

IBESNYS1

1 UNITED STATES DISTRICT COURT
2 SOUTHERN DISTRICT OF NEW YORK

3 -----x
4 STATES OF NEW YORK, COLORADO,
5 CONNECTICUT, DELAWARE, ILLINOIS,
6 IOWA, MARYLAND, MINNESOTA,
7 NEW JERSEY, NEW MEXICO,
8 NORTH CAROLINA, OREGON,
9 RHODE ISLAND, VERMONT,
10 and WASHINGTON, *et al.*,

11 Plaintiffs,

12 v.

18 Civ. 2921 (JMF)

13 UNITED STATES DEPARTMENT OF
14 COMMERCE, *et al.*,

Trial

15 Defendants.

16 -----x
17 NEW YORK IMMIGRATION
18 COALITION, *et al.*,

19 Consolidated Plaintiffs,

20 v.

18 Civ. 5025 (JMF)

21 UNITED STATES DEPARTMENT OF
22 COMMERCE, *et al.*,

23 Defendants.

24 New York, N.Y.
25 November 14, 2018
9:00 a.m.

Before:

HON. JESSE M. FURMAN,

District Judge

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(In open court; trial resumed)

THE COURT: Good morning.

Good morning, Dr. Abowd.

THE WITNESS: Good morning, your Honor.

THE COURT: Couple matters before we get started.

First, I got plaintiffs' second motion in so many days to admit certain exhibits. I know it was refiled this morning, but I had looked at it last night. I also, literally moments ago, got the government's response to that motion and have not yet had an opportunity to review it.

I understand that there is no objection with respect to the exhibits in the first two categories of plaintiffs' letter, subject to the understanding that, I think, three of them, if I have my count correctly, are being admitted solely for Rule 703 purposes. So those exhibits are now admitted and with that caveat as to those three.

I'll reserve decision on the other exhibits that are at issue in that letter so that I can review the government's letter.

I was prepared to give you until seven o'clock tonight to respond to this one as well, but you beat me to the punch. I take it you'll be responding to the first motion by seven o'clock tonight.

Is that still the plan?

MR. GARDNER: Yes, your Honor. That is correct.

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1 THE COURT: All right. Very good.

2 Second, I got the government's response on the
3 administrative record motion and will for now reserve judgment
4 on that front as well.

5 Third, I got the parties' submissions with respect to
6 the issues concerning demonstrative Exhibits 21, 22, and 25.
7 That is, I got the plaintiffs' letter motion filed last night,
8 and from defendants I got an e-mail from Mr. Ehrlich.

9 I remind everybody that I don't accept substantive
10 submissions by e-mail. You have to submit it on ECF ideally,
11 but if there is a reason it can't be filed on ECF, then it can
12 be filed, but as a letter attached to an e-mail.

13 MR. FREEDMAN: Your Honor, we are conferring. We
14 don't believe we actually received Mr. Ehrlich's e-mail.

15 THE COURT: Mr. Ho is copied on it.

16 MR. FREEDMAN: We will double-check. There are
17 obviously multiple parties here, and the usual custom has been
18 to copy multiple counsel, so we're not sure what happened
19 there.

20 THE COURT: All right. The usual custom, as I just
21 mentioned, is to file it on ECF, not only so counsel has it,
22 but so the public and the press and I have it, which is why I
23 have that rule in the first place.

24 Be that as it may, I have considered the parties'
25 arguments, and my ruling is as follows:

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1 Plaintiffs' motion is denied with respect to
2 Demonstrative Exhibits 20 to 22. I understand there isn't any
3 objection to 20, and in any event, I think 21 and 22 are within
4 the scope of what Dr. Abowd had previously testified about and
5 doesn't strike me as at least a far stretch from what
6 plaintiffs were aware he would be testifying about.

7 By contrast, the motion is granted with respect to
8 Demonstrative Exhibit 25 and any testimony related to it. I
9 think it is questionable whether Rule 26(a)(2)(C) applies, and
10 even if it does, defendants made a representation that they
11 would disclose the documents upon which Dr. Abowd relied.

12 I don't see, looking at all the documents that
13 Mr. Ehrlich has submitted and references in his e-mail, how the
14 slide at Demonstrative Exhibit 25 is even remotely within the
15 scope of what has been disclosed. I think it is unfair and
16 puts plaintiffs in an unfair position to require them to
17 cross-examine him with respect to what appear to be fairly
18 complicated calculations and assumptions being made, and
19 obviously plaintiffs have called any number of experts who did
20 not have the opportunity to testify in anticipation of whatever
21 opinions Dr. Abowd would offer in connection with that.

22 So the motion is denied in part and granted in part.
23 Dr. Abowd will not be permitted to testify concerning whatever
24 is reflected on slide 25, and you should proceed accordingly.

25 I will docket Mr. Ehrlich's e-mail, as well as the

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1 demonstratives so that they are part of the record. I think
2 the exhibits that he also attached and the expert report and
3 disclosure don't need to be docketed separately, but I do want
4 to make sure that the rest of it is part of the record. I will
5 redact the e-mail so that they are not on the record, however.

6 I think that exhausts what I have to address this
7 morning. Is there anything else?

8 MS. GOLDSTEIN: Yes, your Honor.

9 With consent of defendants, counsel for the State of
10 New York plaintiffs request leave to conduct a limited
11 nonduplicative cross-examination of Dr. Abowd in addition to
12 the examination that will be conducted by Mr. Ho.

13 Several of the expert witnesses presented in this case
14 were separately retained by the State of New York and
15 governmental plaintiffs, and that cross-examination would be
16 limited solely to those opinions that Dr. Abowd offers, if any,
17 relating to those experts.

18 THE COURT: All right. I think technically it is
19 redirect rather than cross, but I take it that is what you're
20 requesting?

21 MS. GOLDSTEIN: Yes, your Honor.

22 THE COURT: No objection?

23 MR. EHRLICH: No, your Honor.

24 THE COURT: All right. You may, within reason. Lets
25 limit the duplicativeness if you can.

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Abowd - Cross

1 Anything else?

2 All right. Mr. Ehrlich, you may proceed.

3 Dr. Abowd, you remain under oath.

4 JOHN MARON ABOWD, resumed.

5 You're on cross-examination. Actually, can you hold
6 on one second.

7 (Pause)

8 Thank you for your patience. Ms. Smallman is not in
9 today, and without her, I'm a bit at sea on certain points.
10 We're good to go.

11 You may proceed, Mr. Ehrlich.

12 CROSS-EXAMINATION

13 BY MR. EHRLICH:

14 Q. Dr. Abowd, when we left off, you were qualified as an
15 expert witness in this case. I would like to look at
16 Defendants' Demonstrative Number 1.

17 I just want to briefly talk through your opinions
18 before delving into some aspects of the 2020 census here.

19 Dr. Abowd, can you describe your opinion with respect
20 to testing?

21 A. Yes.

22 It is my opinion that the citizenship question that
23 currently appears on the American Community Survey was
24 adequately tested, and that within the limits of quality, risk,
25 and cost, was appropriately offered as the question on the 2020

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Abowd - Cross

1 census.

2 Q. If I say ACS, you know that means American Community
3 Survey?

4 A. Yes, I do.

5 Q. OK. Can you describe your second opinion with respect to
6 self-response?

7 A. So with respect to self-response, I believe that the Census
8 Bureau presented credible quantitative evidence collected under
9 my supervision demonstrating that the self-response rate would
10 likely go down with the addition of a citizenship question.

11 In particular, in a large sub population of the
12 residents of the United States that, as a consequence of that,
13 the quality of the 2020 census data would be impaired along all
14 the dimensions of coverage measurement that we normally
15 quantify, and that mitigation of that decline in the
16 self-response could be expected to address errors in the actual
17 enumeration so that I have no ability to predict the direction
18 of the change in the net undercount or of the differential net
19 undercount.

20 Q. Thank you.

21 I just want to define a couple of terms you used there.
22 Can you explain what you mean by credible quantitative
23 evidence?

24 A. I mean evidence that is specifically related to the
25 insertion of a citizenship question into the otherwise planned

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Abowd - Cross

1 2020 census that identifies the citizenship question itself as
2 the likely or one of the likely causal elements associated with
3 the changes in the outcomes and that would stand up to
4 extensive peer review within the Census Bureau and within the
5 scientific community.

6 Q. You also used the term sub population.

7 Can you describe what that term means?

8 A. In the Census Bureau, we variously refer to components of
9 the U.S. population as a racial population or sometimes we say
10 a racial sub population, and they are synonymous.

11 Q. Can you describe your third opinion referenced here,
12 nonresponse followup or NRFU?

13 A. My opinion is that the consequences of the decline in the
14 self-response rate attributable to the addition of the
15 citizenship question can be addressed with the nonresponse
16 followup -- I'll say NRFU from now on -- the NRFU system that
17 was designed to implement and tested for the 2020 census, and
18 that that system can be expected to produce an accurate actual
19 count.

20 Q. Are you expressing any opinion with respect to NRFU and the
21 integrated partnership and communications program?

22 A. Yes. I believe that an important part of the mitigation of
23 the decline in the self-response rate will be to modify
24 components of the partnership and integrated partnership and
25 communication program so that the message that the census data

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Abowd - Cross

1 are confidential, that they are only used to produce
2 statistical tabulations, that they are not given to any other
3 government agency for the purposes of enforcing any law, will
4 be an important message, and we acknowledge that the addition
5 of the citizenship question has made it necessary to augment
6 that part of the integrated communication and partnership
7 program.

8 Q. Before delving into these opinions in more depth, I want to
9 back up for just a moment and talk about the broader context
10 here.

11 If we turn to slide five here of defendants' demonstrative.
12 Can you describe how the Census Bureau figures out who to count
13 when it is taking a census?

14 A. Yes, I can.

15 So from a conceptual point of view, you have to define the
16 universe that the census applies to. There are two components
17 of the universe that matter. The first component is that the
18 person, a human being, has to be alive on census day, which
19 will be April 20 of 2020. It can't have been born after 2020,
20 can't have died before April 1 of 2020.

21 The second component is the definition of a resident of the
22 United States, that we use a set of residency criteria that are
23 about six pages long, and they were published in the federal
24 register in February that define for every contingency that we
25 have ever encountered, how that particular contingency resolves

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Abowd - Cross

1 in terms of whether the person is a resident of the United
2 States, and exactly where that person will be counted for
3 residency purposes.

4 The general rule is that you're counted where you usually
5 sleep, and most of the exceptions are designed to resolve
6 ambiguity when that can't be determined easily.

7 Q. Once you determine who to count, can you explain how to
8 count them?

9 A. So historically there have been two ways to conduct a
10 census once you define the target universe. They are known
11 generically as area frames and list frames.

12 Area frame means you take the map of the country, in this
13 case that you want the census, and you parcel it out into
14 exhaustive and nonoverlapping areas, and you assign those areas
15 to an enumerator, and the enumerator is expected to perform the
16 enumeration within the assigned area.

17 The other way to design a census, what I would characterize
18 as the more modern way, is to use one or more list frames in
19 the case of 2020 census of population. The list frame is a
20 list of all of the known addresses in the United States where
21 the Census Bureau believes someone could potentially usually
22 sleep there. That list frame is called the master address
23 file.

24 A few operations of the 2020 census still use
25 components of area frames, like remote Alaska and the update

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Abowd - Cross

1 leave operation, which we may discuss later, but the vast
2 majority of the design of the 2020 census operates off the
3 master address file as a list frame.

4 Q. When you refer to master address file, can you also refer
5 to that as MAF?

6 Does that make sense?

7 A. MAF and master address file are the same thing.

8 Q. Once you figure out how to count, can you explain how to
9 manage the counting system that is implemented?

10 A. Whether you use an area frame or a list frame, you have to
11 have an overall operational control system that dictates the
12 mechanisms by which the enumerations will be collected and the
13 manner in which you will account for having collected
14 information from every item on your frame. We call that an
15 operational control system.

16 Q. After the census is taken, can you explain how the Census
17 Bureau evaluates the count?

18 A. Both before and after the census is taken, we prepare to
19 evaluate the count before we conduct a demographic analysis
20 that is designed to estimate the population of the United
21 States in a manner that is as independent of the current and
22 previous censuses as can be maintained and after -- well,
23 during and after, we conduct the census, we perform an
24 operation that has had various names over the decades, and in
25 2020, will be called the post enumeration survey, to perform

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1 coverage measurement estimates.

2 Q. After you evaluate the count from a previous census, can
3 you explain what the Census Bureau does between censuses?

4 A. Between censuses, the official data from the previous
5 census and all the previous censuses is curated both in its
6 public and confidential form, and in particular, the list, the
7 master address file is treated as an asset of the Census Bureau
8 whose continuous improvement over the course of the intervening
9 decade will be used to make the starting point for the next
10 census as accurate as it can be, operations that I think we'll
11 probably discuss later.

12 In addition, the information learned from the coverage
13 measurement evaluations and from the other evaluations and
14 experiments that are conducted in concert with the census, are
15 incorporated into the plans for the next decennial census.

16 Q. I would like to turn to demonstrative six for a moment, and
17 there has been a lot of testimony about the American Community
18 Survey or ACS.

19 Can you describe what the purpose of the ACS is?

20 A. So for many decades in the United States and in other
21 countries around the world, when they conducted an actual
22 enumeration census, they recognized that that was also an
23 opportunity together, an enormous amount of social and
24 demographic and other information about the population. In
25 some sense, the fixed cost of running a census is very large

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Abowd - Cross

1 and the marginal cost associated with getting additional
2 information is not nearly as large.

3 The United States did that beginning in 1940, by asking
4 extra questions of a sample of the households, which was called
5 the long form sample. In that long form sample, in addition to
6 getting the questions that make sure the enumeration is as
7 accurate as possible, you ask about many other characteristics
8 of the household. And in that long form sample, those
9 characteristics matter more because they are the extra
10 information that you're trying to get of the sample you have
11 asked the questions that you intend to use to get the
12 enumeration as accurate as possible.

13 Over the course of many years of research, the United
14 States and many other countries concluded that timing the
15 sample survey to coincide with the actual enumeration meant
16 that the information that was collected became dated much more
17 rapidly. So the United States and many other countries
18 designed something that is generically known as a micro census,
19 and the American -- in the United States, it is called the
20 American Community Survey.

21 These have different designs in different parts of the
22 world, but in the United States, it is a continuous measurement
23 system, which means that the instrument itself is always in the
24 field gathering data from carefully designed sample of the
25 households in the United States in a manner that is designed to

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1 provide yearly and aggravated five-year, if you would like,
2 estimates of very detailed characteristics of the population.

3 It is sample based. There are characteristics, many more
4 of them that are on the census, and they are much more
5 important because it is the reason why you're running the
6 survey.

7 Q. Can you describe how the ACS is sampled and what sorts of
8 errors that introduces?

9 A. So it is a sample-based survey. It uses a multi-stage
10 probability sample where the master address -- it uses an
11 address frame, the master address frame is the MAF, the master
12 address file. The households are selected from the master
13 address file according to an algorithm. One of the features of
14 that algorithm prevents you from being selected twice during a
15 single decade. A housing unit, you may move to another housing
16 unit that got selected the second time, but that is considered
17 a low enough probability event that we don't worry too much
18 about it.

19 In addition to sampling, who actually gets the request
20 to take the American Community Survey is designed to control
21 the followup cost. It is important to get a very high response
22 rate, and so one of the ways to get a very high response rate
23 is to use a scientifically designed followup process that also
24 samples from the addresses that did not self-respond, those
25 that will be followed up. That sampling is done in advance so

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1 that the design weights can be determined.

2 Then the followup is done with computer-assisted personal
3 interviewing.

4 Q. The sampling nature of the ACS, does that have some sort of
5 sampling error associated with it when you look at the data?

6 A. Yes.

7 As a consequence of sampling, the design determines a
8 basic weight that needs to be used in order to tabulate the
9 data to be representative of the United States. In addition,
10 other operations that occur before the data are closed out,
11 affect those weights, and in addition, the design itself
12 induces what we call clustering on the response.

13 So the computation of the margins of error is a
14 relatively complicated process that we have simplified for the
15 production version of the American Community Survey by
16 constructing a set of replicate weights that are used for that
17 purpose. If you use them, you get a relatively accurate
18 measure of the margin of error.

19 Q. You testified on direct about some of the sampling errors
20 in the ACS.

21 If there were coverage errors in the census, can you
22 explain how that would influence the sampling errors in the
23 ACS?

24 A. The coverage errors in the census, the coverage errors in
25 the census agency, those identified by the post enumeration

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1 survey, are not corrected in any of the subsequent uses of the
2 census data, and in particular, they are not corrected in the
3 population estimates program.

4 So the population estimates program starts with the
5 base census estimates from April 20 in the current case, 2010,
6 and it rolls them forward annually to July 1 of each year
7 between the censuses, adjusting for demographic analysis of the
8 United States to produce official population estimates for
9 geographic areas down to some minor civil divisions and for a
10 demographic characteristics.

11 Those are all incorporated into the weights of the
12 American Community Survey, so that if you tabulate the American
13 Community Survey for a population or sub population that has an
14 official population estimate, the number that you will get back
15 is the official population estimate.

16 Q. I would like to turn briefly to the 2010 census.

17 There's been a lot of testimony about the 2010 census
18 and how that compares to 2020.

19 Can you briefly describe the 2010 census taking process?

20 A. Yes.

21 So the 2010 census was designed over the course of the
22 2000s. It was designed as a list frame or a census so the
23 master address file was the primary frame. That frame was
24 updated over the course of the decade leading up to the 2010
25 census with field operations and with the local updated census

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1 addresses, LUCA, that have been used for several decades to
2 keep the address list up to date.

3 The 2010 census was designed initially to have mail-out,
4 mail-back paper form as the only form of self-response and to
5 have an enumerator instrument, electronic enumerator
6 instrument, as the main form of address canvassing and
7 nonresponse followup.

8 In the leadup to the 2008 dress rehearsal for the 2010
9 census, the handheld enumeration instrument was determined to
10 be inadequate for the nonresponse followup, and the nonresponse
11 followup component of the 2008 dress rehearsal was canceled and
12 a paper and pencil nonresponse followup alternative was put in
13 place. That was done very quickly over the course of the time
14 around 2008, and the primary nonresponse followup operation
15 that was available for doing that replacement was the one used
16 in the 2000 census.

17 They are not identical, but the 2000 census also used
18 a paper-based nonresponse followup system and the 2010 census
19 used a paper-based nonresponse followup system. That means
20 that the field enumerators in NRFU had paper questionnaires
21 that they had to fill out. They had paperwork load assignments
22 that were delivered in person by their field supervisors at the
23 daily meeting someplace in the neighborhood where the
24 enumerators were gathered, they had paper maps to find the
25 addresses on, and they had to keep track of their hours of work

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1 and payroll implications on paper.

2 I was told they had five different paper-based documents
3 that were used. That was deployed in 2010, operationally it
4 worked in 2010, but that is a massively different nonresponse
5 followup system than the one that was designed for 2020.

6 So the biggest differences were mail-out, mail-back
7 exclusively as the self-response and the use of a paper-based
8 nonresponse followup.

9 Q. I want to talk about those differences between 2010 and
10 2020 briefly. If we could go to slide seven.

11 What were the goals and the charge going into the 2020
12 census as compared to 2010?

13 A. So the goal was the same. You've heard this many times in
14 this litigation and in our own advertising. Count everyone
15 once, only once, and in the right place. That is the goal of a
16 full enumeration.

17 The charge to the Census Bureau at the beginning of this
18 decade was to design a decennial census that had a lower real
19 cost per address than the 2010 census without lowering the
20 quality of the data collection.

21 So essentially the charge was to look again at the core
22 assumptions of the 2010 census and reengineer the census of
23 population to get efficiency gains, but maintain quality.

24 Q. We are going to talk about these more in depth in a little
25 bit, but can you explain what reengineering address canvassing

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1 means?

2 A. Yes.

3 So I said briefly that in the leadup to the 2010
4 census, address canvassing was done using LUCA. That is still
5 true in 2020, but also was done using field operations. So
6 field operations were conducted throughout the decade to try to
7 keep the master address file up to date. Field operation means
8 you send an address canvasser out into a geographic area and
9 ask that person to remap the geographic area using whatever
10 listing tool has been deployed.

11 In 2020, for the 2020 census, we have reengineered that so
12 that the address canvassing that is done that has been done
13 since the end of the 2010 census up until the start of the 2020
14 census has been primarily conducted in office, which means it
15 is being done at the National Processing Center in
16 Jeffersonville, Indiana, by trained address canvassers who
17 never leave their computer terminals -- well, during work hours
18 at their computer terminals.

19 They use an array of electronic data assets, satellite
20 images, mapping images, to compare the blocks as they have been
21 currently mapped in a combination of the MAF and the geographic
22 resource known as Tiger. That is the collection of
23 geographical tools that we use to put an address in the MAF on
24 a map. They have been examined at a productivity rate that
25 allowed the entire MAF to be reexamined every two years using

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1 these tools.

2 Our intention was to dramatically reduce the amount of
3 address canvassing that had to be done in the vicinity of the
4 census itself and so an operational plan for the 2020 census,
5 we say that we're going to only send out enumerators for about
6 25 to 30 percent. We haven't fixed the final parameter yet.
7 That means instead of doing 100 percent address canvassing as
8 the first operation of the 2020 census, as it was the first
9 operation of the 2010 census, we'll do address canvassing only
10 in about 20 to 30 percent of the blocks. That is -- I can do
11 more.

12 Q. I'm sure you can, Doctor.

13 You used a term I want to make sure we define. You used a
14 term LUCA.

15 Can you describe what that is?

16 A. Local update of census addresses. It is a statutorily
17 mandated cooperative program between the Census Bureau and
18 states, counties, and cities who enter into partnership with
19 the Census Bureau and agree to have selected employees sworn in
20 so they are obligated by the same confidentiality rules that
21 census employees are obligated, and then they do an organized
22 comparison of alternative address lists, usually maintained by
23 the municipality.

24 I believe Dr. Salvo discussed this in his direct
25 testimony pretty extensively, and he did a very good job of

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Abowd - Cross

1 describing LUCA.

2 Q. Got it.

3 Looking at optimizing self-response, can you briefly
4 describe what that means?

5 A. Well, yes, I can.

6 Many people don't realize it, but you could take the 2000
7 census on the Internet. I did. A very, very, very, very, very
8 small number of other people also did because it was an
9 incredibly awkward operation.

10 At the start of the development cycle for the 2010 census,
11 it was the opinion of most of the experts that it would be
12 difficult to deploy an Internet self-response instrument for
13 the 2010 that would be at scale, would be at the scale that the
14 users would be expecting.

15 So from the very beginning, the 2010 census was designed to
16 be mail-out, mail-back. Even some late discussions of whether
17 to add an Internet self-response instrument were tabled.
18 Optimizing self-response is trying to get people to fill the
19 form out, and we clearly could not say that it would be too
20 difficult to design an Internet self-response instrument to be
21 available for 2020 at the start of the development cycle for
22 2020.

23 In addition, all of the other innovations involved tight
24 technological integration between the operations of the census.
25 So if you have tight technological integration, you want

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1 information flows to be as rapid as possible. So the Internet
2 self-response instrument, in addition to being a modern way of
3 taking a census, and we instituted it for the ACS in 2013, is
4 also a modern way of providing timely information to the
5 logistical system so that you can do the scheduling.

6 Optimizing self-response is both getting more people to use
7 the Internet self-response instrument, making sure that the
8 mail-back instrument still works as well as it has historically
9 worked, and our third method that was never an option before
10 there was an Internet self-response instrument, and that was to
11 allow the census questionnaire assistance, which did exist in
12 2010, but to allow the service representatives on the
13 questionnaire assistance to offer to take the census over the
14 telephone.

15 In order to do that, you have to have an electronic
16 instrument that they can use. So if you're developing
17 electronic instrument for self-response, you can modify it for
18 computer-assisted telephone interviewing, which is what the CQA
19 will do.

20 There is two different modes available in 2020, the
21 Internet response and the telephone response, that were not
22 available in 2010, both of which also contribute to having
23 timely information for the logistical system.

24 Q. As I said, we are going to discuss these more in depth.

25 Utilizing administrative records and third-party data,

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1 can you explain what that means?

2 A. Yes.

3 The Census Bureau has used administrative data and
4 third-party records to conduct the economic census for decades.
5 They are at the core of the way that census is organized and
6 conducted. Since 1990, the Census Bureau has done the
7 equivalent in office administrative record census shadowing the
8 1990 and the 2000 and 2010 census.

9 Those research activities strongly suggested that we would
10 be able to use administrative records in a production capacity
11 in 2020 as a part of this goal to design a census that was more
12 efficient, more cost effective, without lowering quality.

13 Q. And then the last bullet here says reengineering field
14 operations. I think we are going to talk about this
15 extensively in a little bit.

16 Just give us a brief overview of what that means.

17 A. So reengineering the field operations meant converting
18 operations that were primarily designed to manage paper and
19 pencil information gathering to assist, and that could take
20 advantage of the logistical information and the currency of the
21 logistical information given that the primary self-response
22 instrument would be an Internet instrument or a telephone
23 self-response.

24 So the field engineering allows us to control the
25 deployment of the enumerators in a sophisticated fashion that

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1 is very similar to the way other large logistical companies,
2 like UPS and FedEx, control the deployment of their delivery
3 staffs.

4 It allows the enumerator using the handheld device that
5 also has the enumeration instrument on it to supply information
6 about work availability, take back work assignments, receive an
7 optimized route for conducting the work assignment, check in at
8 the end of the day, and then the check-in information is
9 processed overnight and the whole operation is repeated the
10 next day.

11 It doesn't require meetings between the field
12 supervisor and the enumerators in the morning to hand out the
13 assignments and the currency of the information is much better,
14 allowing the field enumerators both in principal and tested
15 fact to be more efficient.

16 Q. Thank you.

17 Lets talk about preparations for 2020 turning to slide
18 eight.

19 Can you give some of the highlights of the preparations for
20 the 2020 census?

21 A. Yes.

22 Beginning before the 2010 census was over, preliminary
23 design concept designs, if you would like for the 2020 census,
24 were laid out and a testing program was developed for
25 attempting to get early test information on some components of

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1 that design and begin the content preparation as well.

2 So every year from 2012 to 2018, there were multiple tests
3 conducted, some at scale, some smaller, designed to test
4 different components of what would eventually become the first
5 operational plan when it was released in 2015 and the
6 successive operational plans.

7 The early tests, the ones from 2012 to 2014, tested key
8 innovations like operational control systems that we were
9 talking about, the Internet self-response instrument, the
10 ability to deploy an Internet self-response instrument in
11 multiple modes, other aspects of the census.

12 In 2015, there was both a large-scale test of all of the
13 innovations individually and the national content test, which
14 was the primary RCT for content on the randomized control trial
15 for content on the 2020 census.

16 2016 had another set of tests of the integration of the
17 self-response instrument instrument and nonresponse followup,
18 and it also tested the use of the administrative records and
19 address canvassing. I think we'll probably get back to that
20 subject.

21 Beginning in 2016, these tests also included
22 development and tests of the productive systems that would
23 eventually be used for the 2020 census -- well, eventually used
24 in the end-to-end test -- and will hopefully be used in the
25 2020 census.

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1 The 2017 test was a national test, but it had no field
2 component, and it tested the integration of the self-response
3 modes.

4 And then finally, the 2018 end-to-end census test, which I
5 think we're going to discuss more later.

6 Q. Yeah, I would like to actually discuss that now.

7 If we can turn to slide nine.

8 Can you describe the address canvassing phase of the 2018
9 end-to-end test?

10 A. I can, yes.

11 I want to get to a preface before to describe what the
12 '18 end-to-end test was in its original design and how it was
13 actually executed.

