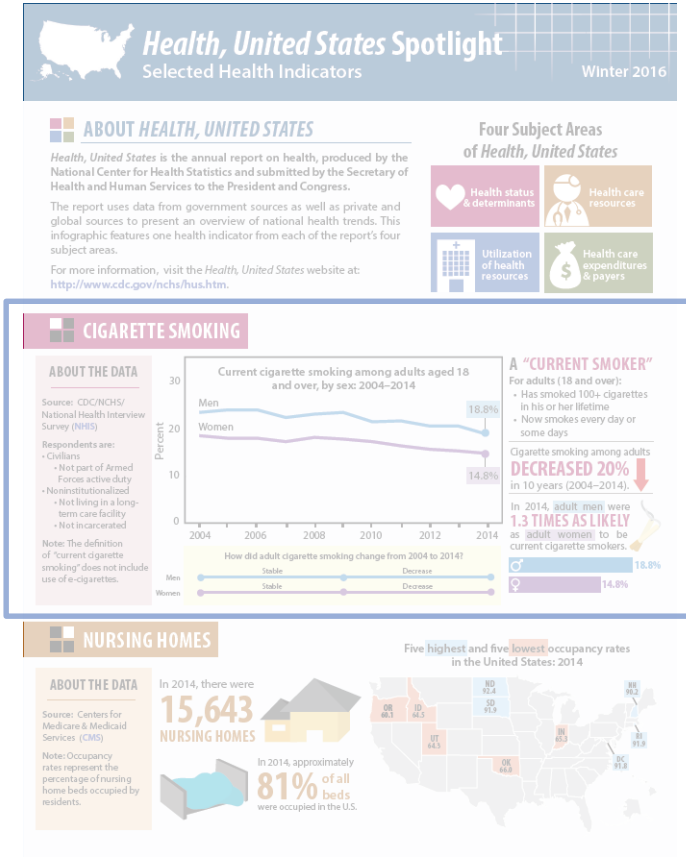


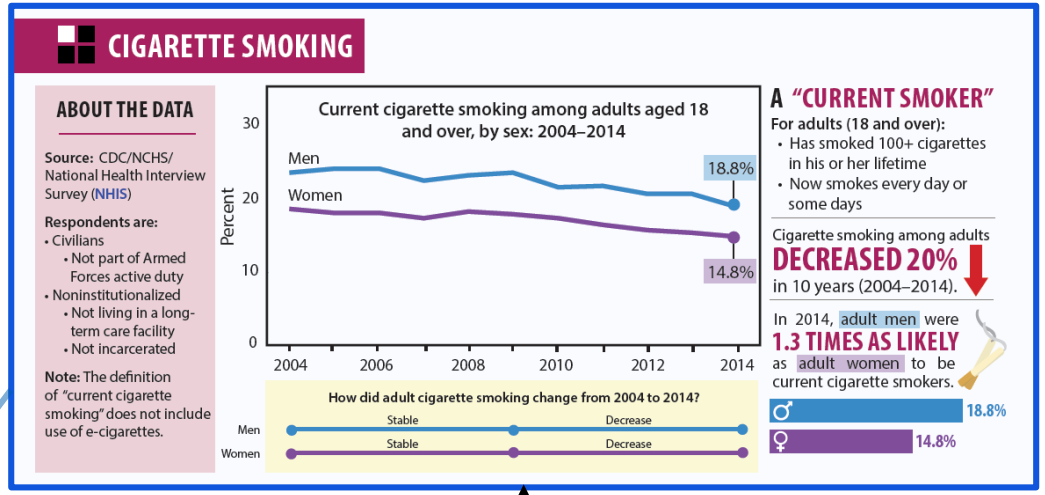


About the Data Panel

- Links to the data source
- Provides information from the appendices and table notes
  - Respondent population
  - Variable definitions

