

CIVIC DIGITAL FELLOWSHIP

DEM^O DAY
AUGUST 09, 2018

FOLLOW ALONG ON TWITTER
@CodingitForward
#CDF2018

THANK YOU
To Knight Foundation, Chan
Zuckerberg Initiative, and Vision New
America.

TEXT ANALYTICS FOR CUSTOMER FEEDBACK PIPELINE

Communications Directorate

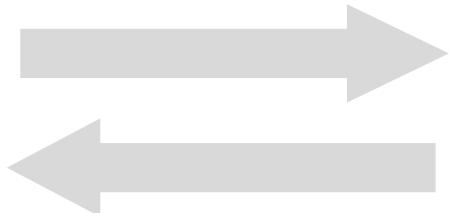
Advisors: Jeff Meisel — Chief Marketing Officer
Francine Krasowska — Customer Experience Analyst
Lisa Wolfisch — Director, CNMP



MAYUKA SARUKKAI
Stanford University
Symbolic Systems

THE DISCONNECT

CENSUS
BUREAU



THE
PUBLIC

WHY IS THIS IMPORTANT?

Census.gov is the primary interface for the dissemination of the Census Bureau's data products.

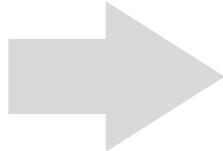
45 million annual visitors

1.7 million pages on census.gov

FEEDBACK TOOL

V1: FORESEE SURVEY

long, frustrating
third-party/proprietary



3: *Please rate how well the site layout helps you find what you are looking for.

1=Poor	2	3	4	5	6	7	8	9	10	Excellent=10
<input type="radio"/>										
Don't Know										<input type="radio"/>

4: *Please rate the number of clicks to get where you want on this site.

1=Poor	2	3	4	5	6	7	8	9	10	Excellent=10
<input type="radio"/>										
Don't Know										<input type="radio"/>

5: *Please rate the visual appeal of this site.

1=Poor	2	3	4	5	6	7	8	9	10	Excellent=10
<input type="radio"/>										
Don't Know										<input type="radio"/>

V2: HOME-GROWN TOOL

March 2018 - present
short, simple
instant feedback

Is this page helpful? X

Yes No

Comments or suggestions?

Tell us more.

255 characters remaining

[No, thanks](#) [SUBMIT](#)

PURPOSE

How might we help program areas understand the **user experience** on their content pages?

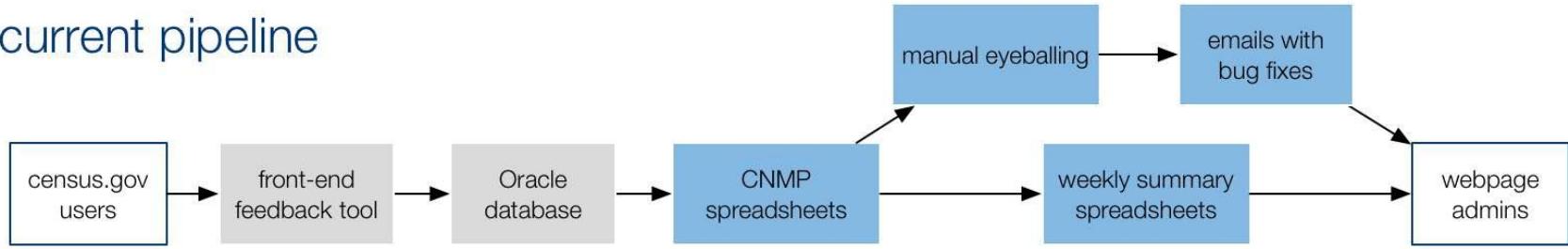
→ Develop and streamline the internal capacity for customer feedback **analytics & reporting** for the census.gov website

USER RESEARCH: FINDINGS

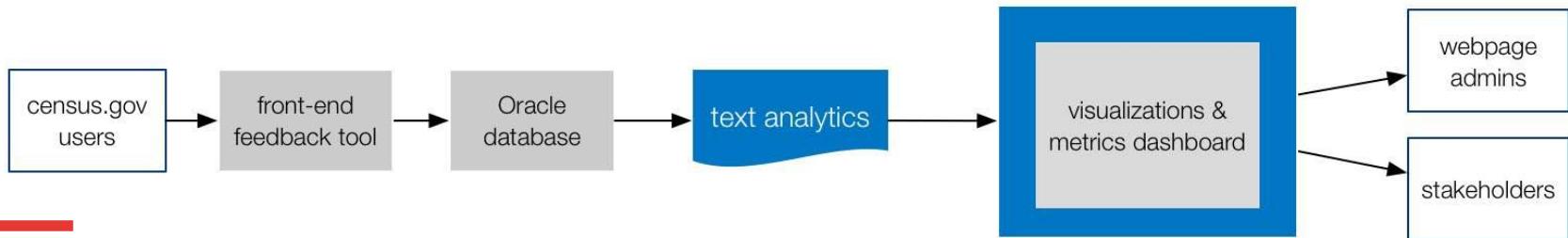
- 1) Stakeholders care about feedback **specific to their program areas**.
- 2) Stakeholders want a **quick triage** of comments for **relevant, actionable feedback**.
- 3) Stakeholders wish there was a **better structural workflow** in place to **close the feedback loop** and track progress stemming from customer feedback

THE CUSTOMER FEEDBACK PIPELINE

current pipeline

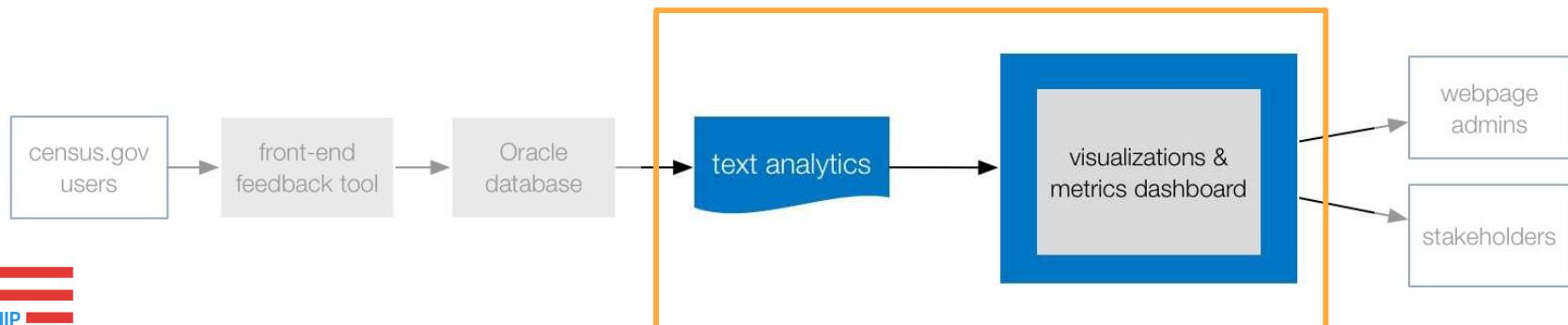


new pipeline



PROJECT DELIVERABLES

- 1) **Text analytics scripts** in Python implementing topic modeling/clustering/sentiment analysis to automate the categorization/triage of open-ended text feedback
- 2) **Prototype** for a new CEM feedback analytics dashboard in Tableau



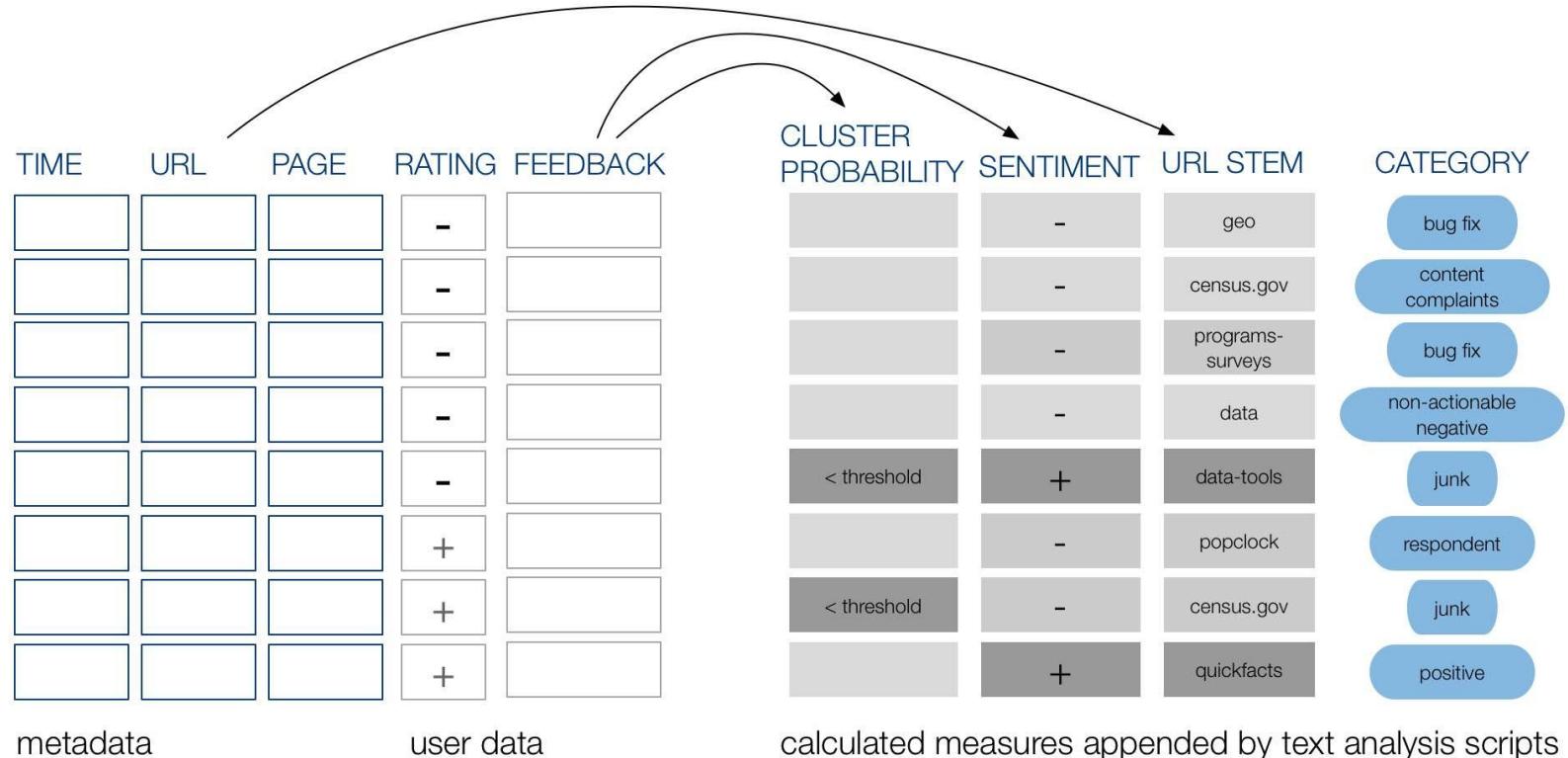
TEXT ANALYTICS SCRIPTS

TIME	URL	PAGE	RATING	FEEDBACK
			-	
			-	
			-	
			-	
			-	
			+	
			+	
			+	

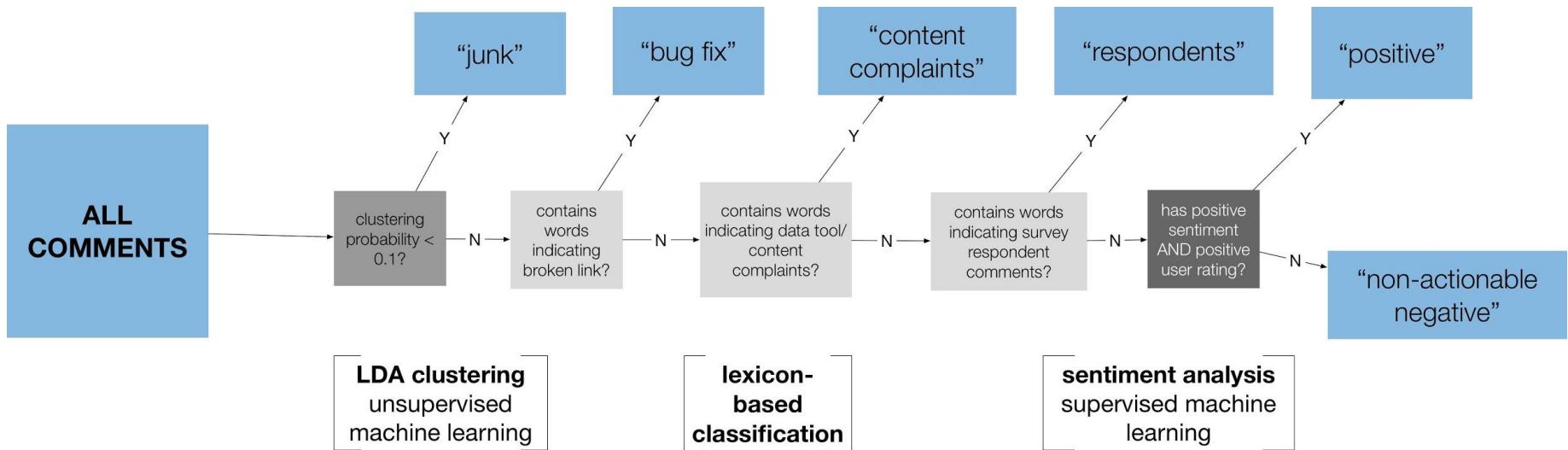
metadata

user data

TEXT ANALYTICS SCRIPTS



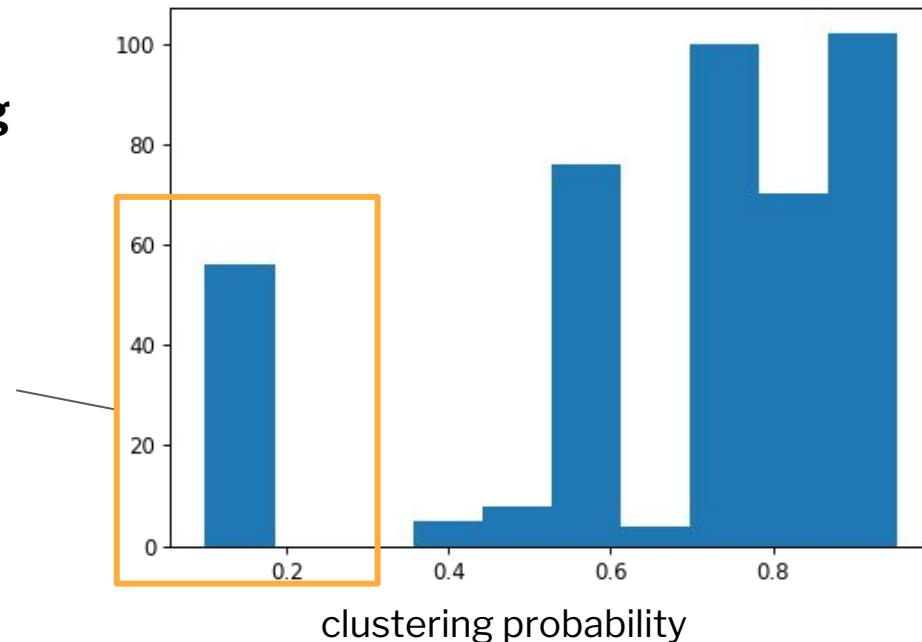
TEXT ANALYTICS: TRIAGE LOGIC



1) CLUSTER THE COMMENTS

**low clustering
probability
= junk ?**

- less relevant comments
- fewer discernible words



TECHNIQUE:
LDA CLUSTERING
(UNSUPERVISED)

2) FIND ACTIONABLE COMMENTS

BUG FIXES: “broken link,” “doesn’t work,” “page not found,”...

CONTENT COMPLAINTS: “couldn’t find,” “fix,” “please add”...

RESPONDENTS: “login,” “submit questionnaire”...

3) CALCULATE SENTIMENT SCORE

APPROACH 1: Supervised machine learning (in-house sentiment classifier)

- Training set: Foresee (old feedback tool)

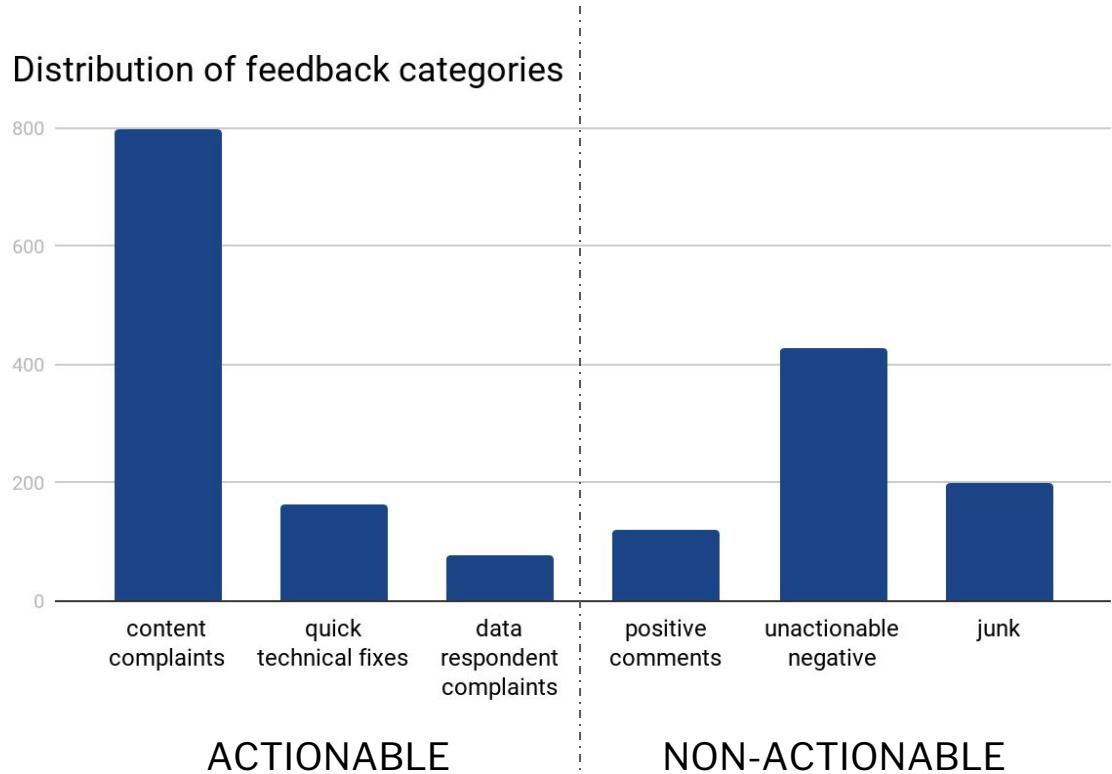
APPROACH 2: Lexicon-based (third-party classifier)

COMBINED APPROACH: Composite sentiment score

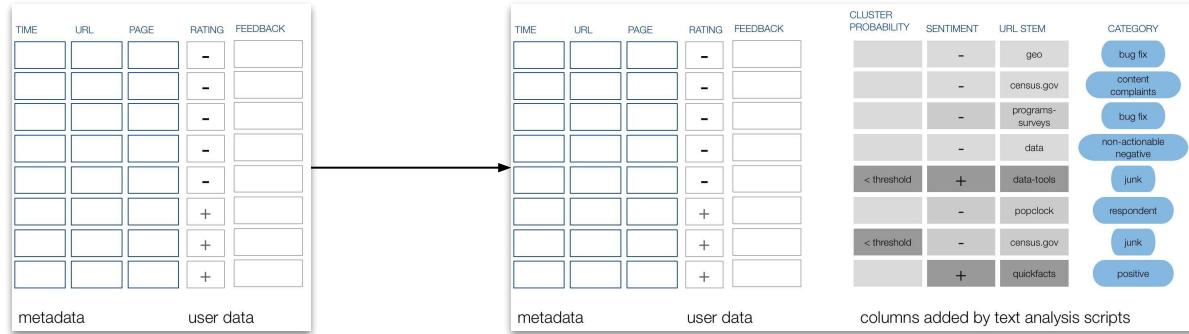
RESULTS

Category	Count
content complaints	520
bug fixes	135
respondent complaints	45
positive comments	115
non-actionable negative comments	409
junk	200

Distribution of feedback categories



FROM SCRIPTS TO VISUALIZATION



THE DASHBOARD

Census.gov Visitor Feedback Analytics Dashboard

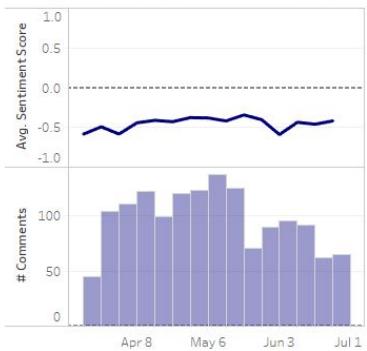
Program Area (URL Stem) Page
(All) (All)