14 In its original design, the '18 end-to-end test -- I am
15 always saying end to end, even if I slur the words, I will try
16 to annunciate -- the test was conceived and operating in three
17 different geographically disbursed areas, and as a full test of
18 all or nearly all of the 52 production systems and all or
19 nearly all of the 35 operations that integrate those production
20 systems.

21 In the budget for fiscal 2017, there was inadequate funding
22 and a signal that would probably be inadequate funding in 2018
23 to conduct the full, as designed, end-to-end test. So it was
24 rescoped for fiscal '18, but the appropriation in fiscal '17
25 already specified that it would be conducted in three sites.

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1 So we did the address canvassing component of the
2 end-to-end test in three sites, but we did what are called the
3 peak operations components only in Providence, Rhode Island.

4 Q. I think there has been a lot of testimony about the peak
5 operations in the end-to-end test.

6 Can you describe what those were?

7 A. Peak operations are the phase of the census taking that
8 begins with the invitation to take the census mailed out for
9 most areas in the middle, beginning or to middle of March, and
10 some areas before that because of operational concerns.

11 So the peak operations begin with the invitation to
12 self-respond and they run through the nonresponse followup
13 operation.

14 Q. Did the 2018 end-to-end test include a citizenship question
15 on the form that was used?

16 A. It did not.

17 Q. How does that impact the Census Bureau's evaluation of the
18 2018 end-to-end test?

19 A. So one of the things that changed when the end-to-end test
20 was rescoped is that its goals were materially scaled back. So
21 its goal as it was implemented for peak operations was to test
22 the functioning of 25 of the 35 operations that includes the
23 address canvassing in that count and 44 of the 52 systems as a
24 full integration test with both in-office and field components.

25 So the peak operations were evaluated against how well do

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1 these systems integrate, did each component work properly, and
2 the coverage measurement was eliminated.

3 For the goals that I just stated, the presence or absence
4 of a citizenship question doesn't affect the evaluation of the
5 '18 test.

6 Q. Was the 2018 end-to-end test conducted after the Secretary
7 Ross decided to include a citizenship question on the census?

8 A. No, it was not.

9 Consequently, we couldn't have included the citizenship
10 question. I suppose I forgot to say that, but I did mean to.

11 Q. Based on the information the Census Bureau has today,
12 does the Census Bureau consider the 2018 end-to-end test a
13 success?

14 A. Yes.

15 All of the operations that were tested -- well, let me
16 be more precise.

17 The '18 end-to-end test is not over. The peak operations
18 phase has been completed and is in the process of being
19 evaluated. What is known as the decennial response processing
20 phase, where we tabulate the test data, those systems have not
21 finished their testing yet, so there is no way to comment on
22 them yet.

23 With respect to the peak operations, our indications while
24 we were monitoring the peak operations and from the data that
25 have been analyzed so far is that the systems all worked as

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1 they were designed. There were no major failures. We
2 identified areas in which the actionable data from the '18 test
3 could be used to improve the operations of 2020 census.

4 Q. I would like to talk about your first opinion you outlined
5 briefly before turning to slide two.

6 You testified on direct about the December 2017 DOJ letter
7 to the Census Bureau requesting a citizenship question on the
8 2020 census.

9 After the receipt of this letter in December 2017, was
10 there any discussion about the specific type of citizenship
11 question that would be added to the census if the Secretary
12 decided to do so?

13 A. Yes.

14 Within the senior executive staff at the Census Bureau,
15 Acting Director Jarmin and Acting Deputy Director Lamas
16 attempted to determine what the best option was for proposing a
17 question to the secretary as the one we would use if we were
18 instructed to do so.

19 In the end, Dr. Lamas took responsibility for selecting the
20 ACS question as the one that was most thoroughly tested and
21 most appropriate for the 2020 census, if it were to contain the
22 citizenship question.

23 Q. And was that communicated to the Secretary?

24 A. Yes, it was.

25 Q. You testified on direct about a meeting that took place in

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1 February of 2018 with Secretary Ross.

2 Can you describe what was discussed at that meeting?

3 A. At that meeting, the Secretary had had access to the memo
4 that I supervised the preparation of and had asked us to be
5 available to discuss it. So when that meeting started,
6 Dr. Jarmin gave a brief overview of what he had asked me and
7 the team that worked with me to do in terms of providing a
8 technical response and asked the Secretary if he would like a
9 briefing on Secretary Ross indicated that he didn't need a
10 briefing. He wanted to begin asking questions.

11 So he spent about an hour asking questions. Other
12 members of his staff also asked questions and other persons
13 from the Census Bureau also contributed to the discussion.

14 Q. Was it your understanding at the time of that February
15 meeting that the Secretary had already made up his mind about
16 what decision to make?

17 A. No.

18 He asked a lot of questions and those questions
19 indicated to me that whether he had read the memo or not, I
20 can't say, but he had a very thorough understanding of the
21 arguments that were made in that memo.

22 He asked about sampling and definitions of how weights are
23 constructed. He asked some very sophisticated questions about
24 non-ignorable missing data -- although those are my words, not
25 his -- and got two different answers, one from me and one from

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1 another senior person. Since they weren't different, one was a
2 different way of explaining it.

3 He asked a lot about the quality of the administrative
4 record data, and we explained its current strengths and
5 limitations. He asked about its coverage. We explained its
6 coverage limitations. He asked about our confidence in the way
7 in which it was linked to the census responses, and we
8 explained that as well.

9 We spent more than an hour answering his questions.

10 Q. Turning back to your opinion on slide two.

11 What is the citizenship question that is going to appear on
12 the 2020 census?

13 A. The citizenship question that will appear on the 2020
14 census is the exact citizenship question that currently appears
15 on the paper form for the ACS.

16 Q. Turning to the slide ten for a moment.

17 Can you describe the testing that the citizenship
18 question on the ACS was subjected to before it was included on
19 the ACS?

20 A. So an answer to that question requires a little more
21 background.

22 The American Community Survey was conceptualized and
23 largely designed in the late 1990s and as a replacement for the
24 long form. So the last long form that was actually used was
25 with the 2000 census, and that long form had a series of

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1 questions on it that had undergone testing as a part of the
2 question development for the 2000, census and for previous
3 censuses.

4 It was envisioned that the questions from the long form
5 would migrate directly onto the American Community Survey, and
6 that is basically what happened when the American Community
7 Survey went into production in 2005, and then the American
8 Community Survey had its own content review and change process.

9 So in 2006, the first set of content review tests were
10 conducted for the ACS proper, and those tests included content
11 test of a modification of the citizenship question that was
12 successful and migrated it from the form that it had on the
13 2000 long form to the form that it currently has on the
14 American Community Survey.

15 The test basically involved the prompt for the year
16 of naturalization, which now appears in the ACS question.

17 Q. Was there cognitive testing done on the citizenship
18 question before its inclusion on the ACS?

19 A. Yes.

20 Q. Was their field testing of the citizenship question before
21 being included on the ACS?

22 A. Yes.

23 Q. Are you familiar with the OMB statistical policy
24 directives?

25 A. Yes, I am.

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1 Q. Can you briefly describe what those are?

2 A. The OMB statistical policy directives are four sets of
3 standard and guidelines promulgated by the Office of Management
4 and Budget through the Office of the Chief Statistician, which
5 is in the OMB.

6 Statistical policy directive one is the overall
7 guiding principles for two kinds of statistical agencies.
8 There is a principal statistical agency, of which there are 13,
9 including the Census Bureau, and then any other branch of the
10 federal government that performs what OMB considers to be
11 statistical functions. There are hundreds of those.

12 The principles in SPD 1 are the relevance. So the
13 statistics have to be relevant for the public policy that they
14 are being designed to measure. There has to be trust between
15 the people of the United States and the statistical agency.

16 I am good at these, but not when I have to get all four
17 out.

18 There has to be confidence that the statistics have been
19 discussed to a well-designed and transparent methodology, and
20 there has to be protection of the confidentiality of the data
21 assets and privacy of the respondents. Burden has to be
22 properly controlled.

23 Q. Can we turn to Plaintiffs' Exhibit 359 for a moment.

24 Is this one of the statistical policy directives?

25 A. Yes. That is statistical policy directive two.

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1 Q. Can we turn to page 16 for one moment.

2 Standard 2.3, I believe you testified about this on
3 direct, Dr. Abowd.

4 Can you describe what this standard is?

5 A. So the standard itself is standards and guidelines for the
6 life cycle of a survey instrument and for the purposes of
7 survey instrument. The census is considered a survey
8 instrument -- saying what agencies are expected to do from
9 conceptualization through design execution, publication, and
10 curation.

11 So the agencies are instructed to design and
12 administer all those parts of the survey life cycle in a manner
13 that maximizes data control while controlling measurement error
14 and minimizing burden and cost.

15 Q. Are there other OMB statistical policy directives as well?

16 A. Yes.

17 Statistical policy directive three identifies what are
18 known as principal economic indicators. Those are usually very
19 timely indicators, and it controls the dissemination of those
20 indicators. The Census Bureau publishes 13 principal economic
21 indicators, primarily monthly and quarterly time series that
22 measure activity in different components of the market.

23 The Census Bureau conducts, jointly with the Bureau of
24 Labor Statistics, the current population survey, which is the
25 source for the household statistics that are released in the

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1 employment situation by the Commissioner of Labor Statistics,
2 and that is also a principal economic indicator.

3 Q. Turning back to slide ten.

4 Talking about the statistical policy directives, which, if
5 any, of these OMB policy directives apply to the Census Bureau?

6 A. We haven't discussed SPD 4, which is dissemination
7 principles that apply to information products that are not
8 principal economic indicators.

9 So all four of the statistical policy directives apply to
10 the Census Bureau, and statistical policy directives one, two,
11 and four specifically apply to the census of population.

12 Q. Do the statistical policy directives from OMB establish
13 specific rules for testing of questions on surveys?

14 A. They are interpreted by the Office of the Chief
15 Statistician as providing guidelines instructing the agencies
16 themselves to implement standards and internal practices that
17 are in conformance with them. And the regulatory process
18 basically sets the OMB up, the Office of the Chief Statistician
19 up, as the part of OMB that reviews whether statistical
20 products are in compliance with the statistical policy
21 directives.

22 Q. And how does the Census Bureau implement these guidelines
23 from OMB?

24 A. So the Census Bureau has a set of quality standards, the
25 most recent version, most recent full revision was in 2013,

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1 that are the internal quality standards for the Census Bureau
2 products that are meant to be -- that are meant to generate
3 statistical products that are in conformance with all of the
4 statistical policy directives, but particularly SPD 2, such
5 that if the internal operations of the Census Bureau are
6 conducted following these quality standards, it is expected
7 that the various clearances that OMB would issue could be
8 issued without difficulty.

9 Q. Do the Census Bureau statistical quality standards apply to
10 the decennial census?

11 A. Yes, they do.

12 Q. What did the Census Bureau quality standards say about
13 testing of questions before they can be included on surveys?

14 A. Internal, the Census Bureau quality standards have
15 extensive guidelines about the testing of questions both when
16 the question is in development and in context before it is
17 deployed. Those guidelines were developed to ensure that both
18 the household and the economic surveys, including the census of
19 population, would meet the statistical policy directive two and
20 other policy directives.

21 Q. If we can turn to Plaintiffs' Exhibit 260 for a moment.

22 Turning to page 18. There is a sub requirement A2-3.3.

23 Are you familiar with that?

24 A. Yes, I am.

25 Q. Can you describe what that is?

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1 A. Those are the standards for developing collection
2 instruments and associated questionnaire design components in
3 developing a new or changing an existing survey. They describe
4 the requirements for testing before deployment.

5 THE COURT: These are the Census Bureau quality
6 standards?

7 THE WITNESS: Yes, they are, your Honor.

8 (Continued on next page)
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1 BY MR. EHRLICH:

2 Q. Moving below subrequirement 3, there's a note further down
3 on the page.

4 A. Yes. The note indicates that all the -- it applies
5 specifically to A2-3.3. It says that "on rare occasions, cost
6 or schedule constraints may make it infeasible to perform
7 complete pretesting," so the note basically acknowledges that
8 the agency operates under both budget and time constraints,
9 what I have characterized as quality, risk, cost trade-offs
10 that have to be incorporated into the decision-making.

11 Q. And then back down page 18 of Plaintiffs' Exhibit 260,
12 further down, under -- there's a heading 1, "pretesting must be
13 performed," and below that there's a note that says,
14 "pretesting is not required for questions that performed
15 adequately in another survey."

16 Can you describe what that means?

17 A. Yes. The history of that note comes from specific
18 instructions from the Office of Management and Budget in
19 developing guidelines that are consistent with SPD2 that were
20 intended to allow statistical agencies to make use of testing
21 that had already been done for another, similar instrument or
22 that had already been done by another agency, so the Census
23 Bureau is not the only agency that does questionnaire
24 development and testing. The national center for health
25 statistics and bureau of labor statistics also have facilities

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Abowd - Cross

1 that are used for that purpose.

2 And so a cost-saving measure that OMB allowed -- I won't
3 characterize it as encouraged, because I'm not sure whether
4 they encourage it all the time or not, but allowed is that you
5 could take a test that had been previously tested and use it if
6 senior methodologists at the agency were in agreement that it
7 was properly tested and the context in which it was tested was
8 sufficiently similar that it could be brought in without
9 pretesting.

10 Q. And has the citizenship question performed adequately on
11 the ACS such that it satisfies this exception?

12 A. Yes, we believe that the fact that 41 million households
13 have already been asked that question and that it was developed
14 in the context of the ACS content review and testing program is
15 adequate testing, especially within the quality, cost, risk
16 constraints that we were facing to make this decision.

17 Q. Now, you testified on direct about discrepancies between
18 ACS responses and administrative records that you described as
19 verified and said that there was a discrepancy in terms of
20 those such that the ACS response was probably incorrect about
21 30 percent of the time.

22 Does that affect the Census Bureau's opinion of whether
23 pretesting was not required because this citizenship question
24 performed adequately on the ACS?

25 A. It affects the Census Bureau's opinion of the quality of

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1 that question, and the evidence that was uncovered in preparing
2 the technical response for the secretary was the first evidence
3 that anyone had encountered at the Census Bureau that this
4 question had that problem. Consequently, that evidence will be
5 incorporated into the next content review for the American
6 Community Survey. No decisions have been made, but it will be
7 an important component of examining whether to continue to ask
8 the citizenship in the way that we have -- measure citizenship
9 in the way that we have been measuring it.

10 Q. Now that the secretary has made the decision to include the
11 citizenship question on the census questionnaire, what further
12 steps must be taken before the Census Bureau can actually use
13 the questionnaire in 2020?

14 A. So, to use the questionnaire in 2020 the first step is that
15 the paper questionnaire has to be reformatted and the question
16 included on it. I can't remember whether we have publicly
17 released drafts of the paper instruments so reconstructed, but
18 they exist. The Internet self-response instrument has to be
19 reprogrammed to include the citizenship question. That core
20 program, core programming will also be used to ensure that the
21 census questionnaire-assistance instrument contains the
22 citizenship question and the enumerator computer-assisted
23 personal interview instrument contains the question.

24 Q. And does OMB have to clear the final questionnaire before
25 it's used in 2020?

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Abowd - Cross

1 A. Yes. So, the questionnaire for 2020 is a part of the OMB
2 clearance packages associated with the 2020 census. There are
3 three clearance packages. The first clearance package is for
4 the address-canvassing operation. That clearance package has
5 already been forwarded to the OMB. The second clearance
6 package will be for the peak operations. That package is
7 expected to be forwarded to the OMB before the end of this
8 calendar year, in December sometime. And the third clearance
9 package is for the postenumeration survey and follow-up
10 operations, and that clearance package is expected to be sent
11 to the OMB in early 2019.

12 Q. And if the OMB thought that the citizenship question should
13 undergo further testing, could it order further testing before
14 clearing the 2020 questionnaire?

15 A. Yes. The OMB can, the OMB can and does work with the
16 staffs in the areas preparing clearance packages to signal the
17 requirements that will be necessary before the clearance number
18 is issued, and if you don't have the digit clearance number,
19 then you can't field the survey, so the decennial census
20 program will be working with OMB to determine if they are going
21 to require additional testing of the citizenship question.

22 Q. What is your opinion of the process that was followed with
23 respect to the citizenship question on the 2020 census
24 questionnaire as it relates to the OMB statistical policy
25 directives and the Census Bureau's quality standards?

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1 A. Within the constraints of quality, risk and cost for the
2 very short time period in which we had to propose a question to
3 the secretary for inclusion should he so instruct, the ACS
4 question was the best available alternative. It had been used
5 in a survey delivered to 41 million households. It had been
6 thoroughly tested both by itself and in context for that
7 survey, and therefore, since there had to be a question
8 proposed, that was the best available choice.

9 Q. Has an untested question ever appeared on the census in
10 previous censuses?

11 A. Yes. In the 1990 census, there was an approved question
12 for gathering race data that gathered them according to the
13 then current OMB standards. That included a section for
14 declaring that your race was Asian or Pacific Islander, and a
15 limited set of check boxes and a write-in. That was the
16 question that had the OMB clearance.

17 In the fiscal 1989 appropriation, Congress instructed the
18 Census Bureau to replace the subcomponent of the race question
19 that was already prepared with a component that had a much more
20 elaborate set of check boxes, and some administrative
21 discussions ensued, that are documented in the expert report
22 that I offered. And finally, OMB offered -- issued a clearance
23 for the question that Congress had mandated, and it was placed
24 on the 1990 census on the long form.

25 Q. And what impact was there on the 1990 census form including

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Abowd - Cross

1 this untested question?

2 A. The content review of that question suggested that it did
3 not have error rates different from the other questions that
4 were, that were asked in the context of race.

5 Q. Has there ever been a question on the census that was
6 imported from another household survey?

7 A. Yes. In the 5 percent sample long form for the 1970
8 census, the --

9 THE WITNESS: Excuse me. I'd like to correct
10 something. I think I incorrectly said that the 1990 was on the
11 long form. It was the race question for the fall census. I
12 apologize for misstating.

13 THE COURT: Dr. Abowd, you were mumbling a little bit
14 in that answer. You just said it was on the actual decennial
15 census, the short form in 1990?

16 THE WITNESS: Yes, it was. I misspoke.

17 THE COURT: OK.

18 THE WITNESS: Sorry.

19 THE COURT: Thank you.

20 A. The 1970 question was a question asking for
21 self-declaration of Hispanic origin that had been tested and
22 fielded on the current population survey and was imported onto
23 the 5 percent sample long form in 1970 and executed in that
24 long form.

25 Q. And did this question negatively impact the 1970 census?

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Abowd - Cross

1 A. Well, we heard some testimony from Dr. Barreto that it had
2 not performed well. Dr. Barreto evaluated that question
3 according to contemporary, 2018 standards.

4 In 1970, there were no standards for collecting data on
5 Hispanic origin, and in addition, the principle that Hispanic
6 origin could be better measured by self-declaration rather than
7 coding from the surnames and the primary language in the survey
8 was established by that question. It performed well in that
9 regard. It established the principle that it would be better
10 to ask people about their Hispanic origins than to infer them
11 from other aspects of the survey's data. That was subsequently
12 memorialized in the first set of OMB standards on the
13 collection of race and ethnicity data that were promulgated in
14 1977.

15 Q. Now let's talk about the operations of the 2020 census.
16 Turning to slide for a moment, can you explain what your
17 opinion is on self-response as it relates to the 2020 census?

18 A. So, as I've already said in the design of the 2020 census,
19 one of the critical cost-saving components is to encourage
20 self-response, try to move the self-response rate up, but in
21 particular, try to get people to self-respond. We analyzed
22 data, a lot of which was discussed in my direct testimony, that
23 I believe produced credible quantitative evidence that the
24 addition of a citizenship question to the 2020 census could be
25 expected to lower the self-response rate in an identifiable and

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Abowd - Cross

1 large subpopulation households that may contain noncitizens.
2 That lower self-response rate can be expected to increase NRFU
3 costs and lower the quality of census data other than the count
4 itself. So the Census Bureau, consistent with the instructions
5 that we were given by the secretary can and will make
6 appropriate adjustments to components of the 2020 census, NRFU
7 and integrated partnership and communications program to
8 mitigate these effects.

9 Q. Before we move in earnest into the actual operations of
10 2020, can you reiterate your opinion with respect to NRFU, or
11 nonresponse follow-up, on slide 4?

12 A. So, I do not believe that I have produced or the Census
13 Bureau's produced or any external expert has produced credible
14 evidence, credible quantitative evidence that the addition of a
15 citizenship question to the 2020 census will increase the net
16 undercount or increase the differential net undercounts for
17 identifiable subpopulations. There's no credible quantitative
18 evidence that the addition of a citizenship question will
19 affect the accuracy of the count.

20 Q. I'd like to talk about each of these in depth in the
21 context of the 2020 census. Turning to slide 11, before we get
22 into those, can you just briefly describe the steps in the 2020
23 process?

24 A. So, this demonstrative, your Honor, is an adaptation of the
25 presentation that is known as census 101. It's a description

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Abowd - Cross

1 of the high-level components of how the 2020 census was
2 designed. It gets reorganized for different purposes, so I
3 reorganized it here to highlight the parts that I intend to
4 talk about.

5 So, the first operation is to establish where to count.
6 The second operation is to motivate people to respond. Then
7 there's the self-response phase, the NRFU phase, the data
8 processing publication phase, and finally, the quality
9 evaluation and the curation phase, postenumeration survey and
10 other operations.

11 The goal is to count everyone once, only once, and in the
12 right place. And the different operations that are outlined on
13 this demonstrative involve the 35 operations of the 2020 census
14 as our operational plan lays them out and the 52 systems that
15 have to be integrated to conduct those operations.

16 Q. Let's, first, turn to talking about establishing where to
17 count people and turn to slide 12. You've explained this in a
18 broad context before, but specific to the 2020 census, how does
19 the Census Bureau establish where to count?

20 A. So, as I explained, the 2020 census is a list frame census
21 and the main list frame is the master address file, so it
22 establishes where to count by continuously improving or
23 updating the master address file over the course of the decade,
24 identifying all the addresses where people could live, living
25 quarters, and using our reengineered processes to do the vast

IbeWnys2

Abowd - Cross

1 majority of that canvassing in office and continuously over the
2 course of the decade.

3 It also includes the LUCA operation that we have talked
4 about, but basically, the idea is to get to the point at which
5 the peak operations are turned on with a master address file
6 that is as complete as the precensus activities and the
7 address-canvassing phase can make it. The address-canvassing
8 phase actually starts in the summer before the census and will
9 involve the field work of -- enumerators in that phase are
10 called address canvassers, but the temporary employees with
11 instructions on how to check the blocks they've been assigned
12 and update the master address file.

13 Q. Will administrative records be used in establishing where
14 to count?

15 A. Yes. As a part of the reengineered address-canvassing
16 process, administrative records are used to indicate a
17 candidate for one of the three statuses that a MAF address can
18 have. An address that's on the MAF or an address that might be
19 added to the MAF could -- can -- it was important at the start
20 to determine whether to delete it or add it, so the
21 administrative records are used to propose candidate additions
22 to the MAF and candidate deletions to the MAF, and that's
23 integrated with the address-canvassing phase to attempt to
24 confirm them.

25 The main administrative records that came from the Internal

IbeWnys2

Abowd - Cross

1 Revenue Service, Medicare and Medicaid, the Bureau of Indian
2 Affairs and the Bureau of Veterans Affairs are used to
3 construct addresses that appear to be either vacant or occupied
4 or nonexistent. Then the United States Postal Service
5 delivery-sequence file is used to update, using the USPS's
6 understanding of the current activity at that address, and the
7 specific pieces of mail are tracked and when those pieces of
8 mail generated undeliverable-as-addressed code, that
9 undeliverable-as-addressed code is used as indication of the --
10 administrative record indication of the occupancy, vacancy or
11 nonexistent status of the address.

12 All of these components were combined into a set of
13 statistical models used to predict whether a particular address
14 should be added to the MAF, should be deleted from the map --
15 from the MAF, and our field-tests of this in the 2016 field
16 test that Dr. Salvo talked about, we estimated that the error
17 rates from models as they were currently implemented were on
18 the range of 17 to 20 percent. And so that's that, that's
19 the -- go on.

20 Q. And which tests are you referring to about the
21 administrative records being used for establishing where to
22 count?

23 A. So, they've been used in, they've been used in many of the
24 tests. They've been evaluated specifically in the '18
25 end-to-end test and the 2016 test and other tests before that

IbeWnys2

Abowd - Cross

1 that had a field component.

2 Let me go -- cut straight to the critical issue here.

3 The administrative records are a, an attempt to use quality
4 information to reduce the cost of the field work, and whenever
5 you do that, there are trade-offs in accuracy. And we noted
6 the error rates in the '16 test and we have modified into the
7 final operational plan for the 2020 test that no address will
8 be declared vacant or deleted from the master address file
9 without at least one field visit by an enumerator. So we've
10 actually modified the field process. We will still save money
11 from the address canvassing because the one field verification
12 will then either confirm or not confirm the address
13 determination. If it confirms it, then it's deleted or set to
14 vacant. If it doesn't confirm it, just like -- it's just like
15 it went into full NRFU, it will go into full NRFU. Or IN the
16 case of the canvassing, it will go onto the list.

17 Q. There's been some testimony that the MAF is likely to miss
18 the same people that will be impacted by the citizenship
19 question. Can you explain how the citizenship question affects
20 the accuracy of the addresses in the master address file?

21 A. Yes. The vast majority of the addresses in the master
22 address file are managed using physical data, and that physical
23 data doesn't depend on the properties of the people who live in
24 those addresses. It's critical to have the addresses, and the
25 physical data make the vast, the vast majority of the

IbeWnys2

Abowd - Cross

1 determinations.

2 In addition, the citizenship status of the physical unit is
3 related to who lives there, not to its purpose as a living
4 quarter. So direct evidence that the citizenship status would
5 affect the quality of the MAF requires identifying the direct
6 relationship between whether or not someone who lives there on
7 census day as a citizen versus its status as a potential living
8 quarter much earlier in the operation.

9 Q. Let's turn to the next stage in the process, motivating
10 people to respond, looking at slide 13.

11 Can you describe what the integrated partnership and
12 communications program is?

13 A. So, in recent censuses, 2000 and 2010, we have run what we
14 call a trusted partners program and we have run advertising
15 programs. In the 2020 census, those have been integrated in
16 the sense that there's an integrated communication contract
17 that is handling the message development and a program to
18 recruit national, regional and local partners and to work with
19 the communications program to develop effective messages,
20 stressing, once again, the confidentiality of the data that we
21 collect, the statistical purposes and our statutory prohibition
22 against sharing those data in identifiable form with any
23 agency.

24 Q. And who conducts the communications part of this campaign?

25 A. So, the integrated communications contract was awarded to

IbeWnys2

Abowd - Cross

1 Young & Rubicam, is the master contractor. They have a large
2 number of subcontractors. It's current practice not to reveal
3 the list of subcontractors, but it's not just one advertising
4 agency; it's a large group of advertising agencies, including
5 agencies that specialize in hard-to-count -- populations that
6 we have designated as hard to count.

7 Q. And at what level is the advertising program going to be
8 targeted?

9 A. So, it will be a multitiered advertising program, a
10 national program and then targeted advertising at one level.
11 It's called the direct marketing area level -- that's a
12 marketing term, not a Census Bureau geographic term -- that
13 identifies a geographic area where advertising buys and
14 messages can be consolidated for purchasing purposes, and then
15 down to the tract level eventually. They'll be providing the
16 communications campaign with tract-level operational data
17 throughout the census and they will be targeting messages at
18 the tract level.

19 Q. What's the time frame for the integrated partnership and
20 communications program?

21 A. So, it's already started. We are already -- I didn't say,
22 but I should, that the partnership program is partners
23 recruited directly by the Census Bureau. Local partners are,
24 in fact, recruited by the field directorate. National partners
25 are recruited by the national Census Bureau.