VISUALIZATION RESULTS: Infographic features

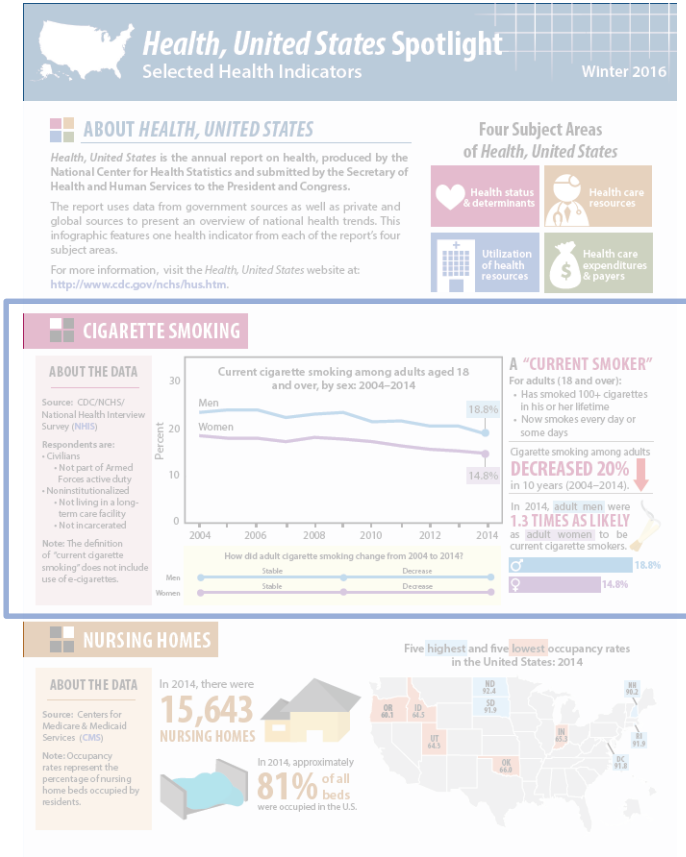


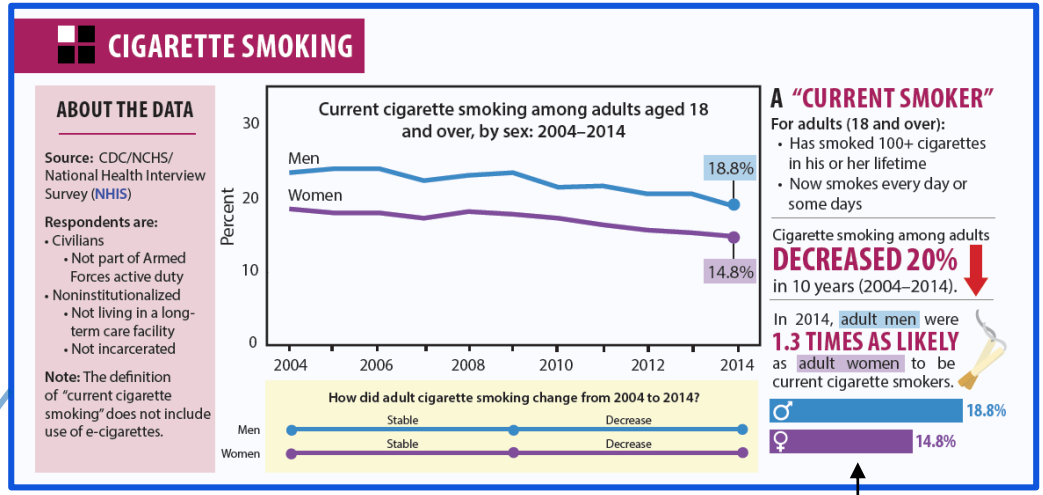


Trends Panel

- Illustrates significant changes in the trend (Stable, Increase, Decrease) based on Joinpoint analysis
- Uses a dot to indicate the presence of a joinpoint

VISUALIZATION RESULTS: Infographic features





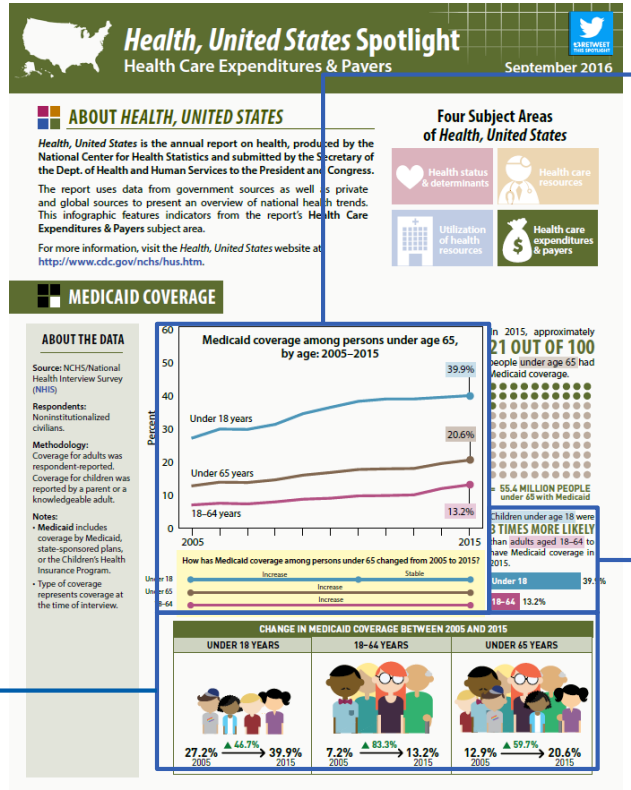
Data Highlights

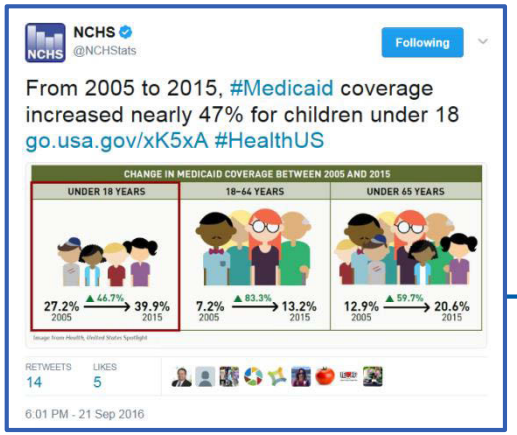
- Illustrates differences by selected characteristics
- Utilizes iconography that is familiar to a non-technical user

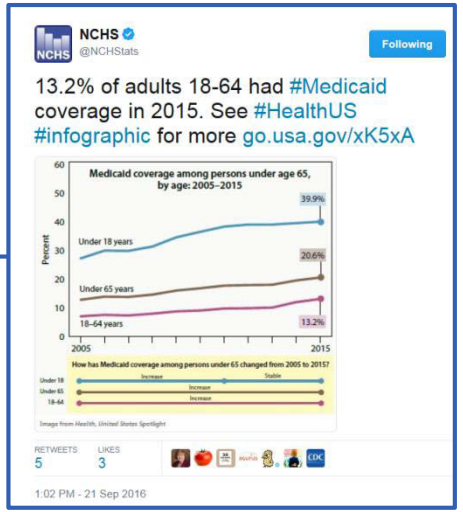
DESIGNING FOR SOCIAL MEDIA

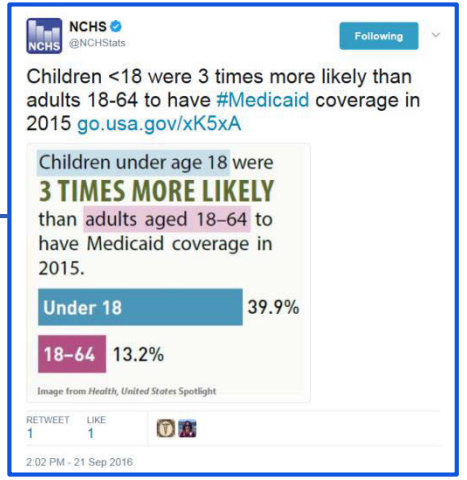
Screenshots of infographic modules were used to enhance Tweets.