Start date 3/14/2018 End date 6/30/2018

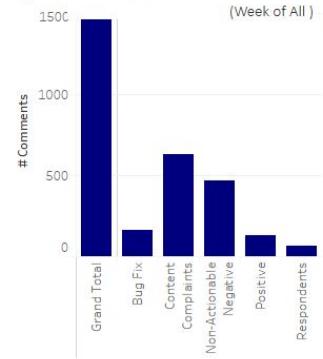
This is an amazing website great for showing in classrooms when teaching about population. :) :) :) :)

-- Population Clock: World | May 4, 2018

Sentiment Score and No. Comments



Types of Comments



% Thumbs Up



To-dos: Quick Bug Fixes

- Download doesn't work? (Safari 11.1)
- dropdown to change states does not work
- fix your broken links

Comment Viewer: All

		Sort by	Newest
"The PDF to the right contains the 72-page report."	1960 Census: Per Capita and Median F...	6/29/2018 8:43:00 PM	0 (Not Helpful)
..			
why do you make it so difficult to access past census data. 1990 and 1980 were not that long ago...do better	Decennial Census (2010, 2000, 1990)	6/29/2018 8:39:00 PM	0 (Not Helpful)
I want to find the top 1000 cities of the US. but this page goes to 768	Population and Housing Unit Estima...	6/29/2018 8:34:00 PM	0 (Not Helpful)
just a portal to the site that works	Survey of Business Owners and Self-Employed...	6/29/2018 8:22:00 PM	0 (Not Helpful)
where do i find the actual data?	Decennial Census hu...	6/29/2018	

Census.gov Visitor Feedback Analytics Dashboard

Program Area (URL Stem) Page

popclock (All)

Start date

3/5/2018

End date

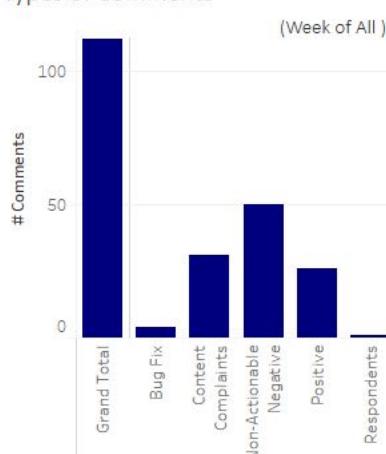
6/27/2018

Enter search text

- eos
- epcd
- fedcasic
- fieldjobs
- geo
- geographies
- glossary
- gov's
- hhes
- history
- library
- main
- mp
- mrt's
- mycd
- newsroom
- people
- popclock
- porest
- popfinder
- population
- populationwidget
- privacy
- prod
- programs-surveys
- programs-surveys-abs
- programs-surveys-aces
- programs-surveys-aacs
- programs-surveys-ahs

Site great for showing in classrooms when teaching about population. :) :) :) :)

Comments Types of Comments



% Thumbs Up



To-dos: Quick Bug Fixes

its not working

This page was recommended by my teacher and i do feel as if it's meeting my needs with the paper i am currently working on. Maybe a pull down bar with se

Website does not show information with many inter connection, website doesn't work with many different wifi areas, needs improvement of being able to acces

Sort by

Newest

Population Clock	6/23/2018 11:59:00 AM	1 (Helpful)
Population Clock: World	6/21/2018 4:52:00 AM	1 (Helpful)
Population Clock	6/20/2018 1:18:00 PM	0 (Not Helpful)
Population Clock	6/11/2018 7:33:00 PM	0 (Not Helpful)

1) filter by program area (url tags)

Census.gov Visitor Feedback Analytics Dashboard

Program Area (URL Stem) Page

popclock

(All)

Start date

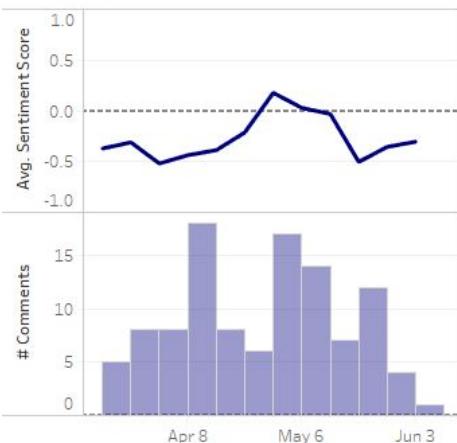
3/14/2018

End date

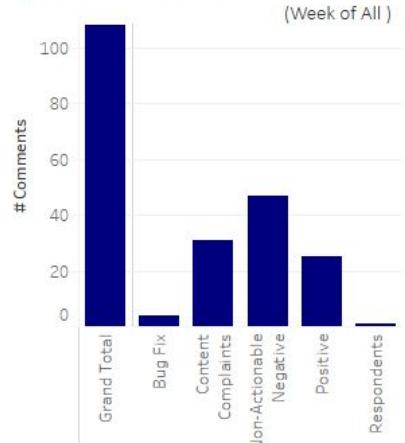
6/7/2018

This is an amazing website great for showing in classrooms when teaching about population

Sentiment Score and No. Comments



Types of Comments



To-dos: Quick Bug Fixes

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Website does not show information with many inter connection, website doesn't work with many different wifi areas, needs improvement of being able to access

Comment Viewer: All

Sort by

Newest

Would it be possible to show 'components of population change' for world population numbers? Thanks.

Population Clock

6/4/2018

3:47:00 PM

1 (Helpful)

go away

Population Clock:
World

5/31/2018

10:49:00 AM

0 (Not Helpful)

give statistics for other countries

Population Clock

5/29/2018

6:33:00 AM

1 (Helpful)

This website is interesting to look at. Nice job. :)

Popclock Feedback -
U.S. Census Bureau

5/27/2018

2:28:00 PM

1 (Helpful)

This is fake...the world population is 7.6 billion not 7.4 that was 2 years ago

Population Clock

5/27/2018

5:00:00 PM

1) filter by program area (url tags)

2) filter by date range

Census.gov Visitor Feedback Analytics Dashboard

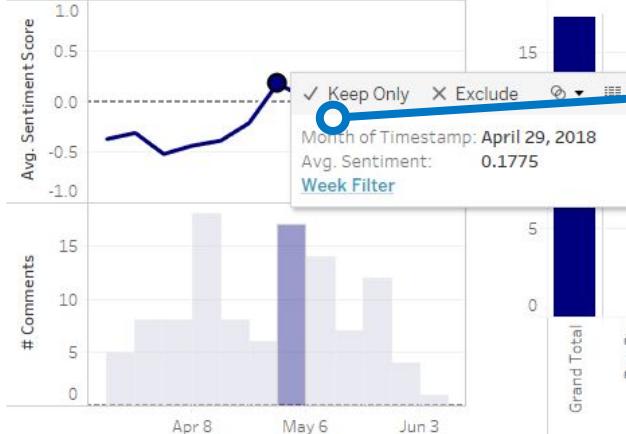
Program Area (URL Stem) Page
 popclock (All)

Start date 3/14/2018 End date 6/7/2018

This is an amazing website great for showing in classrooms when teaching about population. :) :) :) :)

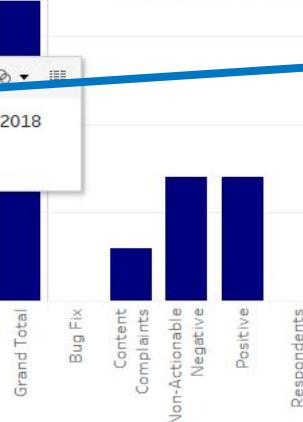
-- Population Clock: World | May 4, 2018

Sentiment Score and No. Comments



Types of Comments

(Week of April 29, 2018)



% Thumbs Up

(Week of April 29, 2018)



To-dos: Quick Bug Fixes

Comment Viewer: All

Comment	Author	Date	Helpfulness	Sort by
Just delete this website it sucks DELETE IT AND DON'T EVER USE IT IT IS A SCAM..	Population Clock	5/5/2018 11:43:00 AM	0 (Not Helpful)	Newest
Wow this is cool how did you make this	Population Clock	5/4/2018 9:42:00 PM	1 (Helpful)	
*Great website *Love to use this website..	Population Clock	5/4/2018 8:06:00 PM	1 (Helpful)	
USE THIS WEBSITE OR ELSE.....WILL REGRET IT	Population Clock	5/4/2018 3:27:00 PM	1 (Helpful)	
This is an amazing website great for showing in classrooms when teaching about population...:-):-):-)	Population Clock	5/4/2018	1 (Helpful)	

1) filter by program area (url tags)

2) filter by date range

3) see weekly trends in sentiment score

Census.gov Visitor Feedback Analytics Dashboard

Program Area (URL Stem) Page

popclock

(All)

Start date

3/14/2018

End date

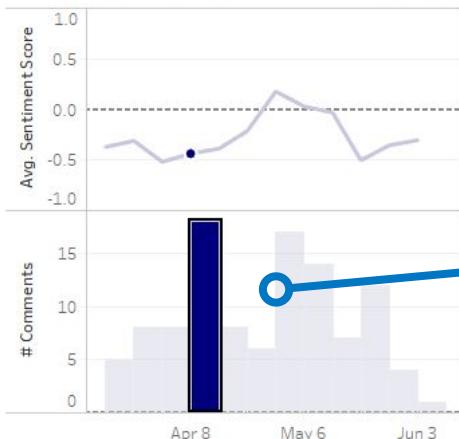
6/7/2018

This is an amazing website great for showing in classrooms when teaching about population. :) :) :) :)

-- Population Clock: World | May 4, 2018

Sentiment Score and No. Comments

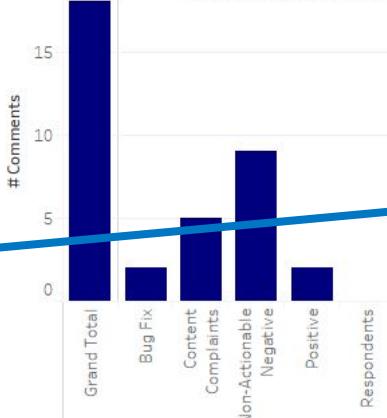
Types of Comments



% Thumbs Up



(Week of April 8, 2018)



To-dos: Quick Bug Fixes

its not working

Website does not show information with many internet connection, website doesn't work with many different wifi areas, needs improvement of being able to access ..

Comment Viewer: All

Sort by

Newest

The basic facts section should indicate what goods were EXported TO the US and those IMported From the US. The way it is currently written is confusing

Population Clock: World

4/13/2018
12:16:00 PM

0 (Not Helpful)

no games

Population Clock

4/13/2018
11:03:00 AM

0 (Not Helpful)

..

Population Clock

4/13/2018
10:55:00 AM

0 (Not Helpful)

dab on the h8rs

Population Clock

4/12/2018
10:55:00 AM

0 (Not Helpful)

nice

Population Clock: World

4/12/2018
10:01:00 PM

1 (Helpful)

this site is fake how do you know if some one was just born or died

Population Clock

4/12/2018

1) filter by program area (url tags)

2) filter by date range

3) see weekly trends in sentiment score

& weekly number of comments

Census.gov Visitor Feedback Analytics Dashboard

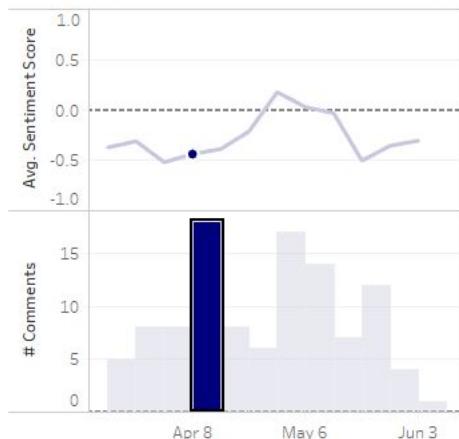
Program Area (URL Stem) Page
 popclock (All)

Start date End date
 3/14/2018 6/7/2018

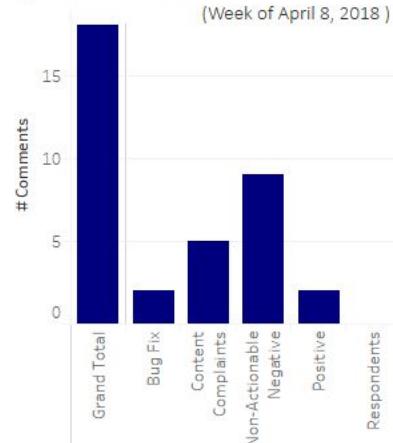
This is an amazing website great for showing in classrooms when teaching about population. :) :) :) :)

-- Population Clock: World | May 4, 2018

Sentiment Score and No. Comments



Types of Comments



% Thumbs Up



To-dos: Quick Bug Fixes



Comment Viewer: All

The basic facts section should indicate what goods were Exported TO the US and those Imported From the US. The way it is currently written is confusing

no games

..

dab on the h8rs

nice

this site is fake how do you know if some one was just born or died

Sort by Newest

Population Clock: World	4/13/2018 12:16:00 PM	0 (Not Helpful)
Population Clock	4/13/2018 11:03:00 AM	0 (Not Helpful)
Population Clock	4/13/2018 10:55:00 AM	0 (Not Helpful)
Population Clock: World	4/12/2018 10:01:00 PM	1 (Helpful)
Population Clock	4/12/2018	

1) filter by program area (url tags)

2) filter by date range

3) see weekly trends in sentiment score & weekly number of comments

4) view quick actionable comments for selected week

Census.gov Visitor Feedback Analytics Dashboard

Program Area (URL Stem) Page

popclock

(All)

Start date

3/14/2018

End date

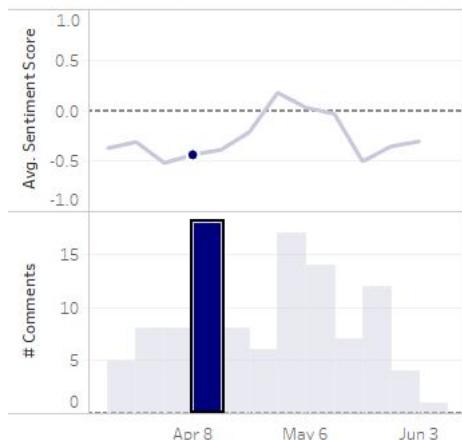
6/7/2018

This is an amazing website great for showing in classrooms when teaching about population. :) :) :) :)

-- Population Clock: World | May 4, 2018

Sentiment Score and No. Comments

Types of Comments



% Thumbs Up



To-dos: Quick Bug Fixes

its not working

information with many internet
can't work with many different
element of being able to access ..

Comment Viewer: Content Complaints

The basic facts section should indicate what goods were Exported TO the US and those Imported From the US. The way it is currently written is confusing

this site is fake how do you know if some one was just born or died

Search or select a country is broken- I type a country, press enter, and nothing happens.

Please make sure it works

	Sort by	Newest
Population Clock: World	4/13/2018 12:16:00 PM	0 (Not Helpful)
Population Clock	4/12/2018 2:35:00 PM	0 (Not Helpful)
Population Clock: World	4/11/2018 3:39:00 PM	0 (Not Helpful)
Population Clock	4/11/2018 3:03:00 PM	0 (Not Helpful)
Population Clock	4/9/2018	

1) filter by program area (url tags)

2) filter by date range

3) see weekly trends in sentiment score & weekly number of comments

4) view quick actionable comments for selected week

5) filter by comment category

Census.gov Visitor Feedback Analytics Dashboard

Program Area (URL Stem) Page

popclock

(All)

Start date

3/14/2018

End date

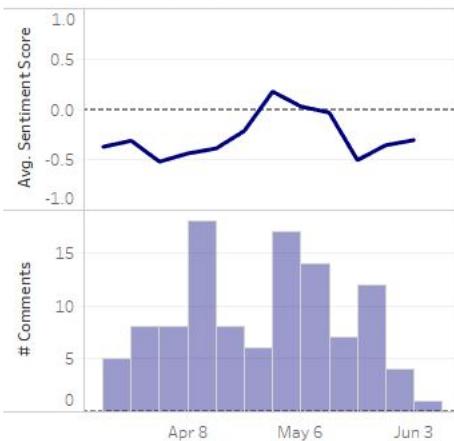
6/7/2018

This is an amazing website great for showing in classrooms when teaching about population. :) :) :) :)

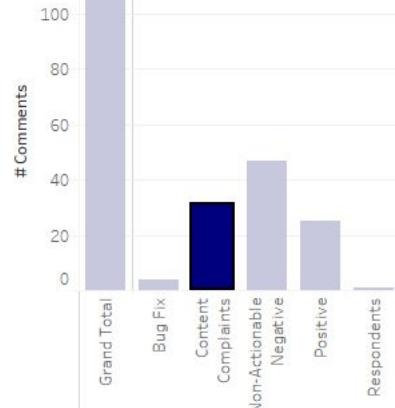
-- Population Clock: World | May 4, 2018

Sentiment Score and No. Comments

Types of Comments



(Week of All)



% Thumbs Up



To-dos: Quick Bug Fixes

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This page was recommended by my teacher and i do feel as if it's meeting my needs with the paper i am currently working on. Maybe a pull down bar with se Website does not show information with many inter connection, website doesn't work with many differen wifi areas, needs improvement of being able to acces

Comment Viewer: Content Complaints

A suggestion is that we can click on the map to the left called "A closer look".

add a section to cite the page

give statistics for other countries

i dont know if its a little confusing, but how would you know all of this in a second?

I like turtles and would like to see more turtles on your page. Thanks and have a good turtle-icous day!

Sort by

User Rating

Newest

Oldest

Most Negative

Most Positive

Most Informative

User Rating

▼

6) sort and view triaged comments

IMPACT

- Serves as first internal tool for **quick analytics reporting** of customer feedback data for 1.7+ million webpages
- Applies **novel data science approaches** to customer analytics needs in government
- Enables content owners to understand and prioritize **customer pain points**
- Recognize the **positive impact** of data disseminators
- Promotes a **culture shift to prioritize user experience** in the Bureau

THANK YOU!

SPECIAL THANKS TO:

Francine Krasowska

Lisa Wolfisch

Jennifer Cheeseman Day

Walker Kehoe

and many more!