IbeWnys2

Abowd - Cross

1 The partners include both paid and voluntary partners.
2 Voluntary partners means an organization that has agreed to
3 work with us, like the city of New York was described in
4 Dr. Salvo's testimony; to work at the local level or whatever
5 the appropriate level is, to help with communication campaign
6 and with providing what we call the trusted voice to indicate
7 that it's safe to answer the census.

8 THE COURT: Among the trusted partners, does that
9 include private organizations as well, or are you just
10 referring to local and state governments?

11 THE WITNESS: No, no. Private organizations as well.
12 Not -- many of them are not for profit, but they're private.

13 THE COURT: And does the Census Bureau or the federal
14 government provide funding to those organizations and partners
15 for these purposes, or do you rely on them to pay for these
16 programs?

17 THE WITNESS: So, your Honor, my appropriations
18 training is limited, but I understand the rules associated with
19 asking someone to do something on a voluntary basis for the
20 federal government. They're not asked to do anything on a
21 voluntary basis for the federal government, so when we ask them
22 to do something specifically, they're compensated as a part of
23 the partnership program. When they offer to do something on
24 top of that that is consistent with the program, we are
25 certainly -- we welcome that as well.

IbeWnys2

Abowd - Cross

1 THE COURT: All right. Is it your understanding that
2 these partners spend some of their own money for purposes of
3 promoting the census in order to ensure an accurate count, and
4 what have you?

5 THE WITNESS: Yes.

6 THE COURT: OK.

7 BY MR. EHRLICH:

8 Q. Dr. Abowd, can you describe what the census barriers,
9 attitudes and motivators study is?

10 A. Yes. Let me do a little history first.

11 In 2008, we did a relatively small-scale survey, also
12 called census barriers, attitudes and motivators, in an attempt
13 to get information that could be implemented within the Census
14 Bureau in a targeting -- targeted message campaign, targeted
15 communication program. It worked very well, and so for the
16 2020 census, we incorporated the execution of the CBAMS into
17 the integrated communication contract working in partnership
18 with the specialists inside the Census Bureau who also have
19 that expertise.

20 It's designed to get marketing information that indicates
21 misinformation that individuals may have or -- those are called
22 barriers; attitudes that they may have about the census and
23 reasons why they say that they would like to take the census.
24 Those are called motivators. They will be used in conjunction
25 with the integrated partnership and communications program to

IbeWnys2

Abowd - Cross

1 the marketing message. The first use is to set up the
2 marketing -- the creative content component of developing the
3 national marketing campaign, and the targeted uses will be
4 later.

5 MR. EHRLICH: If we could turn to Plaintiffs' Exhibit
6 662 for a moment.

7 Q. Dr. Abowd, I believe you testified about this presentation
8 on your direct examination. Are you familiar with the CBAMS
9 presentation discussed here?

10 A. Yes, I am.

11 Q. And what is your understanding of the significance of this
12 presentation?

13 A. So, the -- this presentation was the first public
14 presentation of results from both the survey component and the
15 focus group components of the CBAMS studdie for the 2020
16 census, which I usually call the 2018 CBAMS, but I guess we
17 have decided in our controlled vocabulary to refer to it as the
18 2020 CBAMS. But it's the same thing; there's not going to be a
19 second one, just so there's no confusion.

20 This indicated to us that there are some significant
21 barriers associated with self-response that may plausibly and
22 credibly be related to the citizenship question. Those
23 barriers and attitudes are being incorporated into content
24 study for the communication campaign and work with our
25 potential and actual partners to attempt to overcome those

IbeWnys2

Abowd - Cross

1 barriers.

2 Q. And how are people selected for CBAMS, either the survey or
3 the focus group?

4 A. So, the survey is a multistage household sample from our
5 master address file frame that was conducted with an Internet
6 self-response instrument. The focus groups, there were 42
7 focus groups. They were recruited locally with target language
8 and background populations explicitly called out in the
9 recruitment notices and with a selection criteria, set of
10 selection criteria for a participant that required them to
11 score high on what we call our low-response score index, so --
12 that's a measure of how hard to count they are. So basically
13 they were recruited directly from known hard-to-count
14 subpopulations.

15 Q. And I think you touched on this a little bit before, but
16 how is the information discussed in this CBAMS presentation
17 incorporated into the integrated partnership and communications
18 program?

19 A. So --

20 THE WITNESS: Just give me the second slide. I just
21 want to call something out. That's all.

22 MR. EHRLICH: The second. I think he means the second
23 slide of the presentation.

24 THE WITNESS: I can do it. I can do it with the
25 demonstrative. That's what I wanted to call out.

IbeWnys2

Abowd - Cross

1 A. So, the presentation was made to the national advisory
2 committee by members of the T, what is referred to as Team Y&R,
3 so the team from the integrated communications contract and
4 professionals from the Census Bureau, indicating that it's
5 their joint determination about the information that was found
6 from the CBAMS has identified different barriers that we need
7 to address and some that we need to address urgently, like, for
8 example, this one.

9 Q. Let's move into talking about self-response and slide 14 of
10 defendants' demonstratives.

11 THE WITNESS: So, if it's at all possible, could I ask
12 for the morning break now?

13 THE COURT: Sure.

14 THE WITNESS: Thank you, your Honor.

15 THE COURT: Yes. Why don't we do that. It's 10:34,
16 so we'll take a ten-minute break and pick up again at 10:44.

17 THE WITNESS: Thanks very much.

18 (Recess)

19 THE COURT: All right. Dr. Abowd, you're still under
20 oath.

21 Mr. Ehrlich, you may proceed.

22 MR. EHRLICH: Thank you, your Honor.

23 Q. Before we move into self-response, Dr. Abowd, when did the
24 results from the CBAMS become available?

25 A. The CBAMS, the CBAMS survey was fielded in the early part

IbeWnys2

Abowd - Cross

1 of 2018 and the field work closed on April 17 and internal
2 files became available a week or two after that. The study
3 groups started sometime in mid-March, about 12 of them had been
4 executed by the end of March and the remaining 32 were executed
5 in the, in April, I believe, April -- one of them might have
6 gone into May. At a point at which all 42 of the focus groups
7 were completed, the double-transcript coding started. I don't
8 have an exact time line for when all the double transcripts
9 were available, but it wouldn't be until the time the doubly
10 coded transcripts were available that the analysis would start.

11 Q. At what point did the Census Bureau have enough data from
12 the CBAMS to produce -- to draw any scientifically valid
13 conclusions from those studies or focus groups?

14 A. The earliest internal documents that I'm aware of were
15 circulated in mid-July. One of them came to the methods and
16 standards council -- that's how I became aware of that one --
17 and others were brought to the disclosure review board.

18 MR. EHRLICH: I'd like to move to talking about
19 self-response, looking at demonstrative 14.

20 Q. Dr. Abowd, can you briefly describe the self-response phase
21 of the 2020 census?

22 A. So, for nearly all of the addresses in the MAF, the
23 self-response phase starts on March 1, and the self-response
24 phase is where everyone in the United States receives an
25 invitation to take the census. That invitation for about 80

IbeWnys2

Abowd - Cross

1 percent of addresses will include an ID, an invitation to take
2 it on the Internet using that ID. For about 20 percent of the
3 addresses, it will include the same invitation and the actual
4 questionnaire. Because the primary self-response mode is
5 Internet, one of the secondary self-response modes is
6 citizenship question -- census questionnaire assistance,
7 telephone. We are concerned about not -- want to spread the
8 load on those two systems out over a longer period than has
9 been historically the case.

10 When it was all mail out, mail back, the mailings, the
11 staging of the mailings was only for feasibility in getting
12 that much mail out the door, but these are being deliberately
13 staged over a multiweek period. So the self-response is
14 designed to make everyone in the country aware that it's time
15 to respond to the census and encourage them to do so by
16 self-response and either Internet, paper or telephone.

17 Q. And how many mailings would somebody get in the
18 self-response phase of the census?

19 A. So, that actually depends on what we call the type of
20 enumeration area. The vast majority of the addresses are in
21 the main self-response, TEA-1 as it is known technically. It's
22 easier for me just to describe that one, and if there are
23 questions about the others, I'm happy to take them.

24 In TEA-1 there are five mailings. The first mailing is
25 that invitation to take the census, which will be staggered

IbeWnys2

Abowd - Cross

1 over a several-week period so that people won't get mailing 1
2 on the same day. The second mailing -- whether you get the
3 form with it or not, all these mailings occur. The second
4 mailing is just a reminder that you got the mailing
5 approximately a week ago and it's still time to take the census
6 and please do so by Internet or by paper or by telephone.

7 The third follow-up mailing only goes to persons that the
8 operational control system believes -- households, excuse me,
9 that the OCS believes, operational control system believes have
10 not yet self-responded.

11 And then the fourth mailing only goes to individual --
12 households, MAF addresses; I like to be technically correct --
13 to MAF addresses that have not yet self-responded. It includes
14 the paper questionnaire for all persons receiving the fourth
15 mailing. And then there's a fifth mailing that is a reminder.
16 So those are -- those are the prime mailings for the
17 self-response period.

18 Q. And if somebody was prompted initially to respond by
19 Internet and they did not do so, would they eventually get a
20 paper questionnaire?

21 A. Yes, that was the fourth mailing that I described. If you
22 have not responded in the time when the fourth mailing address
23 list is cut from the MAF, then you will get a paper
24 questionnaire.

25 Q. Can you explain how the census questionnaire would appear

IbeWnys2

Abowd - Cross

1 for those filling it out online?

2 A. So, the census -- we call it the Internet self-response
3 instrument, has been designed to be a web-based survey
4 instrument. It's being designed by a contractor. We call the
5 system internally ECaSE. The contractor is designing an
6 instrument that will work in a web browser on what, I guess, we
7 would now call a conventional PC and hope the person knew what
8 we were talking about, or on a tablet or on a handheld
9 telephone, so the form can be filled out in any of those modes.

10 Q. And if I were to go online and attempt to fill out the
11 questionnaire, can you see the entire questionnaire at once, or
12 how would that work?

13 A. So, the way the questionnaire is currently organized, the
14 first information that's collected is if you supply an ID, a
15 verification of the address that that ID connects to. If you
16 don't supply an ID, that's called non-ID processing, then
17 you're prompted for an address and we attempt to find it in the
18 MAF, and if we can, then we internally assign an ID. And if we
19 can't, we continue to accept the responses but that one is
20 marked for further processing internally.

21 The next thing we do is roster the number of people that
22 are in the household, and then we attempt to get names of all
23 of those, of all of those people along with the prompts to make
24 sure that that's complete, but there are other prompts later.
25 And then we proceed to collect the characteristic information

IbeWnys2

Abowd - Cross

1 person by person.

2 Q. Sir, could you explain when the household would encounter
3 the citizenship question in that process?

4 A. The person filling out the census form for the household
5 would first encounter the citizenship question in the current
6 version of the Internet self-response instrument when supplying
7 characteristics for him or herself, person 1 as we refer to
8 that person.

9 Q. Can you explain how the census questionnaire would appear
10 for those filling it out in paper form?

11 A. In paper form, the questionnaire is a multipage instrument.
12 The first page of that instrument has the information about how
13 many people live in the household and then begins asking
14 questions about person 1, and the citizenship question is
15 currently at the bottom of the first page.

16 Q. And lastly, if somebody was filling this out via telephone,
17 as you were discussing earlier, can you explain how that would
18 be processed?

19 A. So, if a person calls the census questionnaire assistance
20 center, the telephone call center, the representative will
21 answer the phone and ask what the question is. Early in the
22 interaction between the potential respondent and the service
23 representative, the service representative will offer that
24 person the opportunity to take the census over the phone right
25 then. And if the respondent, or potential respondent at that

IbeWnys2

Abowd - Cross

1 point, agrees, then the service representative will begin a
2 telephone-assisted interview, using an instrument that's
3 similar to the Internet self-response instrument.

4 Q. And so if a household is filling out the questionnaire and
5 they skip one question, for example, the citizenship question,
6 would that household still be counted?

7 A. Yes.

8 Q. Is that what we refer to as an item nonresponse?

9 A. In that case it would be an item nonresponse, yes. The
10 core information required to be counted is just the count of
11 persons that are at that MAF ID.

12 Q. And if a household reaches a particular question, for
13 example, the citizenship question, and refuses to respond
14 beyond that point, would that household be counted?

15 A. Yes.

16 Q. Is that what with refer to when we talk about a breakoff?

17 A. Yes, that would be a breakoff on the Internet self-response
18 instrument.

19 Q. And what would happen if a household does not respond to
20 the questionnaire at all?

21 A. So, if there's no response to the MAF ID -- it's not a
22 household until somebody responds, but if there's no response
23 to the MAF ID, then that MAF ID goes into the NRFU workload.

24 Q. What does the Census Bureau project as national
25 self-response rate for the 2020 census?

IbeWnys2

Abowd - Cross

1 A. So, our planning documents, the current version of the
2 operational plan has a range of self-responses from 55.5
3 percent to 65.5 percent, and for most purposes, we use the
4 midpoint, 60.5 percent. For some purposes, however, we'll use
5 the lower bound, as we'll get to.

6 Q. And how do those projections compare with similar
7 projections for other censuses?

8 A. So, those are planning projections. I say that because
9 they're based on models that are developed during -- early in
10 the decade, typically. And in the 2010 census, the comparable
11 planning number was a 64 percent self-response rate. For the
12 2000 census, the comparable planning number was a 70 percent
13 self-response rate.

14 Q. What accounts for the lower projected self-response rate in
15 2020?

16 A. Self-response in general has been declining, so that's what
17 accounts for it.

18 MR. EHRLICH: Keeping on the topic of self-response,
19 if we could look at slide 3 again.

20 Q. This is the opinion you described with respect to
21 self-response rates declining, is that right?

22 A. That's correct.

23 Q. And here, you reference credible quantitative evidence, as
24 we discussed before, right?

25 A. Yes.

IbeWnys2

Abowd - Cross

1 Q. What is the credible quantitative evidence that you're
2 referencing here?

3 A. So, as we discussed in my direct testimony, a team of
4 researchers, working under my supervision, developed a series
5 of what are called natural experiments in the social sciences
6 in an attempt to isolate a component of the change in
7 self-response that could be credibly attributed to the presence
8 of a citizenship question on the questionnaire and developed an
9 estimate of the falloff in self-response as a consequence of
10 the addition of that question. So it's natural experiments.

11 Q. Is that the technical paper, or Brown paper, as we've been
12 talking about?

13 A. The current -- current best summary of those experiments is
14 in Brown *et al.*, yes.

15 Q. Is there a different type of experiment the Census Bureau
16 could run other than a natural experiment?

17 A. So, I think we discussed this a little bit in my direct,
18 but what -- in this particular line of work, a randomized
19 controlled trial is considered the gold standard for assigning
20 causation to a particular component of a survey. The
21 randomized controlled trial is designed to directly compare
22 particular instruments or other aspects of the operations in a
23 treatment and control group with random assignment to those two
24 in a manner that allows a statistically precise inference about
25 the difference between the treatment and the control.

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Abowd - Cross

1 MR. EHRLICH: Could we pull up Plaintiffs' Exhibit 268
2 for a moment.

3 Q. Dr. Abowd, do you remember discussing this proposal for an
4 RCT, or randomized controlled trial, on your direct testimony?

5 A. Yes, I do.

6 Q. Was this RCT ever run?

7 A. No, it was not.

8 Q. Could the Census Bureau still run an RCT for the 2020
9 census about the citizenship question?

10 A. At this time it would not be possible to run a content RCT
11 for the citizenship question because there wouldn't be any
12 actionable consequences from that. We've locked in the
13 question and the format, but we could still run a self-response
14 RCT.

15 Q. And is a self-response RCT currently planned to be run
16 before 2020?

17 MR. HO: Objection, your Honor.

18 It appears that the defendants are seeking to adduce
19 information about a new RCT that the Census Bureau is
20 apparently considering deploying. That topic has been the
21 subject of discovery requests since discovery was propounded in
22 this case, shortly after the July 3 status conference. If, in
23 fact, that is the case, plaintiffs have not gotten any
24 discovery or evidence from the defendants about this. We
25 questioned Dr. Abowd about it during his deposition.

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Abowd - Cross

1 The plan, as of his last deposition, which was on the
2 last day of discovery, was for no RCTs to be conducted of the
3 citizenship question. If that has changed, then plaintiffs
4 were entitled to discovery under that, under defendants'
5 continuing obligation to supplement their discovery responses.
6 The fact that they haven't indicates that this is just another
7 attempt to ambush us with new evidence.

8 (Continued on next page)

IBESNYS3

Abowd - Cross

1 THE COURT: Hearing what the answer is, you certainly
2 opened the door to questions about RCTs generally. I think the
3 question is fairly asked.

4 Let me see what the answer is, and we can decide what,
5 if anything, there is to do about it.

6 The question, Dr. Abowd, is a self-response RCT
7 currently -- RCT currently planned to be run before the 2020
8 census?

9 THE WITNESS: Yes, your Honor, there is one.

10 MR. HO: So, your Honor, we would object to any line
11 of questioning on this on the basis of defendants' failure to
12 comply with their discovery obligations.

13 THE COURT: Mr. Ehrlich?

14 MR. EHRLICH: Your Honor, I would like to elicit
15 testimony on when this occurred and lay some foundation.

16 THE COURT: All right. Why don't you do that and then
17 we can argue the point later.

18 Go ahead.

19 BY MR. EHRLICH:

20 Q. Dr. Abowd, when was this RCT that you're talking about, the
21 self-response RCT, when were those plans finalized?

22 A. So the plans still haven't been finalized, but the process
23 to cause the RCT to happen with the census date of July 1 of
24 2019 was begun after my last 30(b)(6) testimony, and was a
25 consequence of -- I'm sorry -- after my first 30(b)(6)

IBESNYS3

Abowd - Cross

1 testimony, was a consequence of continued internal discussions
2 at the Census Bureau about whether we should rely exclusively
3 on the natural experiment as to the 5.8 percentage points or
4 attempt to get more precise estimate.

5 We had discussions of what was feasible to get a more
6 precise instrument -- estimate. There was consensus that an
7 RCT was the only way to improve on the estimates that Brown,
8 et al. had produced. There was not consensus on whether we
9 could conduct an RCT in a timely fashion and still have
10 actionable data in time to do something about the falloff in
11 self-response.

12 We determined that we needed actionable data before
13 November 1 of 2019, and that we could do an RCT that would have
14 a field period from July 1 to approximately August 15.

15 Q. As of the date of your last deposition on October 12, was
16 there an RCT along these lines planned?

17 A. There was not one yet planned. There was one in active
18 discussion, and I waited throughout the period of both my
19 second 30(b)(6) and my subsequent expert testimony to be asked
20 a question about future plans for RCTs.

21 I was prepared to answer such a question honestly, as I am
22 prepared to answer every question honestly. I consistently got
23 questions about the content RCT that is in front of me and
24 questions about whether an RCT could have been conducted in the
25 time frame of the evaluations given to the Secretary, which I

IBESNYS3

Abowd - Cross

1 honestly answered.

2 I was not asked about any future RCTs at either of those
3 two depositions.

4 THE COURT: Have you reviewed any documents concerning
5 this potential RCT, the self-response RCT?

6 THE WITNESS: Yes, your Honor, I have.

7 THE COURT: All right. Mr. Ho, to the extent that
8 there were any document requests that these would fall within
9 the scope of, I would expect you to bring those to my
10 attention, and that would have a bearing on the admissibility
11 of this evidence.

12 MR. EHRLICH: Yes, your Honor.

13 MR. HO: If I may, your Honor, just to remind the
14 court that the RCT document that is on the screen right now,
15 Plaintiffs' Exhibit 268, that was the subject of a motion to
16 compel that your Honor granted.

17 We did request all RCT documents, your Honor ordered
18 the defendants to produce them, and it appears that they have
19 not done so.

20 THE COURT: All right. Well, I would like to see what
21 the actual requests were. If they were limited to content
22 RCTs, that would be one thing. If a self-response RCT would
23 fall within the scope of those requests, then the defendants'
24 continuing obligations may well carry the day here.

25 MR. HO: Thank you, your Honor.

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1 MR. EHRLICH: Thank you, your Honor.

2 BY MR. EHRLICH:

3 Q. I would like to turn to Plaintiffs' Exhibit 162.

4 Dr. Abowd, is this the credible quantitative evidence you
5 were referencing a moment ago?

6 A. Yes, it is.

7 Q. Have you seen this document before?

8 A. Yes.

9 This is the technical paper by David Brown, Misty
10 Heggeness, Susan Dorinski, Lawrence Warren, and Moises Yi.

11 Q. Who are these individuals listed here?

12 A. They are researches who work in the research and
13 methodology director except for Susan Dorinski, who works in
14 the demographic director.

15 Q. Do you have any reporting relationship to these people
16 within the Census Bureau?

17 A. All of them, except Dr. Dorinski, report through me.

18 Q. What did this paper attempt to examine in its analysis?

19 A. So we discussed some of this in the -- in my direct
20 testimony. It attempted to determine whether there was
21 quantitative evidence that the citizenship question itself
22 would be responsible for or falloff in the self-response rate,
23 and then to examine the consequences of that on the data
24 quality for the 2020 census.

25 Q. I would like to talk about this paper's analysis of the

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1 self-response rates. If we can turn to table seven on page 36.

2 Dr. Abowd, what does this table explain in terms of the
3 analysis performed by this paper?

4 A. So this table seven is the first of the natural
5 experiments, which I might also call difference in difference
6 tests that was performed by the team.

7 This particular one compares the self-response rate on the
8 2010 American Community Survey to the self-response rate on the
9 2010 census in a very controlled fashion.

10 So the 2010 census, as everyone knows, was an invitation to
11 participate in the 2010 census was sent to every MAF ID on the
12 master MAF ID list for the 2010 census. The first such
13 mail-out invitation, you could track the return from. So the
14 associated operational data that are stored in the census
15 unedited file indicate that this particular response came after
16 the first mail request.

17 At the same time, the 2010 American Community Survey was in
18 the field continuously from January through December in 2010,
19 and it also used a mail back -- mail back, mail-in format at
20 that time. So if you received the first invitation to take the
21 American Community Survey, then you were randomly selected from
22 the population of the United States to get that request, and if
23 you mailed back your response after the first request, then
24 that also was recorded in the data for the American Community
25 Survey.

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1 So the dependent variable here, the analysis variable is
2 whether or not a household now -- because they have to have
3 somebody in them -- a household self-responded to the first
4 invitation to take either the 2010 ACS or the 2010 census.
5 That is where the randomization comes from. They were put into
6 these -- into the 2010 ACS randomly from the sampling from the
7 2010 census frame. Then we divide the households into two
8 different groups.

9 Actually, I left out a step.

10 We take that list of households and we link the 2010
11 NumIdent file, which contains an administrative record measure
12 of citizenship to all of the households in the sample. The
13 result of that linkage either produces a citizenship variable
14 or it produces a missing citizenship variable because the
15 linkage didn't occur. But in any case, all of the households
16 that got the first mail invitation are in the analysis. Then
17 they are divided up into two groups.

18 In one case, we look at the ACS response on
19 citizenship and the administrative record response on
20 citizenship. If they both agree, and they agree that every
21 person in the household is a citizen, they are in the row
22 labeled administrative record and ACS all citizen households.
23 If not, they are in the other row labeled all other as you
24 households.

25 Now we can do some comparisons. The first comparison is of

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1 the administrative record and all citizens households. Notice
2 that 74.4 percent of them self-responded on the first
3 invitation to do so to the 2010 census, but only 65.6 percent
4 self-responded on the first invitation to take the ACS.

5 So the difference between 74.4 and 65.6 minus 74.8 is in
6 the third column. That is the 8.9 percentage point difference.
7 That's the difference in the self-response rates from the ACS
8 as compared to the 2010 census for households that contained
9 all citizens, both self-declared and administrative record
10 verified.

11 Do the same comparison for all other households. For all
12 other households, they self-responded on the 2010 census 62.7
13 percent of the time. They self-responded on the 2010 ACS only
14 42 percent of the time. So take the difference between those
15 two numbers, that is 42.0 minus 62.7, that equals minus 20.7.

16 So the all other households also responded less on
17 the American Community Survey, self-responded on the first
18 invitation, less on the American Community Survey than on the
19 2010 census.

20 The last thing we do is subtract those two differences. So
21 minus 20.7, minus a negative 8.7, is equal to minus 11.9. So
22 in the raw difference in difference natural experiment,
23 households containing either noncitizens or persons -- at least
24 one person for whom the citizenship status could not be
25 identified either by both an AR and an ACS response,

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1 self-responded 11.9 percentage points less than households that
2 were both self-identified and administrative record identified
3 as containing all citizens.

4 So that is the raw difference in differences, minus 11.9
5 percentage points.

6 Q. When you say raw difference in differences, what does that
7 mean?

8 A. So the difference-in-difference estimate using the 2010
9 data that points the finger at citizenship status as being
10 related to whether or not you self-responded on the ACS as
11 compared to the 2010 census. The ACS questionnaire has a
12 citizenship question. The 2010 census did not.

13 Q. In that raw 11.9 percentage points that we're talking
14 about, are any variables controlled for in that?

15 A. No. That is why I called it raw. That is literally the
16 difference in weighted proportions that the table indicates.
17 They are weighted because the American Community Survey is a
18 multi-stage probability sample, not a simple sample.

19 Q. So just for clarity, if we look at the full table seven, we
20 were just examining the bottom panel of table seven, is that
21 right?

22 A. That's correct.

23 Q. And what does the top panel show?

24 A. The top panel shows a slight predicting working of the
25 experiment that was contained in the January 19 memo to the

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1 Secretary, reworked because it is not weighted with a proper
2 standard error.

3 Q. Which of these analyses do you think is more appropriate
4 for examining this question?

5 A. Since the second analysis has been completed, that is the
6 one that I've been using and that we have been using internally
7 at the Census Bureau. The second analysis is the one in the
8 lower panel.

9 Q. There was some testimony regarding both noncitizens and
10 children of noncitizens who may themselves be citizens in terms
11 of responding.

12 How would that fall into this grouping of households
13 that you have here for the second panel?

14 A. So there are multiple ways that can fall in here.

15 If a citizen Hispanic or the citizen was living in a
16 household that was all citizens, everyone in the household was
17 a citizen, then they would be in the AR/ACS all citizen
18 household group. If any member of that household was not a
19 citizen, then they would be in the all other household group.

20 Q. If you did not know the citizenship status of someone in
21 the household, which group would that be in?

22 A. It would be in the all other household group. All
23 households on the master sample list for the ACS are in this
24 analysis whether they had administrative data or not.

25 Q. There was some testimony from Dr. Van Hook about the

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1 current population survey.

2 Why did this paper not use the current population
3 survey or CPS in its analysis?

4 A. So the current population survey is a monthly survey of
5 voluntary monthly survey of households with a very tight
6 production schedule that causes it to be in the field for only
7 ten days, and as soon as it comes out of the field, the data
8 are processed in order to allow the Commissioner of the Bureau
9 of Labor Statistics to announce the unemployment rate the
10 following first Friday of the next month.

11 As a consequence, it has very different field operation
12 instructions and controls and data processing from a decennial
13 census. By contrast, the American Community Survey is a
14 mandatory survey, sampled from a dense sample from the master
15 address file, the CPS is also sampled from the master address
16 file, so that is not the difference. It is the denseness of
17 the sample that is the difference.

18 Consequently, it provided a large amount of relevant data
19 on a questionnaire that contained a census -- a question on
20 citizenship. It was the more appropriate data said to be used
21 here.