The Medicaid Coverage module here provided images for six Tweets. Three are shown here.

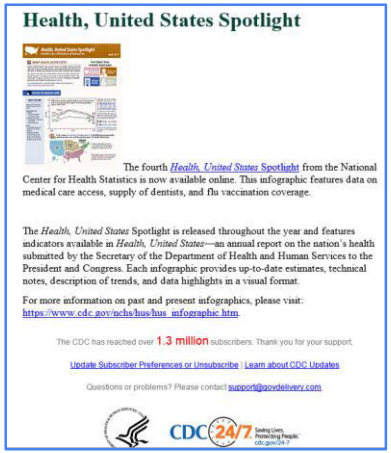








DISSEMINATION CHANNELS



GovDelivery

Electronic mailing list of over 46,200 subscribers who opt into *Health, United States* updates

- One email per Spotlight release

NCHS Facebook Page

Official Facebook page for NCHS with immediate following of 20,915 people

- One Facebook post per Spotlight release

NCHS Twitter Page (@NCHStats)

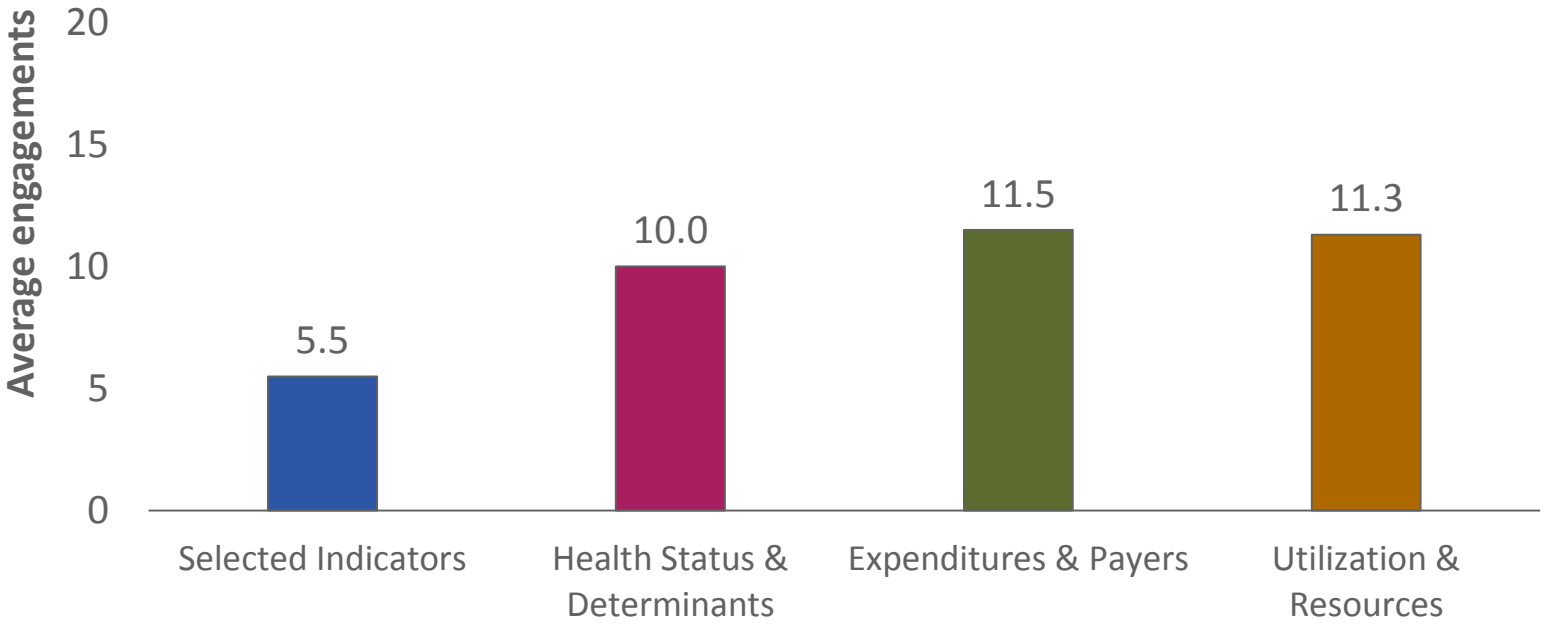
Official Twitter page for NCHS with immediate following of 3,329 people