MAYUKA SARUKKAI
mayuka@stanford.edu

DESIGNING WITH, NOT FOR

HUMAN-CENTERED DESIGN ACROSS AGENCIES

SANA SHAH

Department of Health and Human Services

University of Maryland — College Park

Information Design & Visualization

LIAM GRACE-FLOOD

International Trade Administration

Yale School of Management

MBA

MADDISON BRUSMAN

Department of State

Middlebury College

Anthropology

MICHELLE NGO

U.S. Census Bureau

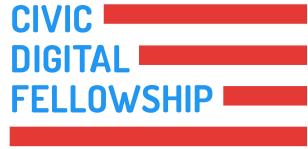
Rhodes College

Computer Science

RESTRUCTURING *HEALTH, UNITED STATES* & ANALYZING OPIOID DEATHS

National Center for Health Statistics

Ernest Moy, MD — Former Medical Officer



AMY FAN
Duke University
Mathematics

PROJECTS



Centers for Disease
Control and Prevention
National Center for
Health Statistics

- 1) Restructuring ***Health, United States*** data
- 2) Analyzing **Opioid Death Certificates + Hospitalizations**
based on linked data

HEALTH, UNITED STATES

- Annual report mandated by Congress since 1975

Health, United States, 2016

With Chartbook on Long-term Trends in Health



HEALTH, UNITED STATES

- Annual report mandated by Congress since 1975
- 2016: 114 trend tables, 474 pages
- ***Health, United States may be moving to a digital format. How can the data be presented more effectively?***

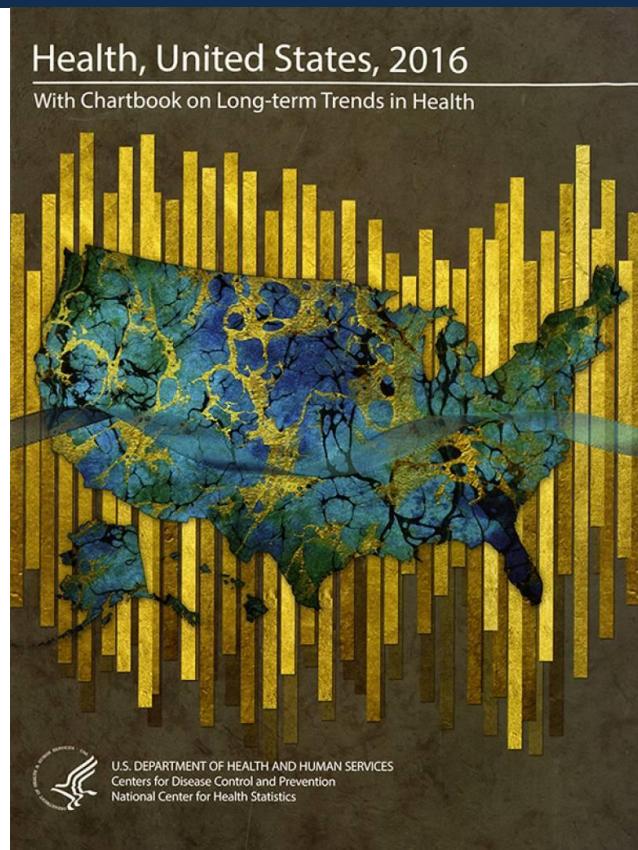


Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³			
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015
Percent												
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	8.3	5.2	8.6	10.7	13.5	9.4
Age												
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	2.8	1.6	6.0	7.3	6.6	4.1
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.7	1.6	6.0	7.3	6.6	4.1
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	1.4	3.9	3.7	3.9	1.9
6–17 years	4.9	4.7	4.8	2.9	2.4	3.1	2.8	1.7	6.8	8.4	7.5	4.9
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	11.2	6.9	10.6	13.0	17.3	11.8
18–44 years	11.0	11.3	14.5	9.5	6.9	9.8	11.2	6.2	11.7	14.1	17.9	11.6
18–24 years	10.2	11.3	13.5	7.5	6.7	9.6	9.7	4.5	11.6	13.7	17.4	9.4
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	12.0	6.6	12.3	15.1	18.3	12.4
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	11.3	6.9	11.2	13.3	17.8	12.4
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.9	5.5	13.1	14.8	18.9	10.9
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	11.3	8.0	8.4	11.5	16.5	12.1
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	11.5	8.0	9.4	12.1	17.8	12.1
55–64 years	9.3	10.4	14.6	10.2	4.2	8.0	11.0	8.0	7.0	10.7	14.9	12.2
65 years and over	4.6	4.6	5.0	4.1	2.8	5.1	4.7	3.9	3.5	5.2	6.9	7.0
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.3	4.8	4.2	6.2	9.0	7.8
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	2.8	2.8	2.6	4.0	4.3	5.8
18–64 years												
Sex												
Male	9.3	10.0	13.5	8.9	5.1	7.2	8.8	5.4	8.8	10.8	15.2	10.0
Female	12.0	12.1	15.7	10.7	7.4	11.4	13.5	8.4	12.4	15.2	19.4	13.6
Race ⁵												
White only	10.8	11.1	14.5	9.9	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.7
Black or African American only	10.8	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.6
American Indian or Alaska Native only	14.5	13.2	*15.7	9.8	*10.1	*14.1	18.6	*13.4	18.8	19.2	23.1	17.7
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.4

Notes: Household. Other Pacific Islander.

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³			
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015
Percent												
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	8.3	5.2	8.6	10.7	13.5	9.4
Age												
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	2.8	1.6	6.0	7.3	6.6	4.1
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.7	1.6	6.0	7.3	6.6	4.1
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	1.4	3.9	3.7	3.9	1.9
6–17 years	4.9	4.7	4.8	2.9	2.4	3.1	2.8	1.7	6.8	8.4	7.5	4.9
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	11.2	6.9	10.6	13.0	17.3	11.8
18–44 years	11.0	11.3	14.5	9.5	6.9	9.8	11.2	6.2	11.7	14.1	17.9	11.6
18–24 years	10.2	11.3	13.5	7.5	6.7	9.6	9.7	4.5	11.6	13.7	17.4	9.4
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	12.0	6.6	12.3	15.1	18.3	12.4
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	11.3	6.9	11.2	13.3	17.8	12.4
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.9	5.5	13.1	14.8	18.9	10.9
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	11.3	8.0	8.4	11.5	16.5	12.1
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	11.5	8.0	9.4	12.1	17.8	12.1
55–64 years	9.3	10.4	14.6	10.2	4.2	8.0	11.0	8.0	7.0	10.7	14.9	12.2
65 years and over	4.6	4.6	5.0	4.1	2.8	5.1	4.7	3.9	3.5	5.2	6.9	7.0
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.3	4.8	4.2	6.2	9.0	7.8
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	2.8	2.8	2.6	4.0	4.3	5.8
18–64 years												
Sex												
Male	9.3	10.0	13.5	8.9	5.1	7.2	8.8	5.4	8.8	10.8	15.2	10.0
Female	12.0	12.1	15.7	10.7	7.4	11.4	13.5	8.4	12.4	15.2	19.4	13.6
Race ⁵												
White only	10.8	11.1	14.5	9.0	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.7
Black or African American only	10.8	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.6
American Indian or Alaska Native only	14.5	13.2	*15.7	9.6	*10.1	*14.1	18.6	*13.4	18.8	19.2	23.1	17.7
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.4

Notes: Not available. Other Pacific Islander.

11.0

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³			
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	10.8	7.2	7.2	7.2	7.2	7.2
Age												
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	3.0	2.5	2.5	2.5	2.5	2.5
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.9	2.5	2.5	2.5	2.5	2.5
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	2.1	2.1	2.1	2.1	2.1
6–17 years	4.9	4.7	4.8	2.9	2.4	3.7	3.7	3.1	3.1	3.1	3.1	3.1
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	9.4	7.7	7.7	7.7	7.7	7.7
18–44 years	11.0	11.3	14.5	9.5	6.9	9.8	9.8	8.2	8.2	8.2	8.2	8.2
18–24 years	10.2	11.3	13.5	7.5	6.7	9.6	9.6	8.0	8.0	8.0	8.0	8.0
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	10.2	8.6	8.6	8.6	8.6	8.6
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	9.6	8.0	8.0	8.0	8.0	8.0
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.3	8.7	8.7	8.7	8.7	8.7
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	8.7	7.1	7.1	7.1	7.1	7.1
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	9.2	7.6	7.6	7.6	7.6	7.6
55–64 years	9.3	10.4	14.6	10.2	4.2	8.0	8.0	6.4	6.4	6.4	6.4	6.4
65 years and over	4.6	4.6	5.0	4.1	2.8	5.1	5.1	3.5	3.5	3.5	3.5	3.5
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.4	4.8	4.8	4.8	4.8	4.8
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	3.6	2.4	2.4	2.4	2.4	2.4
18–64 years												
Sex												
Male	9.3	10.0	13.5	8.9	5.1	7.2	7.2	5.7	5.7	5.7	5.7	5.7
Female	12.0	12.1	15.7	10.7	7.4	11.4	11.4	9.9	9.9	9.9	9.9	9.9
Race ⁵												
White only	10.8	11.1	14.5	9.0	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.7
Black or African American only	10.8	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.6
American Indian or Alaska Native only	14.5	13.2	*15.7	9.6	*10.1	*14.1	18.6	*13.4	18.8	19.2	23.1	17.7
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.4

Notes: Not available. Other Pacific Islander.

(1) 11 percent

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³			
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	10.8	7.2	7.2	7.2	7.2	7.2
Age												
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	3.0	2.5	3.0	3.0	3.0	2.5
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.9	2.5	2.9	2.9	2.9	2.5
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	2.0	2.5	2.5	2.5	2.0
6–17 years	4.9	4.7	4.8	2.9	2.4	3.7	3.7	3.0	3.7	3.7	3.7	3.0
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	9.4	7.9	9.4	9.4	9.4	7.9
18–44 years	11.0	11.3	14.5	9.5	6.9	9.8	9.8	8.2	9.8	9.8	9.8	8.2
18–24 years	10.2	11.3	13.5	7.5	6.7	9.6	9.6	7.9	9.6	9.6	9.6	7.9
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	10.2	8.5	10.2	10.2	10.2	8.5
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	9.6	8.0	9.6	9.6	9.6	8.0
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.3	8.7	10.3	10.3	10.3	8.7
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	8.7	7.1	8.7	8.7	8.7	7.1
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	9.2	7.5	9.2	9.2	9.2	7.5
55–64 years	9.3	10.4	14.6	10.2	4.2	8.0	8.0	6.4	8.0	8.0	8.0	6.4
65 years and over	4.6	4.6	5.0	4.1	2.8	5.1	5.1	3.6	5.1	5.1	5.1	3.6
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.4	4.2	6.4	6.4	6.4	4.2
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	3.6	2.4	3.6	3.6	3.6	2.4
18–64 years												
Sex												
Male	9.3	10.0	13.5	8.9	5.1	7.2	7.2	5.7	7.2	7.2	7.2	5.7
Female	12.0	12.1	15.7	10.7	7.4	11.4	11.4	9.0	11.4	11.4	11.4	9.0
Race ⁵												
White only	10.8	11.1	14.5	9.0	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.7
Black or African American only	10.8	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.6
American Indian or Alaska Native only	14.5	13.2	*15.7	9.6	*10.1	*14.1	18.6	*13.4	18.8	19.2	23.1	17.7
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.4
Native Hawaiian or Other Pacific Islander only												

(1) 11 percent

(2) of Black or African Americans

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³			
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Age												
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
6–17 years	4.9	4.7	4.8	2.9	2.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	9.4	9.4	9.4	9.4	9.4	9.4
18–44 years	11.0	11.3	14.5	9.5	6.9	9.8	9.8	9.8	9.8	9.8	9.8	9.8
18–24 years	10.2	11.3	13.5	7.5	6.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	10.2	10.2	10.2	10.2	10.2	10.2
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	9.6	9.6	9.6	9.6	9.6	9.6
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.3	10.3	10.3	10.3	10.3	10.3
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	8.7	8.7	8.7	8.7	8.7	8.7
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	9.2	9.2	9.2	9.2	9.2	9.2
55–64 years	9.3	10.4	14.6	10.2	4.2	8.0	8.0	8.0	8.0	8.0	8.0	8.0
65 years and over	4.6	4.6	5.0	4.1	2.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	3.6	3.6	3.6	3.6	3.6	3.6
18–64 years												
Sex												
Male	9.3	10.0	13.5	8.9	5.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Female	12.0	12.1	15.7	10.7	7.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
Race ⁵												
White only	10.8	11.1	14.5	9.0	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.7
Black or African American only	10.8	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.6
American Indian or Alaska Native only	14.5	13.2	*15.7	9.6	*10.1	*14.1	18.6	*13.4	18.8	19.2	23.1	17.7
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.4
Native Hawaiian or Other Pacific Islander only												

(1) 11 percent

(2) of Black or African Americans

(3) aged 18–64 years

(4) had a delay or nonreceipt of needed medical care due to cost

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³			
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Age												
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
6–17 years	4.9	4.7	4.8	2.9	2.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	9.4	9.4	9.4	9.4	9.4	9.4
18–44 years	11.0	11.3	14.5	9.5	6.9	9.8	9.8	9.8	9.8	9.8	9.8	9.8
18–24 years	10.2	11.3	13.5	7.5	6.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	10.2	10.2	10.2	10.2	10.2	10.2
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	9.6	9.6	9.6	9.6	9.6	9.6
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.3	10.3	10.3	10.3	10.3	10.3
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	8.7	8.7	8.7	8.7	8.7	8.7
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	9.2	9.2	9.2	9.2	9.2	9.2
55–64 years	9.3	10.4	14.6	10.2	4.2	8.0	8.0	8.0	8.0	8.0	8.0	8.0
65 years and over	4.6	4.6	5.0	4.1	2.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	3.6	3.6	3.6	3.6	3.6	3.6
18–64 years												
Sex												
Male	9.3	10.0	13.5	8.9	5.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Female	12.0	12.1	15.7	10.7	7.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
Race ⁵												
White only	10.8	11.1	14.5	9.0	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.7
Black or African American only	10.8	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.6
American Indian or Alaska Native only	14.5	13.2	*15.7	9.6	*10.1	*14.1	18.6	*13.4	18.8	19.2	23.1	17.7
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.4
Native Hawaiian or Other Pacific Islander only												

(1) 11 percent

(2) of Black or African Americans

(3) aged 18–64 years

(4) had a delay or nonreceipt of needed medical care due to cost

(5) in 2015

A32 : 65-74 years.....

	A	B	C	D	E	F	G	H	I
1	Table 63. Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed home health care due to cost								
2	(Data are based on household interviews of a sample of the civilian noninstitutionalized population)								
3									
4									
5									
6	Delay or nonreceipt of needed medical								
7	care due to cost ¹								
8									
9	Characteristic	1997	SE	1998	SE	1999	SE	2000	SE
10									
11	Percent								
12									
13	Total ⁴	8.3	0.1	7.4	0.1	7.3	0.1	7.4	0.1
14									
15									
16	Age								
17									
18	Under 19 years.....	4.5	0.2	4.4	0.2	4.3	0.2	4.7	0.2
19	Under 18 years.....	4.4	0.2	4.3	0.2	4.2	0.2	4.6	0.2
20	Under 6 years.....	3.3	0.2	3.4	0.2	4.1	0.3	3.6	0.3
21	6-17 years.....	4.9	0.2	4.8	0.2	4.3	0.2	5.0	0.2
22	18-64 years.....	10.7	0.2	9.5	0.2	9.2	0.2	9.2	0.2
23	18-44 years.....	11.0	0.2	9.8	0.2	9.4	0.2	9.5	0.2
24	18-24 years.....	10.2	0.4	9.6	0.4	9.6	0.4	10.4	0.4
25	25-34 years.....	11.4	0.3	10.6	0.3	10.0	0.3	9.4	0.3

A	B	C	F	G
1	Year Metric	Group	Characteristic	Percent
1158	2013 Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18-64 Years	Black or African American only	14.6
1159	2014 Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18-64 Years	Black or African American only	13.3
1160	2015 Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18-64 Years	Black or African American only	11
1161	1997 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.8
1162	1998 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.2
1163	1999 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.5
1164	2000 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.1
1165	2001 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.4
1166	2002 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	12.4
1167	2003 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	12.9
1168	2004 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	14.2
1169	2005 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	15.2
1170	2006 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	16
1171	2007 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	13.6
1172	2008 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	18.6
1173	2009 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	19
1174	2010 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	20.7

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³				
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015	
Percent													
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	8.3	5.2	8.6	10.7	13.5	9.4	
Age													
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	2.8	1.6	6.0	7.3	6.6	4.1	
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.7	1.6	6.0	7.3	6.6	4.1	
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	1.4	3.9	3.7	3.9	1.9	
6–17 years	4.9	4.7	4.8	2.9	2.4	3.1	2.8	1.7	6.8	8.4	7.5	4.9	
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	11.2	6.9	10.6	13.0	17.3	11.8	
18–24 years	11.0	11.3	14.5	9.5	6.9	8.8	11.2	6.2	11.1	14.1	17.9	11.6	
25–24 years	11.2	11.3	15.5	9.7	7.5	8.7	10.0	6.5	11.6	13.1	17.4	11.4	
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	12.0	6.6	12.3	15.1	18.3	12.4	
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	11.3	6.9	11.2	13.3	17.8	12.4	
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.9	5.5	13.1	14.8	18.9	10.9	
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	11.3	8.0	8.4	11.5	16.5	12.1	
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	11.5	8.0	9.4	12.1	17.8	12.1	
55–64 years	10.3	10.4	14.6	10.2	5.2	8.0	11.0	8.0	10.7	14.9	12.2	12.2	
65 years and over	4.6	4.6	5.0	4.1	2.8	5.6	5.7	3.9	5.5	5.2	6.9	7.0	
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.3	4.8	4.2	6.2	9.0	7.8	
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	2.8	2.8	2.6	4.0	4.3	5.8	
18–64 years													
Sex													
Male	9.3	10.0	13.5	8.9	5.1	7.2	8.8	5.4	8.8	10.8	15.2	10.0	
Female	12.0	12.1	15.7	10.7	7.4	11.4	13.5	8.4	12.4	15.2	19.4	13.6	
Race ⁵													
White only	10.8	11.1	14.5	9.9	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.7	
African American only	12.0	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.6	
American Indian or Alaska Native only	14.5	13.2	*15.7	9.8	*10.1	14.1	18.6	*13.4	18.8	19.2	23.1	17.7	
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.4	
Native Hawaiian or Other Pacific Islander only	—	—	—	—	—	—	—	—	—	—	—	—	
2 or more races	—	—	19.9	24.0	15.2	—	22.9	16.6	10.9	—	23.0	25.6	14.3
Hispanic origin and race ⁶													
Hispanic or Latino	10.5	11.5	15.4	10.8	6.7	11.2	13.0	8.3	11.5	15.5	21.6	14.5	
Mexican	9.7	11.4	15.6	11.0	6.5	12.0	13.5	8.6	11.3	16.3	22.0	16.0	
Not Hispanic or Latino	10.7	11.0	14.5	9.6	6.3	9.0	10.9	6.6	10.5	12.6	16.6	11.3	
White only	10.0	11.1	14.2	9.7	6.0	9.7	10.2	6.1	10.6	12.2	16.2	11.1	

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

		Table 63. Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015								
		A	B	C	D	E	F	G	H	I
Total*										
	Age	1								
Under 19 years		2								
Under 18 years										
Under 6 years		3								
6–17 years										
18–64 years		4	(Data are based on household interviews of a sample of the civilian noninstitutionalized population)							
18–24 years										
18–24 years		5								
25–34 years		6								
35–44 years										
19–25 years		7	Delay or nonreceipt of needed medical							
care due to cost ¹										
45–64 years		8								
45–54 years										
55–64 years										
65 years and over		9	Characteristic	1997	SE	1998	SE	1999	SE	
65–74 years										
75 years and over		10								
18–64 year		11								
Sex		12								
Male		13	Total ⁴	8.3	0.1	7.4	0.1	7.3	0.1	
Female		14								
Race ⁵										
White only		15								
Non-Hispanic African America		16	Age							
American Indian or Alaskan Native only		17								
Native Hawaiian or Other Islander only		18	Under 19 years	4.5	0.2	4.4	0.2	4.3	0.2	
2 or more races		19	Under 18 years	4.4	0.2	4.3	0.2	4.2	0.2	
Hispanic origin ⁶		20	Under 6 years	3.3	0.2	3.4	0.2	4.1	0.3	
Hispanic or Latino		21	6–17 years	4.9	0.2	4.8	0.2	4.3	0.2	
Mexican		22	18–64 years	10.7	0.2	9.5	0.2	9.2	0.2	
Not Hispanic or Latino White only		23	18–44 years	11.0	0.2	9.8	0.2	9.4	0.2	
		24	18–24 years	10.2	0.4	9.6	0.4	9.6	0.4	
		25	25–34 years	11.4	0.3	10.6	0.3	10.0	0.3	

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]



Characters

Total ⁴	Age	Characteristic	Year	Metric	Group	Characteristic	Percent
Under 19 years	1	(Data are based on household interviews of a sample of the civilian noninstitutionalized population)	1157	2012 Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18-64 Years	Black or African American only	14.8
Under 18 years	2		1158	2013 Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18-64 Years	Black or African American only	14.6
Under 6 years	3		1159	2014 Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18-64 Years	Black or African American only	13.3
6-17 years	4		1160	2015 Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18-64 Years	Black or African American only	11
18-64 years	5		1161	1997 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.8
18-24 years	6		1162	1998 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.2
25-34 years	7		1163	1999 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.5
35-44 years	8		1164	2000 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.1
45-64 years	9		1165	2001 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	10.4
65 years and over	10		1166	2002 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	12.4
65-74 years	11		1167	2003 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	12.9
75 years and over	12		1168	2004 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	14.2
Male	13	Total ⁴	1169	2005 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	15.2
Female	14		1170	2006 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	16
Race ⁵	15		1171	2007 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	13.6
White only	16	Age	1172	2008 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	18.6
Black or African American	17		1173	2009 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	19
American Indian or Alaskan Native only	18	Under 19 years	1174	2010 Nonreceipt of Needed Dental Care Due to Cost	Race, 18-64 Years	Black or African American only	20.7
2 or more races	19	Under 18 years					
Hispanic origin ⁶	20	Under 6 years					
Hispanic or Latino	21	6-17 years					
Mexican	22	18-64 years					
Not Hispanic or Latino ⁷	23	18-44 years					
White only	24	18-24 years					
	25	25-34 years					

Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristics	
Total ⁴	
Age	1
Under 19 years.....	2
Under 18 years.....	3
Under 6 years.....	4
6–17 years.....	5
18–64 years.....	6
18–24 years.....	7
25–34 years.....	8
35–44 years.....	9
19–25 years.....	10
45–64 years.....	11
65 years and over.....	12
75 years and over.....	13
Sex	14
Male.....	15
Female.....	16
Race ⁵	17
White only.....	18
American Indian or Alaska Native.....	19
Asian only.....	20
Native Hawaiian or Other Pacific Islander only.....	21
2 or more races.....	22
Hispanic origin.....	23
Hispanic or Latino.....	24
Mexican.....	25
Not Hispanic or Latino.....	
White only.....	
Age	26
Under 19 years.....	27
Under 18 years.....	28
Under 6 years.....	29
6–17 years.....	30
18–64 years.....	31
18–24 years.....	32
25–34 years.....	33
35–44 years.....	34
19–25 years.....	35
45–64 years.....	36
65 years and over.....	37
75 years and over.....	38
Characteristic	39
Total ⁴	40
Age	41
Under 19 years.....	42
Under 18 years.....	43
Under 6 years.....	44
6–17 years.....	45
18–64 years.....	46
18–24 years.....	47
25–34 years.....	48
35–44 years.....	49
19–25 years.....	50
45–64 years.....	51
65 years and over.....	52
75 years and over.....	53
Sex	54
Male.....	55
Female.....	56
Race ⁵	57
White only.....	58
American Indian or Alaska Native.....	59
Asian only.....	60
Native Hawaiian or Other Pacific Islander only.....	61
2 or more races.....	62
Age	63
Under 19 years.....	64
Under 18 years.....	65
Under 6 years.....	66
6–17 years.....	67
18–64 years.....	68
18–24 years.....	69
25–34 years.....	70
35–44 years.....	71
19–25 years.....	72
45–64 years.....	73
65 years and over.....	74
75 years and over.....	75
Characteristic	76
Total ⁴	77
Age	78
Under 19 years.....	79
Under 18 years.....	80
Under 6 years.....	81
6–17 years.....	82
18–64 years.....	83
18–24 years.....	84
25–34 years.....	85
35–44 years.....	86
19–25 years.....	87
45–64 years.....	88
65 years and over.....	89
75 years and over.....	90
Characteristic	91
Total ⁴	92
Age	93
Under 19 years.....	94
Under 18 years.....	95
Under 6 years.....	96
6–17 years.....	97
18–64 years.....	98
18–24 years.....	99
25–34 years.....	100
35–44 years.....	101
19–25 years.....	102
45–64 years.....	103
65 years and over.....	104
75 years and over.....	105
Characteristic	106
Total ⁴	107
Age	108
Under 19 years.....	109
Under 18 years.....	110
Under 6 years.....	111
6–17 years.....	112
18–64 years.....	113
18–24 years.....	114
25–34 years.....	115
35–44 years.....	116
19–25 years.....	117
45–64 years.....	118
65 years and over.....	119
75 years and over.....	120
Characteristic	121
Total ⁴	122
Age	123
Under 19 years.....	124
Under 18 years.....	125
Under 6 years.....	126
6–17 years.....	127
18–64 years.....	128
18–24 years.....	129
25–34 years.....	130
35–44 years.....	131
19–25 years.....	132
45–64 years.....	133
65 years and over.....	134
75 years and over.....	135
Characteristic	136
Total ⁴	137
Age	138
Under 19 years.....	139
Under 18 years.....	140
Under 6 years.....	141
6–17 years.....	142
18–64 years.....	143
18–24 years.....	144
25–34 years.....	145
35–44 years.....	146
19–25 years.....	147
45–64 years.....	148
65 years and over.....	149
75 years and over.....	150
Characteristic	151
Total ⁴	152
Age	153
Under 19 years.....	154
Under 18 years.....	155
Under 6 years.....	156
6–17 years.....	157
18–64 years.....	158
18–24 years.....	159
25–34 years.....	160
35–44 years.....	161
19–25 years.....	162
45–64 years.....	163
65 years and over.....	164
75 years and over.....	165
Characteristic	166
Total ⁴	167
Age	168
Under 19 years.....	169
Under 18 years.....	170
Under 6 years.....	171
6–17 years.....	172
18–64 years.....	173
18–24 years.....	174
25–34 years.....	175
35–44 years.....	176
19–25 years.....	177
45–64 years.....	178
65 years and over.....	179
75 years and over.....	180
Characteristic	181
Total ⁴	182
Age	183
Under 19 years.....	184
Under 18 years.....	185
Under 6 years.....	186
6–17 years.....	187
18–64 years.....	188
18–24 years.....	189
25–34 years.....	190
35–44 years.....	191
19–25 years.....	192
45–64 years.....	193
65 years and over.....	194
75 years and over.....	195
Characteristic	196
Total ⁴	197
Age	198
Under 19 years.....	199
Under 18 years.....	200
Under 6 years.....	201
6–17 years.....	202
18–64 years.....	203
18–24 years.....	204
25–34 years.....	205
35–44 years.....	206
19–25 years.....	207
45–64 years.....	208
65 years and over.....	209
75 years and over.....	210
Characteristic	211
Total ⁴	212
Age	213
Under 19 years.....	214
Under 18 years.....	215
Under 6 years.....	216
6–17 years.....	217
18–64 years.....	218
18–24 years.....	219
25–34 years.....	220
35–44 years.....	221
19–25 years.....	222
45–64 years.....	223
65 years and over.....	224
75 years and over.....	225
Characteristic	226
Total ⁴	227
Age	228
Under 19 years.....	229
Under 18 years.....	230
Under 6 years.....	231
6–17 years.....	232
18–64 years.....	233
18–24 years.....	234
25–34 years.....	235
35–44 years.....	236
19–25 years.....	237
45–64 years.....	238
65 years and over.....	239
75 years and over.....	240
Characteristic	241
Total ⁴	242
Age	243
Under 19 years.....	244
Under 18 years.....	245
Under 6 years.....	246
6–17 years.....	247
18–64 years.....	248
18–24 years.....	249
25–34 years.....	250
35–44 years.....	251
19–25 years.....	252
45–64 years.....	253
65 years and over.....	254
75 years and over.....	255
Characteristic	256
Total ⁴	257
Age	258
Under 19 years.....	259
Under 18 years.....	260
Under 6 years.....	261
6–17 years.....	262
18–64 years.....	263
18–24 years.....	264
25–34 years.....	265
35–44 years.....	266
19–25 years.....	267
45–64 years.....	268
65 years and over.....	269
75 years and over.....	270
Characteristic	271
Total ⁴	272
Age	273
Under 19 years.....	274
Under 18 years.....	275
Under 6 years.....	276
6–17 years.....	277
18–64 years.....	278
18–24 years.....	279
25–34 years.....	280
35–44 years.....	281
19–25 years.....	282
45–64 years.....	283
65 years and over.....	284
75 years and over.....	285
Characteristic	286
Total ⁴	287
Age	288
Under 19 years.....	289
Under 18 years.....	290
Under 6 years.....	291
6–17 years.....	292
18–64 years.....	293
18–24 years.....	294
25–34 years.....	295
35–44 years.....	296
19–25 years.....	297
45–64 years.....	298
65 years and over.....	299
75 years and over.....	300
Characteristic	301
Total ⁴	302
Age	303
Under 19 years.....	304
Under 18 years.....	305
Under 6 years.....	306
6–17 years.....	307
18–64 years.....	308
18–24 years.....	309
25–34 years.....	310
35–44 years.....	311
19–25 years.....	312
45–64 years.....	313
65 years and over.....	314
75 years and over.....	315
Characteristic	316
Total ⁴	317
Age	318
Under 19 years.....	319
Under 18 years.....	320
Under 6 years.....	321
6–17 years.....	322
18–64 years.....	323
18–24 years.....	324
25–34 years.....	325
35–44 years.....	326
19–25 years.....	327
45–64 years.....	328
65 years and over.....	329
75 years and over.....	330
Characteristic	331
Total ⁴	332
Age	333
Under 19 years.....	334
Under 18 years.....	335
Under 6 years.....	336
6–17 years.....	337
18–64 years.....	338
18–24 years.....	339
25–34 years.....	340
35–44 years.....	341
19–25 years.....	342
45–64 years.....	343
65 years and over.....	344
75 years and over.....	345
Characteristic	346
Total ⁴	347
Age	348
Under 19 years.....	349
Under 18 years.....	350
Under 6 years.....	351
6–17 years.....	352
18–64 years.....	353
18–24 years.....	354
25–34 years.....	355
35–44 years.....	356
19–25 years.....	357
45–64 years.....	358
65 years and over.....	359
75 years and over.....	360
Characteristic	361
Total ⁴	362
Age	363
Under 19 years.....	364
Under 18 years.....	365
Under 6 years.....	366
6–17 years.....	367
18–64 years.....	368
18–24 years.....	369
25–34 years.....	370
35–44 years.....	371
19–25 years.....	372
45–64 years.....	373
65 years and over.....	374
75 years and over.....	375
Characteristic	376
Total ⁴	377
Age	378
Under 19 years.....	379
Under 18 years.....	380
Under 6 years.....	381
6–17 years.....	382
18–64 years.....	383
18–24 years.....	384
25–34 years.....	385
35–44 years.....	386
19–25 years.....	387
45–64 years.....	388
65 years and over.....	389
75 years and over.....	390
Characteristic	391
Total ⁴	392
Age	393
Under 19 years.....	394
Under 18 years.....	395
Under 6 years.....	396
6–17 years.....	397
18–64 years.....	398
18–24 years.....	399
25–34 years.....	400
35–44 years.....	401
19–25 years.....	402
45–64 years.....	403
65 years and over.....	404
75 years and over.....	405
Characteristic	406
Total ⁴	407
Age	408
Under 19 years.....	409
Under 18 years.....	410
Under 6 years.....	411
6–17 years.....	412
18–64 years.....	413
18–24 years.....	414
25–34 years.....	415
35–44 years.....	416
19–25 years.....	417
45–64 years.....	418
65 years and over.....	419
75 years and over.....	420
Characteristic	421
Total ⁴	422
Age	423
Under 19 years.....	424
Under 18 years.....	425
Under 6 years.....	426
6–17 years.....	427
18–64 years.....	428
18–24 years.....	429
25–34 years.....	430
35–44 years.....	431
19–25 years.....	432
45–64 years.....	433
65 years and over.....	434
75 years and over.....	435
Characteristic	436
Total ⁴	437
Age	438
Under 19 years.....	439
Under 18 years.....	440
Under 6 years.....	441
6–17 years.....	442
18–64 years.....	443
18–24 years.....	444
25–34 years.....	445
35–44 years.....	446
19–25 years.....	447
45–64 years.....	448
65 years and over.....	449
75 years and over.....	450
Characteristic	451
Total ⁴	452
Age	453
Under 19 years.....	454
Under 18 years.....	455
Under 6 years.....	456
6–17 years.....	457
18–64 years.....	458
18–24 years.....	459
25–34 years.....	460
35–44 years.....	461
19–25 years.....	462
45–64 years.....	463
65 years and over.....	464
75 years and over.....	465
Characteristic	466
Total ⁴	467
Age	468
Under 19 years.....	469
Under 18 years.....	470
Under 6 years.....	471
6–17 years.....	472
18–64 years.....	473
18–24 years.....	474
25–34 years.....	475
35–44 years.....	476
19–25 years.....	477
45–64 years.....	478
65 years and over.....	479
75 years and over.....	480
Characteristic	481
Total ⁴	482
Age	483
Under 19 years.....	484
Under 18 years.....	485
Under 6 years.....	486
6–17 years.....	487
18–64 years.....	488
18–24 years.....	489
25–34 years.....	490
35–44 years.....	491
19–25 years.....	492

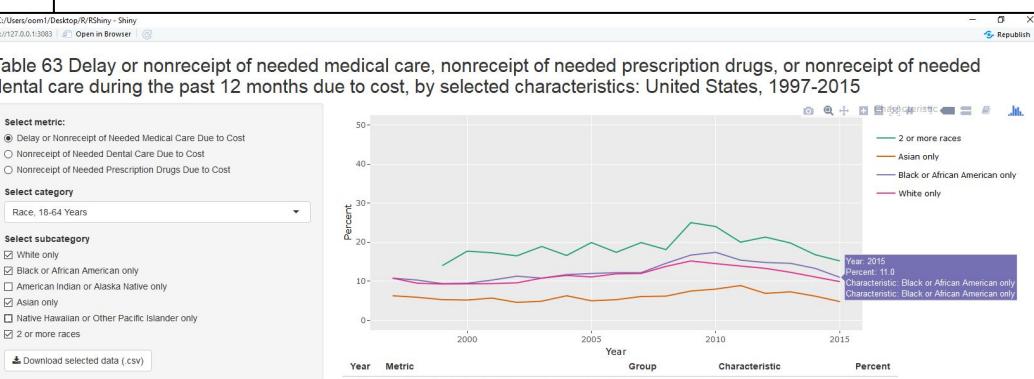
Table 63 (page 1 of 3). Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, selected years 1997–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#063>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	Delay or nonreceipt of needed medical care due to cost ¹				Nonreceipt of needed prescription drugs due to cost ²				Nonreceipt of needed dental care due to cost ³				
	1997	2005	2010	2015	1997	2005	2010	2015	1997	2005	2010	2015	
Percent													
Total ⁴	8.3	8.5	10.9	7.3	4.8	7.2	8.3	5.2	8.6	10.7	13.5	9.4	
Age													
Under 19 years	4.5	4.3	4.5	2.8	2.1	3.0	2.8	1.6	6.0	7.3	6.6	4.1	
Under 18 years	4.4	4.2	4.4	2.7	2.2	2.9	2.7	1.6	6.0	7.3	6.6	4.1	
Under 6 years	3.3	3.3	3.7	2.2	1.6	2.5	2.5	1.4	3.9	3.7	3.9	1.9	
6–17 years	4.9	4.7	4.8	2.9	2.4	3.1	2.8	1.7	6.8	8.4	7.5	4.9	
18–64 years	10.7	11.0	14.7	9.8	6.3	9.4	11.2	6.9	10.6	13.0	17.3	11.8	
18–24 years	11.0	11.3	14.5	9.5	6.9	8.8	11.2	6.2	11.1	14.1	17.9	11.6	
18–24 years	11.0	11.3	13.5	9.5	6.7	8.0	11.5	5.7	11.6	13.0	17.4	11.4	
25–34 years	11.4	11.8	15.3	10.3	6.9	10.2	12.0	6.6	12.3	15.1	18.3	12.4	
35–44 years	11.0	10.8	14.4	10.1	7.1	9.6	11.3	6.9	11.2	13.3	17.8	12.4	
19–25 years	11.1	12.5	14.8	8.4	7.7	10.3	10.9	5.5	13.1	14.8	18.9	10.9	
45–64 years	10.1	10.6	14.9	10.3	5.1	8.7	11.3	8.0	8.4	11.5	16.5	10.5	
45–54 years	10.6	10.8	15.0	10.3	5.6	9.2	11.5	8.0	9.4	12.1	17.8	10.7	
55–64 years	10.3	10.4	14.6	10.2	5.2	8.0	11.0	8.0	9.0	10.7	14.9	10.7	
65 years and over	4.6	4.6	5.0	4.1	2.8	5.7	3.9	5.5	5.2	6.9	7.1	5.5	
65–74 years	5.0	5.4	6.3	4.9	3.4	6.4	6.3	4.8	4.2	6.2	9.0	5.5	
75 years and over	4.1	3.7	3.4	3.0	2.0	3.6	2.8	2.8	2.6	4.0	4.3	5.5	
18–64 years													
Sex													
Male	9.3	10.0	13.5	8.9	5.1	7.2	8.8	5.4	8.8	10.8	15.2	10.2	
Female	12.0	12.1	15.7	10.7	7.4	11.4	13.5	8.4	12.4	15.2	19.4	13.3	
Race ⁵													
White only	10.8	11.1	14.5	9.9	5.9	9.1	10.8	6.5	10.6	12.8	17.1	11.1	
African American only	12.0	12.0	17.4	11.0	9.5	11.6	15.6	10.1	10.8	15.2	20.7	13.3	
American Indian or Alaska Native only	14.5	13.2	*15.7	9.8	*10.1	14.1	18.6	*13.4	18.8	19.2	23.1	17.7	
Asian only	6.3	5.0	8.0	4.8	*2.8	*3.5	4.2	3.4	7.8	6.8	8.7	7.7	
Native Hawaiian or Other Pacific Islander only	—	—	—	—	—	—	—	—	—	—	—	—	
2 or more races	—	—	19.9	24.0	15.2	—	22.9	16.6	10.9	—	23.0	25.6	14.1
Hispanic origin and race ⁵													
Hispanic or Latino	10.5	11.5	15.4	10.8	6.7	11.2	13.0	8.3	11.5	15.5	21.6	14.0	
Mexican	9.7	11.0	15.6	9.6	6.5	12.0	13.5	8.6	11.3	16.3	22.0	16.2	
Not Hispanic or Latino White only	10.7	11.0	14.5	9.6	6.3	9.0	10.9	6.6	10.5	12.6	16.6	11.0	

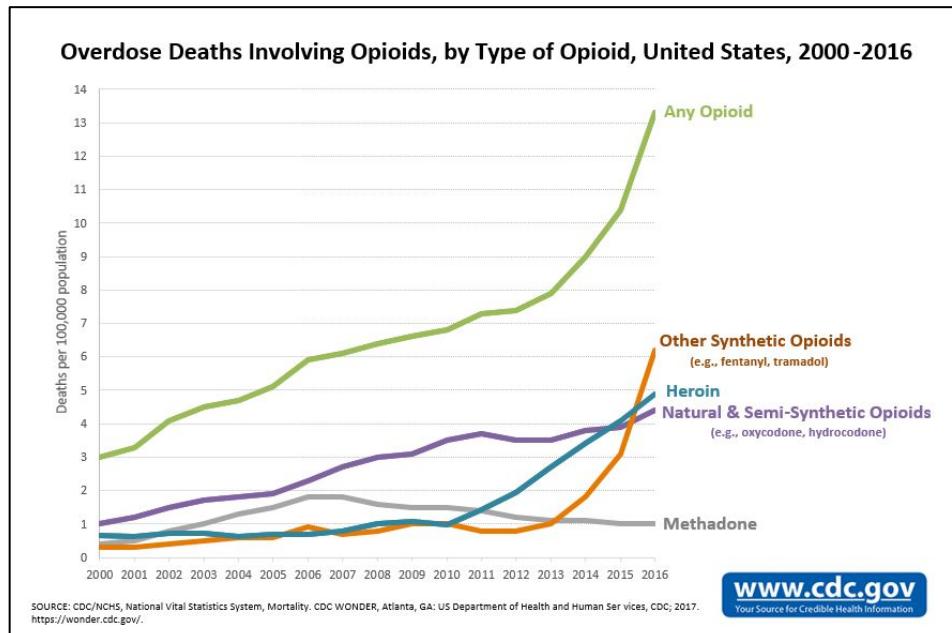
Table 63 Delay or nonreceipt of needed medical care, nonreceipt of needed prescription drugs, or nonreceipt of needed dental care during the past 12 months due to cost, by selected characteristics: United States, 1997–2015



Year	Metric	Group	Characteristic	Percent
1997	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	10.80
1998	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	9.50
1999	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	9.30
2000	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	9.30
2001	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	9.40
2002	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	9.60
2003	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	10.80
2004	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	11.50
2005	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	11.10
2006	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	11.90
2007	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	12.00
2008	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	13.80
2009	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	15.20
2010	Delay or Nonreceipt of Needed Medical Care Due to Cost	Race, 18–64 Years	White only	14.50

OPIOID CRISIS

What kinds of healthcare do people receive prior to an opioid death?



DEATH CERTIFICATE DATA

DEATH CERTIFICATE DATA

ICD-10 Codes

U.S. STANDARD CERTIFICATE OF DEATH

STATE FILE NO.