22 Q. Lets turn to table eight on page 38.

23 Now, does that 11.9 raw difference in difference show up in
24 this table?

25 A. Yes.

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1 It is the third row, difference-in-differences minus
2 11.9 with the standard other of 0.07.

3 Q. Can you explain what analysis is being performed in this
4 table?

5 A. So in this table, an analysis is being performed to
6 decompose the 11.9 percentage points into a portion that could
7 be attributed to other questions on the American Community
8 Survey and a portion that cannot be attributed to other
9 variables on the -- other variables on the American Community
10 Survey.

11 So the portion that is labeled explained is the part that
12 is attributed to other questions on the American Community
13 Survey, and the part that is labeled unexplained is the part
14 that is attributed to no other questions and includes the
15 possibility that the citizenship question is the causal factor.

16 Q. How many questions are on the American Community Survey in
17 2010?

18 A. So the exact number of questions that any particular
19 household has to answer is a variable that depends on the size
20 of the household and the complexity of the housing unit they
21 live in. We have been using 70 as an acceptable approximation.
22 I know that seems like a reasonable number.

23 Q. Could you just briefly explain, you used the term a
24 decomposition.

25 Can you explain what that means?

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1 A. Yes.

2 The easiest way to explain how this works is with reference
3 to disparate impact, employment discrimination cases. If I
4 could use that analogy, which I think works pretty well here.

5 In a disparate impact employment discrimination case, you
6 wouldn't be focused on changes, you would be focused on the
7 level of some variable. Sometimes an employment probability,
8 sometimes a salary. But the difference-in-difference estimate
9 there, the raw minus 11.9, that would be like calculating the
10 difference between the mean of a protected group and the mean
11 of an unprotected group and subtracting them putting a proper
12 margin of error around it and asserting that the first evidence
13 of disparate impact is that the average salary for one group is
14 lower than the average salary for another or average
15 probability being higher for than one group is lower than the
16 average probability for another group. That would give you a
17 number comparable to the minus 11.9 percent there.

18 In most such cases, further analysis is conducted to try to
19 see whether any portion of that initial estimate, what would be
20 the 11.9 percentage points here, can be attributed to factors
21 that aren't the factors associated with the disparate impact of
22 being in a protected minority group.

23 So those are done by developing separate models. There is
24 one model in this case, one model for the all citizens
25 households and one model for the all other households. Those

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1 models take the potential explanatory factors in this case, the
2 other variables on the American Community Survey, and attempt
3 to explain the difference between the ACS response rate and the
4 census response rate as a function of those other explanatory
5 variables.

6 The model for the all citizen households has a set of
7 coefficients that explain how the other variables in the ACS
8 relate to their unwillingness to take the ACS as a self-
9 response relative to the census and the variables themselves,
10 the values of the things you're controlling for.

11 You predict all of the administrative record, all citizen
12 households, all citizen ACS and administrative record
13 households. The all citizen households -- let me just use that
14 short form. You predict them from their equation. Then you
15 take those coefficients from the all citizen household model
16 and the values of the variables from the all other households
17 data, and you predict the amount that the all other households
18 would non-respond if they non-responded using the same
19 coefficients as the all citizen households.

20 The difference between those two predictions is the
21 explained part of the difference. If all of the households in
22 the sample, both citizen and noncitizen, behaved the same way,
23 then you would expect 5.8 percentage point lower response to
24 the American Community Survey basically because of differences
25 in the characteristics of the all citizen households as

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1 compared to the all other households.

2 The balance, 11.9 minus a negative 5.8 equals minus 6.1
3 percent, the balance is unexplained. So it remains a candidate
4 to be due to the presence of a citizenship question on the
5 American Community Survey.

6 Q. OK. Just to unpack that slightly, there was some MAF terms
7 being thrown around there.

8 Could you explain, is this a way of rolling in certain
9 factors or ruling out certain factors?

10 A. It is a method of ruling out potentially confounding
11 factors that might have made that 11.9 percent too large or too
12 small.

13 Q. What factors did you attempt to roll out?

14 A. The confounding factors here can be taken from the American
15 Community Survey because although the dependent variable is
16 whether you self-responded on the first invitation to do so,
17 all the data from the American Community Survey are available
18 for all of the cases in the analysis because the American
19 Community Survey has multiple invitations it participate and
20 nonresponse followup and only the cases that were eligible for
21 nonresponse followup were selected.

22 So there is a complete questionnaire available, and so you
23 can get all the other variables on the American Community
24 Survey to use as control variables.

25 Q. Did you control for all other questions on the ACS?

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1 A. No.

2 The questions that are controlled for the ACS is
3 groups of questions that -- that attempt to cover major topic
4 areas in the American Community Survey that might plausibly be
5 related to other sensitive questions for some sub population.

6 Q. Are the questions that you attempted to --

7 THE WITNESS: I'm sorry, your Honor. I need a break.
8 I'm really sorry.

9 THE COURT: No worries. I told you if you needed one,
10 just to let me know.

11 Is five minutes OK?

12 THE WITNESS: Yes, that's fine.

13 THE COURT: Tell you what. I'll actually stay on the
14 bench. I can get more done anyway.

15 We'll take a five-minute break, and when Dr. Abowd is
16 ready to resume, we'll resume.

17 (Recess)

18 THE COURT: I think we're ready to go, Dr. Abowd.

19 THE WITNESS: Yes, I'm ready.

20 Thank you very much, your Honor.

21 THE COURT: All right. You are still under oath,
22 perhaps to your regret.

23 You may proceed, Mr. Ehrlich.

24 MR. EHRLICH: Thank you, your Honor.

25 BY MR. EHRLICH:

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1 Q. Dr. Abowd, we were looking at table eight in Plaintiffs'
2 Exhibit 162.

3 You were describing the mathematical terms, the
4 decomposition that you performed in order to rule out certain
5 factors here.

6 Are the factors that you attempted to control for listed in
7 this paper somewhere?

8 A. They are in appendix tables A13 and A14.

9 Q. Which of those tables relates to the bottom panel that
10 we're looking at here?

11 A. Well, they both relate to two different ways of summarizing
12 the coefficients. I think it is probably easier to look at
13 table A14. We don't need to look at both.

14 Q. I see a 5.8 here.

15 Is that the 5.8 decline in self-response that we have
16 been hearing about during the trial?

17 A. No, it is not. That is a coincidence that that particular
18 number is 5.8 percentage points.

19 We haven't gotten to the table that contains the
20 5.8 -- negative 5.8 percentage points that is the basis for the
21 estimate of the falloff in the self-response rate.

22 Q. Under this analysis here in table eight, what is the
23 relevant number we should be looking at if we are attempting to
24 examine the portion attributable to the citizenship question?

25 A. That would be minus 6.1 percent in the last row with a

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1 standard error of 0.16.

2 Q. To what extent would that unexplained number take into
3 account the other ACS questions that were not listed in tables
4 A13 or A14?

5 A. It takes them into account, to the extent that they are
6 correlated with the variables that are listed in tables A13 and
7 A14, which, as I said, were constructed by collecting up groups
8 of related variables.

9 Q. But it doesn't control for every individual question on
10 this?

11 A. To the extent that they are not correlated with those
12 variables, then they would be contained in the unexplained
13 portion still.

14 Q. To what extent, if any, is some portion of that 6.1
15 unexplained figure attributable to the cumulative effect of
16 asking all these questions rather than any one question?

17 A. So one of the control variables --

18 MR. HO: Objection. Leading, your Honor.

19 THE COURT: Overruled.

20 You may answer.

21 A. Yes.

22 One of the control variables is the size of the household,
23 which has the biggest effect on the number of questions that
24 you have to answer in the American Community Survey.

25 So to the extent that the overall complexity of the survey

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1 is correlated with that household size, that portion is in
2 explained, and to the extent that the complexity of the survey
3 is not the reason why those other questions were got fewer
4 responses and that not related to any of the other variables
5 controlled for, that would be in the unexplained part.

6 Q. To what extent, if any, does the macro environment figure
7 into the unexplained portion that results in the 6.1 figure?

8 A. So the macro environment is constant, almost constant. The
9 ACS is in the field over the entire period, and the census is
10 only in the field for a subset of the period, but approximately
11 constant.

12 These kinds of analyses can't make any sophisticated
13 controls for the macro environment. It is what it is when they
14 are calculated, and some portion of it could be picked up and
15 explained and some portion of it picked up and unexplained.

16 Q. Can you just briefly describe the effect of the macro
17 environment on census response rates?

18 A. So yes. I'll try to be brief.

19 In the design of any statistical test or analysis that is
20 meant to be informative about a decennial census, we say that
21 it mimics the census environment if it is conducted during the
22 operations of a real census.

23 In that sense, it may be generalizable to another census
24 environment because many of the same things were true, for
25 example, between 2010 and 2020. There is an advertising

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1 campaign and other parts of the macro environment that the
2 Census Bureau is able to influence.

3 On the other hand, there can be changes in the macro
4 environment, and the fact that you ran an RCT or any other kind
5 of experiment in one census doesn't automatically make it
6 possible to generalize to another census.

7 The same critique applies to statistical analyses
8 like these natural experiments. The extent to which they are
9 generalizable to other macro environments is limited.

10 Q. If we could put table eight side by side with table nine on
11 the next page.

12 Can you describe the relationship between these two tables
13 that we are looking at here, Dr. Abowd?

14 A. Yes.

15 For the very straightforward reason that we didn't run a
16 national census in 2016, the latest year for which ACS data
17 were available to do this study, you can't exactly repeat the
18 table seven and table eight analysis and produce it for 2016.

19 But the methodology embodied in table eight, the
20 Blonder-Oaxaca decomposition can be translated in a correct way
21 to the 2016 ACS because you can use the models that were fit
22 for table eight and the data, because it only comes from the
23 ACS that were fit in 2016 to predictions for the uncorrected
24 difference for the administrative record.

25 Lets just go straight to the bottom line. To get a

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1 prediction of that minus 5.8 percentage points that is
2 controlled for the explained factors by using the coefficients
3 from the table eight analysis for the all administrative
4 record, ACS all citizen households, and the data from the 2016
5 ACS to decompose the predicted difference into a part that is
6 explained and a part that is unexplained and the unexplained
7 part using the 2016 data, but the coefficients from the 2010
8 analysis is minus 5.8 percentage points.

9 It is an attempting to bring the analysis forward in time
10 as a function of the observables when you can't reestimate the
11 coefficients.

12 THE COURT: Mr. Ehrlich, can I take a step for one
13 moment?

14 MR. EHRLICH: Sure.

15 THE COURT: Don't get me wrong. I am enjoying
16 Dr. Abowd's seminar on all this stuff.

17 What is the point of this particular line of inquiry
18 and, in particular, his second opinion?

19 It seems like the parties are in agreement that the
20 best available data is that the citizenship question will cause
21 a decline in the self-response rate in certain segments of the
22 population.

23 If that is not in dispute, can we skip over this and
24 get to the NRFU part of his testimony?

25 It just seems like it might not really be necessary to

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1 dwell on this, since we have covered this ground and it is not
2 genuinely disputed.

3 Is there something else going on here that I am
4 missing?

5 MR. EHRLICH: It is possible, your Honor. I think the
6 point of the testimony here, and going into this level of
7 detail, was to show what the analysis could control for and
8 what it couldn't control for and what factors this analysis
9 gives you a good idea of and a bad idea of and how much of that
10 could possibly be related to the citizenship question in terms
11 of how good a proxy this is for how much self-response rates
12 would decline.

13 I just want to briefly have Dr. Abowd talk about some
14 other things that you have heard in this trial, and then I'm
15 happy to move to NRFU immediately after.

16 THE COURT: I'll give you a little bit more latitude,
17 but it does seem to me, I think he himself testified that the
18 citizenship question itself would result in a decline in
19 self-response rates in certain segments of the population.

20 If that is the case, it strikes me, to the extent
21 that this is relevant -- and I assume it is all a function of
22 standing -- that really the NRFU operations and imputation is
23 the critical part of this.

24 MR. EHRLICH: Understood, your Honor.

25 It was simply to demonstrate how there is uncertainty

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1 in the estimate of how much self-response rates would fall and,
2 therefore, how much NRFU would be needed, how much imputation
3 would be needed, etc.

4 THE COURT: All right.

5 BY MR. EHRLICH:

6 Q. If we can look at Plaintiffs' Demonstrative 11, please.

7 Dr. Abowd, do you remember Dr. Hillygus testifying on why
8 this estimate in the Brown paper might be conservative?

9 A. Yes, I do.

10 Q. I would just like to talk through some of these things that
11 Dr. Hillygus talked about.

12 Looking at the first one, Dr. Hillygus says that the
13 citizenship question is more prominent on the short form than
14 the ACS.

15 Do you agree with that?

16 A. Yes.

17 That is a reasonable statement in the sense that there
18 are fewer questions on the census and the citizenship question
19 is a noticeable addition to the census instrument as compared
20 to the ACS in terms of prominence. I think I accept the point
21 that the citizenship question will be encountered in a much
22 shorter form on the 2010 -- on the 2020 census.

23 Q. Do you agree that this prominence in terms of this slide
24 shows that the analysis in the Brown paper is conservative?

25 A. So, as I think I explained in my direct, there are multiple

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1 meanings when a statistician uses the term conservative.

2 What I continue to testify is that I don't have any
3 credible, quantitative evidence to adjust the magnitude of that
4 5.8 percent one way or the other based on directly -- responses
5 directly attributable to citizenship for the other part of the
6 universe, the part that the experiment couldn't comment on.

7 So it is conservative because we then took that estimate
8 and used it to make a cost analysis, and a cost analysis is
9 usually described as conservative when you mean that it is very
10 unlikely to be less than this and quite possibly more. It
11 could be more for a variety of reasons.

12 The assumptions underlying the cost analysis might
13 have been too conservative or the statistical analysis that
14 supported the cost analysis might have been too conservative.
15 In that sense, what is meant by conservative is not that I have
16 a better point estimate of the falloff in the self-response
17 rate. I do not. It is that we used to make conservative
18 estimates of the cost of mitigating the consequences.

19 Q. Dr. Abowd, how about this. I would like to streamline this
20 a little bit.

21 Looking at this slide here and thinking back on
22 Dr. Hillygus' testimony, are there bullets here that you
23 disagree with?

24 A. Yes.

25 I can just summarize them quickly. I know that your Honor

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1 wants to get on to other subjects.

2 So, basically, I think I've already testified that the
3 macro environment in 2020 is different from the macro
4 environment in 2010. So I have no further comment on -- I have
5 also testified that it would either be very or extremely
6 difficult to mitigate the citizenship question consequences in
7 2020, but not necessarily because of the citizenship question,
8 because of the macro environment.

9 I think that the analysis was a little confused in bullet
10 point three, and I hope I have straightened that out in my
11 cross-examination testimony. The availability of the
12 administrative records for noncitizens didn't affect the
13 estimate of this quantum.

14 None of the estimates assume anything like bullet four.
15 I'm not really sure where that came from. The response -- you
16 got into the all citizen household category in the preferred
17 version of the analysis. If you said you were a citizen on the
18 ACS, and we found you in the administrative record, as you said
19 you were a citizen in the administrative records. So that is
20 what it does. And if you were missing your citizenship status,
21 then you're in the all other household group either from the
22 ACS or the administrative records.

23 THE COURT: Let me interrupt.

24 I'm certainly all in favor of streamlining, but I also
25 hope to make a good record, and simply sort of responding to

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1 something that is on the screen but not actually reflecting the
2 transcript doesn't seem ideal for that.

3 Why don't we stick with the question-and-answer format
4 and go that way.

5 MR. EHRLICH: Sure, your Honor.

6 BY MR. EHRLICH:

7 Q. Dr. Abowd, Dr. Hillygus says here that the match data sets
8 were each more likely to omit noncitizens, thus combined set of
9 noncitizen household are biased.

10 Do you agree with that?

11 A. No.

12 The frame for the matched households was always the
13 MAF IDs that were selected for the American Community Survey,
14 and in the nonresponse followup sample and all those MAF IDs
15 are in the analysis.

16 Q. Dr. Hillygus also says that some of the estimates assume
17 that foreign-born individuals with missing citizenship status
18 in the administrative records are all U.S. citizens.

19 Do you agree with that?

20 A. So none of the analyses that I have discussed, none of
21 the ones that I recall from Brown, et al. In the case of the
22 salient estimate, the minus 5.8 percentage points, you had to
23 have responded on the ACS and be present in the administrative
24 data and successfully linked to be in the all citizen household
25 group. Every person in the household had to have that true.

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1 Q. Dr. Hillygus also says that the differential response rate
2 was calculated relative to all citizens rather than
3 non-Hispanic whites, which she says is how the differential
4 undercount is calculated.

5 Do you agree with that?

6 A. So I don't disagree with that statement. There is a
7 variety of ways to calculate differential net undercounts or
8 other things.

9 The convention when the Census Bureau published these
10 things is to take the differential relative to the population.
11 And when many other analysts take those same data, instead of
12 taking the differential relative to the general population,
13 they take the differential of one group relative to another.

14 So we didn't do anything in the natural experiment that
15 would have a different interpretation if you chose to take the
16 differentials in another form.

17 Q. Dr. Hillygus also says that the likely impact would be
18 broader than noncitizens to include Hispanics and immigrant
19 populations.

20 Does the analysis in Brown, et al. capture that?

21 A. So it does not capture that directly. It captures it to
22 the extent that Hispanics and other immigrant populations are
23 correlated with what we designated as all other households. So
24 all other households as considerable overlap with Hispanic
25 ethnicity and considerable overlap with other immigrant

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1 populations.

2 Q. Then lastly, Dr. Hillygus says that depending on modeling
3 assumptions, Brown, et al. estimates range from 5.1 to 11.9.

4 Do you agree with that?

5 A. I think I just expressed how that would properly be done
6 with the analysis that the ranges from 5.1 percentage points to
7 5.8 percentage points.

8 Q. We can take this down.

9 One last point on self-response before we turn to NRFU.

10 Do you recall Dr. Barreto's testimony regarding his
11 survey he ran?

12 A. Yes, I do.

13 Q. What is your opinion of his survey?

14 A. So Dr. Barreto ran a public opinion survey of a telephone
15 interview form sample from a combination of telephone lists
16 used for that purpose and asked questions about intentions to
17 do -- basically intentions to take the 2020 census in various
18 forms.

19 He randomized which questions were asked to certain
20 populations or certain sub samples. He didn't randomize the
21 order in which the experiment was conducted. He drew
22 conclusions about the relationship between the reported
23 intentions to do something in a single survey to various
24 operations in the 2020 census.

25 I disagree with most of those conclusions primarily

IBESNYS3

Abowd - Cross

1 because the asking someone about their intention to do
2 something and actually measuring what they do in a field
3 experiment is very different.

4 Just because something is randomized doesn't make it
5 a salient, randomized controlled trial. You are trying to
6 randomize the treatment that you actually want to implement.
7 In this case, the relevant randomization is over whether or not
8 there is a citizenship question in the census form when you're
9 asked to take it.

10 The other reason that I disagree with Dr. Barreto's
11 conclusions is that he had a 29 percent response rate, and that
12 is perfectly respectable for public opinion polling. In fact,
13 the CBAMS survey that we discussed earlier had a 31 percent
14 response rate. But the Census Bureau, when it used the CBAMS
15 result, used them to inform marketing and partnership
16 decisions, not to make an inference about what would happen on
17 the 2020 census, certainly not to make an inference about which
18 sizes of households might be more or less inclined to go to
19 proxy.

20 You have to be a lot more careful about the survey design
21 if you want to do those household or population comparisons.
22 In particular, you have to make sure the weights are correct
23 so, in his analysis, the average household size is bigger for
24 the whole population, is bigger than the estimate from the
25 current population survey substantially bigger, so that means

IBESNYS3

Abowd - Cross

1 he didn't control his weights to any objective population
2 totals, which is also perfectly fine for opinion polls. But
3 not if you're then going to subsequently make an inference
4 about the difference in the households sizes from two different
5 sub populations, and particularly if you're not going to make
6 an inference about one of those sub populations based on a very
7 small sub sample of your survey data in the first place.

8 When you do that, not only do you have to get the weights
9 right, you have to get the margins of error right. I'm not
10 able to determine whether he made any corrections to the
11 clustering that the various telephone lists that he used to
12 draw the sample would have induced. I think the margins of
13 error are seriously understated if that wasn't done.

14 So basically you can use that survey to say exactly the
15 same thing that I've been saying since January 19. The
16 presence of a citizenship question on the 2020 census is likely
17 to depress self-response rates, and the people who are not
18 likely to self-respond are going to be more difficult to follow
19 up.

20 I don't think those points are in contention, and
21 Dr. Barreto's survey provides additional evidence for them. It
22 doesn't in any way explain how the NRFU component would be
23 related to the survey component. It is all about intentions.

24 Q. Just one more question, Dr. Abowd, on Dr. Barreto's survey.
25 We'll talk about his NRFU component in a moment.

IBESNYS3

Abowd - Cross

1 If you were in Dr. Barreto's shoes and you had a limited
2 budget to run some sort of experiment to try and gauge the
3 falloff in self-response, how would you do that?

4 A. I would construct an RCT in which the components of the RCT
5 came as close to census practice as possible. So I would use a
6 mail contact for the RCT that carefully said this is not
7 mailing from the Census Bureau. We are in a few weeks going to
8 send you an invitation to take the census as it is currently
9 designed, and then follow that up with an invitation to take
10 the actual census. And the treatment would be with the
11 citizenship question on the control without. Doesn't matter
12 how you label them. One would have a citizenship question, one
13 would not.

14 The most currently available version of the questions
15 from the census ask for responses, measure the difference in
16 self-response rates, and then if you want to do followup, look
17 at the people who didn't follow up and go back and contact them
18 a second time. That simulates a census-taking process.

19 Q. I would like to move to the main event here and talk about
20 NRFU, looking at slide four.

21 Now, we have talked about the self-response portion and how
22 your estimate of how that would fall off.

23 Can you explain your NRFU opinion in this case?

24 A. So I want to explain my NRFU opinion in a very careful way.

25 I do not believe that I have produced or any of the

IBESNYS3

Abowd - Cross

1 external experts have produced credible quantitative evidence
2 that the addition of the citizenship question in the 2020
3 census will increase the net undercount or create the
4 differential net undercount for identifiable sub populations
5 and that the NRFU process itself is designed to produce an
6 accurate count.

7 I am prepared to explain why I have not opined on whether
8 the quality corruptions, the quality effects of the citizenship
9 question on the census data don't translate all the way into
10 net undercount and differential net undercount estimates.

11 Q. Thank you, Dr. Abowd.

12 What households are included in the NRFU workload?

13 I know we just looked at self-response. How would a
14 household go into NRFU?

15 A. Very near the end of the self-response period,
16 approximately six weeks in, operational control system will
17 identify all of the addresses in the master address file for
18 which there is no response in the system, whether by Internet,
19 by mail, or by phone.

20 That set of addresses that have no self-response by the end
21 of the self-response period, approximately the end of the
22 self-response period, are called the NRFU workload. They are a
23 set of MAF IDs that have not been counted.

24 Q. If a household simply skipped a question on the
25 questionnaire, would they be included in that NRFU workload?

IBESNYS3

Abowd - Cross

1 A. No.

2 Q. If they broke off the survey and refused to answer past,
3 for example, the citizenship question, would they be included
4 in the NRFU workload?

5 A. No.

6 Q. In either of those situations, would the household not be
7 counted?

8 A. The household would be counted in both situations. They
9 would be sitting in the list of MAF IDs that had been resolved
10 by self-response.

11 Q. What is the budget for NRFU operations in 2020?

12 A. The budget for NRFU operations in fiscal 2020 has not yet
13 been determined because we don't yet have a 2020 appropriation.

14 The life cycle cost estimate for the NRFU is \$1.5
15 billion, and that all occurs during fiscal 2020. And the life
16 estimate is appropriated that would be the budget for the NRFU.

17 Q. Is there any amount of contingency funding?

18 A. Once again, we do not have a 2020 appropriation. For that
19 matter, we do not have a fiscal '19 appropriation. The life
20 cycle cost estimate contains \$1.7 billion of contingency
21 funding in the fiscal 2020 component. So if the appropriation
22 also includes the contingency fund, the amount available in
23 2020 for contingencies will be \$1.7 billion.

24 Q. What self-response rate assumptions are built into the
25 projected budget for NRFU?

IBESNYS3

Abowd - Cross

1 A. So as we discussed earlier, the Census Bureau uses a range
2 of projected self-response rates between 55.5 percent and
3 65.5 percent. We use the mid point of that, 60.5 to make other
4 comparisons. For budgeting purposes, the NRFU budget is
5 calculated at the bottom end of that estimate. So it is
6 calculated based on a self-response rate of 55.5 percentage
7 points, meaning that the balance would go into the NRFU
8 workload.

9 Q. If we could look at slide 15 for a moment.

10 Dr. Abowd, can you explain, just generally speaking first,
11 and then we can go through this more specifically, what this
12 table is depicting?

13 A. So this table is depicting the incremental -- the increase
14 in the NRFU expense or budget under four different scenarios
15 for the effect of the citizenship question on nonresponse
16 followup, on the nonresponse follow-up work load, to be
17 precise.

18 Q. Could you explain, looking at the first column here, two
19 percent decrease in noncitizen self-response rate, can you
20 explain what that column is showing?

21 A. So that column is showing, based on the sub population that
22 we identified as being sensitive to the citizenship question,
23 households that may contain a noncitizen, 28.6 percent of the
24 households on the expected number of households on the MAF ID
25 list, MAF list, if there were, instead of the estimated

IBESNYS3

Abowd - Cross

1 5.8 percentage point falloff, if there were only a 2 percentage
2 point falloff in self-response in those households, then the
3 overall decline in self-response would be 0.5 percent. The
4 NRFU workload, those are the addresses that get sent into the
5 field for NRFU work, would go up by 0.7 million. And using the
6 average cost assumptions in the life cycle cost model, the
7 expected incremental cost would be 27.5 million.

8 Q. Looking at the second column here, this says 5.8 percent
9 decrease in noncitizen self-response rate.

10 Where does that come from?

11 A. This column is exactly the Brown, et al. preferred estimate
12 of the falloff in self-response rates, so the 5.8 percent in
13 the affected population of 28.6 percent of households, that
14 translates to an overall decline in the self-response rate of
15 1.5 percentage points. That is applied to the MAF universe.
16 The incremental NRFU workload is therefore 2.1 million
17 addresses. And at the average cost of processing that
18 workload, the estimated cost would be 82.5 million.

19 Q. And then the third column here, the 10 percent decrease in
20 noncitizen self-response rate, can you explain what that is
21 referring to?

22 A. That is designed to show a much larger falloff in
23 self-response among the potentially affected households, the
24 28.6. So if 10 percent -- if their self-response rate falls
25 by 10 percent damage points, then the overall self-response

IBESNYS3

Abowd - Cross

1 rate would fall by 2.5 percentage points. That would put an
2 additional 3.6 million addresses into the NRFU workload, and at
3 the average cost of processing the NRFU workload, it would come
4 to \$137.5 million. That's the extra cost.

5 Q. Now, the fourth column talks about the 1992 simplified
6 questionnaire test. I think you have talked about this a
7 little bit on direct.

8 Can you explain what that was?

9 A. I think I explained it pretty thoroughly on direct. I'll
10 just review, and if there are questions, I'm sure you can
11 remind me.

12 That 3.5 percentage points, 3.4 percentage points was the
13 difference between a randomized control trial of a simplified
14 short form in one case with the Social Security number on it
15 and with a request for the Social Security number on it and the
16 other case without that specific question.

17 So the households that got the questionnaire that contained
18 the request for the Social Security number self-responded 3.4
19 percentage points less than the other households. It is an
20 estimate that applies to the entire population rather than to
21 just an identifiable sub group.