- Multiple Tweets per Spotlight release

LESSONS LEARNED

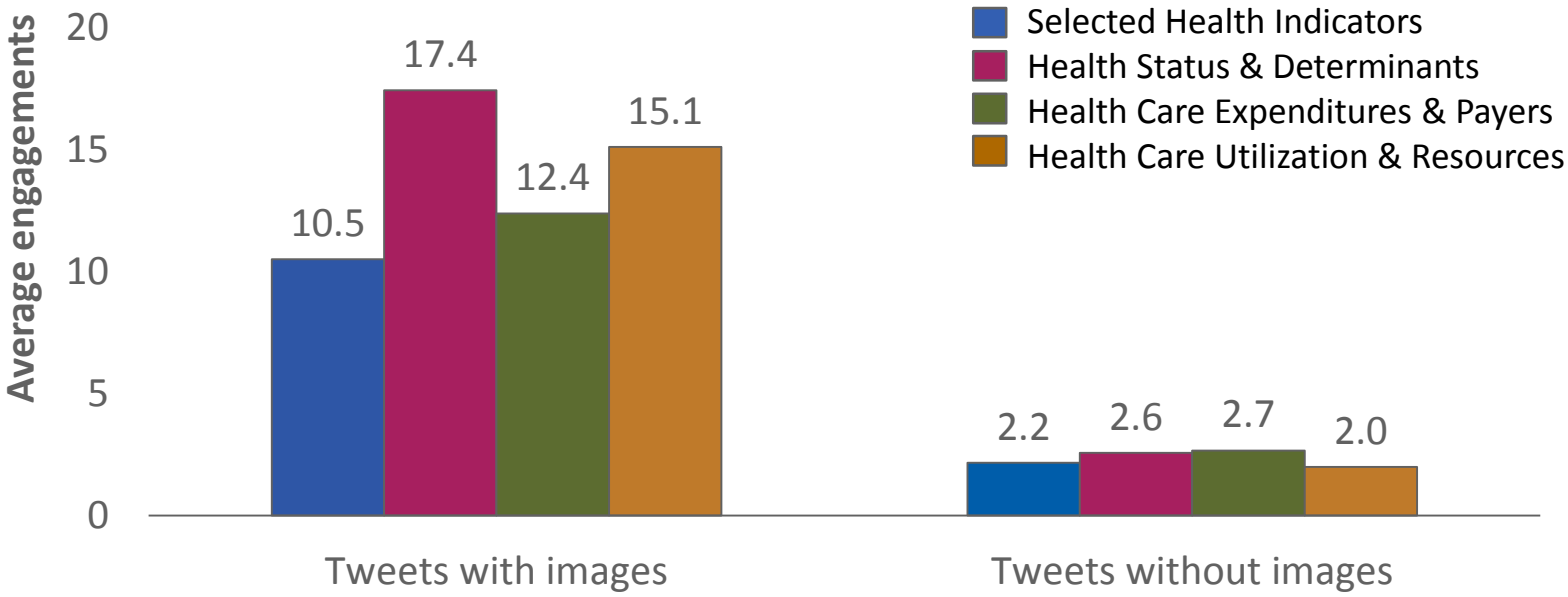
LESSON #1: Spotlight Tweets with images attracted more engagements than Spotlight Tweets without images.

@NCHStats sent out 68 Tweets to promote the four Spotlights, garnering an average of 10.3 engagements per Tweet.



NOTES: Engagements are the number of times Twitter users clicked on the Tweet. They include the following: Retweeting, Liking, expanding, and replying to @NCHStats Tweets; clicking on the @NCHStats handle from the Tweet; clicking on embedded content or hashtags in the Tweet. Not all engagements are the same. Retweets signal messaging value, while Likes signal appreciation.

Tweets with embedded images received up to 7.6 times as many engagements as Tweets without embedded images.



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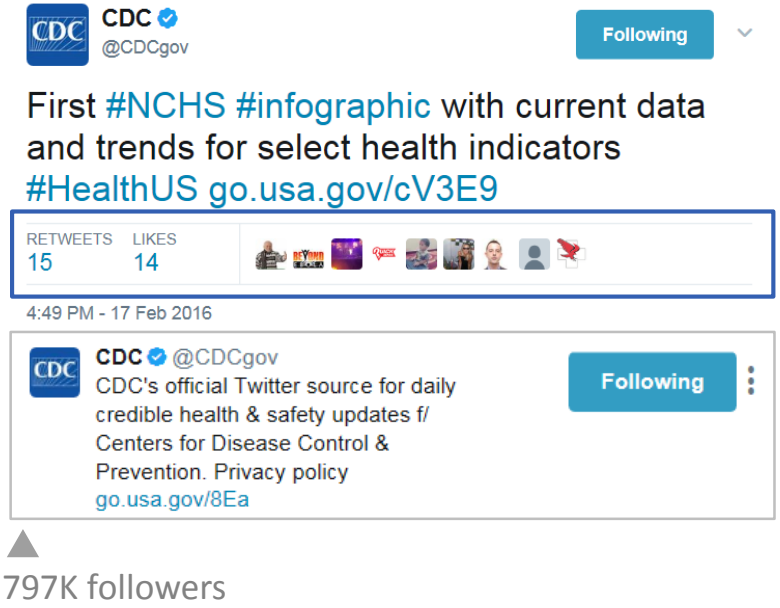
LESSONS LEARNED

LESSON #2: Cross-promoting Spotlight content with other agencies (especially those with larger social media followings) enhanced infographic reach.

This @NCHStats Tweet introducing the first Spotlight infographic received 1 Retweet.

The same Tweet posted by @CDCgov received 15 Retweets and 14 Likes.



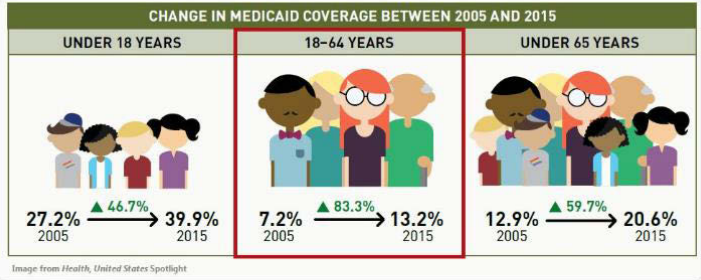
797K followers

This Tweet on Medicaid coverage among adults received 2 Retweets and 1 Like.