1. DECEDENT'S LEGAL NAME (Include AKA's/Psy) (First, Middle, Last) 2. SEX 3. SOCIAL SECURITY NUMBER

4. ADDRESSEES DECEASED: 4a. UNDER 1 YEAR 4b. UNDER 1 DAY 4c. DATE OF BIRTH (Month/Year) 4d. BIRTHPLACE (City and State or Foreign Country)

5. RESIDENCE/PLACE: 5a. COUNTY 5b. CITY OR TOWN

6. STREET AND NUMBER 6a. APT. NO. 6b. ZIP CODE 6c. INSIDE CITY LIMITS (Yes / No)

7. EVER IN AN ARMED FORCES? 7a. MARITAL STATUS AT TIME OF DEATH 7b. SURVIVING SPOUSE'S NAME (If wife, give her name prior to the marriage)

8. DECEASED'S RELATIONSHIP TO DECEDENT: 8a. Spouse 8b. Son 8c. Daughter 8d. Grandson 8e. Granddaughter 8f. Other 8g. Unknown

9. PARENT'S NAME (First, Middle, Last) 9a. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last)

10. INFORMANT'S NAME 10a. RELATIONSHIP TO DECEDENT 10b. MAILING ADDRESS (Street Number, City, State, Zip Code)

11. PLACES OF DEATH (Check any line; see instructions):
 * If Deceased was in a Hospital, give hospital name
 * If deceased in a Nursing Home, give name of home
 * If deceased in a Private Residence, give name of residence
 * If deceased in a Funeral Home, give name of funeral home
 * Other (specify) _____

12. PLACES OF BURIAL/CREMATION (Check any line; cemetery, crematory, other place):
 * If deceased in a Cemetery, give name of cemetery
 * If deceased in a Crematory, give name of crematory
 * Other (specify) _____

13. LOCATION OF FUNERAL: 13a. NAME AND COMPLETE ADDRESS OF FUNERAL FACILITY

14. FUNERAL SERVICE LICENSE OR OTHER AGENT

15. DATE FURNISHED DEAD (McGraw): 15a. DATE OF DEATH (McGraw): 15b. DATE FURNISHED DEAD (McGraw):

16. WHO PROVOCES OR CERTIFIES DEATH

17. DATE FURNISHED DEATH (Any time after death): 17a. LICENSE NUMBER 17b. DATE ISSUED (McGraw):

18. DATE OF RECORDING DEATH (McGraw): 18a. ACTUAL OR PRESUMED DATE OF DEATH 18b. DATE APPROX. DATED OR CORROBORATED (If Yes) (_____)

19. CAUSE OF DEATH (See instructions and examples):
 * Immediate cause of death
 * Intermediate cause of death
 * Remote cause of death
 * Resultant cause of death
 * Contributing cause of death
 * Cause due to disease
 * Cause due to external agent
 * Cause due to congenital condition
 * Cause due to nutritional factor
 * Cause due to toxic agent
 * Cause due to metabolic disorder
 * Cause due to immunologic factor
 * Cause due to physical factor
 * Cause due to other factor
 * Due to (or as a consequence of) _____
 * Due to (or as a consequence of) _____
 * Due to (or as a consequence of) _____
 * Due to (or as a consequence of) _____
 * Due to (or as a consequence of) _____

20. IF YES, Enter the physician's name corresponding to item 19 if not recording the underlying cause given in Part I
 20a. YES, WE ARE NOTIFIED (Check one)
 20b. YES, WE ARE NOTIFIED AVAILABLE TO LOCATE THE DECEASED (Check one):
 20c. YES, WE ARE NOTIFIED OF DEATH (Check one):

21. DEATH OCCURRED DURING:
 21a. IF FEMALE:
 * pregnant when last seen
 * pregnant when last known
 * at term
 * before term, but pregnant within 40 days of death
 * not pregnant, but pregnant 40 days to 1 year before death
 * not pregnant, but pregnant within the past year

21b. DATE OF DEATH: 21c. PLACE OF DEATH: 21d. CITY, STATE, ZIP CODE: 21e. INJURY AT WORK? (Yes / No)

22. LOCATION OF DEATH: Date: City or Town: Apartment No.: Zip Code:

23. DECEASED FROM INJURY CAUSED BY:
 23a. Driver of vehicle
 23b. Pedestrian
 23c. Passenger
 23d. Pedestrian
 23e. Other (Specify) _____

24. CERTIFIED (Check only one):
 * Declining physician: As the best of my knowledge, death occurred as in the statement and manner stated.
 * Death occurred as in the best of my knowledge, death occurred in the time, date, place, and due to the cause(s) and manner stated.
 * Medical Examiner: On the basis of examination, autopsy, and investigation, in my opinion, death occurred in the time, date, and place, and due to the cause(s) and manner stated.
 Signature of certifier: _____

25. NAME, ADDRESS, AND ZIP CODE OF PERSON COMPLETING CAUSE OF DEATH (Item 19)

26. TITLE OF CERTIFIER 26a. LICENSE NUMBER 26b. DATE CERTIFIED (Month/Year) 26c. FOR REGISTRAR ONLY - DATE FILED (Month/Year)

27. DECEASED'S EDUCATION: Check the box that best describes the highest degree or level of education attained by the deceased.
 * High school
 * Grade school
 * 9th grade or less
 * 10th-12th grade
 * High school graduate or GED completed
 * No high school, but no higher degrees (e.g., AA, BA, MA, etc.)
 * Some college, but no degree (e.g., AS, BS, etc.)
 * College (e.g., BA, MS, MCN, etc.)
 * Post-graduate (e.g., PhD, DPHL, etc.)
 * No degree (e.g., MD, DDS, etc.)
 * Yes, other Spanish/Spanish/Cast. (Specify): _____

28. DECEASED OCCUPATION: Indicate type of work done during year of death (e.g., DOCTOR, LAWYER, etc.)
 28a. Full-time
 28b. Part-time
 28c. Other (Specify) _____

29. SIGNATURE

DEATH CERTIFICATE DATA

ICD-10 Codes

Opioid codes:

T40.1 heroin

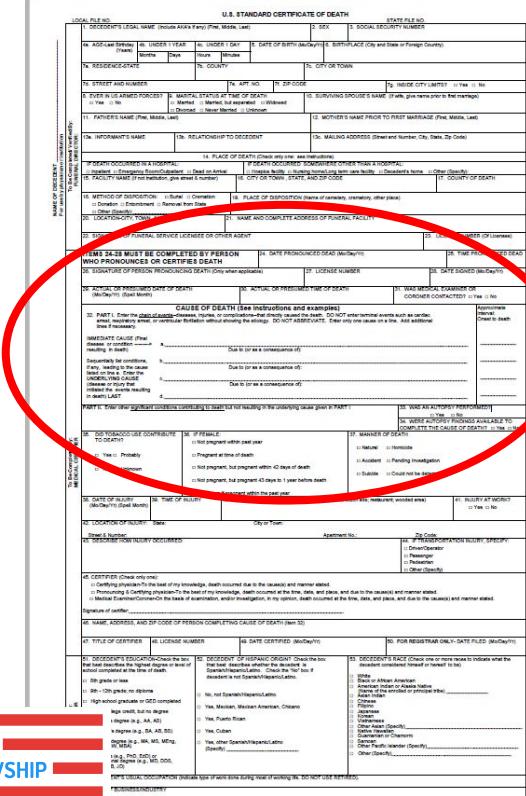
T40.2 other opioids

T40.3 methadone

T40.4 other synthetic narcotics

T40.6 other and unspecified narcotics

DEATH CERTIFICATE DATA



A screenshot of a US Standard Certificate of Death form. The cause of death section is circled in red. The circled area contains fields for the cause of death, including a box for "IMMEDIATE CAUSE" and a box for "UNDERLYING CAUSES". Below these are sections for "CERTIFIED" and "NOTIFIED". The rest of the form includes fields for personal information, death location, and medical examiner details.

ICD-10 Codes

Opioid codes:

T40.1 heroin

T40.2 other opioids

T40.3 methadone

T40.4 other synthetic narcotics

T40.6 other and unspecified narcotics

Drug Mentioned with Involvement (DMI)

Searches literal free text for mention of drugs.

DEATH CERTIFICATE DATA

ICD-10 Codes

Opioid codes:

T40.1 heroin

T40.2 other opioids

T40.3 methadone

T40.4 other synthetic narcotics

T40.6 other and unspecified narcotics

Drug Mentioned with Involvement (DMI)

Searches literal free text for mention of drugs.

Fentanyl

-> Fentanyl

DEATH CERTIFICATE DATA

ICD-10 Codes

Opioid codes:

T40.1 heroin

T40.2 other opioids

T40.3 methadone

T40.4 other synthetic narcotics

T40.6 other and unspecified narcotics

Drug Mentioned with Involvement (DMI)

Searches literal free text for mention of drugs.

Fentanyl Heroin

- > Fentanyl
- > Diamorphine

DEATH CERTIFICATE DATA

ICD-10 Codes

Opioid codes:

T40.1 heroin

T40.2 other opioids

T40.3 methadone

T40.4 other synthetic narcotics

T40.6 other and unspecified narcotics

Drug Mentioned with Involvement (DMI)

Searches literal free text for mention of drugs.

Fentanyl → Fentanyl

Heroin → Diamorphine

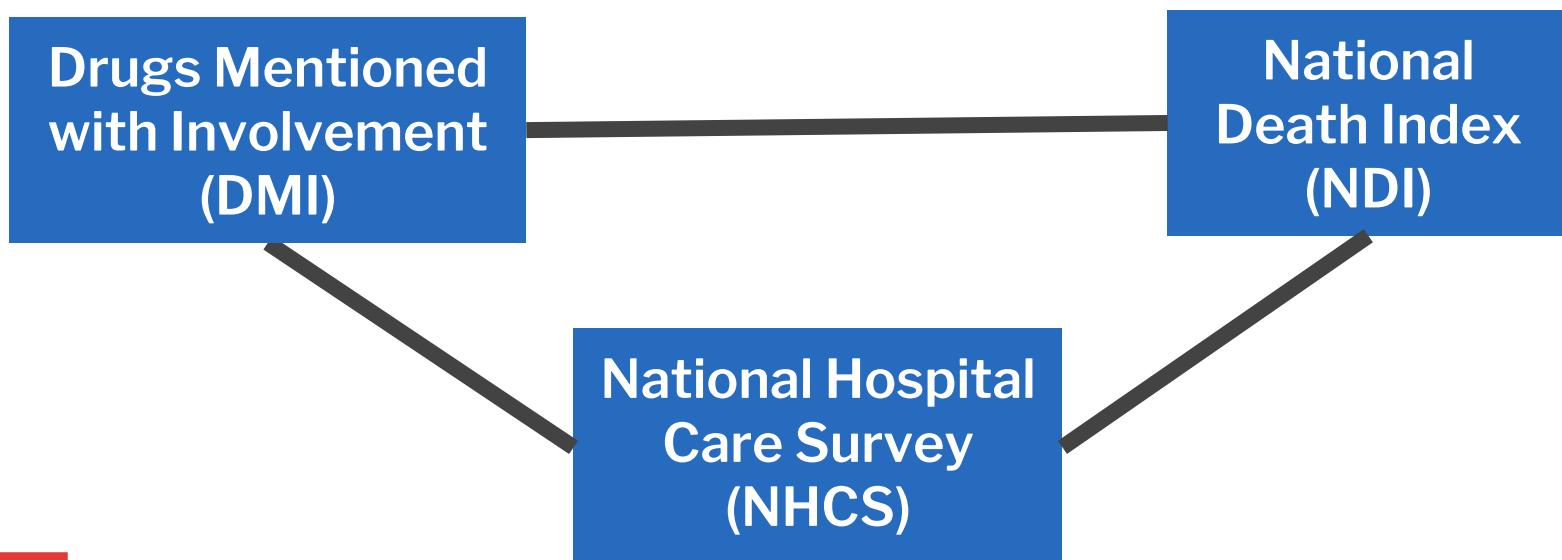
Jungle juice → ??? (Ambiguous)

LINKED DATA FILES

Drugs Mentioned
with Involvement
(DMI)

National
Death Index
(NDI)

LINKED DATA FILES



QUESTIONS TO ASK

How many hospitalizations or ED visits do people have before an opioid death?* What kind of hospitals (rural versus large metropolitan, number of beds) do people visit? * Do people visit the same hospitals for repeat visits? * **What diagnoses are most common among people who die of poisoning?*** What procedures are most common? * **What are predictors of who is likely to die of poisoning?** * Does mental health/alcohol abuse play a role in predicting who will die? * **What combination of opioids are the most common?***

How many people die in the hospital? * Are healthcare patterns different for users of different drugs? * What are the differences in sex for users of various drugs? * **Do the drugs mentioned in the DMI match up with the corresponding ICD codes?*** What underlying causes of death codes are most common? * How much more information does the DMI add to understanding opioid deaths? * **When opioids are involved, are they the primary cause of death?*** What is the discharge status of opioid-related hospitalizations? *

What was the time between the last hospital/ED visit and a person's death?

ACKNOWLEDGEMENTS

- **Ernest Moy**, for answering all the questions I had about anything and everything and making sure I had a great experience at NCHS
- **Florence Lee**, for guiding me through restructuring the Health, United States data
- PCOR project members, for taking the time to listen to me present my findings and answering any questions I had:
 - **Lee Anne Flagg**
 - **Holly Hedegaard**
 - **Geoffrey Jackson**
 - **Marianne Spencer**
- **Chris Kuang** and **Rachel Dodell** for organizing this fellowship, creating these beautiful slide templates, and helping to review and rehearse this presentation

DASHBOARD AND MAPPING TOOL:

DEMONSTRATING HRSA'S EFFORTS TO COMBAT THE OPIOID EPIDEMIC

HRSA Office of Planning, Analysis, and Evaluation

John Snyder, MD — Chief Medical Officer



RONNIE FECSO JR.
Virginia Tech
Computational Modeling and Data Analytics

PROJECT FRAMING AND PURPOSE

- Health Resources and Services Administration (HRSA):
 - Primary federal agency for improving health care and achieving health equity for people who are **geographically isolated and/or economically or medically vulnerable**
- The nation is in the midst of an opioid crisis
 - HRSA population disproportionately affected
- HRSA contributes to the *HHS 5-Point Strategy to Combat the Opioid Crisis*

QUESTIONS TO ANSWER FOR AN EFFECTIVE PRODUCT

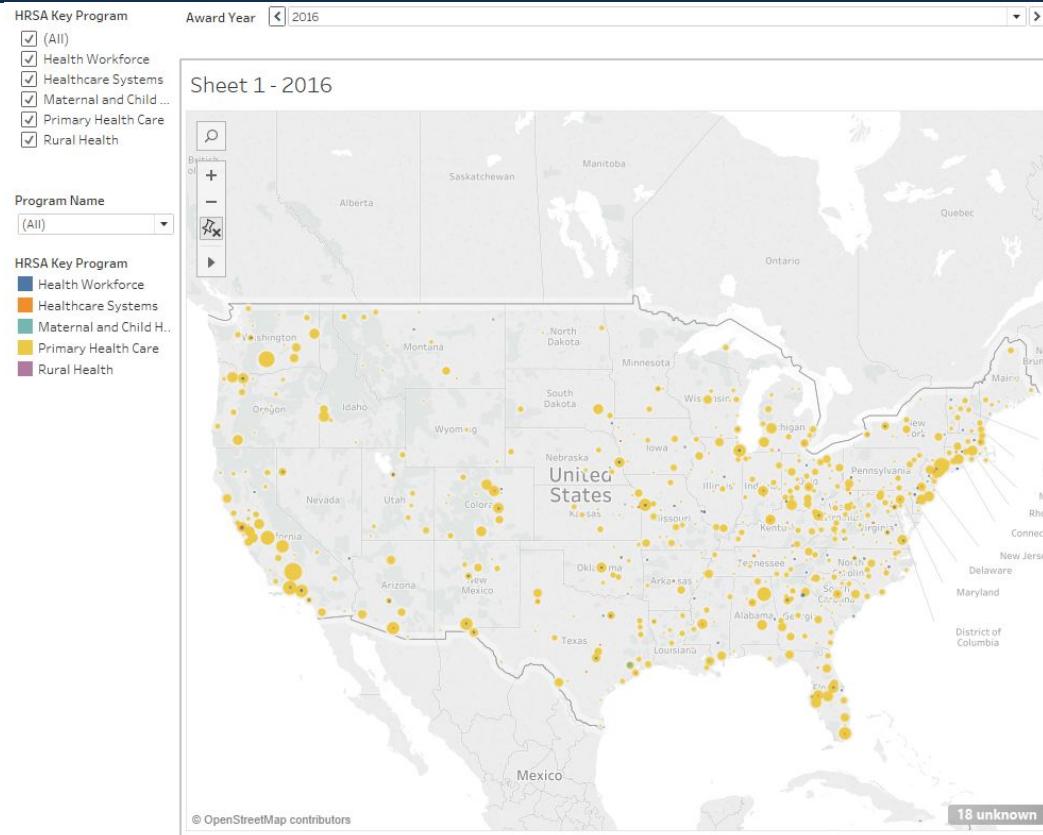
- What is HRSA doing to combat the opioid epidemic?
- Where has HRSA made investments that help address the opioid epidemic?
- How have those investments changed over time? How has the opioid epidemic changed over time?
- How has HRSA reacted/adapted to the changing opioid epidemic (funding streams/strategies?)

HRSA'S IMPACT ON OPIOID EPIDEMIC

- **Initial Plan:** Create two interactive, side-by-side maps of the U.S. with variables describing:
 1. Opioid-related HRSA investments
 2. Opioid epidemic itself
- **Geographical and temporal components**
 - Shows where HRSA investments are targeted
 - Allows user to toggle year of data to show time trends
- **Goal**
 - Better understand how HRSA is combating opioid epidemic
 - Reveal correlations between HRSA's ongoing work/investments and opioid epidemic

GRANTS DASHBOARD

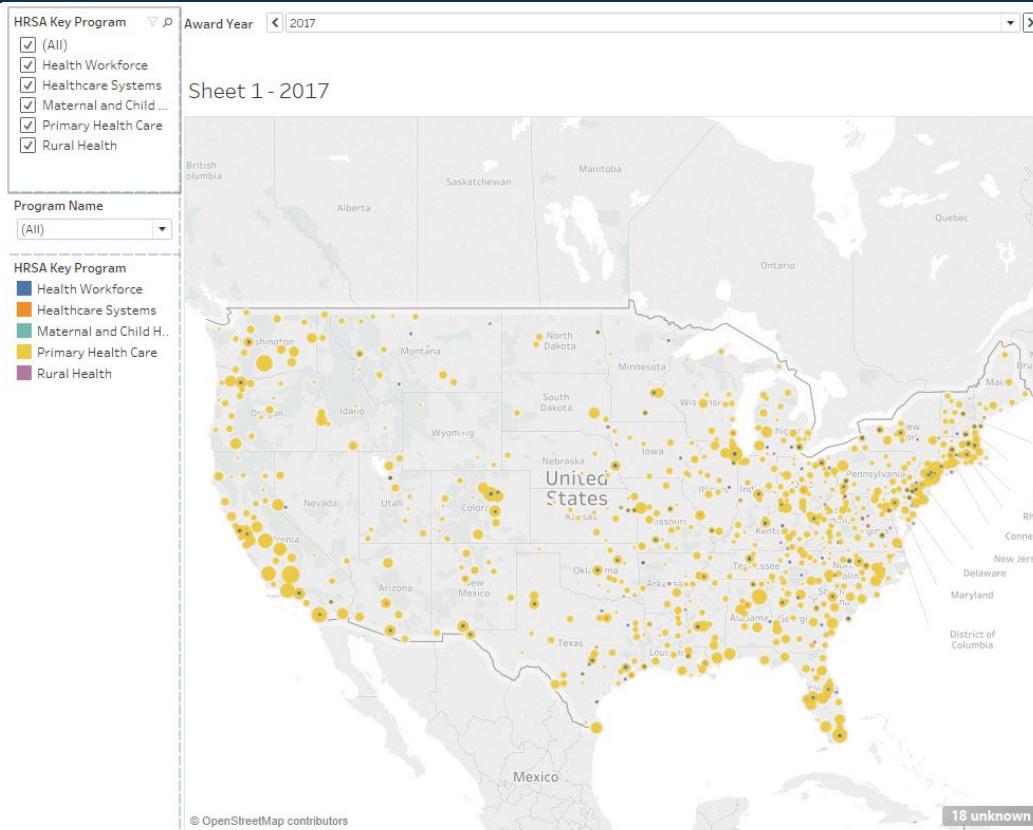
INITIAL DASHBOARD - GRANTS 2016



Key:

- Each dot represents a HRSA grant award
- Dot color indicates the grant program
- Dot size indicates the relative funding amount