22 Q. What is your opinion of how the Social Security number
23 question would relate to a citizenship question?

24 A. So the Social Security number question might be more
25 sensitive than a citizenship question for some people and less

IBESNYS3

Abowd - Cross

1 sensitive for other people. I don't have any survey evidence
2 to suggest one way or the other, so the main point of using
3 this was that that analysis identified it as a sensitive
4 question identified it as a sensitive question in the entire
5 population and provided an RCT estimate of a falloff in
6 self-response.

7 So I included for illustrative purposes it was a valid RCT
8 of a similar question to citizenship, but not the same one.
9 Once again, the increase to the workload would be 4.9 million
10 addresses, and the total cost processing network load of the
11 average cost for the workload would be 187 million extra
12 dollars.

13 Q. These increased costs that you were just referring to for
14 each of these scenarios, what is that based on?

15 A. So the extra addresses in the NRFU workload are converted
16 to an expected NRFU cost based on the life cycle cost estimate
17 of \$55 million per one percentage point change in the NRFU
18 workload where those percentage points are calculated on the
19 whole MAF database.

20 If one percent more MAF IDs go into the NRFU workload, the
21 average cost of processing them in the current life cycle cost
22 estimate is \$55 million. That estimate itself is a composite
23 number of parameters. It holds constant the structure of the
24 NRFU, how many area census officers there are, how many
25 supervisors there are, but it varies the deployment of

IBEsNYS3

Abowd - Cross

1 enumerators in order to work those addresses.

2 So that is the variable cost or the enumerator's cost,
3 the supervisor's cost, and the other incremental cost
4 associated with the field work. They are reflected in the
5 \$55 million estimate.

6 It does assume the average amount of visits to an address
7 in order to resolve it, which is three.

8 (Continued on next page)

IbeWnys4

Abowd - Cross

1 BY MR. EHRLICH:

2 Q. And under any of these four scenarios you just discussed
3 and under the projected budgets we just discussed, would the
4 Census Bureau have available resources to meet these demands?

5 A. If the expenses noted in the life cycle cost estimate for
6 fiscal 2020 are appropriated, including both the NRFU cost and
7 the contingency cost, then there would be \$1.7 billion of
8 contingency available. I think it's pretty clear that these
9 numbers are all well below 1.7 billion, and in fact, if you
10 make them less conservative and assume that all of these
11 households go to six visits, then those numbers just double,
12 and they're all still below 1.7 billion.

13 Q. In what ways -- if the NRFU increases, in what ways can the
14 Census Bureau adapt the NRFU operations?

15 A. So, the NRFU operations are budgeted based on estimates and
16 simulations. The estimates are customized to the area that the
17 area census office is supposed to cover. There are 248 of
18 those area census offices. They are not equal sized, so some
19 of them are quite a bit larger than others; for a variety of
20 logistical reasons, they're not approximately the same size.
21 But they each have enumerators, field supervisors and field
22 managers in approximately a fixed ratio, and then there's more
23 area, area census managers per census office manager in the
24 larger offices. The workload is adjusted by using the field
25 operational control system and the optimizer that's built in to

IbeWnys4

Abowd - Cross

1 assign enumerators a more intense workload if the workload
2 turns out to be bigger than what we had projected.

3 The way that we attempt to make sure that those resources
4 are available is, beginning in November of 2019, we begin
5 recruiting the NRFU enumerators. In the 2018 end-to-end test,
6 we attempted to recruit five times more recruits than we were
7 going to ultimately need to deploy as enumerators. The final
8 ratio for 2020 hasn't been determined, but it will be something
9 like that. So we have this pool of recruits that we started
10 processing in November. We get them to the point where they
11 can be -- pass the security check, on-boarded, trained and
12 they're ready to deploy. They're now being deployed with this
13 field operational control system and its optimizer. You just
14 adjust the workloads. There has to be enough capacity to
15 adjust their workloads. So there is enough capacity in the
16 current cost model because it's built on 55.5 percentage point
17 MAF resolutions, so a complement of that is the workload. And
18 none of these estimates take you down to that number, so the
19 capacity to deploy enumerators is already built into the NRFU
20 system.

21 Q. When you say none of these estimates, what are you
22 referring to?

23 A. In the demonstrative in front of me, only the 4.9 million
24 workload estimate at the end brings the NRFU workload close to
25 the workload that the NRFU budget was calculated on. So 60.5

IbeWnys4

Abowd - Cross

1 percent minus -- the number to subtract is the 3.4 percent
2 above it, is still bigger than 55.5 percent. So the
3 recruiting, on-boarding, training and preparing to deploy built
4 into the NRFU cost estimates and operational plan, as it was
5 designed before the citizenship question was added, cover the
6 needed resources to perform this NRFU.

7 MR. EHRLICH: And let's talk about data enumerators
8 specifically, looking at defendants' demonstrative 16. And you
9 talked about recruiting enumerators here. And actually, let's
10 turn to slide 17.

11 Q. Can you explain how enumerators are recruited?

12 A. So, the enumerator recruitment process involves a general
13 call to apply for positions at the Census Bureau in a variety
14 of media. Those are actually ongoing at the moment, but not
15 for field enumerators but for other positions that we're hiring
16 for the 2020 census, so -- and each area census office has its
17 own compensation package structured for recruiting in that
18 area. The advertisements for that area are targeted to the
19 area census office because the area census office is expected
20 to recruit enumerators who live within the community that
21 they're enumerating or who can travel to that community at very
22 low travel time, preferably who live in it.

23 When they're recruited, they go to a recruitment form, an
24 online recruitment form and fill out an application. Then the
25 application is screened. Those that pass the screening are

IbeWnys4

Abowd - Cross

1 sent for security check, and the security check involves
2 fingerprinting the applicant, and then the fingerprints and the
3 security questionnaire are reviewed to issue a security
4 clearance. That security clearance is an OPM public trust
5 clearance, office of personnel management public trust
6 clearance, similar to the clearance that other census employees
7 get but handled by a set of contractors who have been hired to
8 facilitate on-boarding so many enumerators all at once. They
9 are then trained. The training is a combination of online
10 training and paper training.

11 Q. And I want to talk about deployment in a second, but just
12 going back to recruiting for a moment, there's been a lot of
13 testimony about the Census Bureau's ability to hire noncitizens
14 as enumerators. What is your understanding of how that would
15 work?

16 A. So, the enumerators are actually hired as what are known in
17 the civil service as schedule A temporary employees, so that
18 means that the civil service criteria for hiring them are in
19 schedule A. There are other schedules, like GS for general
20 civil service. Those, those regulations permit the hiring of
21 temporary employees who are not citizens of the United States.
22 However, the current appropriation -- that would be the 2018
23 Appropriation Act, which is still binding on the Census Bureau,
24 because that's a continuing resolution -- has specific language
25 in Section 704 -- save you having to look it up -- that limits

IbeWnys4

Abowd - Cross

1 the use of noncitizens.

2 So, first of all, it gives preference to citizens for all
3 temporary hiring. And then it limits the hiring of noncitizens
4 to temporary positions of no more than 60 days or translator
5 positions. There are some other exceptions, but they're not
6 germane. So in the context of the current Appropriation Act
7 prohibition on hiring temporary employees who are not citizens
8 other than those that are explicitly excepted, the Census
9 Bureau is trying to get the position of enumerator -- so a
10 current interpretation is that we have to hire citizens only
11 because we haven't gotten the following exception approved. We
12 are trying to get the position of enumerator, where the
13 enumerator goes to an address, conducts the interview in the
14 target language, and then fills out the enumerator form on the
15 iPhone in English, getting that job classified as a translator
16 job, which would qualify it for the exception under Section
17 704.

18 We are also trying to get Congress to remove that exception
19 for the temporary hiring of the Census Bureau or to modify it
20 so that it's clear that an enumerator falls within the
21 exception. Those are the actions we're taking to attempt to be
22 able to hire noncitizen enumerators.

23 Q. And turning to slide 18, can you describe how enumerators
24 are actually deployed and how they go about visiting specific
25 households?

IbeWnys4

Abowd - Cross

1 A. Yes. So, this is the biggest difference in the NRFU
2 operation for 2020 as compared to 2010. Virtually everything
3 has been automated. The first consequence of that automation
4 is there's much less need for physical logistical control
5 between headquarters, the area census offices, the area census
6 managers, the field managers, the field supervisors and the
7 field enumerators.

8 Under the old paper-and-pencil system, the field
9 supervisor -- that's the lowest level of supervision -- had to
10 meet in the field at the beginning of every day to hand out the
11 paper assignments that included the questionnaires, the map of
12 where you were supposed to go and the other tools that the
13 enumerator was going to use. That meant that the offices that
14 those supervisors operated off of had to be physically closer
15 to all of the enumeration sites. There's no such meeting done
16 now.

17 The enumerators have an iPhone 8. The iPhone 8 has loaded
18 into it all of the software that they need to do their job.
19 They enter their work availability for the next week. They
20 receive their work assignments. They receive the optimized
21 route, which optimized not just for the travel time but for the
22 time of day that's best to visit that address. They do not
23 have to have a meeting with their field supervisors, ever.
24 They have the telephone number of the field supervisor in that
25 if they have an operational problem, their instructions are to

IbeWnys4

Abowd - Cross

1 call the field supervisor, most of whom are now operating out
2 of the area census offices, but they don't have to be close to
3 where they're supervising. That basically means that we can
4 control the workload of the enumerators much more precisely
5 than in 2010.

6 That has a couple of consequences. Not only do you get the
7 enumeration done more efficiently but you can also learn who
8 the more efficient enumerators are. The workloads can be
9 adjusted so the more efficient and accurate enumerators get
10 more workload and get more pay as a consequence.

11 Q. How many visits would a household get if they did not
12 self-respond, are in the NRFU workload and then they begin to
13 get enumerator visits; what's the amount that they could
14 receive?

15 A. So, I know there's been a lot of talk about three and six
16 as numbers that are important in estimating what happens in
17 NRFU. Those numbers come primarily from the operational plan
18 for the 2010 census. It's more complicated, not surprisingly,
19 for the 2020 census, because while the NRFU workload is under
20 the control of the field operational control system and the
21 workload is being generated by the optimizer, the OCS, the
22 operational control system, is not just keeping track of how
23 many visits there were requested but is keeping track of how
24 many successful visits; that is, that the enumerator actually
25 got to that address.

IbeWnys4

Abowd - Cross

1 The goal is to try to get all of the follow-ups done in up
2 to six visits. But as the workload gets completed, at some
3 point between 70 and 80 percent completion, the control is
4 turned over to the area census manager and distributed down to
5 the field managers and field supervisors. They then set the
6 assignments for the enumeration, and so while six shows up
7 prominently in a lot of the planning documents, the actual
8 number of visits is constrained by the time available until the
9 NRFU operation is cut off and the efficiency with which the
10 enumerators can be deployed.

11 Q. And you mentioned several times an optimizer. Can you
12 describe what an optimizer is?

13 A. So, one of the components of the operational control system
14 is a route optimizer that was developed from commercial
15 software but customized for use by the census. That optimizer
16 has available to it the current incomplete workload in NRFU,
17 meaning as of midnight of -- as of midnight, at the end of
18 Monday -- the reason I always hesitate is midnight is
19 technically the next day. So as of 11:59 p.m. on Sunday, the
20 optimizer has available all of the completed workload. Since
21 most of that workload was completed either by Internet
22 self-response or by the enumerator, it's current as of 11:59
23 p.m. It also has available those mail responses that have been
24 checked in at the national processing center or the other paper
25 capture processing center, so we can then determine what the

IbeWnys4

Abowd - Cross

1 remaining NRFU workload is, and associated with each address is
2 a best time to visit that address that's determined from
3 statistical models that are being processed at the same time.
4 They also have, from 11:59 p.m. until the workload is generated
5 at 8 a.m. the next morning, to do all the prediction. We call
6 this adaptive design, but we haven't talked about it very much,
7 and it's been built into the optimizer as well. So that by
8 8:00 in the morning, they can push out to the iPhones of all
9 the enumerators their workload for that day, what addresses to
10 visit, what route to take, and that route to take delivers them
11 to the houses in approximately the optimal time according to
12 what the database says. So all of that routing is handled by
13 the optimizer.

14 MR. EHRLICH: I'd like to turn to Plaintiff's Exhibit
15 448 and talk about this for a minute.

16 Q. Dr. Abowd, do you recognize this?

17 A. Yes, I do. It's a report -- report to the national
18 advisory committee on racial, ethnic and other populations,
19 November of 2017.

20 Q. Who gave this presentation?

21 A. Mikelyn Meyers. She's a research sociologist who works in
22 the research methodology directorate.

23 MR. EHRLICH: If we could turn to page 3 for a moment,
24 the presentation notes increased rates of unusual respondent
25 behaviors during pretesting and production surveys, data

IbeWnys4

Abowd - Cross

1 falsification, item nonresponse and breakoffs.

2 Q. Dr. Abowd, if there was data falsification for the
3 citizenship question on the census, would that household still
4 be counted?

5 A. Yes.

6 Q. If there was item nonresponse on the citizenship question
7 for the census, would that household be counted?

8 A. Yes.

9 Q. And if there were breakoffs at the citizenship question on
10 the census, would that household be counted?

11 A. Yes.

12 MR. EHRLICH: Could we turn to slide 4 for a moment.

13 Q. Dr. Abowd, can you describe what this slide is describing?

14 A. This slide's describing a summary of the activities that
15 were being conducted inside the center for survey measurement
16 at the Census Bureau. They were being conducted between
17 February and September of 2017 as a part of the regular
18 operations of that center and supportive of a variety of
19 surveys that are conducted by the Census Bureau.

20 Q. And this slide talks about small qualitative
21 nonrepresentative samples. Can you describe what that means?

22 A. Yes. That's a disclaimer that the methodologists and the
23 center for survey measurement used to indicate that numbers
24 that are presented in such reports do not have the statistical
25 quality that is required in the Census Bureau publication to

IbeWnys4

Abowd - Cross

1 attribute statistical significance to them. So they are
2 reports, quantitative reports about the operation. They are
3 not statistics to make inferences from.

4 MR. EHRLICH: And if we could turn to slide 7, I
5 believe Dr. Barreto testified about this slide. It notes that
6 respondents intentionally provided incomplete or incorrect
7 information about household members, and one of the bullets
8 says that household members were left off the roster.

9 Q. Dr. Abowd, are you aware of any evidence that certain
10 households would purposely omit household members from the
11 questionnaire?

12 A. Well, I'm aware of this evidence. Getting accurate
13 household rosters has been a continuing issue whether or not
14 there's a citizenship question on the census. I'm not aware of
15 any quantitative evidence relating to the presence of a
16 citizenship question to a predictable change in the
17 incompleteness of the household roster.

18 Q. And when was this presentation given?

19 A. September -- November of 2017.

20 MR. EHRLICH: If we could turn to page 14 for a
21 moment.

22 Q. Dr. Abowd, what is this slide explaining here?

23 A. So, from the same presentation, this is a report by the
24 center for survey measurement of what we call the para data
25 from an ongoing survey where the para data came from the field

IbeWnys4

Abowd - Cross

1 interviewers requesting additional support; in other words,
2 they were having difficulty converting the respondents -- the
3 sampled entities into respondents. They requested ad campaign,
4 a statement about immigration materials and other support
5 primarily to address respondents' concern about confidentiality
6 of the data collected by the Census Bureau.

7 Q. And how has the Census Bureau taken these points into
8 account in its 2020 operations?

9 A. So, as I believe I testified on direct, we are aware that
10 there is a heightened concern about the confidentiality of the
11 data that we collect and about the ability -- well, about
12 whether or not it would be used inappropriately by another
13 branch of the federal government. We have begun developing
14 partnership and communication materials that we will test to
15 see if they are effective in addressing this.

16 The law hasn't changed. The data are confidential. They
17 cannot be supplied in identifiable form to another agency of
18 the federal government for any purpose, and the publications
19 have to preserve that confidentiality and will use the
20 strongest available confidentiality protection system that can
21 be implemented. The Census Bureau will be the first
22 statistical agency to implement that protection system on a
23 census.

24 MR. EHRLICH: If we could turn to plaintiffs'
25 demonstrative 28.

IbeWnys4

Abowd - Cross

1 Q. Dr. Abowd, Dr. Barreto testified why some research
2 indicates NRFU is unlikely to succeed with those sensitive to a
3 citizenship question. I just want to talk about those for a
4 moment. His first bullet references a 1992 study about
5 undocumented immigrants avoiding contact with census field
6 workers.

7 What is your opinion of this study that Dr. Barreto is
8 referencing here?

9 MS. GOLDSTEIN: Objection, your Honor. This opinion
10 was nowhere referenced in Dr. Abowd's original report nor was
11 it mentioned at his deposition, where he went into detail about
12 his criticisms of Dr. Barreto's report.

13 THE COURT: Mr. Ehrlich.

14 MR. EHRLICH: Your Honor, we specifically litigated
15 whether Dr. Abowd could respond to Dr. Barreto's conclusions on
16 self-response and NRFU and differential net undercount, and
17 your Honor ruled in favor of us. I would reference ECFs 387,
18 404 and 422 on that, and I believe your order is at 452
19 allowing these criticisms.

20 MS. GOLDSTEIN: Your Honor, with respect to those
21 criticisms, these specific issues with respect to Dr. Barreto's
22 studies were nowhere mentioned or encompassed within the
23 criticisms that he made at that deposition above and beyond his
24 failure to identify those criticisms in his report.

25 MR. EHRLICH: Your Honor, I believe you ruled that you

IbeWnys4

Abowd - Cross

1 would allow Dr. Abowd's testimony and give it its due weight.
2 Dr. Barreto's conclusions went to self-response and why NRFU is
3 not going to make up for a decline in self-response, and
4 Dr. Abowd is testifying about that exact thing right now and
5 that was obviously extensively discussed in his 26(a)(2)(C)
6 disclosure.

7 THE COURT: All right. I'll allow it for now, and
8 we'll revisit this as well in short order. I just need an
9 opportunity to review the docket entries that you referenced.

10 Thank you.

11 MR. EHRLICH: Thank you, your Honor.

12 Q. Dr. Abowd, the first bullet here references undocumented
13 immigrants in San Diego, Miami and Marin County, Oregon,
14 avoiding contact with census field workers, contributing to
15 census omissions, according to 1992 studies.

16 Do you have familiarity with these studies?

17 A. I have some familiarity with them, yes.

18 Q. And what is your opinion of those studies?

19 A. Well, the studies I have familiarity with document that
20 undocumented immigrants -- their description changes from
21 decade to decade -- have been a continuing problem with census
22 enumeration that -- whether or not there was a citizenship
23 question on the form. While we understand that that's a
24 challenge for the 2020 census, that was going to be a challenge
25 for the 2020 census whether there was a citizenship question or

IbeWnys4

Abowd - Cross

1 not.

2 Q. And looking at the second bullet here, the Census Bureau
3 concluded in 2018 that households deciding not to self-respond
4 because of the citizenship question are likely to refuse to
5 cooperate with enumerators. There's no cite at the end of that
6 but I believe it comes from the Brown *et al.* paper. Does that
7 make sense?

8 A. Yes, it does.

9 MR. EHRLICH: If we could turn to page 41 of
10 Plaintiffs' Exhibit 162, and the highlighted section here
11 reads, as Dr. Barreto quoted it. The end of the sentence talks
12 about proxies. I want to get back to that in a moment.

13 Q. Dr. Abowd, what is your opinion of households deciding not
14 to self-respond because of the citizenship question being
15 likely to refuse to cooperate with enumerators?

16 A. So, that's one of the contingencies that we examined. We
17 examined that, not only that they would be processed in NRFU at
18 the average cost but processed in NRFU as if they had gone all
19 the way to a proxy interview or even all the way to the sixth
20 attempt and the count imputation. We acknowledge that that
21 kind of NRFU processing results in lower quality data, but we
22 do not -- I have not seen any credible quantitative evidence
23 that will affect the net undercount or differential net
24 undercounts.

25 Q. And what steps is the Census Bureau taking in order to

IbeWnys4

Abowd - Cross

1 attempt to enumerate households that are reluctant to interact
2 with enumerators?

3 A. This is primarily the function of the partnership program
4 and the integrated partnership and communications program.

5 In the partnership program, we recruit local partners --
6 they're the most relevant ones here -- with specific knowledge
7 of the communities that we are trying to enumerate; ask them to
8 help us explain the confidentiality protections that are
9 applied and, in addition, the benefits to the community as a
10 whole from getting an accurate enumeration.

11 Q. And for enumerators visiting a particular household, what
12 time of the day would they contact that household?

13 A. So, one of the features of the optimizer in the operational
14 control system is that it can learn about characteristics of
15 the successful enumerations and program the enumerators to go
16 during times of the day when other visits have been successful
17 in that specific neighborhood.

18 Q. And who in a household is qualified to answer on behalf of
19 a household in the NRFU process?

20 A. Anyone over the age of 15.

21 MR. EHRLICH: If we could turn back to Dr. Barreto's
22 demonstrative, 28.

23 Q. The last bullet here cites a census study regarding
24 immigration enforcement laws in Arizona and Texas passed
25 shortly before the 2010 census and how they had an important

IbeWnys4

Abowd - Cross

1 role in enumeration.

2 Dr. Abowd, are you familiar with this study?

3 A. In the same way that I'm familiar with other immigration
4 studies generally, yes.

5 Q. And do you have an opinion on this study?

6 A. So, once again, the Census Bureau acknowledges that
7 immigration laws, immigration activity make NRFU operations on
8 the conduct of the whole census more difficult. Our intention
9 is to rely on the partnership and communication campaign and on
10 the selection of enumerators from the neighborhoods that
11 they're trying to enumerate. This was also going to be a
12 problem whether or not there was a citizenship question on the
13 census, and I don't know any quantitative evidence that
14 specifically assigns it to the citizenship question.

15 MR. EHRLICH: If we could pull up Plaintiffs' Exhibit
16 678 for a moment.

17 Q. Dr. Abowd, do you recall Dr. Barreto's testimony regarding
18 NRFU and his attempt to simulate that through his survey?

19 A. Yes, I do.

20 Q. What is your opinion of how Dr. Barreto's survey simulates
21 NRFU?

22 A. So, Dr. Barreto's survey doesn't --

23 MS. GOLDSTEIN: Objection, your Honor.

24 THE COURT: Hang on.

25 MS. GOLDSTEIN: For the same grounds as previously

IbeWnys4

Abowd - Cross

1 stated.

2 THE COURT: Can you say that again.

3 MS. GOLDSTEIN: For the same grounds as previously
4 stated.

5 THE COURT: Namely, that this is not --

6 MS. GOLDSTEIN: Not within the scope of Dr. Abowd's
7 expert report. Likewise, Dr. Abowd, during his deposition,
8 weighed in on no specific charts or analysis from Dr. Barreto
9 but only spoke about this very generally, and now he's
10 providing a specific analysis with respect to those underlying
11 calculations that he had not previously disclosed.

12 THE COURT: But he did speak to this generally in the
13 deposition.

14 MS. GOLDSTEIN: He spoke only very generally. He
15 disagreed with Dr. Barreto's conclusions.

16 THE COURT: All right. The objection's overruled.
17 And while we're at it, the last objection's overruled just
18 because I don't think the answer particularly affects things.
19 We'll leave it at that.

20 Go ahead.

21 MR. EHRLICH: Thank you, your Honor.

22 Q. Dr. Abowd, do you have an opinion on how Dr. Barreto's
23 survey simulates NRFU for 2020?

24 A. So, my opinion is that it doesn't simulate NRFU. A
25 simulation of NRFU has to be a simulation of an actual second

IbeWnys4

Abowd - Cross

1 contact. What it does is it simulates what the people he was
2 trying to get opinions from say they would do under those
3 circumstances. And that is a valid research technique in
4 political science and I'm not impugning it on that basis, but
5 in political science, it's usually used in the context where
6 there's an observable outcome afterwards in order to benchmark
7 whether your predictions from the survey were right.

8 Election polling is the best example. Election polling
9 data aren't used exclusively to measure the opinions of the
10 electorate; they're used to predict the results of the
11 election, but then you run the election and you can see the
12 results. So you can take a particular survey and demonstrate
13 that it is or is not well calibrated with respect to its
14 predictive ability on the elections. You can't do that with
15 this single-time opinion survey.

16 So once again, I believe it points to the same information
17 that I've been saying since January 19. This is going to make
18 conducting the NRFU process more difficult, and those
19 difficulties are going to produce lower quality census data,
20 but you can't assign those conclusions to a numerical
21 conclusion about the net undercount or the differential net
22 undercount.

23 Q. Dr. Abowd, do you have an opinion on Dr. Barreto's use of a
24 follow-up question at the end of a telephone survey in order to
25 gauge how effective NRFU would be?

IbeWnys4

Abowd - Cross

1 A. Well, I felt I just stated it, but specifically the
2 follow-up question's in the same interview. I don't know how
3 many minutes transpired between the first set of questions and
4 the second set of questions. It is not, even a few days later,
5 a second contact on the same call list, which would come closer
6 to simulating NRFU. It's a contact within the same successful
7 interview, so it's simulating the respondents' opinions about
8 how they would behave under the hypothesized scenarios in the
9 instrument, and that's what it's simulating.

10 Q. Dr. Abowd, Mr. Thompson testified about a lack of trust and
11 how that is difficult in the NRFU process. Do you have an
12 opinion on that?

13 A. Well, I consider John Thompson to be the expert in this
14 trial who's most deserving of weight on his testimony. He has
15 both the technical and the operational experience to opine
16 about the census. He's identified a problem that I believe we
17 discussed even when he was the director, that the political
18 climate and the trust in the Census Bureau are critical factors
19 during the operation of the census, and we were going to have
20 to take measures to address that whether or not there was a
21 citizenship question. And yes, the citizenship question
22 aggravates it, but it doesn't aggravate it in a way that can be
23 translated all the way to his net undercount conclusion.

24 Q. Dr. Abowd, I'd like to talk about proxies in the NRFU
25 process.

IbeWnys4

Abowd - Cross

1 MR. EHRLICH: If we could go back to Plaintiffs'
2 Exhibit 162 at page 41, and again the sentence that we talked
3 about earlier says that proxies may result from people being
4 uncooperative with enumerators.

5 Q. Can you explain how use of neighbors as proxies impacts the
6 census count?

7 A. So, use of neighbors as proxies is designed, first, to get
8 a head count for the number of people that live in that living
9 quarter. You heard Dr. Salvo testify that it's necessary to
10 train the enumerators to recognize things with their eyes as
11 well as with their ears and testify as to how he helped us
12 develop better training materials for the enumerators. Those
13 have all been incorporated into the 2020 training for
14 enumerators. So the idea is to get the enumerator to find a
15 reliable proxy, not necessarily the landlord or a neighbor or
16 the postal carrier, and to get a head count, and that head
17 count is the critical outcome from the proxy interview.

18 Q. Are you aware of any credible quantitative data suggesting
19 that proxies over- or undercount certain subpopulations?

20 A. I'm not.

21 Q. And what happens if --

22 A. It's OK.

23 Q. And what happens if a household does not -- gets to the
24 proxy stage and there's no proxy response; how is that
25 household enumerated?

IbeWnys4

Abowd - Cross

1 A. They're enumerated by count imputation.

2 MR. EHRLICH: OK. I'll come back to that a bit later.

3 If we could turn to plaintiffs' demonstrative 15,
4 again, I just briefly want to talk about some of this.

5 Q. Do you remember Dr. Hillygus' testimony on why she thought
6 proxy responses may be less accurate?

7 A. Yes, I do.

8 Q. The first bullet is the Census Bureau research citing the
9 Brown paper. We've already discussed that, right?

10 A. Yes, we have.

11 Q. The second is a paper from Martin in 1999, noting proxy
12 respondents are less likely to have knowledge about a person's
13 living arrangements, etc.