NCHS ✓
@NCHStats

Following

From 2005 to 2015, #Medicaid coverage increased 83.3% among adults 18-64 go.usa.gov/xK5xA #HealthUS



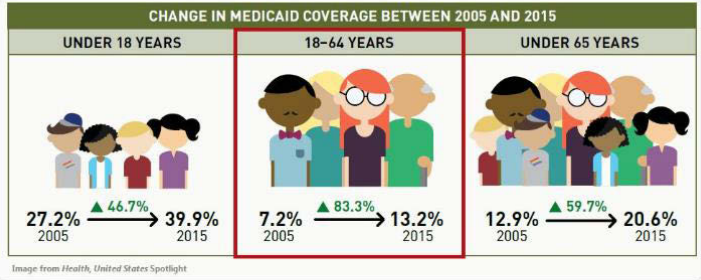
RETWEETS 2 LIKE 1

12:03 PM - 23 Sep 2016

A similar Tweet, Retweeted by @PublicHealth, received 14 Retweets and 5 Likes.

NCHS
@NCHStats
Following

From 2005 to 2015, #Medicaid coverage increased 83.3% among adults 18-64
go.usa.gov/xK5xA #HealthUS

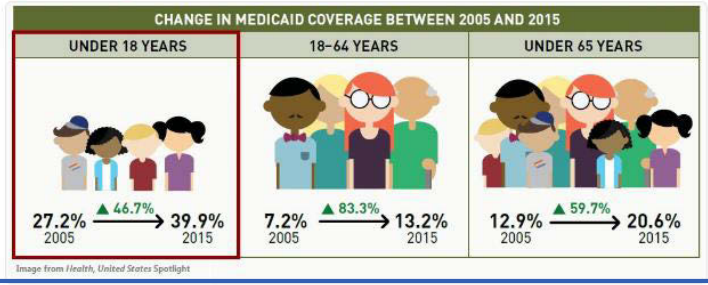


RETWEETS 2 LIKE 1

12:03 PM - 23 Sep 2016

NCHS
@NCHStats
Following

From 2005 to 2015, #Medicaid coverage increased nearly 47% for children under 18
go.usa.gov/xK5xA #HealthUS



RETWEETS 14 LIKES 5

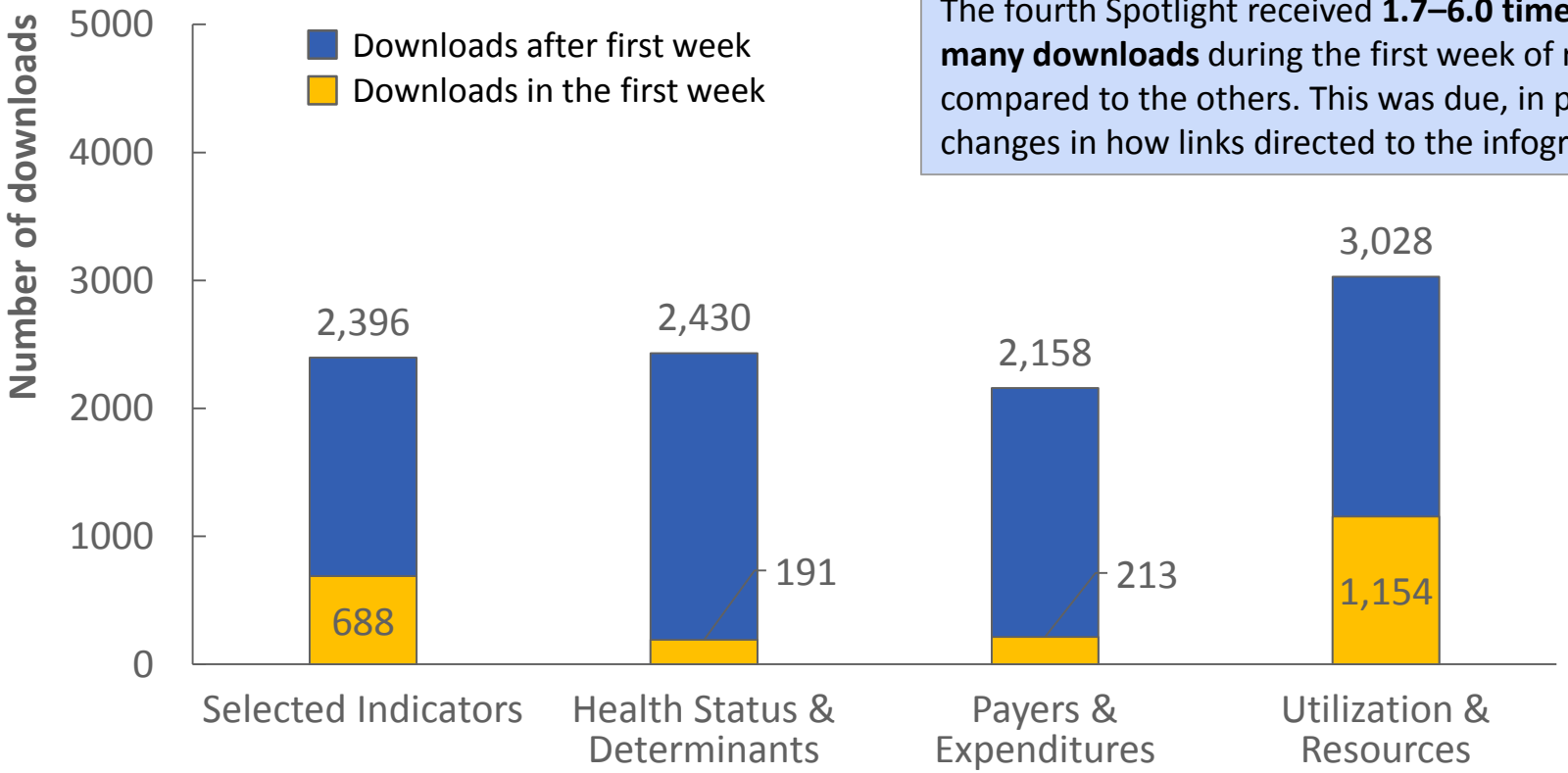
469K followers ▶

APHA @PublicHealth
Official account of the American Public Health Association: For science. For action. For health.
Following