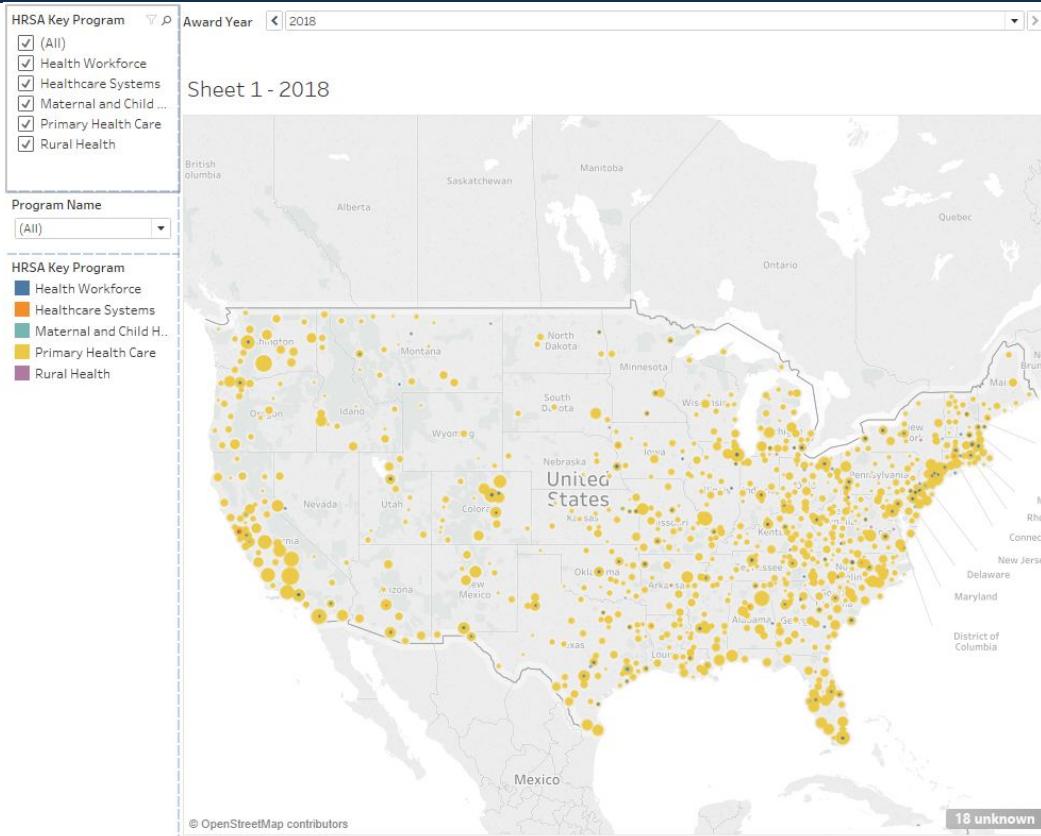
INITIAL DASHBOARD - GRANTS 2017



Key:

- Each dot represents a HRSA grant award
- Dot color indicates the grant program
- Dot size indicates the relative funding amount

INITIAL DASHBOARD - GRANTS 2018

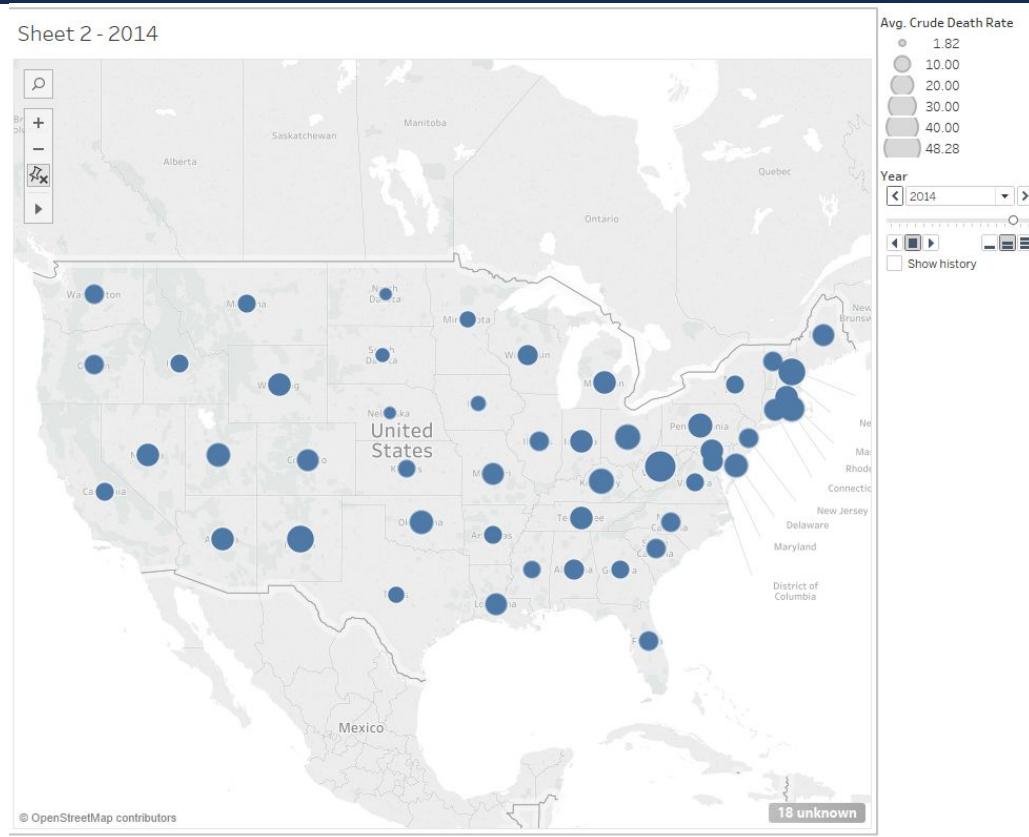


Key:

- Each dot represents a HRSA grant award
- Dot color indicates the grant program
- Dot size indicates the relative funding amount

OPIOID DEATHS DASHBOARD

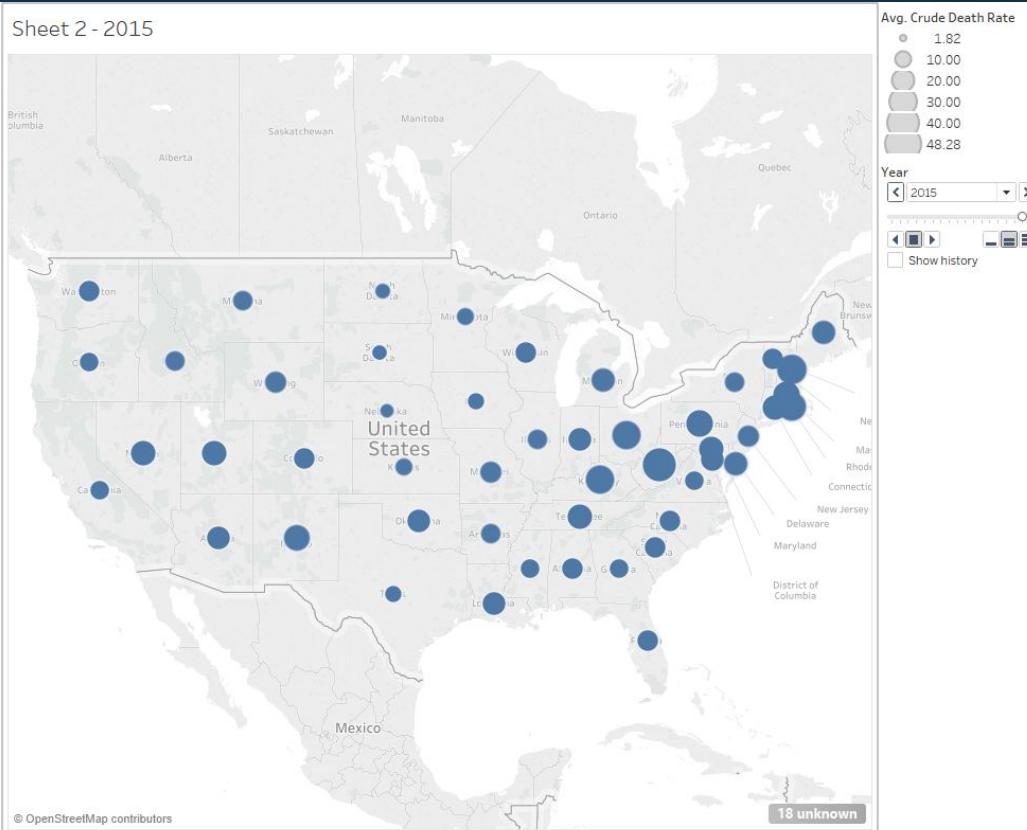
INITIAL DASHBOARD - OPIOID DEATHS 2014



Key:

- Each dot represents the opioid-related crude death rate for a state
- Data is from the CDC
- Could also plot opioid overdoses and hospitalizations

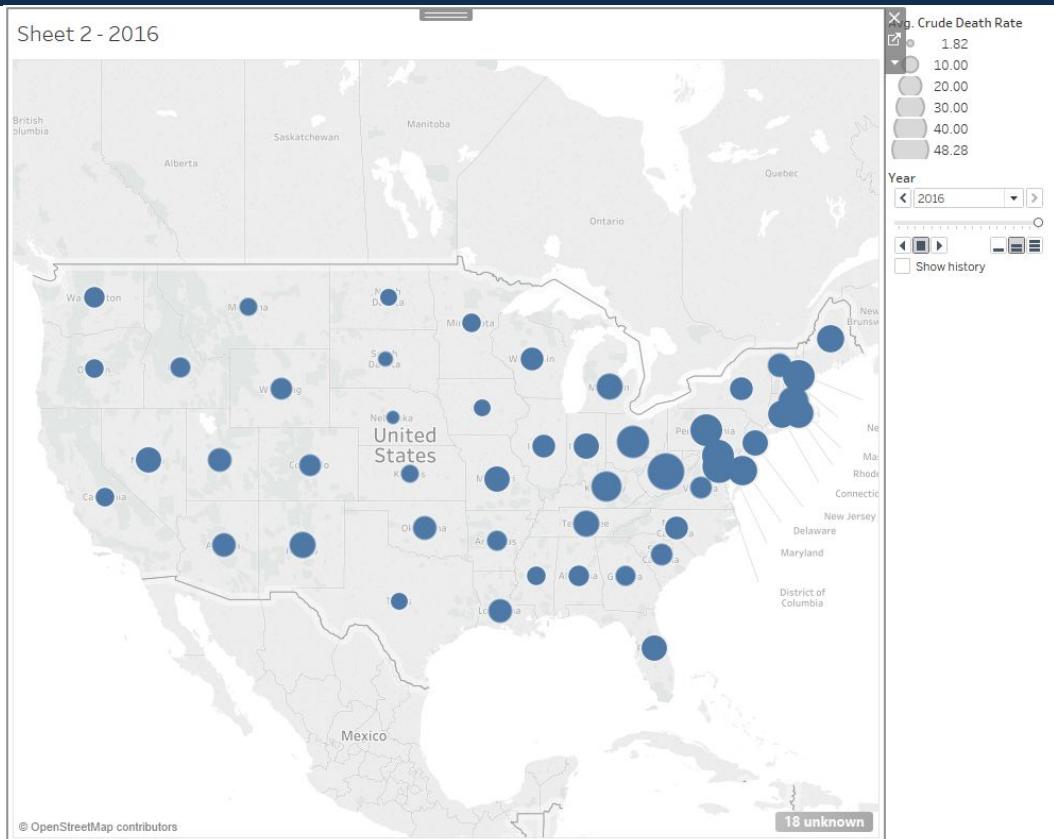
INITIAL DASHBOARD - OPIOID DEATHS 2015



Key:

- Each dot represents the opioid-related crude death rate for a state
- Data is from the CDC
- Could also plot opioid overdoses and hospitalizations

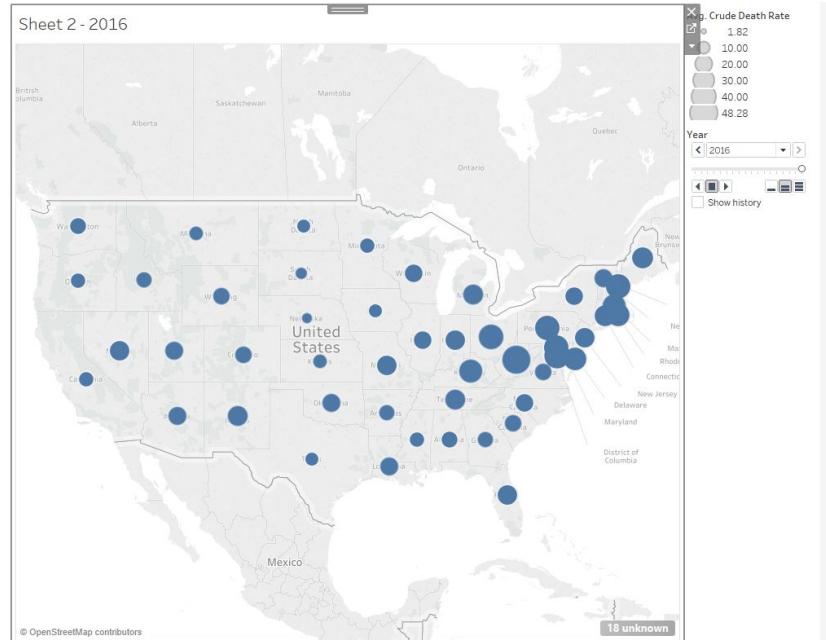
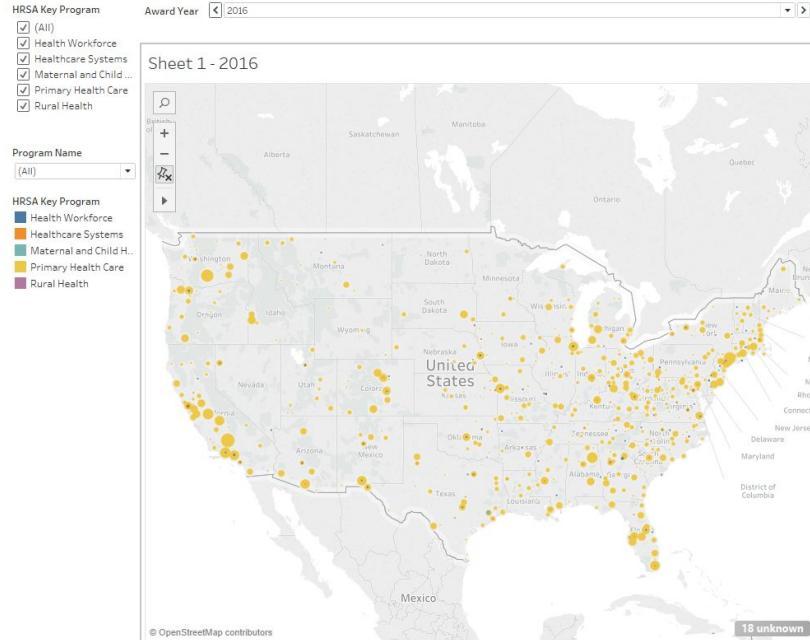
INITIAL DASHBOARD - OPIOID DEATHS 2016



Key:

- Each dot represents the opioid-related crude death rate for a state
- Data is from the CDC
- Could also plot opioid overdoses and hospitalizations

SCREENSHOTS OF INITIAL DASHBOARD - 2016



NEXT STEPS

- **Further refine data**
 - Add other opioid epidemic variables (overdoses, hospitalizations, etc.)
 - Plot opioid data at the county level for better comparison to HRSA investments
- **Publish dashboard/maps** as a beta site to HRSA's intranet
- Could be used on public-facing HRSA website for messaging about agency efforts

THANK YOU!

Special thanks to:

- John Snyder
- Carolyn Robbins
- Seth Marcus
- Jason Lin

OPTIMIZING THE COMMODITY FLOW SURVEY, v2

Economic Reimbursables Division / Commodity Flow Branch

James Hinckley — Branch Chief



CHRISTIAN MOSCARDI
NYU CUSP
MS Urban Informatics

OVERVIEW

- Commodity Flow Survey
- Commissioned by BTS
- Conducted every 5 years (2017, 2022)
- Respondents provide sampling of shipments from each quarter

4

12027041

Item F SHIPMENT CHARACTERISTICS										
NOTE: Each line runs across pages 4 and 5. After entering column (I) data on page 4 for any line, continue with column (J) on page 5 for the same line.										
Line No.	Your Shipment ID Number	Shipment Date		Shipment value (excluding freight charges and excise taxes) in whole dollars. Estimates acceptable.	Net Shipment Weight in pounds. Estimates acceptable.	For shipments consisting of more than one commodity, report the code and description of the commodity that contributed the greatest weight of the shipment in columns (F) through (I)				
		Month	Day			SCTG commodity code from accompanying booklet ¹	Commodity Description ¹	Is item in col (G) a hazardous material? Enter "UN" or "NA" number (I)	Continue with col (J) on page 5	
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
Ex.1	123-5	4	26	224,235	4,840	34520	Mechanical machinery	Y		→
Ex.2	402H	4	26	1,375	50,125	20222	Sulfuric acid	N	1830	→
	1									→
	2									→
	3									→
	4									→

Report Online - Do Not Return

OVERVIEW

- Commodity Flow Survey
- Commissioned by BTS
- Conducted every 5 years (2017, 2022)
- Respondents provide sampling of shipments from each quarter

4

12027041

Item F SHIPMENT CHARACTERISTICS										
NOTE: Each line runs across pages 4 and 5. After entering column (I) data on page 4 for any line, continue with column (J) on page 5 for the same line.										
Line No.	Your Shipment ID Number	Shipment Date		Shipment value (excluding freight charges and excise taxes) in whole dollars. Estimates acceptable.	Net Shipment Weight in pounds. Estimates acceptable.	For shipments consisting of more than one commodity, report the code and description of the commodity that contributed the greatest weight of the shipment in columns (F) through (I)				
		Month	Day			(C)	(D)	(E)	SCTG commodity code from accompanying booklet ¹	Commodity Description ¹
Ex.1	123-5	4	26	224,235	4,840	34520	Mechanical machinery		Y	→
Ex.2	402H	4	26	1,375	50,125	20222	Sulfuric acid		N	1830
1										→
2										→
3										→
4										→

Report Online - Do Not Return

OVERVIEW

For shipments consisting of more than one commodity, report the code and description of the commodity that contributed the greatest weight of the shipment in columns (F) through (I)			
SCTG commodity code from accompanying booklet ¹ (F)	Commodity Description ¹ (G)	Is item in col. (G) a hazardous material? Enter "UN" or "NA", number (H)	Is item in col (G) a hazardous material? Enter "UN" or "NA", number (I)
34520	Mechanical machinery	Y	
20222	Sulfuric acid	N	1830

OVERVIEW

ITEM G - Other Clarifying Information

"Pulling this information was a huge spend of time and resources."

"Just glad this is over!!"

OBJECTIVE

**Using Machine Learning,
can we automate the
assignment of SCTG
codes to shipments?**

OBJECTIVE

(spoiler alert)

OBJECTIVE

(spoiler alert)

YES!

METHOD

- Training Data: **6.4 million** labelled shipment records from 2017 CFS
- Bag-of-Words, Logistic Regression (logit) model
- Use shipment description and NAICS Code
 - "fasteners"
- Clean records, de-duplicate, disambiguate: **~400,000 unique training records**
- Initial results: **50% accuracy** (on 40,000 unseen test set records)

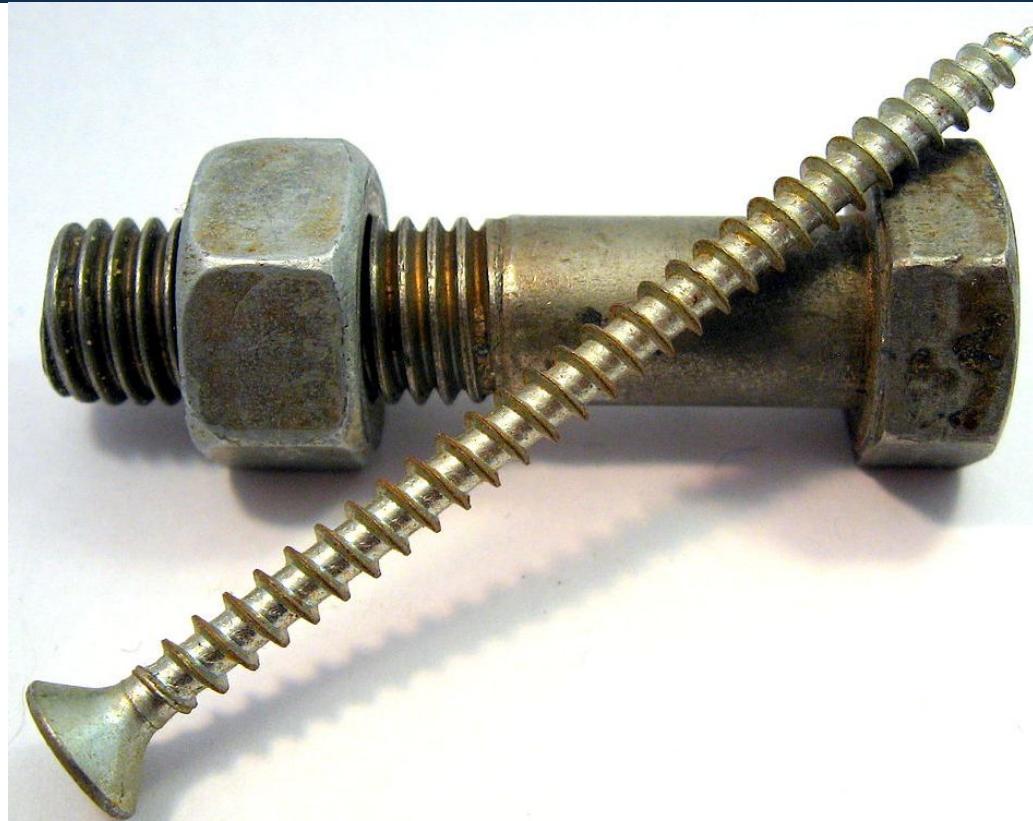
METHOD

- Investigate poorly performing codes
- **40994:** Sewing and knitting needles (includes for machines) crochet hooks, hook and eye **fasteners**, safety pins, straight pins, buttons, buckles and clasps, tubular and bifurcated rivets, **snap-fasteners**, zippers, and similar notions.