14 Are you familiar with this paper?

15 A. Yes, I am.

16 Q. And do you have an opinion on this paper as support for the
17 proposition that there's bias from proxy respondents?

18 A. So, that paper's about a small-scale study of different
19 ways of eliciting household roster. Eliciting a household
20 roster is a very important operation in many household surveys,
21 and sometimes it's what Dr. Barreto referred to as the scanner
22 instrument -- sorry, not the scanner instrument, the screener
23 instrument, the way you figure out whether the household's
24 actually in scope.

25 That study is primarily intended to inform the way in which

IbeWnys4

Abowd - Cross

1 more complicated household surveys are run. It has some
2 information in it. The information is relatively dated at this
3 point, and many of the innovations that have been produced by
4 this research and research like it have been incorporated into
5 the self-administered instruments that we use now in order to
6 get better household rosters. We tested throughout the decade
7 undercount and overcount questions that are specific prompts to
8 try to get more accurate rosters inside the households. Those
9 rosters have to be produced by an interviewer who is doing this
10 as a self-response, so they have to be designed differently
11 from the way you would design a rostering instrument that
12 you're sending a professional enumerator out to use.

13 The proxy use of them is more similar, but the proxy use of
14 it doesn't really need to get all of the living arrangements as
15 accurate as the kinds of household rosters this paper was
16 discussing.

17 Q. And the next bullet here talks about a Fay paper from 1989,
18 and Dr. Hillygus says that this shows that those with tenuous
19 residential arrangements are more likely to be omitted from a
20 household roster, especially by proxy respondents.

21 Are you familiar with this Fay paper?

22 A. Yes, I am.

23 Q. And do you have an opinion of that paper?

24 A. So, that paper was a coverage measurement evaluation of the
25 current population survey in which the coverage evaluation

IbeWnys4

Abowd - Cross

1 program, called the postenumeration program for the 1980
2 census, was taken as the grand truth, and the conclusions were
3 with respect to the current population survey, not with respect
4 to the census.

5 Q. And then the last substantive bullet here, I believe the
6 last bullet is more of a summary, says, the second-to-last
7 bullet says given broad deportation concerns shown in public
8 opinion polls, we might expect a reluctance from neighbors,
9 citing a Lopez and Rohal 2017 study.

10 Are you familiar with that paper?

11 A. Yes, I am.

12 Q. Do you have an opinion on that paper?

13 A. So, that paper was run by a group of researchers from the
14 Pew institute, which is a very reliable survey organization,
15 and it found that public opinion about deportation had
16 increased between 2017 and 2016, but it also found that it was
17 higher in 2013 than in either 2016 or 2017, and that it was
18 comparable in 2017 to where it was in 2010.

19 MR. EHRLICH: I'd like to move into talking about the
20 administrative records used in NRFU, and turn to slide 19.

21 Q. Dr. Abowd, how are administrative records utilized in the
22 NRFU process?

23 A. So, they're utilized two ways. They're utilized to
24 simplify or to reduce the field operations associated with the
25 vacant-delete decision from the address-canvassing portion of

IbeWnys4

Abowd - Cross

1 the census; and then they're used for that same purpose during
2 NRFU and also for the purpose during NRFU of doing a full
3 enumeration of the household with that administrative record.

4 Which one of those do you want to do first?

5 Q. If you could just briefly explain, what are administrative
6 records and what administrative records would the Census Bureau
7 use?

8 A. So, generally administrative records are the electronic --
9 not at all electronic, electronic information collected and
10 processed by a unit of the government, federal, state or local,
11 but in this case we'll be talking exclusively about federal
12 government, that are part of the -- its regular business
13 activities.

14 So an administrative record from the Internal Revenue
15 Service is a tax return. An administrative record from
16 Medicare or Medicaid is a report into that system about
17 eligibility, on-boarding or claims. A report to the Bureau of
18 Indian Affairs is about the activities of Native Americans that
19 are tracked by the Bureau of Indian Affairs. Similarly, a
20 report to the Veterans Administration or the Social Security
21 Administration is an interaction over the normal course of
22 business with those agencies that generates a record in their
23 administrative database that can be used by the Census Bureau
24 for statistical purposes.

25 Q. And how does the Census Bureau decide which administrative

IbeWnys4

Abowd - Cross

1 records to use in terms of their reliability?

2 A. So, as I said earlier, we did an administrative record
3 census after the fact in 1990, after the fact in 2010 -- in
4 2000 and in 2010. In those administrative record censuses, we
5 used our accumulated experience with records from the Social
6 Security Administration, from the Internal Revenue Service and
7 from, more recently, Medicare and Medicaid and other federal
8 agencies, Bureau of Indian Affairs, veterans affairs. In most
9 recent experiments, we also used some state data.

10 The research had two -- I left one out, left an important
11 one off, the United States Postal Service. Its
12 delivery-sequence file is the records of the attempts to
13 deliver mail to addresses along the route carriers that it
14 deploys. So that delivery-sequence file supports their
15 logistical optimization, and we purchase from USPS
16 periodically, once a quarter currently, the delivery-sequence
17 file to take the information that they learned during the
18 operations of the postal carriers and import it into the MAF.
19 In addition, the postal service also indicates a reason why a
20 particular piece of mail can't be delivered. It's called a UAA
21 code, undeliverable as addressed, UAA. And the postal service
22 implemented some special codes in UAA to facilitate the use of
23 those administrative data in vacant-delete exercises.

24 So those are the basic data assets that are used.

25 Q. And just specifically, how does the Census Bureau know that

IbeWnys4

Abowd - Cross

1 the administrative records it uses to vacant delete a
2 particular house address or enumerate a household -- how does
3 it know that those are reliable?

4 A. So, throughout the decade, the research teams that have
5 been studying this have done sequences of models. They started
6 using the available data and modeled the success of the
7 administrative record vacant-delete exercise directly on the
8 2010 census. They subsequently modeled it when any of the
9 uses -- address canvassing or nonresponse follow-up or a
10 component of a test, they modeled out those results, and
11 they've continued to refine the model because it has to
12 interact with actual operations in order to be cost effective.

13 They have a technique for taking all of the administrative
14 record data and combining them into a predictive model about
15 whether that specific candidate address should be added to the
16 MAF or whether that specific candidate address on the MAF
17 should be designated as vacant or delete. And those models are
18 then used and studied in field operations.

19 The most salient one, because Dr. Salvo mentioned it, is
20 the test we did in Los Angeles and Harris County in 2016. We
21 used the best available administrative record vacant-delete
22 system for that test, and we estimated its error rate by
23 sending enumerators back to check the accuracy of the
24 administrative record vacant delete. As he noted, it had a
25 relatively high error rate, 17 to 20 percent.

IbeWnys4

Abowd - Cross

1 He didn't note, though, it's always a cost-benefit
2 calculation, so the cost associated with not using the
3 administrative record vacant delete is that you deploy an
4 enumerator. Those are -- that's a resource cost so that
5 enumerator can't be doing something else. That said, we
6 modified the procedures after that experiment to add an
7 additional administrative record check on the address that
8 happens after the vacant delete, so there's a before and after
9 mailing to get back a UAA, undeliverable as addressed, that
10 would indicate either vacant or delete, and we are -- so that
11 was added after the '16 test, and we are now adding the direct
12 visit by a field enumerator before any address will be
13 designated as vacant or delete.

14 That will be in the next release of the 2020 operational
15 plan, which will be published in early 2019.

16 Q. While we're on the topic of Dr. Salvo, he opined about his
17 thoughts of whether deploying administrative records in the
18 2020 census was too soon.

19 Do you have an opinion on that?

20 A. Yes. My opinion is that it's decades too late. The
21 question is not whether to deploy administrative records in the
22 census. A statistical agency has an obligation to control
23 burden, and that obligation to control burden in our economic
24 products has involved the use of administrative records for
25 decades to conduct -- those censuses are conducted every five

IbeWnys4

Abowd - Cross

1 years, so we have many more censuses conducted with
2 administrative records providing the base frame for businesses
3 than we will have if we continue to use administrative records
4 for the rest of this century.

5 The question is how are they going to be used? I believe
6 it's fair to characterize our use of administrative records in
7 the 2020 census as both innovative and cautious. So, the
8 innovation was necessary to control the cost. The caution is
9 that we engineered into the system the ability to use
10 administrative records both for address canvassing and for
11 directed enumeration, but we didn't push that system to
12 cost-benefit limits. We actually are using it very
13 conservatively. We have responded to field tests indicating
14 that the models that are doing vacant delete might not be
15 cost-benefit effective, yet they probably should have lower
16 error rates before we take away human visits. We've only used
17 the highest quality administrative records to form a candidate
18 administrative record enumeration, and even in the very first
19 releases of the design of the administrative record
20 enumeration, there's a NRFU visit that precedes that so we
21 won't use that administration unless one NRFU visit is
22 successful.

23 Those are big cost-saving features, and that's why I think
24 that we should be pushing it rather than saying it's too soon.

25 Q. You mentioned one NRFU visit. Can you just briefly

IbeWnys4

1 describe where in the process of NRFU the administrative
2 records would fit in?

3 A. So, for NRFU enumeration, the potential NRFU enumerations
4 are preloaded; that is, all the statistical work is done before
5 the census goes into the field, and they are called candidate
6 enumerations at that point, and they're sitting in a database
7 ready to be used. If the address shows up in the NRFU
8 workload, then the enumerator is sent out for the first visit.
9 If the enumerator fails on the first visit --

10 If the enumerator fails on the first visit, then if that
11 MAF ID has an administrative record enumeration sitting in the
12 candidate file, it gets enumerated at that point. Otherwise,
13 the address stays in the NRFU workload and gets the full NRFU
14 consideration.

15 THE COURT: Why don't we break a little early for
16 lunch, but I want to speak with counsel about something.

17 If you want to step down, you may be excused.

18 THE WITNESS: Thank you very much, your Honor.

19 THE COURT: And we'll pick up again at, let's say, a
20 couple minutes before 2:00.

21 (Witness excused)

22 THE COURT: Counsel, I wanted to get estimates on how
23 much longer your exams of Dr. Abowd are likely to be.

24 Mr. Ehrlich, starting with you.

25 MR. EHRLICH: I anticipate about an hour, possibly

IbeWnys4

1 under, your Honor.

2 THE COURT: All right. Why don't you use the break to
3 try and make it under.

4 Mr. Ho, Ms. Goldstein.

5 MR. HO: I have about two hours, I think, your Honor.

6 MS. GOLDSTEIN: I would say less than half an hour,
7 your Honor.

8 THE COURT: All right. I would urge you all to try
9 and pare it down. I think it would be great if we didn't have
10 to come back again tomorrow and we could finish this today, but
11 it sounds like that may be unlikely.

12 The second thing is I did some of Mr. Ho's work during
13 the break earlier and did find, from the earlier litigation
14 regarding the randomized controlled testing, the, I think,
15 relevant request for production; namely, request No. 2, which
16 strikes me as rather expansive and certainly encompassing any
17 and all documents that would concern randomized controlled
18 testing.

19 I don't fault Dr. Abowd. It sounds like he was
20 prepared to answer the questions if he was asked them, but
21 counsel had an obligation to disclose any documents that were
22 responsive to that request. That's a continuing obligation,
23 and as far as I'm concerned, it was not satisfied here. In
24 light of that, I'm inclined to strike that testimony and not
25 admit it into the record. I will give you an opportunity to

IbeWnys4

Abowd - Cross

1 tell me otherwise after the break or tell me why you think I
2 should do otherwise. But it does strike me as a blatant
3 violation of the government's discovery obligations.

4 I should also note I'm not sure it's relevant. I
5 think the issue I'm being asked to decide here is whether the
6 secretary's decision on March 26 was a lawful one, and in that
7 regard what testing was or wasn't done as of that date has some
8 relevance. The fact that the Census Bureau may be doing some
9 test in the future doesn't really strike me as relevant to that
10 question, but maybe I'm missing something on that score.

11 The bottom line is I'm preliminarily inclined to
12 strike that testimony, but if you want to try to persuade me
13 otherwise when we resume, you can certainly try.

14 MR. EHRLICH: Thank you, your Honor.

15 THE COURT: All right. It's five to one. We'll pick
16 up again at five to two.

17 Thank you.

18 (Luncheon recess)

IbeWnys4

Abowd - Cross

AFTERNOON SESSION

1:55 p.m.

THE COURT: You may be seated.

Sorry to keep you waiting a couple minutes. We will continue with cross-examination.

Dr. Abowd, you remain under oath, still.

You may proceed.

MR. EHRLICH: Thank you, your Honor.

Q. Dr. Abowd, before lunch we were discussing administrative records and how they're used in NRFU. Just to close the loop on that, there's been some testimony that use of administrative records could exacerbate the differential net undercount.

Do you have an opinion on that?

A. I do. First of all, the use of administrative -- so, my opinion is that there's no quantitative evidence that lets you predict the direction or the magnitude of the effect of administrative records or, for that matter, any of the other things that we've been talking about on the net undercount or the differential net undercount.

Specifically for administrative records, what they are doing is supplying a high-quality enumeration in view of field work or a reduction of field work by the use of the administrative record vacant-delete determination. In both of those cases, the resources for the field work are still available to do the NRFU, the full NRFU protocol on the

IbeWnys4

Abowd - Cross

1 addresses that are not in the administrative record. The
2 administrative records provide high-quality data that's been
3 tested.

4 They do, as I've noted, primarily relate to the part of the
5 population that's easy to find in government records. But that
6 doesn't imply that the components of net undercount or
7 differential net undercount all change in a predictable way
8 because you have enumerated some portion of the population with
9 administrative records and not enumerated another portion of
10 the population with enumerated records -- enumerated them
11 according to the standard census procedures. I'm not able to
12 make that prediction.

13 MR. EHRLICH: I'd like to discuss a couple of
14 scenarios with you, if we could look at demonstrative 20.

15 Q. Now, we've talked through various stages of the NRFU
16 process, the enumerators, the proxies and the use of
17 administrative records. I've put a demonstrative here on the
18 screen, Dr. Abowd.

19 Can you explain what we're looking at?

20 A. We're looking at a demonstrative that summarizes the
21 expected disposition of all of the addresses in the MAF at the
22 start of peak operations under the design protocol from the
23 2020 census most current operation plan and using the
24 assumptions about how they get resolved that depend, to some
25 extent, on the coverage measurement from the 2010 census, only

IbeWnys4

Abowd - Cross

1 to a small extent.

2 I'll explain that in a second.

3 Q. And so when you move from left to right across, looking at
4 this flow chart, can you explain what that says about the
5 assumptions?

6 A. Yes. So, the thick bar at the extreme left looks brown to
7 me. Some people might see red, but it goes the full length of
8 the gray area. That represents the 144.3 million addresses
9 that we expect to be in the MAF at the start of peak
10 operations; that is, after we finish the address-canvassing
11 phase operation and before we enter the self-response
12 operation. So they stay in self-response, that part of the
13 operation, until you get to the yellow-on-top-of-purple bars.
14 That's the point at which the NRFU workload is determined.

15 So, as I testified earlier, approximately six weeks into
16 the peak operations, the operational control system examines
17 the MAF, determines which addresses have been resolved by
18 self-response -- those are in the orange bar labeled "not in
19 NRFU" -- and then puts the rest of the addresses into the NRFU
20 workload. Those are in the lower bar labeled "in NRFU."
21 That's about 61 million addresses in the projections for the
22 2020 census.

23 So the NRFU operation runs to closeout, and in the design
24 predictions that have been updated based on our field tests, we
25 expect the vast majority of those to be completed by NRFU

IbeWnys4

Abowd - Cross

1 enumerators, so that's either interviewing somebody in the
2 household or interviewing a proxy, but it's a completed NRFU
3 interview. That's the green bar to the extreme right.

4 The pink bar at the extreme right is the addresses that get
5 enumerated by administrative enumeration. I remind you that
6 that doesn't happen until there's been one NRFU field visit.

7 The blue bar at the extreme right are the addresses that
8 get enumerated by administrative vacant delete, and I remind
9 you that in the latest version of the operational plan that
10 will be released in the first month of 2019, that will also
11 include one enumerator visit to verify the administrative
12 record vacant delete.

13 Another portion of them actually get resolved by
14 self-response. That means the Internet instrument gets filled
15 or the mail-back instrument arrives. So in our final
16 accounting, those late self-response ones, which I think are
17 purple, will actually get moved up to be self-responses. The
18 self-response will consist of the initial self-responses plus
19 the late self-responses.

20 The statistical analyses that I did earlier were all on
21 initial self-responses, not on follow-up self-responses.

22 Finally, there is a group that have exhausted NRFU visits,
23 hypothetically six, but as I explained earlier, that
24 hypothetical limit isn't actually a hard limit in the
25 operational control system as it's currently being implemented.

IbeWnys4

Abowd - Cross

1 So that is 0.38 percent of the NRFU workload using the 2020
2 projected NRFU workload and the rate at which six visit proxies
3 were -- six-visit NRFU attempts ended up in count imputation in
4 2010; that's the ratio of 522,000 households got count
5 imputation in 2010 divided by 136.1 million addresses that were
6 in the MAF workload at the start of the 2010 census. So that
7 basically says if we go through the NRFU as designed, and if
8 the coverage measurement estimates for 2010 can be generalized
9 to 2020, then we'd expect about 0.38 percent of the records to
10 actually end up in count imputation.

11 Q. And you mentioned a couple times projections for the 2020
12 census that distributes from the hard red bar on the left going
13 to the right. Where do those projections for the 2020 census
14 come from?

15 A. So, there's a table in my expert report that contains those
16 projections, and they're based on the best available data,
17 largely the data that were fed into the version 3.0 of the
18 operational plan and the current version of the life cycle cost
19 estimate, the \$15.6 billion estimate.

20 Q. And at the top the title says "no citizenship question."
21 Can you explain what that means?

22 A. That means these, this is all as designed and as evaluated
23 up through when those cost estimates and operational plans were
24 published, which was before the secretary's decision to add a
25 citizenship question to the 2020 census.

IbeWnys4

Abowd - Cross

1 MR. EHRLICH: Let's look at the next slide, 21.

2 Q. Now, the title here, Dr. Abowd, says "citizenship question
3 with average number of addresses in the six attempt group."

4 Can you explain what that means?

5 A. Yes. So, in several of the projections that are based on
6 the Brown *et al.* technical paper, the working assumption about
7 the drop in self-response was 5.8 percentage points for the
8 28.6 percent of households that are -- possibly contain a
9 noncitizen. You can translate that by direct multiplication
10 into a percentage of the NRFU workload that is added as a
11 consequence of the decline in self-response. So if you trace
12 all the way through, the yellow bar on the far end is now
13 smaller because addresses that would have been self-responses
14 under the original scenario are no longer self-responses, and
15 those addresses have been put in the NRFU workload.

16 Now, the assumption that -- in doing the cost estimates the
17 first assumption that we made is that when they got into the
18 NRFU workload, they would be handled like a typical case in the
19 NRFU workload, so that means that they are distributed down in
20 these completion rates proportionately. They're just as likely
21 to have each of those completion outcomes as any other record
22 that got into the NRFU workload. So the reason why you get all
23 the way to the bottom and the count imputation now goes up by
24 two 100ths of a percent is because we distributed them equally.
25 We assumed there was the same chance that they would get NRFU

IbeWnys4

Abowd - Cross

1 enumerator completion, the same chance they'd get
2 administrative enumeration, the same chance they'd be handled
3 through administrative vacant-delete, late self-response, all
4 the way down through count imputation.

5 So, that puts some more addresses in count imputation, and
6 instead of being 0.38 percent of the overall MAF workload, it's
7 now 0.40 percent. So into count imputation you get a
8 projection of two 100ths of a percent of extra count
9 imputation.

10 MR. EHRLICH: And now if we could look at the next
11 slide, 22.

12 Q. This one is titled "citizenship question with all addresses
13 in the six attempt group."

14 Can you explain what that means?

15 A. Yes. As you'll recall when I discussed the technical
16 paper, an alternative scenario that we examined in the
17 technical paper was that the addresses that went to NRFU went
18 all the way to the sixth contact attempt, so this analysis
19 shows how that plays out in terms of the assumptions underlying
20 the 2020 NRFU process but assume this worst case output for the
21 NRFU. So it's no longer the case that this additional NRFU
22 workload, which is the same as the additional NRFU workload in
23 scenario B -- it's just being resolved differently -- not as
24 many of them get to enumerator completion. Some do because
25 even on the sixth visit, there's some enumerator completion.

IbeWnys4

Abowd - Cross

1 Not as many of them get to administrative enumeration. In
2 fact, the assumption here is that none do and that none are
3 resolved by administrative vacant delete. Some do get resolved
4 by late self-response, and so you get all the way down to an
5 increase in the count imputation to 0.60 percent.

6 So this shows the implications for count imputation of all
7 of the extra workload from our current best estimate of the
8 incremental NRFU workload going all the way to the sixth
9 enumerator visit, some of them being resolved by that sixth
10 enumerator visit but a much larger proportion of them going
11 into count imputation.

12 Q. Dr. Abowd, looking at scenarios A, without the citizenship
13 question; B, with the citizenship question and average
14 characteristics for those in NRFU; and C, the citizenship
15 question with all of those extra addresses going to the six
16 attempt group, what conclusions do you draw with respect to net
17 undercount and differential net undercount?

18 A. OK. So, when a case goes from self-response to NRFU, we've
19 already established that the quality of the subsequent
20 enumeration, the data associated with the subsequent
21 enumeration deteriorates. It deteriorates because the
22 interviewers -- the interviewees don't supply as accurate PII
23 in NRFU and because more go to proxy in NRFU, and on our third
24 hypothesis here, more also go to count imputation. So this
25 affects all three components of the net undercount calculation.

IbeWnys4

Abowd - Cross

1 It affects the correct enumeration component. It affects the
2 erroneous enumeration component, and it affects the
3 whole-person census imputation component. It may also, in the
4 final evaluation of the 2020 census, affect the dual-system
5 estimate component.

6 All four of those numbers are needed to calculate a net
7 undercount. You can't do it with any one. You take the
8 dual-system estimate, you subtract the correct enumerations;
9 that's gross omissions. You take the erroneous enumerations,
10 which can only be tabulated in the postenumeration survey, but
11 they can be estimated prior to that. Take the erroneous
12 enumerations, you add them to the whole-person census
13 imputations; that's the other component. And then you subtract
14 the two. That's net undercount.

15 So in order to predict a change in net undercount, I need
16 to know the effects on the dual-system estimator, correct
17 enumerations, erroneous enumerations and whole-person census
18 imputations, as I've explained multiple times, and all four of
19 those components are independently estimated in a census
20 evaluation. They enter the calculation of net undercount with
21 opposing signs. So an error that increases gross omissions by
22 itself increases the net undercount, but it doesn't happen in a
23 vacuum. You also have to know what, if anything, happens to
24 the dual-system estimate. You have to know what, if anything,
25 happens to erroneous enumerations; what, if anything, happens

IbeWnys4

Abowd - Cross

1 to whole-person census imputations. And if you don't know all
2 four of those components, you can opine correctly about the
3 component that you did take a measurement on, but you can't
4 opine without magnitudes and directions of the effects about
5 the four components as they add up.

6 Q. I want to come back to that in one moment.

7 A. Want me to do differential net undercounts too, or --
8 because you did ask me.

9 Q. Well, we can come back to that in a little bit.

10 THE COURT: Can I interrupt, though, and ask a couple
11 questions about that.

12 THE WITNESS: Sure.

13 THE COURT: First of all, as I understand your
14 testimony, I take it you have not seen credible quantifiable
15 data to support what the effect would be on the net undercount
16 and differential net undercount.

17 THE WITNESS: Yes, your Honor. That's correct.

18 THE COURT: Is that data obtainable in advance of
19 conducting the census itself and then the postenumeration
20 survey?

21 THE WITNESS: So, I'll give you the shorter answer to
22 that question so that we can get to the first part of it.

23 Of course, the final evaluation can only be done with
24 the postenumeration survey from the 2020 census. That's
25 material because the NRFU process in 2020 is very different

IbeWnys4

Abowd - Cross

1 from the NRFU process in 2010, and the self-response component
2 is very different, so we don't expect the postenumeration
3 survey to give us data that, on every dimension, are comparable
4 to 2010. However, I think the relevant question here is if you
5 had the data from the 2010 coverage, census coverage
6 measurement program -- that's what we called the PES in 2010 --
7 would it be possible to estimate these effects and draw a
8 quantified conclusion about how all the components would
9 change?

10 I endeavored to learn the answer to that question by
11 carefully questioning the designers and executers of the 2010
12 coverage, census coverage measurement system, and then studying
13 it in great detail myself.

14 If we went back to those data and we went back to the
15 curated data assets from 2010, we might be able to construct
16 indicators in those data that would be credible quantifications
17 of the self-response rate and therefore permit estimation of
18 predictions when you change the self-response rate as they
19 filter all the way through the coverage evaluation system.
20 They could not be recovered from the way the system was
21 implemented in 2010 because it was not designed to estimate
22 that kind of effect, which is called a marginal effect. It was
23 designed to estimate the average effect across all of the
24 components.

25 I determined that the work effort to actually do that

IbeWnys4

Abowd - Cross

1 would be measured in a half year or a year of the same crew
2 that is currently working on the coverage measurement and the
3 administrative record system for the census, and there was
4 considerable disagreement amongst the experts I consulted
5 inside the Census Bureau as to whether it would lead to an
6 estimate that you could directly defend; that is, one of
7 comparable quality to the ones that were in the G series memos
8 that I think you've been exposed to. I wanted to do that, and
9 others were prepared to assist me in doing that, but this is a
10 very complicated measurement issue, and I clearly couldn't have
11 been ready in a timely fashion for this litigation.

12 I can honestly say that the priors on how that would
13 come out were very, very diverse. I talked to the -- I talked
14 to the expert, Howard Hogan, who testified in the 1990's and
15 2000's litigation, where these coverage measurement systems
16 were the primary focus of that litigation. He didn't think
17 that it could be done even from the much more sophisticated
18 system that we built for 2010. Some other experts, I should, I
19 guess, identify them by name, since I'm now calling them out.
20 Bill Bell thought it might be possible. He's also a coverage
21 measurement expert. The team that actually estimated the
22 system went back and looked to see if there were recoverable
23 coefficients in the system for this purpose. The way they
24 build these models doesn't produce the coefficients. They
25 build these models for predicting accuracy. So they're, in

IbeWnys4

Abowd - Cross

1 technical terms they're looking at a particular statistic, and
2 when it meets their criteria, they take just that model and
3 generate all the predictions from it. They don't even usually
4 store or look at the coefficients, and you need the
5 coefficients to do this, just like you needed them in the
6 natural experiment. So that's just to get net undercount.

7 To get differential net undercount, you have to do
8 that for the identifiable subpopulations -- in this case,
9 non-Hispanic white alone and Hispanic -- and take the
10 difference, so instead of having four components, since you
11 have to estimate the change in, there's eight components that
12 you have to estimate the change in, along with measures of
13 precision or standard errors to do that. So while I believe
14 that it is scientifically doable, it was clearly not feasible
15 to have done in the time frame of this litigation, and it was,
16 in my view, not necessary to get to the conclusion that the
17 citizenship question would alter the quality of the data in
18 difficult-to-quantify ways along all of the components. So if
19 all of the components change, of course, the net undercount is
20 going to change, but you don't know in what direction. Ditto
21 for the differential net undercount.

22 THE COURT: All right. Let me follow up. That was
23 very helpful, but let me follow up in a few respects.

24 First, as I understand it, you've, bottom line, said
25 that it is scientifically possible to design a study that might

IbeWnys4

Abowd - Cross

1 ultimately derive a credible quantifiable figure for net
2 undercount or differential net undercount; it's just a matter
3 of how long it would take and how complicated. Would that be
4 doable for someone outside the Census Bureau; that is to say,
5 would that data be publicly available?