LESSONS LEARNED

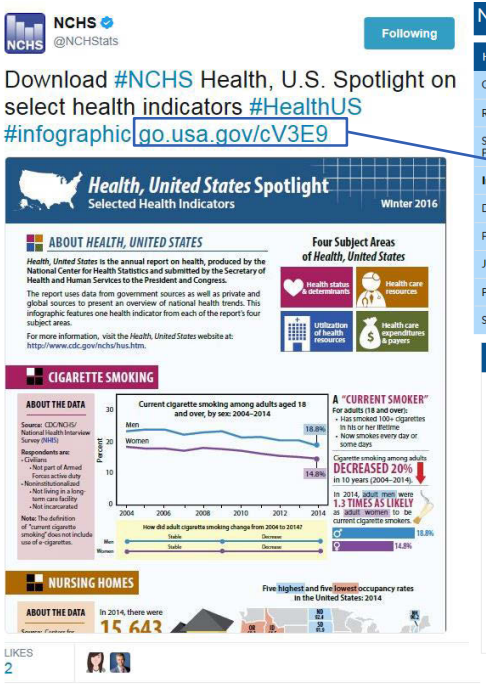
LESSON #3: Minimizing the number of clicks between the user and the infographic increased the number of downloads.

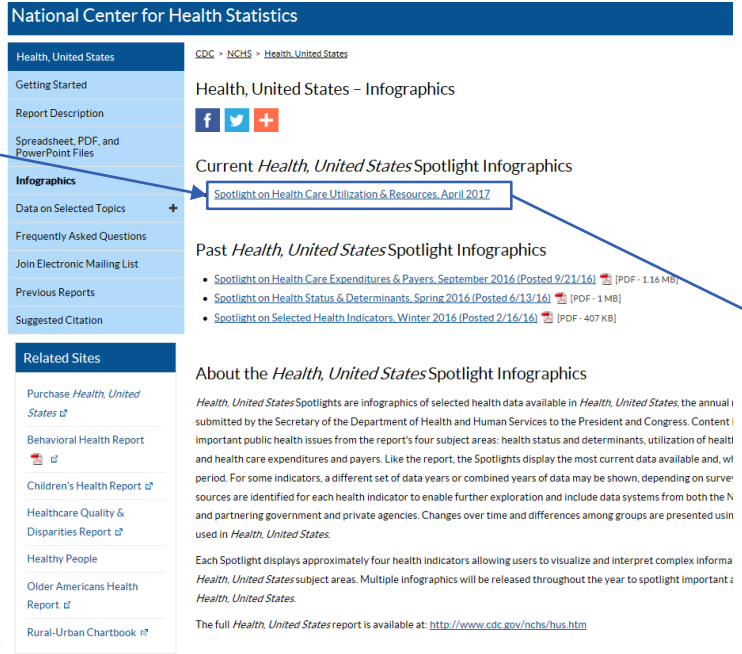
From Jan. 1, 2016 to Aug. 30, 2017, the Spotlights received a total of 10,012 downloads.

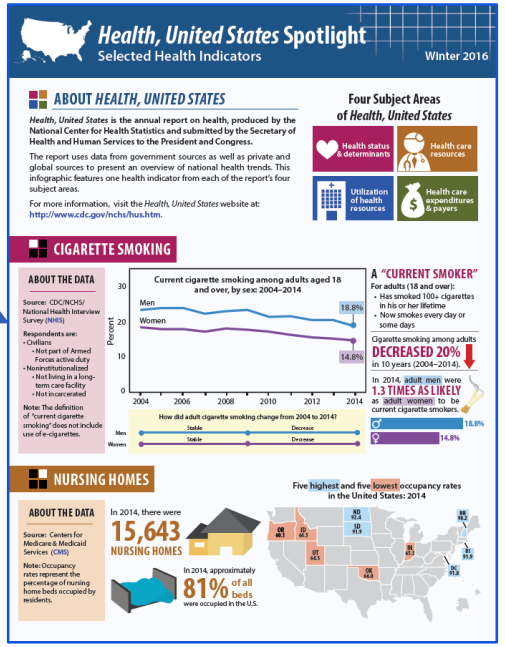


The fourth Spotlight received **1.7–6.0 times as many downloads** during the first week of release compared to the others. This was due, in part, to changes in how links directed to the infographic.