METHOD

- **33310:** Nails, screws, bolts, nuts, washers, staples except in strips, and similar **fastening** articles



METHOD

- Manually validating, about **50%** of items labelled 40994 by respondents were **mисcoded**.
- **However, the model was getting it right!**

Commodity Code Search ([Commodity Codes List](#))

To help find your commodity code and its description, enter SCTG code or keyword below.

Search by SCTG code or keyword:

Results found: 2 for 'fastener'

SCTG Code Commodity Description

Plastics and Rubber

24229	Other plastics articles, not elsewhere classified, including builders' ware, hardware, fasteners, apparel, ornamental articles, and insulating or polarizing material and fittings for electrical equipments.
-------	---

Miscellaneous Manufactured Products

40994	Sewing and knitting needles (including for machines), crochet hooks, hook and eye fasteners, safety pins, straight pins, buttons, buckles and clasps, tubular and bifurcated rivets, snap- fasteners, zippers, and similar notions
-------	--

RESULTS

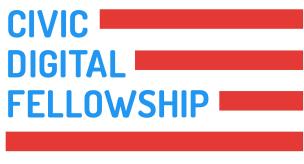
- **Proof-of-concept:** ran model on 170,000 unlabelled records
- 70,000 with confidence score above predefined threshold
- Manually validate a sample of 350 unique records
- **89% accurate!**
- Batch-edits have saved ~**500 hours** of manual editing time,
\$35,000

RESULTS

- 2022 CFS: save respondents **50,000+ hours, \$2.1 million** in respondent lookup costs
- This **does not include** Census' editing costs, cleaning up invalid / messy data
- And, we get more, more accurate, and **real-time** shipment data!
- Cleaner data (via **Amazon's Mechanical Turk**) will improve these savings
 - **Better model == more savings**

ACKNOWLEDGMENTS

- **James Hinckley**, CFS Branch Chief
- **Jessica Young/Berin Linfors**, CFS Section Chiefs
- **Ja Lee, Ben Schultz**, CFS Analysts
- **Julie Parker, Joy Sharp, Mehdi Hashemipour**, BTS
- **Cavan Capps**, Census Big Data Lead
- **Andrew Cukierwar**, 2017 Civic Digital Fellow



THANK YOU!

Twitter: @c_moscardi

Github: cmoscardi

Email: christian.moscardi@gmail.com



MODERNIZING PRACTICES WITH MACHINE LEARNING

BEV BENDIX

U.S. Census Bureau

Carnegie Mellon University
Public Policy & Management

MICHAL PORUBCIN

Department of Health and Human Services

Columbia University
Computer Science

SURYA DUTTA

U.S. Census Bureau

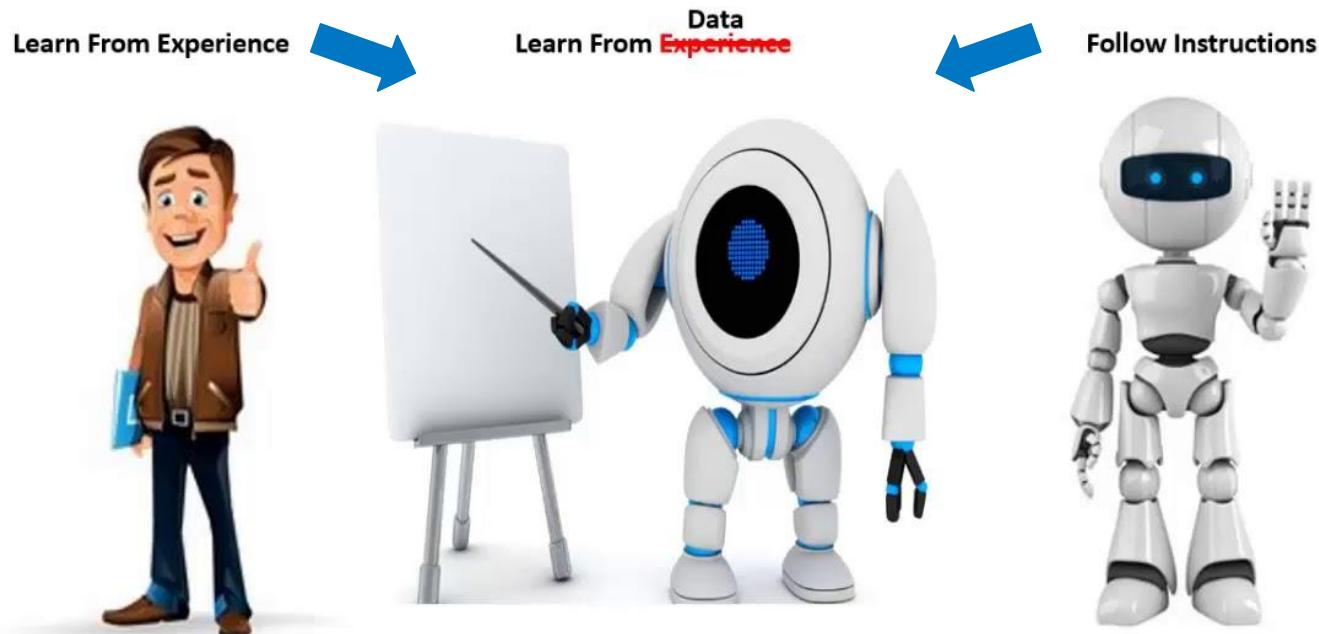
Yale University
Physics

FATIMA KOLI

U.S. Census Bureau

Columbia University
Data Science

What is Machine Learning?



Source: https://www.youtube.com/watch?v=2QgyH29x0_M

MODERNIZING PRACTICES WITH MACHINE LEARNING

BEV BENDIX

U.S. Census Bureau

Carnegie Mellon University
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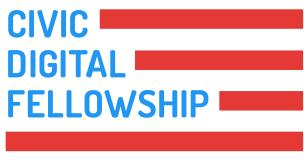
U.S. Census Bureau

Columbia University
Data Science

CENSUS OPEN INNOVATION LABS

Communications Directorate

Drew Zachary – Co-Managing Director
Mara Abrams – Co-Managing Director



GENESIA TING
University of California, Davis
Design

EMILY FONG
New York University
Decolonial Computing

BRIEF OVERVIEW

What is Census Open Innovation Labs?

BRIEF OVERVIEW

COIL

The Opportunity
Project

Census Accelerate

User Centered
Methods

THE OPPORTUNITY PROJECT

COIL

The Opportunity
Project

Census Accelerate

User Centered
Methods

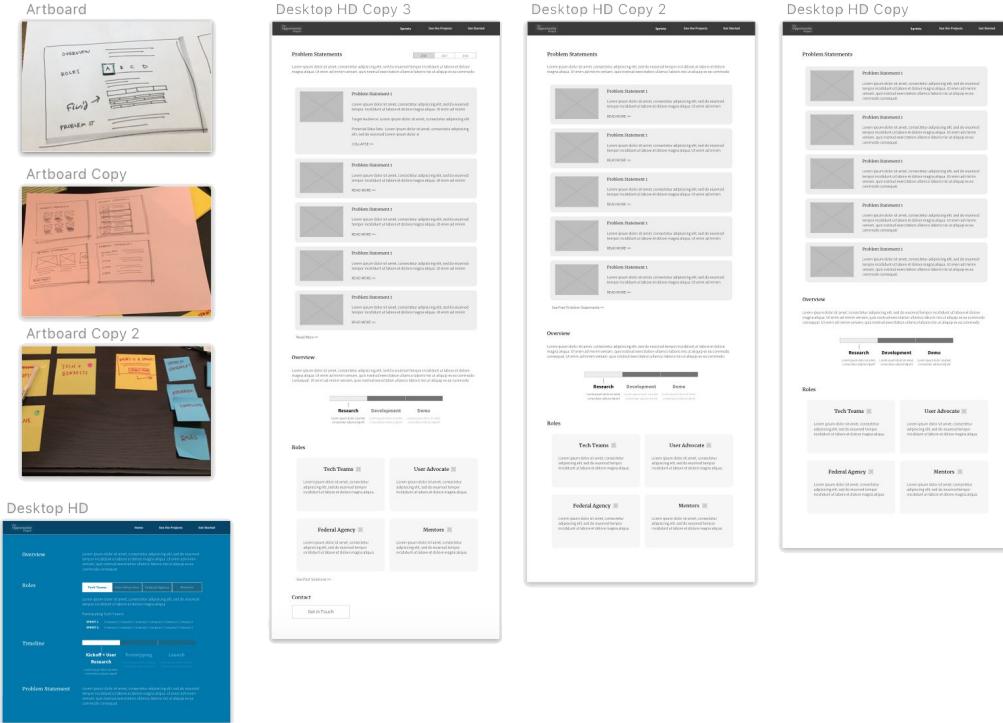
THE OPPORTUNITY PROJECT

The
Opportunity
Project

SPRINTS WEB PAGE

How might we inform the public and potential partners about The Opportunity Project?

SPRINTS WEB PAGE



SPRINTS WEB PAGE

Problem Statements

2018 2017 2016



PROMOTING ACCESS TO AND INTEREST IN STEM FIELDS

Challenge: Develop tools for parents and students that promote students' interest in STEM and empower them to pursue STEM education locally.

Target Audience: Parents, students, and/or STEM advocacy groups

Potential Data Sources: Civil Rights Data Collection (CRDC), National Assessment of Education Progress (NAEP)

[See More](#)



HELPING STATES DEVELOP EDUCATION REPORT CARDS

Challenge: Develop parent-friendly, scalable approaches to communicating data about public schools that drive insight and engagement—and meet the requirements of a recent federal law.

Target Audience: States; parents as a secondary audience

SPRINTS WEB PAGE

Overview

During an Opportunity Project sprint, technology companies, universities, and non-profits build products using open data from federal agencies and other sources. Data and policy experts from federal, state and local government, advocacy organizations, and product specialists participate to share their expertise and provide feedback during the sprint.

ROLES

Tech Team

Tech Teams are the private sector companies, universities, non-profits, and even students who participate in sprints to build products that translate open data into valuable tools for people across the country. The tech teams design, own, and help to launch the products they build.

Government

Federal government policy experts help to identify problems facing the public. Data stewards from federal agencies answer questions about open data to help the tech teams find and use the best data available to solve the problem. They also listen to feedback from sprint participants to make data more user-friendly.

SPRINTS WEB PAGE

TIMELINE



Research

Tech Teams work with user advocates, experts, and product specialists to learn more about the problem, and translate user needs into product design.

Data Exploration

Tech Teams explore open data available to solve the problem they're tackling, and data stewards help them to find government open data to use in their digital products.

Development

Teams design and build data-driven digital products, with input from all the other participants. User Advocates participate in usability testing and feedback sessions.

Product Launch

Everyone participates in Demo Day to present the new tools that have been created using open data. After Demo Day, the teams keep working together to get the products out to the public.

[JOIN A SPRINT](#)

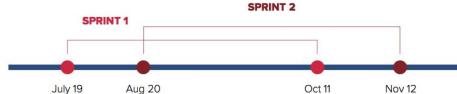
DESIGN

Print deliverables

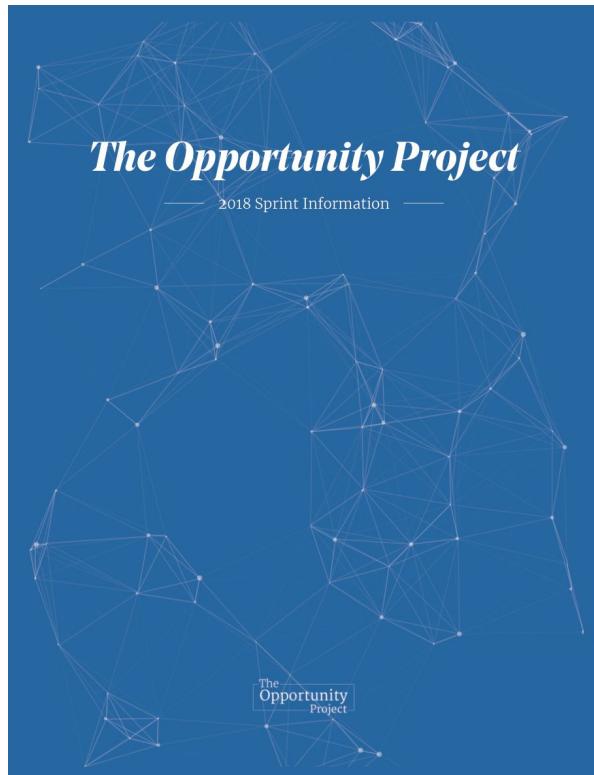


timeline + topics

Census Accelerate will facilitate 2 sprints this year.



CIVIC
DIGITAL
FELLOWSHIP



OPERATIONS

INTERNAL

User Advocate Coordination

EXTERNAL

Private Sector Outreach

Federal Agency Partnerships

MEASURING IMPACT

10

federal agencies



MEASURING IMPACT

18

problem statements



HELPING STATES DEVELOP EDUCATION REPORT CARDS

Challenge: Develop parent-friendly, scalable approaches to communicating data about public schools that drive insight and engagement—and meet the requirements of a recent federal law.

Target Audience: States; parents as a secondary audience

Potential Data Sources: Civil Rights Data Collection (CRDC), National Assessment of Education Progress (NAEP)

[See More](#)



USING AI TO CONNECT VETERANS WITH REGISTERED APPRENTICESHIPS

Challenge: Develop tools that use artificial intelligence algorithms or natural language processing technology to match veterans to registered apprenticeship programs.

Target Audience: Veterans

Potential Data Sources: Veterans resumes, job postings

[See More](#)

MEASURING IMPACT

50+

digital tools

Myspot

Excella Consulting's tool uses data sets from the DC Department of Human Services to help youth experiencing homelessness find and access services in the Washington, DC area.



My City Data Learning Tool

Cisco DevNet's tool uses American Community Survey data from the U.S. Census Bureau to drive awareness of Census Bureau data for mobile millennials and application developers so they can solve social problems using open data available for their communities and cities.



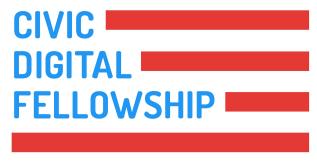
MOVING FORWARD

The Opportunity Project

GEO-COHORT

census
accelerate

THANK YOU!



DATA AS A PUBLIC GOOD

DIANA NEGRON

Department of Health and Human Services

Rutgers University

Public and Nonprofit Administration

AUSTIN HWANG

General Services Administration

Harvard College

Computer Science

VISAKH MADATHIL

Department of Health and Human Services

Southern Methodist University

Economics and Physics

ANDREW CHOU

U.S. Census Bureau

University of Texas - Austin

Mathematics

FOIA REQUEST PROTOTYPING: INCORPORATING USER RESEARCH AND UX INTO FOIA AT MEDICARE

Centers for and Medicaid Services

Kevin Larsen, MD, FACP – Director, Continuous Improvement and
Strategic Planning (CISP)



LOREN HINKSON
University of Chicago
Computational Analysis & Public Policy

MADDY KULKE
Smith College
Philosophy & Computer Science

PROBLEM

At present, FOIA requests are the only way Medicare beneficiaries can get their claim records from CMS.

28,045*

new requests each year

28,405*

requests processed yearly

3,000*

requests unprocessed at
year-end

20*

days to review simplest
requests

55%*

fully rejected or not found

15%*

partially rejected

CURRENT STATE: INSTRUCTIONS

How to File a CMS FOIA Request

Step 1 -In order to make a FOIA request, simply e-mail FOIA_Request@cms.hhs.gov or write to the CMS FOIA Office or the appropriate CMS Regional Office. The addresses and fax numbers for the CMS FOIA Office and the addresses, fax numbers, and e-mail addresses for the CMS Regional Offices are available at the "Where to File" link below.

Step 2 -For the quickest possible handling, please mark both your letter and the envelope "Freedom of Information Act Request." You should identify the records that you seek as specifically as possible in order to increase the likelihood that the CMS will be able to locate them. Any facts that you can furnish about the time, place, authors, events, subjects, and other details of the records will be helpful to us in deciding where to search for the records that you seek. We have provided [several sample FOIA request letters](#) that you may want to use as a guide based on the type of information you are requesting from CMS.

Step 3 -Please note that if you are requesting medical records for someone other than yourself, you will need to complete a [Medicare Authorization To Disclose Personal Health Information](#) form along with your request. The [Health Insurance Portability and Accountability Act \(HIPAA\) authorization form](#) can be found in "Downloads" as Medicare Authorization To Disclose Personal Health Information. If the individual signing the valid authorization is not the beneficiary, then a Power of Attorney must be provided along with your request.

Step 4 -If you are requesting medical records for a deceased person, you must either A) include a copy of the document authenticating your authority as the executor, administrator, or other person authorized to act upon the behalf of the person for whom records are sought (such as probate court document, or orders of administration and/or executorship); or B) if you are not the executor of the estate, you must include a signed release authorization from the legal representative of the deceased, as well as the document authenticating the representative's authority (such as probate court document, or orders of administration and/or executorship).

Downloads

[Sample FOIA Request Letter \[PDF, 30KB\]](#)

[Sample FOIA Request Letter for Your Own Medical Records \[PDF, 19KB\]](#)

[Sample FOIA Request Letter for Records on a Living Beneficiary from Someone Other Than the Beneficiary \[PDF, 32KB\]](#)

[Sample FOIA Request Letter for Records on a Deceased Beneficiary \[PDF, 33KB\]](#)

[Sample FOIA Appeal Letter \[PDF, 19KB\]](#)

[Medicare Authorization to Disclose Personal Health Information \[PDF, 80KB\]](#)

Related Links

[Where to File](#)

TASK: CLARIFY AND ERROR-PROOF

- Low-fidelity: PDF
 - Suggested changes to fields and instructions for clarity on a one-page PDF version of the authorization form developed by CISP team and contractors
 - Added JavaScript form field error checking, including contradiction testing
- Medium fidelity: Web form
 - Incorporated real-time form field error checking
 - Clarified instructions for each step and when
 - Utilized JavaScript and JQuery to call attention to semi-required fields
 - Consolidated redundant steps (i.e., information requested in both required cover letter and required authorization form)

RESULT - TWO PROTOTYPES

MEDICARE AUTHORIZATION FORM
Please read carefully. ALL SECTIONS REQUIRED.

SECTION A: BENEFICIARY INFORMATION
Enter beneficiary name as it appears on Medicare card.

First Name:	Middle Name:	Last Name:
Date of Birth (mm/dd/yyyy)	Medicare Identification Number:	
Address:		
City:	State:	Zip code:

SECTION B: RECORD DETAILS DEFINITION
Medicare will only disclose the claim information identified below for the individual in Section A.

Select one option:
 Release all records to date
 Release records in timeframe from start date _____ to end date _____
 NY residents only: Release all records
 Provide information about alcohol and drug abuse, mental health treatment, and HIV
Indicate whether authorization release is for a one-time disclosure, or identify a future date or event when the authorization will expire
 One-time disclosure
 Future date or event specified
 Expiration upon specified event

SECTION C: RELEASE INFORMATION TO
Identify the name, address and contact information of the person and/or organization to whom you want Medicare to disclose the information. Medicare will only disclose records to those listed.
 Release claim records to beneficiary at mailing address above

Organization/Individual 1 Name:	Recipient 1 Email Address:
Organization/Individual 2 Name:	Recipient 2 Email Address:
Recipient 1 Mailing Address:	Recipient 2 Mailing Address:

SECTION D: PURPOSE FOR REQUEST
This section helps Medicare understand the reason or intent for use for this record request.
 At the request of the individual
 Litigation

SECTION E: AUTHORIZATION AGREEMENT

I authorize Medicare to disclose claim records to the person(s) or organization(s) documented in Section C. I understand that these claim records may be re-disclosed by the recipient and may no longer be protected by law.
I understand that I have the right to revoke this authorization at any time, in writing, except to the extent that Medicare has already acted based on this request.
I understand that signing this authorization is voluntary. Treatment, payment, enrollment in a health plan or eligibility for benefits will not be conditioned on my authorization of this disclosure.