6 THE WITNESS: Those data are not publicly available,
7 your Honor.

8 THE COURT: OK. And if you were outside the Census
9 Bureau and therefore limited to what is publicly available,
10 given your expertise and training, is there anything you could
11 do, any sort of study or analysis that you could conduct that
12 would result in at least some sort of estimation or assessment
13 of what the net undercount or net differential undercount might
14 be?

15 THE WITNESS: Yes, your Honor. I believe there is.

16 The publications that we put in the public domain, the
17 G series from the census coverage measurement in 2010, contain
18 tables that show you, on average, how these different
19 components worked out for the relevant subpopulations in 2010.
20 What you have to do is you have to acknowledge that those are
21 averages, not margins, and then build the net coverage system
22 and do quantitative assessment of how much you can defend the
23 correct enumerations changes; how much the erroneous
24 enumerations change; how much the whole-person census
25 imputations change; and how much the dual-system estimator, the

IbeWnys4

Abowd - Cross

1 thing that our publications call the true population but is
2 really properly labeled dual-system estimator, how much that
3 changes.

4 The formulas for all of those are known and the
5 quantitative data that you might manipulate is in those
6 reports, but when you're all done, you're going to have to
7 figure out some statistical way, which even we don't have at
8 the Census Bureau, of predicting when I change the
9 self-response rate of, say, non-Hispanic whites, does it have
10 an effect on my measure of erroneous enumeration for Hispanics;
11 or when I change the omission rate for Hispanics, does this
12 have an effect on the erroneous enumeration rate for whites?
13 And you heard some testimony in this case already of basically
14 the gross omissions go up for non-Hispanic -- sorry, for
15 Hispanics, and that's offset in the net undercount calculation
16 by an increase in erroneous enumerations of whites that get
17 double counted.

18 I won't say that's a causal relationship; the
19 statement is factually true, but it's also the case that when
20 gross omissions of Hispanics go up, erroneous enumerations of
21 Hispanics go up, and that's an offset, as do whole-person
22 census imputations, and that's an offset. The offsets at the
23 margin, what would happen with the incremental increase in
24 omissions, are not well estimated by the offsets on average,
25 and I don't know what those marginal coefficients are, and I

IbeWnys4

Abowd - Cross

1 don't have in place a system for estimating them, but I think
2 that we would all be working with the same data in that case,
3 because those coefficients are difficult to estimate in
4 historical data. They're difficult to estimate in a proper
5 coverage measurement system. They're difficult to estimate
6 even if you design the coverage measurement system with the
7 randomized control that tries to estimate them. So -- so it
8 isn't like -- you can -- my main point has been nobody has
9 addressed that you can't change these things in a vacuum, that
10 you have to move -- you have to account for all the
11 co-movements.

12 THE COURT: All right. And you've been here
13 throughout the trial and you've heard various witnesses,
14 experts, testifying in an effort to identify what the net
15 effect may be of adding a citizenship question. Maybe it
16 requires addressing specific experts, but in your judgment, did
17 any of them do what you just described one could do with the
18 publicly available data, and if not, how did what they did
19 differ?

20 Again, there are a lot of experts, so it's hard to
21 identify the specific one that might be relevant.

22 THE WITNESS: So, in this case, the salient expert is
23 Mr. Thompson, who ran the coverage measurement system for the
24 1990 census, ran the 2000 census and was thoroughly familiar
25 with what we call the accuracy in coverage evaluation, ACE, for

IbeWnys4

Abowd - Cross

1 that census and is, in his own right, an expert on coverage
2 estimate, and he declined to do the calculation all the way
3 through the net undercount. He did opine that net undercount
4 would go up, and I respect that opinion, but he declined to
5 work through quantitatively how those pieces would covary, in
6 deposition explicitly, and in testimony, he simply said his
7 opinion.

8 I respect that because I know how hard that
9 calculation is. Other experts opined on primarily gross
10 omissions or on the quality of the whole-person census
11 imputations but not on why it was reasonable to suppose that if
12 gross omissions go up by one, the sum of erroneous enumerations
13 for Hispanics and whole-person census imputations for Hispanics
14 will go up by less than one. And you need that. And even the
15 average is actually pretty close to one, so it's not -- it's
16 not such -- it's not such a far-fetched analysis that the
17 hypotheticals have the net undercount going in different
18 directions. My own evidence suggests that gross omissions is
19 going to go up, so we don't really need to argue about that.

20 THE COURT: All right. Then last question, and I'll
21 let the lawyers resume.

22 I take it that your testimony is that whatever the
23 effect on the net undercount and differential net undercount,
24 it would undermine, in your view, the accuracy of the data?

25 THE WITNESS: The data themselves?

IbeWnys4

Abowd - Cross

1 THE COURT: Yes.

2 THE WITNESS: Yes.

3 THE COURT: Can you talk about, given your experience
4 and expertise with respect to census data, what it's used for
5 and the like, what harm that could cause to those who use
6 census data? In other words, presumably, harming the data is
7 not a good thing; undermining the accuracy of the data is not a
8 good thing. Is that correct?

9 THE WITNESS: I think I've already testified to that
10 effect.

11 THE COURT: I think you did yesterday.

12 Tell me why that is, how that could affect the ways in
13 which census data is used.

14 THE WITNESS: Well, you've heard a variety of experts
15 in this case explain how important it is for them to use the
16 geographic specificity of the census data, the fact that we
17 provide good-quality data, very low levels of geography.
18 Erroneous enumerations damage that. Omissions make that a less
19 accurate estimate, but erroneous enumerations actually damage
20 that. Whole-person census imputations make it just less
21 accurate in the variability sense, not in the point-estimate
22 sense. So they don't bias it; they make it more variable, less
23 accurate in the variability as opposed to the bias sense.

24 So those uses, even though they're used to build up
25 larger geographic areas, they're harmed by the lower quality

IbeWnys4

Abowd - Cross

1 data.

2 The other use is the characteristics, how many men and
3 women of different ages are used by demographers all over the
4 country to make projections at the local, state and national
5 level of the population. The chief demographer for the Social
6 Security Administration uses them for the nation. The local
7 demographers, like Dr. Salvo, use them for their own purposes,
8 for the city that they work for. The population estimates and
9 populations projections programs at the Census Bureau use them
10 to supply population estimates and projections down to the
11 minor civil division level. So if those characteristics are
12 less accurate in the bias -- not the bias, in the variability
13 sense, because they're imputed more often, or they were from an
14 erroneous enumeration but they stayed in the census, then those
15 projections are all damaged.

16 THE COURT: All right. I understood Dr. Salvo to
17 testify that accuracy at the microlevel, within census blocks,
18 certainly block groups, was critical to what he does because it
19 helps direct services, health department, education department,
20 and the like. Do you agree with that, and do you agree that
21 reducing the accuracy of the data would, in fact, harm that
22 interest?

23 THE WITNESS: So, the way that would work is -- I now
24 need to be very precise about accuracy. The bias component
25 would not harm him because the procedures are within the

IbeWnys4

Abowd - Cross

1 contexts that they're applied, not biased. However, the
2 additional variability matters for what I believe Dr. Hillygus
3 called zero-sum allocations. If one community's going to get
4 it at the expense of another community, then variance in your
5 estimates matters because the error associated, that's
6 contributing to that variance is moving real dollars around,
7 but it isn't -- it's not statistically reliable; that's what
8 the variance means.

9 So that kind of calculation affects, in some sense,
10 the equity of the distribution of resources. In some sense,
11 it's unavoidable. Statistical estimation is statistical
12 estimation. With respect to population counts, we try to
13 control that an enormous amount in the census, all the way down
14 to the block level, and that accuracy is relied upon for those
15 kinds of allocation decisions. But at the characteristic
16 level, if the quality of the data become lower, it's very hard
17 to control that kind of allocation. You can't say who
18 benefitted and who lost. All you can say is that you have a
19 misallocation that's basically proportional to the square of
20 that error. That's the sense, and I think also, all the uses
21 that the experts identified can be analyzed that way.

22 THE COURT: Can be analyzed that way?

23 THE WITNESS: Yeah, can be analyzed that way. Yes.

24 THE COURT: All right.

25 Mr. Ehrlich.

IbeWnys4

Abowd - Cross

1 BY MR. EHRLICH:

2 Q. Dr. Abowd, you mentioned a couple times when you were
3 talking to Judge Furman about the difference between marginal
4 and average.

5 Can you explain what you were talking about?

6 A. Yes. So -- economists love this so you're going to have to
7 indulge me.

8 The average is basically a ratio of the count that you're
9 interested in divided by the population that you measured it
10 over. So, for example, the average rate at which erroneous
11 enumerations are reflected in the estimation of census
12 undercount is around .5. That means that the erroneous
13 enumerations are about .5 of the gross omissions. That's not
14 the case for every identifiable subpopulation. But that's
15 just -- that's not a piece of data in evidence. That's an
16 example of an average. OK?

17 A marginal effect is if I increase the gross omissions by
18 one, by how much does erroneous enumeration or whole-person
19 census imputation go up? That's a marginal effect, because you
20 take your base and then you add the change, and that's your
21 prediction about what the consequences of that particular
22 change are. So in order to do projections, you have to
23 estimate either -- it's marginal effects, or some people just
24 call them coefficients, but economists like to make that sound
25 more complicated than it might be.

IbeWnys4

Abowd - Cross

1 MR. EHRLICH: If we could turn to Plaintiffs' Exhibit
2 267 and table 9 on page 20.

3 Q. Dr. Abowd, are you familiar with this document here?

4 MR. EHRLICH: Sorry. Table 9 on Plaintiffs' Exhibit
5 267.

6 A. Yes, but I don't think it's what you were going to ask me
7 about.

8 MR. EHRLICH: I apologize.

9 Hold on one second. Sorry.

10 Q. Actually, let me put it to you this way, Dr. Abowd.

11 MR. EHRLICH: Oh, this is it, actually.

12 Q. Are you familiar with this table here?

13 A. Yes, I am. It's table 9 from memo G01 in the 2010 census
14 coverage measurement memorandum series. It shows the
15 components of census coverage by race and Hispanic origin.

16 THE COURT: And that's Plaintiffs' Exhibit 267,
17 Mr. Ehrlich?

18 MR. EHRLICH: That's correct, your Honor.

19 Q. Looking at this table, Dr. Abowd, there are column headers,
20 including many of the things you were just discussing with the
21 Court, including correct enumerations, erroneous enumerations,
22 whole-person census imputations and percent undercount.

23 Can you tell from this table what the marginal rate is for
24 whole-person census imputations?

25 A. You can't estimate any of the marginal rates from this

IbeWnys4

Abowd - Cross

1 table.

2 Q. And so what is this table showing, in your view?

3 A. So, this table shows the results of a properly designed
4 coverage measurement, or evaluation, of the 2010 census, which
5 was the first census where the coverage evaluation program was
6 designed to estimate both the percent undercount column --
7 that's the second one from the right -- and the components of
8 percent undercount: omissions; correct enumerations; erroneous
9 enumerations divided between duplication and other reasons; and
10 whole-person census imputations.

11 Omissions and correct enumerations are directly related,
12 and the correct enumerations is subtracted from the dual-system
13 estimate to get omissions, and I usually call omissions gross
14 omissions, but they're interchangeable as long as you
15 understand they're gross.

16 The table itself doesn't show you the dual-system estimator
17 of the population, but it does show you the percent undercount,
18 and so you can recover the dual-system estimate by applying the
19 percent undercount to the column that shows the census count,
20 and the answer you'll get out is the dual-system estimator --
21 estimate, excuse me. You do need to remember to flip the sign,
22 though.

23 Q. And why does this not tell you what would happen if you
24 increased gross omissions, for example? Not to rehash old
25 ground, but what can you see from this table on that?

IbeWnys4

Abowd - Cross

1 A. So, from this table what you can see is that in the census
2 coverage measurement program for 2010, we were able to estimate
3 the average contribution on each of those components very
4 precisely. So the only one that doesn't have a margin of error
5 is whole-person census imputations; it's got a zero in the
6 parentheses below that. And of course, the census code doesn't
7 have one either; it's got a zero. That's because they're
8 actually estimated from the actual enumeration, so they don't
9 require the dual-system estimate to work on.

10 The others are estimated from different components of the
11 coverage measurement system. I'm getting tied up because in
12 2010 we called it the census coverage measurement system. For
13 2020, we had decided to go back to the name we used in 1990,
14 which is the postenumeration survey, and in 1980 it was called
15 the postenumeration program.

16 So those allow the estimation of the correct enumerations,
17 which is estimated independently, erroneous enumerations
18 estimated independently, and omissions, which is the difference
19 between correct enumerations and the dual-system estimate. The
20 dual-system estimate's independent, and its components --
21 correct enumerations, erroneous enumerations and omissions --
22 are separate estimates. Say that exactly right, because it --
23 the dual-system estimate is based on a combination of the P and
24 E samples of the postenumeration survey. The erroneous
25 enumerations are estimated from the E sample. The whole-person

IbeWnys4

Abowd - Cross

1 census imputations are estimated from, directly from the
2 census. Omissions is calculated by taking the difference
3 between the correct enumerations and the dual-system estimate.

4 And all of those things are reflected here. And the design
5 allowed us to estimate those components for, for example,
6 non-Hispanic white alone, which is shown in the -- that's the
7 right row, yes -- and including the net undercount for
8 non-Hispanic white alone, which is minus 0.83. I believe that
9 Dr. Hillygus used 0.84 from an earlier table.

10 THE WITNESS: The difference in the 100ths is not
11 material here, your Honor. This is non-Hispanic white alone,
12 and you can -- so that says after you put all these components
13 together, non-Hispanic whites were overcounted.

14 MR. HO: Objection, your Honor. This is just
15 narrative at this point. It's not even responsive to the
16 question.

17 THE COURT: I think that ship sailed a few hours ago.
18 Why don't you ask a question and we can go from there.

19 MR. EHRLICH: Let me ask a question.

20 THE COURT: You know what? Let me let Dr. Abowd
21 finish what that thought was, at least.

22 I think you were in the midst of saying --

23 THE WITNESS: I was confirming that the interpretation
24 that you heard earlier of the minus 0.83 percent, statistically
25 significant because of the margin of error right below it, was

IbeWnys4

Abowd - Cross

1 a net overcount of non-Hispanic whites in the 2010 census. And
2 the comparable line for Hispanics is the last one, and the 1.54
3 that Dr. Hillygus used with its standard error is right there.
4 And she took the difference between them, 1.54 minus negative
5 0.83, to give you what she defined as the differential net
6 undercount. So all of those numbers come from a well-designed
7 postenumeration survey that is able to estimate all those
8 components and attach a margin of error to them, a statistical
9 significance to them but it's designed to estimate them on
10 average. It's not designed to counterfactual estimation when
11 you change one of the components of the design of the census.

12 That's the point; that was long winded. I apologize.

13 BY MR. EHRLICH:

14 Q. Let me ask, perhaps, a simpler question, Dr. Abowd.
15 Looking at this table, if gross omissions went up by one, could
16 you tell if that's going to be offset by some other factor, or
17 can you not determine that from this?

18 A. You could not determine that without making additional
19 assumptions.

20 Q. And let me ask, if there was an area with 100 percent
21 self-response rate and an adjacent area with a zero percent
22 self-response rate that all went into NRFU, could you say which
23 of those areas had a net undercount or differential net
24 undercount?

25 A. No. It's -- you can't do it from the census count. You

IbeWnys4

Abowd - Cross

1 have to estimate all four of the components that I've been
2 talking about. In general, you can only do it when you do the
3 coverage evaluation, but I realize that that's not helpful if
4 you're trying to predict it, so if you're trying to predict it,
5 then you have to model the consequences of having everyone go
6 to NRFU versus everyone being self-response in the context of
7 the data from some coverage evaluation system. Presumably,
8 2010 would be the system of choice because it's closest in time
9 to 2020.

10 MR. EHRLICH: OK. I'd like to talk about imputation,
11 Dr. Abowd, if we could turn to slide 23. I know you could talk
12 about coverage measurement all day, and I'm sure your students
13 would love that at Cornell.

14 Q. Can you explain after a household gets through NRFU with no
15 response by either administrative records or an in-person visit
16 or a proxy, how does the Census Bureau fill in missing data for
17 that household?

18 A. So, the addresses that get all the way to the end of the
19 NRFU workload without being resolved, first -- so they're going
20 to be imputed, and the imputation process involves multiple
21 steps. The first step is to determine that, when they got to
22 that state, there was no information about whether the address
23 was vacant or nonexistent. If there is, then that information
24 is used. But that generally should be counted as resolved.
25 There is a study of that, so -- it won't necessarily be

IbeWnys4

Abowd - Cross

1 finalized until the data are brought into the imputation
2 system.

3 So the ones that are left we don't know anything about
4 other than that they were on the MAF at the beginning of the
5 peak operations period for the census. So we use a sequence of
6 models, the first of which imputes whether the unit is vacant,
7 occupied or should be deleted. The next model for those that
8 are imputed to be occupied, they get a -- they are combined
9 with the addresses where all we got in the response was that it
10 was occupied and nothing more. So those are the ones where we
11 only know either are imputed occupancy status or the actual
12 occupancy status, and then we have a model for imputing that.

13 Dr. Barreto did a good job of describing the basic
14 properties of how that model works. Nearby, nearby housing
15 units are aggregated according to statistical criteria, and a
16 distribution of equally probable household sizes is constructed
17 and then one of them is randomly selected. And they're
18 constructed from nearby, but they have to be nearby and match
19 those known characteristics of the address on the MAF, which
20 have nothing to do with any occupants that may or may not have
21 been in that household.

22 Q. When you were talking a moment ago with Judge Furman, you
23 talked about how imputation is inaccurate in the sense of
24 variability.

25 Can you describe what that means?

IbeWnys4

Abowd - Cross

1 A. So, there are many ways to characterize accuracy. It's
2 multidimensional, but statisticians usually focus on a measured
3 accuracy that is a combination of bias and variance. The
4 source of the variance does not have to be sampling and the
5 source of the bias does not have to be sampling, but if you
6 square the bias and you add it to the variance, that's called
7 the mean squared error, and the square root of that is usually
8 used as a summary measure of accuracy, but it has two
9 components.

10 When I was talking about variance, I was talking about the
11 component that was not related to bias. Bias is whether the
12 number is too big or too small by some estimated amount, and
13 variance is whether the number is more or less accurate as it
14 is distributed around your best point estimate.

15 Q. So when you're imputing a household, can you tell which
16 direction it's going to be or if it's going to be directly spot
17 on?

18 A. So, you never know if it's going to be directly spot on.
19 Models are constructed so that they're unbiased under the
20 assumptions that they're constructed on, but the variability
21 increases depending upon how much imputation you have to do and
22 how reliable the distribution that you impute from it. It
23 doesn't -- as I said, Dr. Barreto described the 2010 one. The
24 actual algorithms to be used for 2020 have not been locked in.
25 I'm scheduled to review them, but I haven't been shown them

IbeWnys4

Abowd - Cross

1 yet.

2 MR. EHRLICH: Actually, let's turn to Plaintiffs'
3 Exhibit 287, figure 1.

4 Q. And I think Dr. Barreto, when he was describing imputation,
5 he used this figure for demonstrative purposes. Do you recall
6 that, Dr. Abowd?

7 A. Yes, I do.

8 Q. And he testified about panel A versus panel C and the
9 difficulty with imputation from one to the other. Do you have
10 an opinion on whether that accurately describes imputation
11 procedures?

12 A. So, I didn't completely understand the point that
13 Dr. Barreto was trying to make, and from what I understood of
14 it, I didn't think that it described any imputation procedures
15 that I'm familiar with.

16 I heard him say that you could tell by looking that the
17 pattern in panel A is square star, square star, square star.
18 But statisticians don't do that. They don't look at this and
19 say, Well, that's perfectly obvious that it's square star,
20 square star. They say that there are five squares and there
21 are four stars, and absent any other information, I'm going to
22 impute the three blanks there at a ratio of five fourths stars
23 to squares -- four-fifths stars to squares.

24 Q. So how would that work in panel C?

25 A. So, in panel C, there's more missing data. You only see

IbeWnys4

Abowd - Cross

1 three squares and two stars, and absent any other information,
2 the imputation ought to impute stars to squares at the ratio of
3 two to three, and that's what you know from the available data.
4 That would be a properly implemented ignorable missing-data
5 model.

6 Q. And when you're imputing in either panel A or panel C, is
7 there a way to know which one of those is more accurate when
8 you're imputing that data in the census?

9 A. So, in general, the fewer imputations you have to make the
10 more accurate you're going to be in the variance sense. And
11 the accuracy of the model, in the case of census imputation,
12 depends entirely on the assumptions.

13 The accuracy of ignorable missing-data models, which is
14 really what we're talking about here, can't be tested in a
15 census environment. It assumes that you've used all the
16 available information. That's what I did when I said, in panel
17 A, stars should be imputed at the rate of four to five into the
18 missing-data items. All the information I have is they're
19 proportioned in the available area, and so that's what an
20 ignorable missing-data model would do.

21 If you give me some additional data that's outside the
22 context of the census, I can adjust that model and have it
23 predict those three missing values using that additional
24 information. But that additional information is outside the
25 context of the census, so I can't use it to impute in the

IbeWnys4

Abowd - Cross

1 census without somehow introducing it into the information set.
2 So we do use information in the MAF, which was not collected in
3 the census because it's a MAF ID that we couldn't get resolved;
4 we do use that to condition the whole-count imputation. But
5 it's -- it's information available to us that wasn't collected
6 in the census but it's available for every imputation that we
7 need to make so we can use it.

8 If you want to use nonignorable missing-data models,
9 there's got to be a way to collect and ingest and process the
10 nonignorable data in order to change the imputation model, and
11 you could only evaluate whether you got a bias in the context
12 of the census if you also have that data in the same context.

13 Q. What does nonignorable data mean?

14 A. So, there are a variety of methods for imputing missing
15 data, and statisticians put them into two categories: ignorable
16 and nonignorable.

17 In English, ignorable means that the only information that
18 I need to predict the missing value is the data that I observed
19 in the records where I collected data. The fact that the value
20 was missing is not informative and, therefore, ignorable. In
21 the other universe of missing-data models, if I use only the
22 information available in the data set, the whole data set, I
23 will make an incorrect imputation, because there was something
24 not in the data set that I couldn't ignore.

25 There's some really simple examples of this. If I'm trying

IbeWnys4

Abowd - Cross

1 to impute a number and that number, I have a distribution from
2 one to ten, there are some of them missing, and it's ignorably
3 missing, then I can average up the ones that I observed and
4 make some estimate of the variability of that average and
5 impute using that model and I'll get the right answer because I
6 observed all of the possibilities or approximately all the
7 possibilities in the real data. But suppose that I never
8 observed any numbers bigger than five and I didn't tell you
9 that I never observed any numbers bigger than five. So if I go
10 to use those same sample data to make an imputation on an
11 ignorable basis, I'm never going to get an answer bigger than
12 five. If all of the missing ones were seven, I'm going to
13 systematically underestimate them because it wasn't ignorable,
14 but I don't know that fact.

15 We tried to design the census so there's never an obvious
16 situation where that occurs, but you don't know the
17 counterfactual of the data that you couldn't ignore.

18 Q. You talked about observable possibilities. When you're
19 enumerating the census and you're looking to impute a
20 particular household, is there any constraint on your
21 observable possibilities for imputing that household?

22 A. I guess we have to use the data that we collected or the
23 data that we got from the operations of the census, so that
24 includes data that are on the MAF that we would have had before
25 we started or that we collected during the census operation.

IbeWnys4

Abowd - Cross

1 That's the set of data available from which to design the
2 imputation models, and so a statistical agency is constrained,
3 basically, by the credibility standard in SPD1 to use ignorable
4 missing-data models so that the users of the data can
5 understand the assumptions that went into essentially filling
6 in the parts of the data that you couldn't directly correct.

7 They may then criticize them, as I think we saw Dr. Salvo
8 do with some of our block-level data, as not being realistic
9 for particular situations where they have extra information but
10 we don't have that information. If we were to hypothesize
11 about that information and then build it into our imputation
12 model, we'd fail transparency. It would be very difficult to
13 defend the assumption that this particular hypothesis should be
14 embodied in the imputation model without directly collected
15 data in support of it as a part of either the census or a
16 well-designed supplementary operation that was supposed to
17 contribute to that component.

18 That's why statistical agencies tend not to use
19 nonignorable missing-data models, and when they do use them,
20 they spend a lot of effort making transparent where the extra
21 information came from that modified the nonignorable
22 missing-data model -- the ignorable missing-data model. Sorry.
23 Q. To just close the loop on imputation theory here, looking
24 at this figure 1 on the screen and panels A and C, if this were
25 two different blocks in the census with squares and stars being

IbeWnys4

Abowd - Cross

1 different households and you imputed for the blanks, could you
2 tell whether panel A or panel C was a more accurate count?

3 A. From the bias point of view, no. From the variance point
4 of view, yes.

5 MR. EHRLICH: If we could turn to Plaintiffs' Exhibit
6 513, please.

7 THE COURT: Before we do that, I take it from the
8 variance point of view, A would be the more accurate of the
9 two?

10 THE WITNESS: Yes. The accuracy of a missing-data
11 model depends on the proportion of the data that you had to
12 impute.

13 THE COURT: Thank you.

14 THE WITNESS: That component of the accuracy depends
15 on it.

16 BY MR. EHRLICH:

17 Q. And just one more question on that, Dr. Abowd. If you look
18 at C, is it possible that C would be higher or lower than A
19 despite the fact that you have more information in A?

20 A. Uh --

21 Q. In terms of total population for those blocks.

22 A. Yes. Outcomes can be on either side of the expected value
23 on an imputation model, and if C got high-end imputation
24 because of the randomness in the imputation model and A got a
25 low-end one, then the populations could be larger in C and

IbeWnys4

Abowd - Cross

1 smaller in A.

2 Q. So there would be less variance in A than C, but you
3 couldn't say, from looking at it, which would be more accurate
4 in the total-count sense, right?

5 A. Well, I think you have to construct an example from that,
6 but the ignorable missing-data model isn't biased, and so the
7 expected error is zero. It's just that it has more variability
8 in the case where you'd have to do more of it.

9 MR. EHRLICH: If we could turn to Plaintiffs' Exhibit
10 513. I just want to talk about the last step of this process
11 and the publication of data.

12 Q. You testified on direct about some disclosure avoidance
13 around the area labeled Lee, and there was a long
14 back-and-forth about how you would obscure that. Let me ask
15 this. When you obscure, infuse noise, as you testified
16 yesterday, into particular data for a particular block, how
17 does that work if, once you combine two blocks, for example,
18 even if that total population is less than another block with a
19 higher population?

20 THE COURT: Can we try that question again.

21 MR. EHRLICH: Yes. Let me try that again.

22 THE WITNESS: Thank you, your Honor.

23 (Continued on next page)
24
25

IBESNYS5

Abowd - Cross

1 BY MR. EHRLICH:

2 Q. Yesterday you were trying to describe that the accuracy of
3 population data and other characteristics when you're infusing
4 noise to prevent confidentiality breaches.

5 Can you describe how that would work to combine blocks in
6 this example we are looking at here?

7 A. I'm sorry, Mr. Ehrlich. I'm not sure what you're asking me
8 to do.

9 To give an example of all the confidentiality protection
10 would work with a set of blocks from Lee?

11 THE COURT: Unfortunately, for better or for worse,
12 you don't get to ask the questions. If you don't understand
13 it, Mr. Ehrlich can try again. If he can't come up with a
14 question that you do understand, then we'll move on.