LINKING FOR THE FIRST, SECOND, AND THIRD SPOTLIGHTS: TWO CLICKS



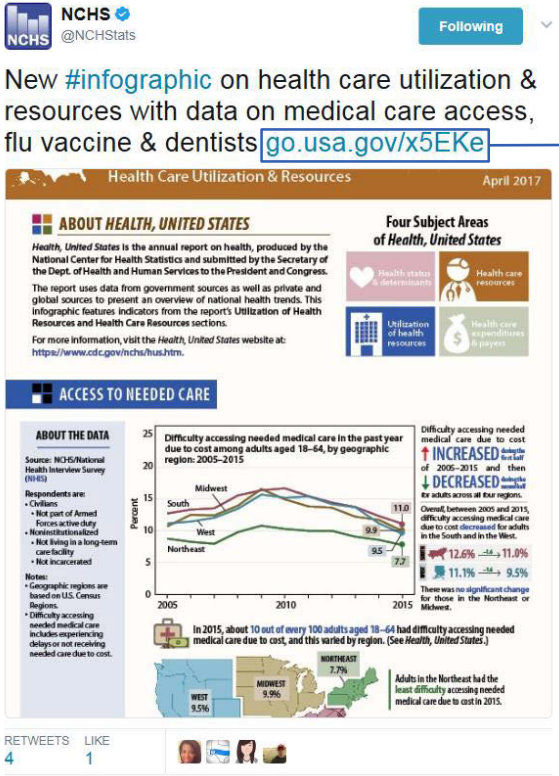




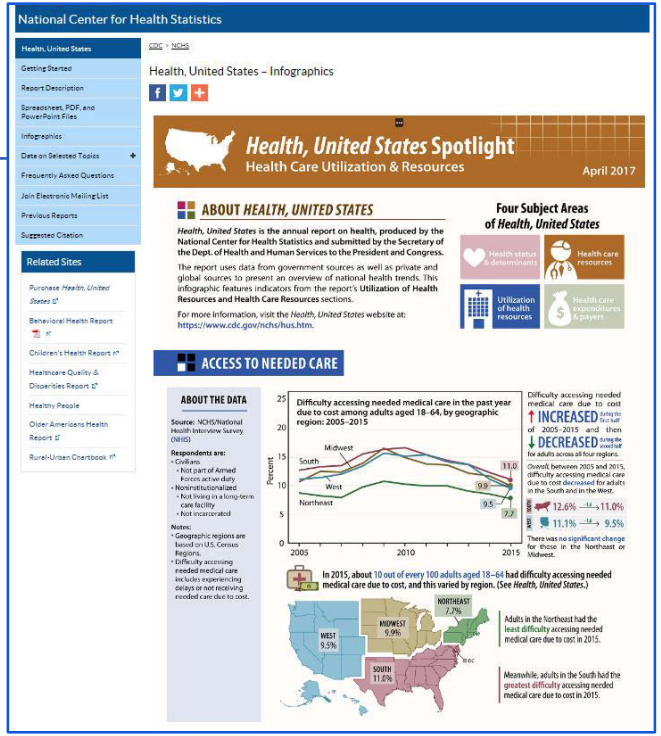
On the day the first Spotlight was released, there were **739 visits** to the Infographics page…

… but only **334 (45.2%) downloads** of the infographic.

LINKING FOR THE FOURTH SPOTLIGHT: ONE CLICK



Clicking on the link sent users directly to a webpage with the Health Care Utilization & Resources Spotlight embedded into the page.

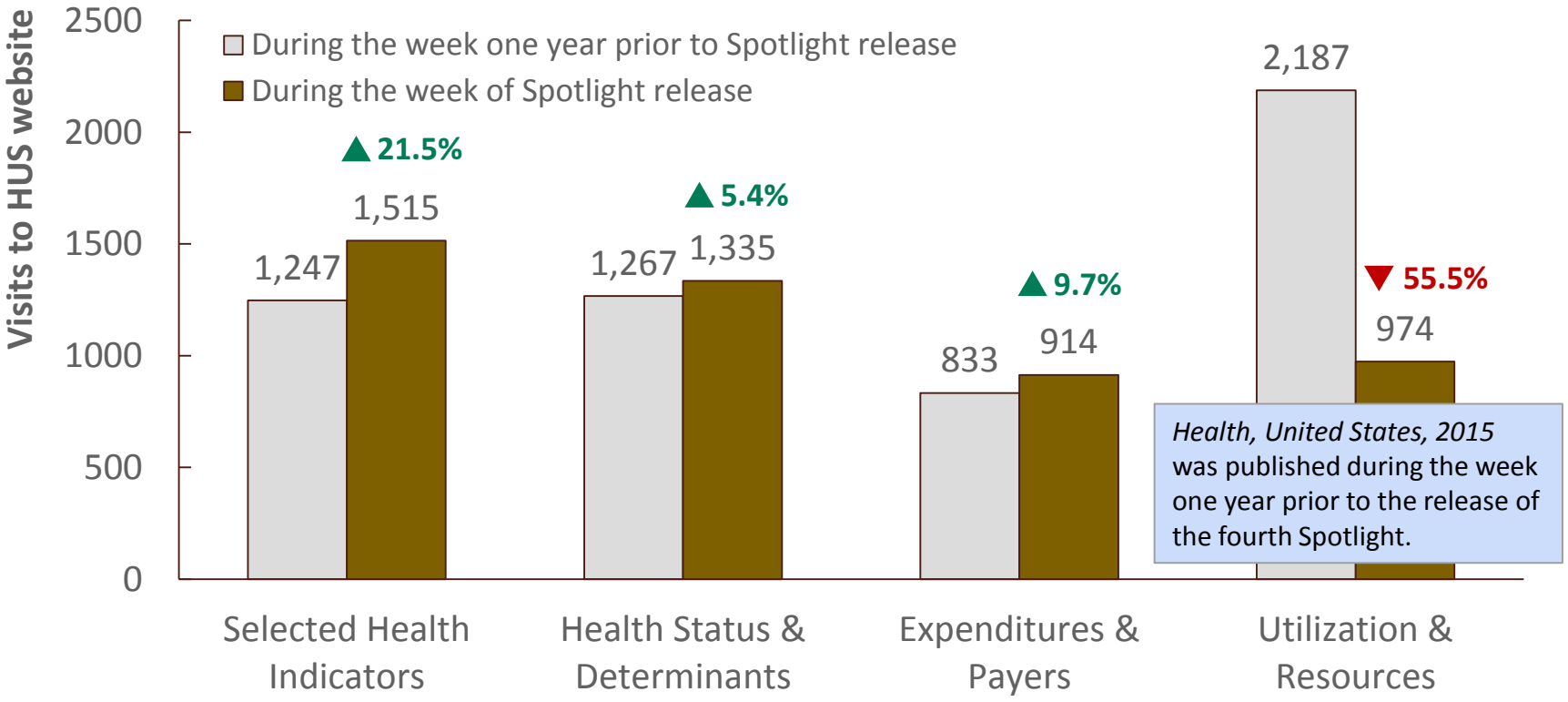


The latest Spotlight was downloaded **724 times** on the day of release.