Signature of Beneficiary or Representative Authorized by Law: _____ Date Signed: _____

Legal Role of Representative (Requires Additional Documentation): _____

Fax to CMS (xxx) xxx-xxxx

Buttons: Reset All | Check Fields | 1

Freedom of Information Act (FOIA) at CMS: Medicare

Freedom of Information Act (FOIA)

File a Medicare FOIA Request

How We Process Your Request

Non-FOIA Records

FOIA Reading Room

Annual Reports

Hospital Appeals Settlements

Let's make sure you're in the right place. What type of beneficiary claim records are you requesting?

Is the beneficiary **enrolled in Medicare**?

Yes No

Do you have the beneficiary's **Medicare identification number**?

Yes No

Are you requesting **Medicare Advantage** claim records?

Yes No

STOP
CMS does not maintain Medicare Advantage claims records. **You will need to submit your request directly to the beneficiary's specific private insurance company (e.g. HMO, PPO, etc.).**

Are you requesting **Medicaid** claim records?

Yes No

Complete release authorization for Medicare claim records



DEMO

Freedom of Information Act (FOIA) at CMS: Medicare

Freedom of Information Act
(FOIA)

File a Medicare FOIA Request

How We Process Your Request

Non-FOIA Records

FOIA Reading Room

Annual Reports

Hospital Appeals Settlements

File a Medicare FOIA Request

Let's make sure you're in the right place. What type of beneficiary records are you requesting?

Is the beneficiary **enrolled in Medicare**?

Yes No

Do you have the beneficiary's **Medicare identification number**?

Yes No

Are you requesting beneficiary **medical records**?

Yes No

Are you requesting **Medicare Advantage** claim records?

Yes No

DEMO

Freedom of Information Act (FOIA) at CMS: Medicare

[Freedom of Information Act \(FOIA\)](#)

[File a Medicare FOIA Request](#)

[How We Process Your Request](#)

[Non-FOIA Records](#)

[FOIA Reading Room](#)

[Annual Reports](#)

[Hospital Appeals Settlements](#)

SECTION A: BENEFICIARY INFORMATION

Please enter beneficiary information associated with Medicare account exactly as it appears on the beneficiary's Medicare card.

First Name *

Middle Name

Last Name *

Date of Birth *

Medicare Identification Number *

Medicare Identification Number should be between 6 and 11 characters long and comprised of solely numbers and uppercase letters.

IMPACT

- Brings error checking earlier in FOIA request process with automatic error checking on the customer side
- Reduces error checking steps after submission, saving time and resources
- Reduces backlog of CMS FOIA requests
- Medicare customers get their requested information more quickly, and with less effort!



SPECIAL THANKS TO:

- **Kevin Larsen**, Director - CMS Continuous Improvement and Strategic Planning (CISP)
- **Stephanie Magill**, Field Spread Operations Lead for Lean - CMS CISP
- **Maria Elena Stopher**, President - ULTIMATE LEAN & CISP Contractor
- **Walter Mitton & Rush Gross**, CMS CISP Staff
- **Yadira Sanchez**, Senior Technical Advisor - CMS OEDA
- **Kevin McTigue**, Director - HHS IDEA Lab
- **Kate Appel**, Program Analyst, HHS Office of the Chief Technology Officer
- **Aspen Kissell**, Special Assistant to the HHS Chief Technology Officer
- **Ed Simcox**, HHS Chief Technology Officer
- **Maia Laing**, Business consultant - HHS Office of the CTO
- **and many more!!**

GI BILL SCHOOL FEEDBACK TOOL

Department of Veteran Affairs

Natalie Moore - Product Manager
Digital Service Team at the VA



MARIAM MAYANJA

University of Washington
Engineering

R MATTHEWS

Brandeis University
Computer Science and African &
Afro-American Studies

OVERVIEW

- Immersive experience working with Vets.gov and Digital Service at VA team
- First exposure to Civic Tech
- Gained experience:
 - Networking
 - Product Management
 - ReactJS
 - Design/User Research
 - Leading Meetings in government



GI BILL SCHOOL FEEDBACK TOOL

MilitaryTimes
REBOOTCAMP Education Employment Entrepreneurship Transition Military Times Best Rankin

Education

VA reprimands DeVry University based on federal lawsuit, GI Bill complaints



This Nov. 24, 2009 photo, shows the entrance to the DeVry University in Miramar, Fla. Students aren't the only ones benefiting from the billions of new dollars Washington is spending on college aid for the poor. An Associated Press analysis shows surging proportions of both low-income students and the recently boosted government money that follows them are ending up at for-profit schools, from local career colleges to giant publicly traded chains such as the University of Phoenix, Kaplan and DeVry. (AP Photo/J Pat Carter)

GI BILL SCHOOL FEEDBACK TOOL

- Anyone who has used their GI Bill for an education can submit feedback
- The current tool is housed on a DoD website but the current server will be retired this month

A screenshot of the "Principles of Excellence Complaint Intake Questionnaire". The page title is "Principles of Excellence Complaint Intake Questionnaire". It includes a note about the questionnaire being available until May 20, 2016. A "DOD Contract Number: DOD-0707-Excellence-DOD-00000000" is listed. The form is divided into four sections: "Education Benefits & Tools" (purple), "Complaint" (dark purple), "Unsubsidized" (light purple), and "Complaint & Correct" (light blue). The "Education Benefits & Tools" section contains a list of programs: GI Education Program (Ch. 30), Post-9/11 GI Bill (Ch. 33), Montgomery GI Bill-Accrued (MGIB-A) (Ch. 30), Montgomery GI Bill-Selected Reserve (MGIB-SR) (Ch. 30B), Tuition Assistance Trap-Off, Reserve Educational Assistance Program (REAP) (Ch. 307), Family Member Tuition Assistance (FETA) (Ch. 33), Vocational Rehabilitation and Employment (VRAE) (Ch. 31), and Veterans Nonresident Assistance Program (VNAP) (Ch. 31). The "Complaint" section asks users to describe their issue. The "Unsubsidized" section lists financial aid options: Military Tuition Assistance (MIA) (Ch. 30), Federal Tuition Assistance (FTA) (Ch. 33), Selected Reserve Tuition Assistance (SRTA) for Service members performing Active Guard and Reserve (AGRs) duties, Military Spouse Career Advancement Accounts (MSCAA) (Ch. 33), Other, and Federal Financial Aid. The "Complaint & Correct" section includes a "Describe Your Issue" field, a "Which laws describe your issue? (Select all that apply)" list, and a "Required" note stating "Providing optional data will assist in resolving your complaint".

GI BILL SCHOOL FEEDBACK TOOL

- Search function was not usable
- Tool downtime was significant
- Need for plain language and better user experience

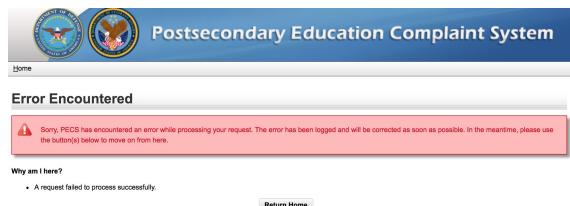
VA GI Bill Feedback System

Please check back later as we expect this site to be operational very soon.

Questions about your eligibility and payments under the GI Bill should be directed to the “Ask a Question” section of our website.

If you are not using VA education benefits please file your complaint with the appropriate agency:

- Military Tuition Assistance or MyCAA - [Department of Defense](#)
- Federal financial aid (e.g., Pell Grants and federal loans) - [Department of](#)



THE TEAM

- VA Office of Education
- Veterans Benefits Administration
- Office of Business Process Integration
- Consumer Finance Protection Bureau
- VA Call Centers
- Vets.gov Team (DSVA + AdHoc)
- Veterans!**



RESEARCH



TIMELINE

Discovery

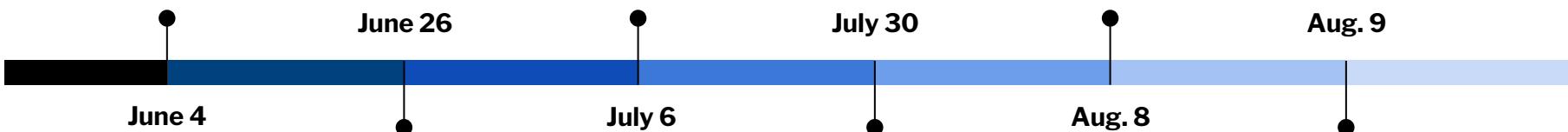
Meetings with 15+ stakeholders and Veterans

Prototype Created

Developed an interactive prototype using Figma

Completed Usability Testing on New Tool

Completed 3 usability testing sessions.



Started User Research on Existing Tool
Received preliminary feedback through 3 Veteran user research sessions.

Building the Tool
Tool was built

Demo Day Presentation

INTRODUCTION PAGE

The screenshot shows a web browser window with the following details:

- Title Bar:** Chrome, File, Edit, View, History, Bookmarks, People, Window, Help, 71% (k), Wed Aug 8 7:40:02 PM, R Matthews, Q, E.
- Address Bar:** https://staging.vets.gov/education/complaint-tool/form/introduction. An official website of the United States government. Here's how you know.
- Header:** VA | Vets.gov, Get help from Veterans Crisis Line >, Search, Help, Sign In | Sign Up.
- Navigation:** Explore and Apply for Benefits, Manage Your Health and Benefits, Request Your Records, Find VA Locations.
- Breadcrumbs:** Home > Education > GI Bill® School Feedback Tool.
- Main Section Header:** GI Bill® School Feedback Tool.
- Text:** If you have an issue or complaint about a school or training facility that's eligible to receive GI Bill benefits, you can submit feedback to VA. You can submit feedback to us if your school isn't following the Principles of Excellence guidelines or if you have any other concerns or issues you'd like to raise with us.
- Text:** You can choose to submit your feedback anonymously or on behalf of someone else. We share all information with the school, but if you submit feedback anonymously we won't share your name with the school.
- Text:** Get started right now by filling out a short form. Follow the steps below.
- Step 1: Prepare**
 - To fill out this form, you'll need to:
 - Provide your school's name and address.
 - Tell us the education benefits you're using.

APPLICANT INFORMATION

The screenshot shows a web browser window with the title "GIBILL School Feedback Tool". The URL in the address bar is <https://staging.vets.gov/education/complaint-tool/form/applicant-information>. The page content is as follows:

I'm submitting feedback on behalf of... (*Required)

Myself
 Someone else
 I want to submit my feedback anonymously

[« Back](#) [Continue »](#)

Save and finish this application later.

Need help?

For help filling out this form,
ask the Education Call Center:

1-888-442-4551 (1-888-GIBILL1)
Monday - Friday, 8:00 a.m. - 7:00 p.m. (ET)
[Submit a question to Education Service](#)

To report a problem with this form,
please call the Vets.gov Technical Help Desk:

1-855-574-7286
TTY: 1-800-877-8339
Monday - Friday, 8:00 a.m. - 8:00 p.m. (ET)

CONTACT INFORMATION

The screenshot shows a web browser window with the following details:

- Address Bar:** https://staging.vets.gov/education/complaint-1000form/contact-information
- Page Title:** GI Bill School Feedback Tool
- Content:** A form titled "1 of 5 Applicant Information".
- Fields:**
 - Address line 1 (*Required)
 - Address line 2
 - City (*Required)
 - State (*Required)
 - Postal code (*Required)
 - Country (*Required)
 - United States

BENEFITS

The screenshot shows a Chrome browser window with the title "GI Bill School Feedback Tool". The URL in the address bar is <https://staging.vets.gov/education/complaint-portal/form/benefits-information>. The page content includes:

- State-funded Tuition Assistance (TA) for Servicemembers on Active Guard and Reserve (AGR) duties
- Military Spouse Career Advancement Accounts (MyCAA)

Have you used any of these other benefits?

- Federal financial aid

[« Back](#) [Continue »](#)

[Save and finish this application later.](#)

Need help?

For help filling out this form,
ask the Education Call Center:
1-888-442-4551 (1-888-GIBILL)
Monday - Friday, 8:00 a.m. - 7:00 p.m. (ET)
[Submit a question to Education Service](#)

To report a problem with this form,
please call the Vets.gov Technical Help Desk:
1-833-374-7238

SCHOOL SEARCH

The screenshot shows a web browser window for the GI Bill® School Feedback Tool. The URL in the address bar is <https://staging.vets.gov/education/complaint-1001form/school-information>. The page title is "GI Bill® School Feedback Tool". A progress bar at the top indicates "3 of 5 School Information". The main form asks for "School Information (*Required)" and provides a search field with placeholder text "Enter your school's name or city to search for your school". Below the search field is a "Search Schools" button. There is also a "Start Over" link and a checkbox for "I'd rather type in my school information". At the bottom of the form are "Back" and "Continue" buttons. A note says "Save and finish this application later." Below the form is a "Need help?" section with contact information for the Education Call Center.

GI Bill® School Feedback Tool

3 of 5 School Information

School Information (*Required)

Enter your school's name or city to search for your school

[Search Schools](#)

[Start Over](#)

I'd rather type in my school information

[Back](#) [Continue](#)

Save and finish this application later.

Need help?

For help filling out this form,
ask the Education Call Center:

1-888-442-4551 (1-888-GIBILL1)
Monday - Friday, 8:00 a.m. - 7:00 p.m. (ET)

[Submit a question to Education Service](#)

FEEDBACK DESCRIPTION

The screenshot shows a web browser window for the GI Bill® School Feedback Tool. The title bar reads "GI Bill® School Feedback Tool". The URL in the address bar is "https://staging.vets.gov/education/complaint-foia-form/feedback-information". The main content area has a header "4 of 5 Feedback Information". Below it, a question asks "Which topic best describes your feedback? (Select all that apply) (*Required)". A list of 15 checkboxes follows, each preceded by a small square input field:

- Recruiting or marketing practices.
- Accreditation.
- Financial concern (for example, tuition or fee changes).
- Student loan.
- Post-graduation job opportunity.
- Change in degree plan or requirements.
- Quality of education.
- Grade policy.
- Release of transcripts.
- Transfer of credits.
- Refund issues.
- Other

REVIEW AND SUBMISSION

The screenshot shows a web browser window for the GI Bill® School Feedback Tool. The title bar reads "GI Bill® School Feedback Tool". The address bar shows the URL "https://staging.vets.gov/education/complaint-form/form/review-and-submit". The main content area has a header "5 of 5 Review Application". Below it are four expandable sections: "Applicant Information", "Education Benefits", "School Information", and "Feedback Information", each with a plus sign icon. At the bottom, there is a note about federal law regarding criminal penalties for withholding or providing incorrect information, followed by a checkbox for accepting the privacy policy and a "Next Step" button.

GI Bill® School Feedback Tool

5 of 5 Review Application

Applicant Information +

Education Benefits +

School Information +

Feedback Information +

Note: According to federal law, there are criminal penalties, including a fine and/or imprisonment for up to 5 years, for withholding information or for providing incorrect information. (See 18 U.S.C. 1001)

I have read and accept the privacy policy. *

Next Step

CONFIRMATION

The screenshot shows a web browser window for the GI Bill School Feedback Tool. The address bar indicates the URL is <https://staging.vets.gov/education/complain-tool/form/confirmation>. The page header includes navigation links for "Explore and Apply for Benefits", "Manage Your Health and Benefits", "Request Your Records", and "Find VA Locations". Below the header, the breadcrumb navigation shows "Home > Education > GI Bill® School Feedback Tool". The main content area features a large heading "GI Bill® School Feedback Tool" and a message "Your feedback has been submitted". It also includes links for "We may contact you if we have questions or need more information." and "Please print this page for your records." A section titled "What happens after I submit my feedback?" provides information about follow-up and agency review.

GI Bill® School Feedback Tool

Your feedback has been submitted

We may contact you if we have questions or need more information.

Please print this page for your records.

What happens after I submit my feedback?

We'll get back to you within 45 days to let you know how we're handling your feedback. We may contact you if we need more information from you.

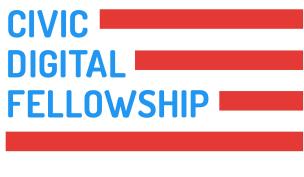
Feedback that isn't related to VA education benefits may be sent to another agency for review.

GI Bill® School Feedback Tool

Date received

Aug. 6, 2018

THANK YOU!



FIVE FACES OF CIVIC TECH

REFLECTING ON A SUMMER OF INNOVATION

OMER BENSAADON

U.S. Census Bureau

University of Alabama

Management Information Systems

REGINE DE GUZMAN

U.S. Census Bureau

University of California - Santa Cruz

Computer Science & Cognitive Science

THOMAS NGUYEN

U.S. Census Bureau

Santa Clara University

Computer Science

TAI HUYNH

Department of State

University of North Carolina - Chapel Hill

Computer Science & Business Administration

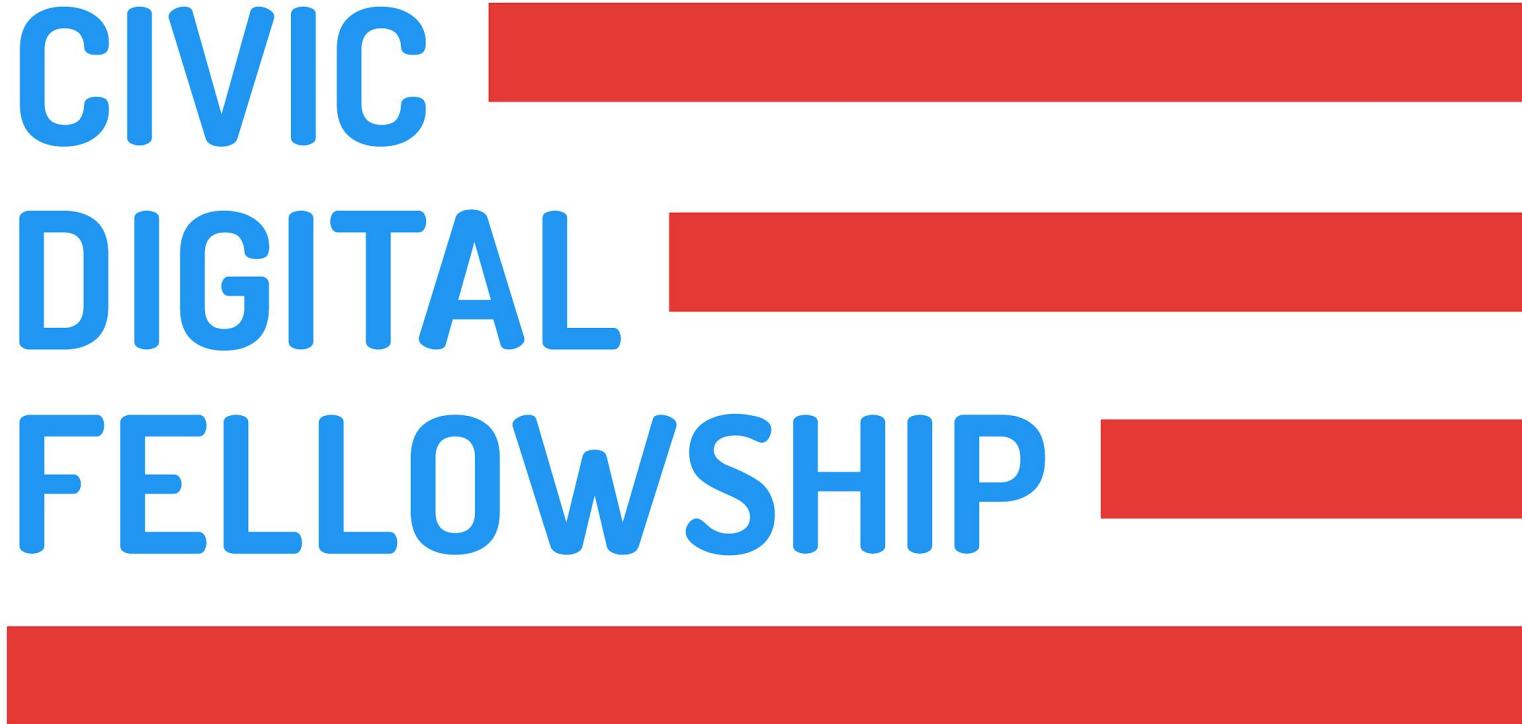
FRANKIE DEVANBU

Department of Health and Human Services

Olin College of Engineering

Engineering

CIVIC ■
DIGITAL ■
FELLOWSHIP ■



CIVIC DIGITAL FELLOWSHIP

DEMO DAY 2018

#CDF2018

THANK YOU

- Civic Digital Fellows
- Agency Partners
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- Chan Zuckerberg Initiative
- Knight Foundation
- Vision New America

GET IN TOUCH

fellowship@codingitforward.com
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