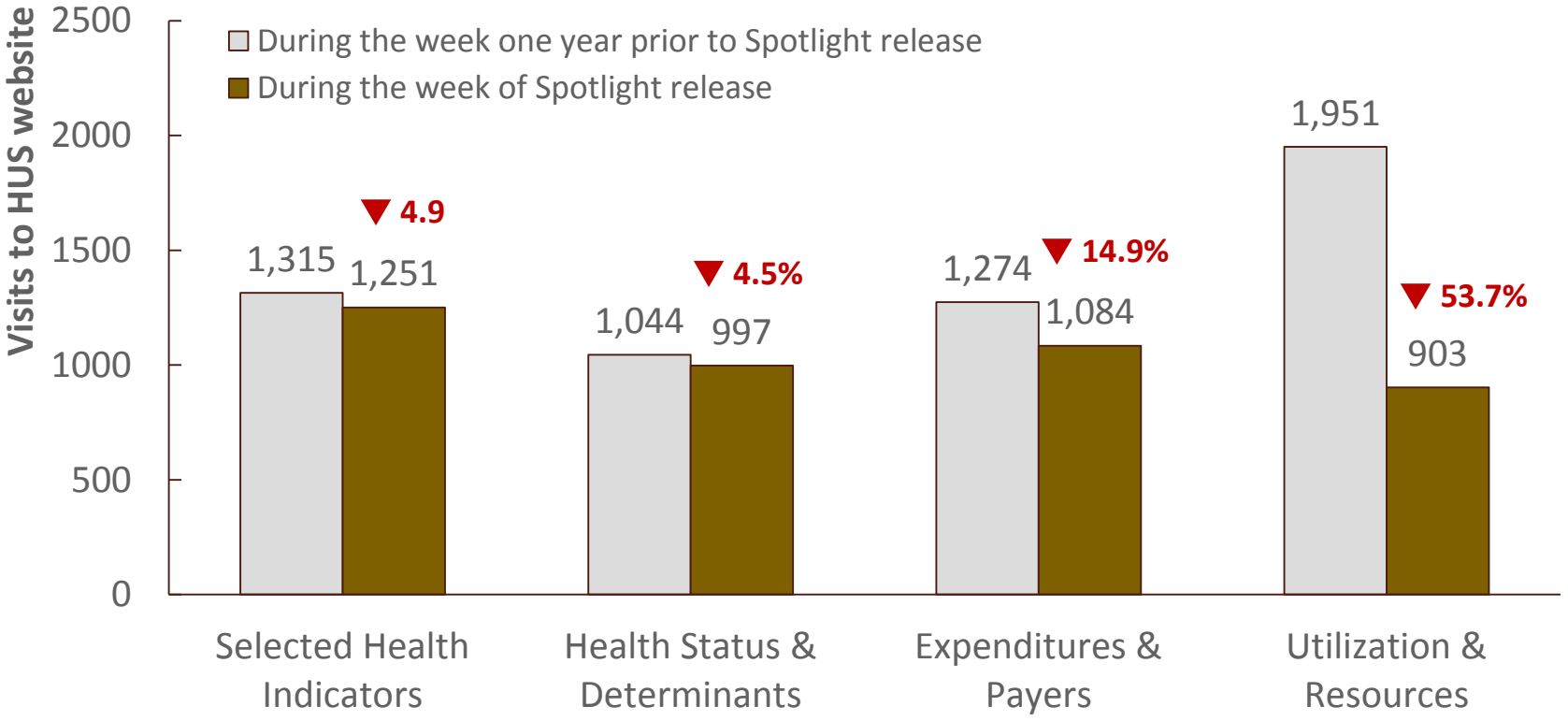
LESSONS LEARNED

LESSON #4: Releasing Spotlights between *Health, United States* reports increased traffic to the *Health, United States* website during the week of release.

Visits to the HUS website generally increased during the week of a Spotlight release compared to the prior year.



This increase was not observed during the week after release, when active promotion (via social media & email) ended.



FUTURE DIRECTIONS

More visual interactivity. More focused. More accessible.

MORE VISUAL INTERACTIVITY

LESSON #1

Tweets with embedded images attract more engagements than Tweets without embedded images.

FUTURE DIRECTIONS

- Continue to expand on suite of multimedia (e.g., animated videos/GIFs)
- Use each indicator as a launching pad into a collection of interactive visualizations that allow the reader to explore the data by additional subgroups

MORE FOCUSED

LESSON #2

Cross promoting the visualization with other agencies (especially those with larger followings) can enhance reach.

LESSON #4

Releasing intermediate visualizations between annual reports can increase interest in—or at least traffic to—the report website.

FUTURE DIRECTIONS

- Designate a theme for each infographic within the subject area
  - Spotlight on Health Status & Determinants with a Focus on Adolescents (September/October 2017)
  - Streamlines distribution and informs which agencies to cross promote with

MORE ACCESSIBILE

LESSON #3:

Minimizing the number of clicks it takes for the user to get to the visualization reduces barrier to entry.

FUTURE DIRECTIONS

- Convert PDF infographic into an interactive visualization, written in HTML + d3, with option to download data
  - Faster download times
  - More mobile friendly
- Create Powerpoint slides with high-quality graphics from the infographic that users can download and use in presentations/teaching materials

CONTACT INFORMATION

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