15 MR. EHRLICH: Thank you, your Honor.

16 BY MR. EHRLICH:

17 Q. Let me ask you this: If you have a block with one person
18 and you employed the data confidentiality procedures you were
19 talking about yesterday, would an outsider be able to construct
20 what person that was?

21 A. No. That's the whole point of the procedures.

22 Q. OK. If you combine that block with another block, would
23 somebody be able to assemble the characteristics of those
24 people?

25 A. No.

IBESNYS5

Abowd - Cross

1 Once again, the confidentiality protection is what we
2 call in this line of statistics global. So once you've imposed
3 it, it measures the worst case outcome for any census that
4 could have happened with respect to any person who might have
5 been counted in that census.

6 And so as you combine the data, run regressions on
7 the data, do curly Qs with the data, you never compromise the
8 confidentiality protection at any level of aggregation from the
9 block all the way to the nation for any subpopulation.

10 Q. Now, if somebody is trying to assemble, for example, a
11 voting district using census blocks, did that impair the
12 accuracy for that use?

13 A. So, for that use, the accuracy has been impaired since 2000
14 because the characteristics have had disclosure avoidance
15 applied to them since 2000. They were applied to some tables
16 in 1990, but not to the PL 94 tables.

17 So yes, the accuracy in the sense of variability is
18 affected by disclosure avoidance and has been consistently
19 since the Census Bureau starting using disclosure avoidance.
20 The only difference between 2020 and the earlier years is we're
21 using a system where we can quantify the amount of that
22 variability, and that quantification is essential to the public
23 demonstration that it works, so we intend to quantify it and
24 that is different from previous censuses.

25 Q. Have you been in contact with the Department of Justice

IBESNYS5

Abowd - Cross

1 after the Secretary's decision in terms of using block level
2 data?

3 A. Yes. We've had a meeting with career civil servants and
4 technical specialists in the voting rights division.

5 Q. What information was exchanged during that meeting?

6 A. Dr. Simson Garfinkel and I made a long presentation that
7 James Whitehart, who is the chief of the redistrict office,
8 asked us to do in which we explained the disclosure avoidance
9 procedures for the 2020 census at a high level, how they were
10 being implemented. We did not get into the math.

11 We also explained why we believed they were essential in
12 2020, even though they could not have been done in 2010. We
13 attempted to explain to them the implications for voting age
14 and for other things that they use, and then got them to begin
15 explaining to us the use case of redistricting applications of
16 the PL 94 and Section 2 scrutiny under the Voting Rights Act.

17 And they agreed to supply us with a number of use
18 cases. It turned out to be about 60 of the ways they had used
19 PL 94 data in the past to do these things, and so those use
20 cases are in our portfolio of use cases that we're using to
21 tune the accuracy of the disclosure avoidance system so it will
22 be fit for their use.

23 MR. HO: Objection, your Honor, and move to strike
24 a portion of his testimony attempting to convey what the
25 Department of Justice officials said during the meetings is

IBESNYS5

Abowd - Cross

1 hearsay.

2 THE COURT: Mr. Ehrlich?

3 MR. EHRLICH: Not being offered for the truth, your
4 Honor. He is simply describing the effect on what the Census
5 Bureau is going to do and how that data will be fit for his
6 use.

7 THE COURT: All right. Well, I will disregard, to the
8 extent that Dr. Abowd testified about the statements of the
9 others in that meeting, I will not rely on it. It is hearsay
10 and it is stricken. I will allow his testimony with respect to
11 what he received and what he intends to use it for.

12 MR. EHRLICH: Thank you, your Honor.

13 BY MR. EHRLICH:

14 Q. Dr. Abowd, you used the term use case.

15 Can you describe what that terms means?

16 A. So in disclosure avoidance, the traditional methods,
17 which are known in the statistics literature as statistical
18 disclosure limitation on this side of the Atlantic and
19 statistical disclosure control on the other side, that set of
20 techniques explains how noise infusion can be used on an ad hoc
21 basis to protect against confidentiality breaches. But it
22 argues that one of the critical features is to not tell the
23 users how much noise infusion there was or other procedure.

24 So you can't say from the data how it will affect any
25 particular analysis. The modern procedure is the one based on

IBESNYS5

Abowd - Cross

1 cryptographic methods from computer science are explicit about
2 how the noise goes in because that proof is the public
3 demonstration that it works and, therefore, you can see the
4 variability.

5 And so in order to make those systems work, you have
6 to tune them. You have to know what the user wants to do with
7 the data that you are going to release so that you can ensure
8 that it has a margin of error that's fit for that use.

9 This is the principle under which the American Community
10 Survey publication tables were designed, only they were
11 designed to allow the users to calculate fitness or use from
12 sampling variability. In this case, it will be fitness for use
13 from disclosure avoidance variability.

14 Q. So, in your opinion, will having disclosure avoidance at
15 the block level impair the DOJ's use of assembling voting
16 districts?

17 A. In my opinion, no.

18 MR. EHRLICH: I don't have any more questions for you
19 at this time, Dr. Abowd. Thank you.

20 THE COURT: All right. I think we'll probably take
21 our break.

22 But before we do that, Mr. Ehrlich, did you want to
23 take a stab at addressing the RCT issue?

24 MR. EHRLICH: Sure.

25 Your Honor, so we are going to withdraw our testimony

IBESNYS5

Abowd - Redirect

1 with respect to the future RCT.

2 THE COURT: All right. It is stricken from the
3 record.

4 Anything else that we need to discuss before the
5 break?

6 MR. HO: Nothing from plaintiffs, your Honor.

7 MR. EHRLICH: Nothing from defendants, your Honor.

8 THE COURT: It is 3:08. We will pick it up at 3:18.

9 Thank you.

10 (Recess)

11 THE COURT: Dr. Abowd, you're still under oath.

12 Mr. Ho, you may proceed.

13 MR. HO: Thank you, your Honor.

14 REDIRECT EXAMINATION

15 BY MR. HO:

16 Q. Dr. Abowd, I want to start by asking you a few questions to
17 pick up on the last topic you were talking about with
18 Mr. Ehrlich about a meeting with the Department of Justice.

19 Do you remember that?

20 A. Yes, I do.

21 Q. So there was a single technical meeting so far between the
22 Census Bureau and the Department of Justice about their data
23 request for block level CVAP data, correct?

24 A. The meeting was our instigation to begin working with them
25 to explain the disclosure avoidance procedures that we intend

IBESNYS5

Abowd - Redirect

1 to apply to the PL 94 data. They agreed to that meeting and to
2 subsequent meetings as our data analysis proceeded.

3 Q. To be clear, Dr. Abowd, that meeting did not occur until
4 after Secretary Ross had already made his decision to include a
5 citizenship question on the 2020 census, correct?

6 A. That's correct.

7 Q. And normally, Dr. Abowd, would you like to have a technical
8 meeting like that to discuss an agency's data request before
9 making a decision about whether or not to change the census
10 questionnaire, correct?

11 A. Can I clarify that that meeting had absolutely nothing to
12 do with the citizenship?

13 We were planning to do it all along. It happens to
14 have occurred after the Secretary added the question. We
15 didn't discuss citizenship. We discussed the conventional uses
16 of the PL 94 data.

17 Q. OK. So the record is perfectly clear then, Dr. Abowd, you
18 haven't had any meetings with the Department of Justice of a
19 technical nature to discuss the citizenship question, correct?

20 A. That's correct.

21 Q. But the meeting that you're referring to right now, that is
22 a meeting that didn't take place until after Secretary Ross had
23 already made his decision to include a citizenship question on
24 the 2020 census, correct?

25 A. That's correct.

IBESNYS5

Abowd - Redirect

1 Q. OK. And normally, if you're talking about a data request
2 from an agency, you want to have a meeting with that agency
3 before making any changes to the census questionnaire, correct?

4 A. If an agency has requested a statistical product that
5 cannot be produced with current public estimates, we would
6 normally expect to meet with that agency to determine -- I used
7 the word use cases before -- the use case, the application,
8 what they wanted to do, and why they felt that our current
9 products did not serve that need. That would be normal.

10 Q. And to be clear, the meeting that you referred to with the
11 Department of Justice that only took place after the Attorney
12 General had already personally directed Department of Justice
13 personnel not to have a meeting with the Census Bureau to
14 discuss the Census Bureau's views about how to produce higher
15 quality CVAP data at the block level for lower cost, correct?

16 A. That meeting occurred after all of the deliberations and
17 decisions associated with the citizenship question had already
18 passed.

19 Q. And that includes the Attorney General's direction not to
20 take a meeting with the Census Bureau to discuss the Census
21 Bureau's proposal to produce higher quality block level CVAP
22 data at lower cost, correct?

23 MR. EHRLICH: Objection.

24 THE COURT: Sustained.

25 Q. Dr. Abowd, lets talk about your expert opinions and compare

IBESNYS5

Abowd - Redirect

1 those to those of plaintiffs' expert, Dr. Hillygus.

2 If we can bring up Plaintiffs' Demonstrative 1. You
3 remember this, right, Dr. Abowd, this demonstrative summarizing
4 Dr. Hillygus' opinions?

5 A. Yes, I do.

6 Q. If we take her first opinion and we define census
7 participation as self-response, you agree with the first part
8 of her first opinion that there is considerable evidence
9 indicating that the citizenship question will depress census
10 participation among noncitizens and Hispanics, correct?

11 A. I agree with that statement, to the extent that Hispanics
12 subpopulations are highly correlated with noncitizen
13 subpopulations, yes.

14 Q. I want to compare this briefly to Defendants'
15 Demonstrative 15, DDX 15.

16 The second column here, the 5.8 percent decrease in
17 noncitizen self-response rate. The information in that column
18 corresponds to your best conservative estimate for the effect
19 of the citizenship question in terms of reducing self-responses
20 among noncitizen households, correct?

21 A. It's a conservative cost estimate based on our best point
22 estimate of that reduction, yes.

23 Q. Great.

24 And the conservative cost estimate in terms of the
25 effect of the citizenship question then is \$82.5 billion,

IBESNYS5

Abowd - Redirect

1 correct?

2 A. That's correct.

3 Q. I just want the record to be clear, because you and I
4 talked a lot about an estimate in your January 2018 memo of
5 27.5 billion.

6 Do you remember that?

7 A. Yes, I do.

8 Q. But today, the Census Bureau's best conservative estimate
9 of the effect of the citizenship question is not \$27.5 billion,
10 it's \$85.2 billion, correct?

11 MR. EHRLICH: Objection.

12 THE COURT: Overruled.

13 A. That's correct.

14 Q. Dr. Abowd, all of the evidence that you have analyzed,
15 including data from the long form from the ACS unit nonresponse
16 rates, ACS item nonresponse rates and ACS breakoff rates
17 suggests that the sensitivity to a citizenship question has
18 increased for subpopulations such as noncitizens and Hispanics,
19 correct?

20 A. The evidence I've suggested -- the evidence I've examined
21 suggests that it is at a high level. I was reluctant to
22 characterize it as a trend, but I will characterize it as a
23 high level, a concerning level for the conduct of the 2020
24 census.

25 Q. But all of the evidence that we just described suggests

IBESNYS5

Abowd - Redirect

1 that the sensitivity has increased to that question over the
2 last few years, correct?

3 A. I believe you're asking me to opine on the difference
4 between 2010 and 2016, and I would say the answer is yes.

5 Q. There is no evidence that you have looked at suggesting
6 that the sensitivity of these subpopulation to a citizenship
7 question has decreased, is there, Dr. Abowd?

8 A. There is not.

9 Q. Lets bring back up PDX 1, Dr. Hillygus' opinions.

10 Dr. Abowd, you agree with Dr. Hillygus' fourth opinion that
11 the addition of a citizenship question will undermine data
12 quality, correct?

13 A. Yes, I do.

14 Q. You disagree with her second opinion, the one about the
15 effectiveness of NRFU, correct?

16 A. Yes, I do.

17 Q. And you disagree with her third opinion about the adequacy
18 of testing, correct?

19 A. Yes, I do.

20 Q. OK. Lets start there and lets bring up DDX 2.

21 This is your demonstrative about your conclusion on
22 testing. Dr. Abowd, I recall that you testified that the
23 citizenship question on the ACS had been adequately tested.

24 Do you remember that?

25 A. Yes.

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1 Q. Your slide here says that the citizenship question on the
2 ACS was thoroughly tested most recently this 2006.

3 Do you see that?

4 A. Yes, I do.

5 Q. Is there a difference between adequately and thoroughly?

6 A. So it was thoroughly tested for the ACS, and in the opinion
7 of the senior executive staff at the Census Bureau, that is
8 adequate testing for the 2020 census in view of the cost,
9 quality, and risk constraints that having to make a decision
10 over a very short period of time.

11 Q. OK. Just so I understand your opinion, it was thoroughly
12 tested in 2006, and that constitutes adequate testing for
13 inclusion on the 2020 census within the time constraints that
14 the Census Bureau had, is that right?

15 A. Yes, sir.

16 Q. OK.

17 THE COURT: Can I interrupt on that score?

18 You said a couple times that it was adequate in view
19 of the cost, quality, and risk constraints, I think is the
20 language you used both on cross and just now. Is that your
21 testimony?

22 THE WITNESS: That is my testimony, your Honor.

23 THE COURT: Is that a factor in the OMB standards, the
24 risk, quality, and cost constraints?

25 THE WITNESS: That is the usual way that the standard

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1 that I believe we reviewed earlier today, allowing us to take
2 account of budgetary and time considerations in adjusting
3 testing protocols, has been interpreted, yes.

4 THE COURT: Where do you see that in the OMB
5 standards?

6 In other words, where do they account for that, as
7 opposed to just setting up general standards without regard for
8 those considerations?

9 THE WITNESS: Your Honor, as I explained, the
10 standards are guidelines and they give guideposts, if you would
11 like, to the statistical agencies to formulate their own actual
12 standards that are consistent with them, and then prepare
13 submission packages to OMB for clearance that are demonstrated
14 to be consistent with their internal standards, and those
15 internal standards are supposed to be consistent with the OMB's
16 statistical policy directives.

17 In the process of undertaking, seeking a clearance,
18 and obtaining a clearance, it is determined whether the agency
19 in this case, the Census Bureau has standards that adequately
20 reflect the statistical policy directive two in this case. So
21 we put into ours the standard that the testing can be shortened
22 or substituted if there are time or budget considerations, and
23 that is consistent with SPD 2 in any particular case, if the
24 OMB wishes to opine that that's not consistent with SPD 2 in
25 the process of securing a clearance. That is their job, to

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1 tell us that they don't believe we met that standard, and that
2 our exception for time constraint or a budget constraint wasn't
3 an adequate defense of the procedures that we actually did.

4 THE COURT: Where on the Census Bureau quality of
5 standards, do you know where that appears?

6 THE WITNESS: It is in the Section A3, I think. The
7 one where the note that was up as a demonstrative.

8 THE COURT: All right.

9 THE WITNESS: First time I've been asked to quote the
10 chapter and verse from the standards. I think it is A2-3. It
11 is also in my expert report.

12 THE COURT: OK.

13 MR. HO: Thank you, your Honor.

14 BY MR. HO:

15 Q. If we can bring up Plaintiffs' Exhibit 26, Secretary Ross'
16 decision memo.

17 Specifically page two of that, the second full paragraph,
18 last sentence.

19 Do you see where Secretary Ross uses the phrase "well
20 tested" in reference to the ACS citizenship question?

21 A. Yes.

22 Q. OK. Dr. Abowd, we have had a few different expressions
23 using the word tested. We've had thoroughly tested, adequately
24 tested, and now Secretary Ross' use of the term well tested.

25 Do you agree that the ACS citizenship question has been

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1 well tested?

2 A. Yes.

3 Q. OK. Dr. Abowd, you've never designed a survey for the
4 Census Bureau, correct?

5 A. I'm sorry?

6 Q. You've never designed a survey for the Census Bureau,
7 correct?

8 A. That's correct.

9 Q. You're an economist by training, right?

10 A. That's correct.

11 Q. But you've never administered cognitive testing of a survey
12 instrument, correct?

13 A. That's correct.

14 Q. You have administered a field test of a single survey,
15 correct?

16 A. That's correct.

17 Q. That was not for the Census Bureau, correct?

18 A. Also correct.

19 Q. That was several decades ago, correct?

20 A. Yes, it was.

21 Q. You have never previously been qualified as an expert in
22 survey methodology, correct?

23 A. That's correct.

24 Q. Besides this case, you've never testified as an expert in a
25 case at least over the last four years, correct?

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1 A. Also correct.

2 Q. And this is the first time that you're aware of that the
3 chief scientist of the Census Bureau has been asked to testify
4 as an expert in Census Bureau litigation, correct?

5 A. We testified in that capacity. Howard Hogan had a
6 comparable position.

7 Q. The title of that position was not chief scientist of the
8 Census Bureau, is that correct?

9 A. That's correct. That's correct.

10 Q. Dr. Abowd, is it fair to say that you would rather be
11 working on implementing the 2020 census right now instead of
12 attending a two-week trial over this issue?

13 A. Yes.

14 Q. Dr. Abowd, you're currently scheduled to testify in two
15 more trials on this issue in January, right?

16 A. As far as I know, yes.

17 Q. And you would rather be preparing for the 2020 census in
18 January instead of attending those two trials and testifying as
19 an expert at them, right?

20 A. Yes.

21 Q. You don't get to make that decision yourself, right,
22 Dr. Abowd?

23 A. That's correct.

24 Q. Dr. Abowd, your appointment as chief scientist of the
25 Census Bureau in 2016 was for a three-year term, correct?

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1 A. Correct.

2 Q. That term is up for renewal next year, right?

3 A. The IPA would be, is renewal in May of 2019.

4 Q. You don't get to make the decision as to whether or not
5 your position gets renewed, right?

6 A. That's correct.

7 Q. Dr. Abowd, during your testimony, you gave two examples of
8 changes to census questionnaires.

9 Do you remember that, the 1970 change about Hispanic origin
10 and the 1990 change about race?

11 A. Yes.

12 Q. OK. You said that the 1970 change about Hispanic origin
13 performed well within the context of practices that were
14 prevailing in 1970, correct?

15 A. I'm not sure if those were my exact words, but I'll accept
16 that characterization.

17 Q. Those are not the same practices and standards that prevail
18 today in survey methodology, correct?

19 A. That's correct.

20 Q. The Census Bureau's statistical quality standards that
21 govern the Census Bureau today were not in effect as of 1970,
22 correct?

23 A. Correct.

24 Q. The change made to the question about Hispanic ethnicity in
25 1970 was not a change that was made to the questionnaire that

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1 was sent to every household in America in 1970, correct?

2 A. That's correct.

3 Q. It was a change made only to a sample of census forms that
4 went out in 1970, correct?

5 A. That's correct.

6 Q. And then after we saw how that performed, a decision was
7 made to include it on the census survey that went out to all
8 households in America, correct?

9 A. I'm not sure that the causation is the correct inference,
10 but the temporal ordering is correct.

11 Q. When the 1970 Hispanic origin question was added to the
12 1970 census or a sample of 1970 census questionnaires, it had
13 been recently tested a year or two prior to that, correct?

14 A. It had been tested in the CPS in the late 1960s, yes.

15 Q. One or two years before its deployment in the 1970 census,
16 right?

17 A. I believe that's right, yes.

18 Q. The ACS citizenship question was thoroughly tested most
19 recently in 2006, right, Dr. Abowd?

20 A. That's correct.

21 Q. That will have been 14 years that would have lapsed between
22 that thorough testing in 2006 and its deployment in 2020,
23 correct?

24 A. That's correct.

25 Q. Fair to say that the macro environment is expected to be

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Abowd - Redirect

1 different in 2020 than it was in 2006?

2 A. Fair to say.

3 Q. And the CBAMS research that we talked about yesterday on
4 direct examination suggests a particularly difficult macro
5 environment for a census questionnaire with a citizenship
6 question on it, correct?

7 A. That was the conclusion of that research, yes.

8 Q. There has been no thorough testing of a citizenship
9 question in today's macro environment, correct, Dr. Abowd?

10 A. That's correct.

11 Q. I want to ask you about the 1990 change to the census on
12 race.

13 The current statistical quality standards governing the
14 Census Bureau were not in effect in 1990, correct?

15 A. That's correct.

16 Q. I would like to bring up Plaintiffs' Exhibit 380.

17 This is a paper from the U.S. Census Bureau entitled Issue
18 Paper on the 1990 Census dated November 10, 1988. For the
19 record, it's been admitted into the trial record.

20 This memo contains the Census Bureau's recommendation as to
21 the race question for the 1990 census, correct, Dr. Abowd?

22 A. Yes, it does.

23 Q. Lets turn to page five of this document.

24 The header and the paragraph under it, recommendation for
25 1990 race question.

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1 The first sentence here reads: We strongly recommend that
2 the 1990 census include the race question as directed in the
3 appropriation bill report language (prelisted categories and
4 check boxes for the detailed API categories).

5 Did I read that right?

6 A. Yes, you did.

7 Q. Dr. Abowd, it is fair to say that the Census Bureau
8 recommended the form of the race question that was eventually
9 incorporated into the 1990 census, correct?

10 A. Yes, that is a fair characterization.

11 Q. There is no support in the Census Bureau today along the
12 same lines for the inclusion of a citizenship question on the
13 2020 census, correct?

14 A. I believe I've testified several times that no member of
15 the senior executive staff would currently recommend including
16 a citizenship question. My knowledge doesn't go deeper than
17 that.

18 Q. You wouldn't describe the position of the Census Bureau in
19 2020 with respect to the citizenship question as comparable to
20 the position of the Census Bureau in 1990 with respect to the
21 race question that eventually got implemented in the 1990
22 census, correct?

23 A. That's correct.

24 Q. Dr. Abowd, this change to the race question in 1990, it had
25 the support of organizations representing API communities,

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1 correct?

2 A. I believe that's the case. I believe that is how it got in
3 the appropriation bill. Literally all I know about it is what
4 is in this memo.

5 Q. There is no comparable level of support for, say, the
6 change to the census to include a citizenship question in the
7 2020 census from organizations that represent noncitizen
8 communities, correct?

9 A. None that I'm aware of.

10 THE COURT: Can you remind me what API stands for?

11 THE WITNESS: Asian and Pacific Islander, your Honor.

12 THE COURT: Thank you.

13 Q. Dr. Abowd, you would agree that today, there is a
14 well-defined process for adding questions to both the American
15 Community Survey and the decennial census, correct?

16 A. I think I've testified multiple times that there is a
17 well-defined process of content management for both the
18 American Community Survey and the decennial census, yes.

19 Q. I would like to bring up your Demonstrative DDX 8.

20 You went over this slide with Mr. Ehrlich and it lists, it
21 looks like, a battery of tests for the 2020 census from 2012
22 through the present.

23 Do you see that?

24 A. Yes, I do.

25 Q. None of these tests included the citizenship question,

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1 correct?

2 A. That's correct.

3 Q. Now, the well-defined process that you described earlier
4 for content, changing content on the ACS, lets just talk about
5 the ACS for a second, that well-defined process has been
6 followed for every change to the ACS, correct?

7 A. To the best of my knowledge, yes.

8 Q. Can we bring up DDX 10, please.

9 This is another one of your demonstratives, and this
10 describes the testing of the ACS question that occurred before
11 implementation in 2005, the second bullet, correct?

12 A. Yes, it does.

13 Q. Now, during your testimony, you mentioned, I believe, the
14 propriety of migrating questions from the long form to the ACS.

15 Do you remember that?

16 A. I -- I talked about how the initial ACS questionnaire was
17 taken by migration of questions from the long form, yes.

18 Q. All right. So questions that had appeared on the census
19 long form were transplanted, essentially, into the new American
20 Community Survey, correct?

21 A. That's basically correct, yes.

22 Q. But even though a number of these questions had been
23 deployed on the long form previously, you still underwent
24 extensive testing in 2005 of those questions before
25 implementing them on the ACS, correct?

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Abowd - Redirect

1 A. That's not quite right.

2 What happened in the tests that -- so the ACS was
3 implemented in 2005 with the questionnaire that had been
4 imported from the 2000 long form.

5 Then it began its design content review immediately, and in
6 the first cycle of that design content review, which happened,
7 the testing part -- it started immediately. The testing part
8 happened in 2006. The content of certain questions on the ACS
9 was studied, and some of them were modified as a consequence.
10 The citizenship question is one of those questions.

11 Q. Thank you for that clarification, Dr. Abowd.

12 You would say that it is reasonable to characterize a
13 change to the decennial census questionnaire as more dramatic
14 than a change to the ACS questionnaire, correct?

15 A. Yes.

16 Q. I would like to bring up Plaintiffs' Exhibit 134, which for
17 the record has been admitted.

18 Maybe I don't have it right. Here we go.

19 So this is page seven of this document, Bates number
20 9865. The title of this page is 2020 Census: Adding Content
21 to the Questionnaire.

22 Do you see that, Dr. Abowd?

23 A. Yes, I do.

24 Q. It lists five steps?

25 A. Yes.

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Abowd - Redirect

1 Q. With regard to the decennial census survey, these steps
2 have not been followed for adding the citizenship question,
3 correct?

4 A. That's correct.

5 Q. I would like to now bring up Plaintiffs' Exhibit 355.

6 A. Excuse me for a second.

7 There are multiple versions of this document. May I
8 retract that answer and look at this one carefully?

9 Q. Sure.

10 (Pause)

11 A. I apologize, your Honor.

12 I've been shown many different versions of documents that
13 we constructed after the request for the citizenship question
14 came to the Census Bureau. This is not one that I had
15 commented on previously in this trial, I don't believe.

16 Some components of each of these steps actually were
17 followed. So if you would like, I'll go through and say which
18 ones were. It's not the case that everything was ignored in
19 this particular document.

20 Q. Dr. Abowd, my question wasn't whether everything had been
21 ignored in this document, it was whether everything had been
22 followed in this document.

23 So not every step in this document has been followed with
24 respect to the 2020 census, correct?

25 A. To date, that's correct, yes.

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Abowd - Redirect

1 Q. OK. Lets bring up Plaintiffs' Exhibit 355.

2 Dr. Abowd, are you familiar with this document?

3 A. It is the sixth edition of principles and practices for a
4 federal statistical agency published by the Committee on
5 National Statistics.

6 Q. You're familiar with it?

7 A. Yes, I am.

8 Q. I would like to turn to page three of this document, which
9 I believe is page 24 of the PDF, once you get past all the
10 tables.

11 Not 124, just 24 of the PDF. There we go.

12 I would like to look at principle four, Dr. Abowd.
13 Principle four is independence from political and other undue
14 external influence.

15 Do you see that?

16 A. Yes, I do.

17 Q. The first two sentences of principle four read: To be
18 credible, trustworthy, and unhindered in its mission, a
19 statistical agency must maintain a position of independence
20 from undue external influences (even as it proactively seeks
21 input on its program and priorities). It must avoid even the
22 appearance that its collection, analysis, or dissemination
23 processes might be manipulated for political or partisan
24 purposes or that individually identifiable data collected under
25 a pledge of confidentiality might be turned over for

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Abowd - Redirect

1 administrative, regulatory, or law enforcement uses.

2 Do you see that?

3 A. Yes, I do.

4 Q. The last sentence reads: The credibility that comes from
5 independence is essential for users to maintain confidence in
6 the accuracy and objectivity of a statistical agency's data and
7 for data providers to be willing to cooperate with agency
8 requests.

9 Did I read that correctly?

10 A. Yes, you did.

11 Q. Dr. Abowd, is a process where an agency makes a request to
12 the Census Bureau for data to be collected through the census,
13 but then refuses to meet to discuss the technical aspects of
14 that data request, is a process like that consistent with
15 principle four?

16 A. A process like that is very problematic with respect to
17 principle four.

18 Q. Is it inconsistent with principle four?

19 A. So, in my opinion, principle four is also something that a
20 statistical agency needs to work with within the parameters of
21 its own enabling legislation. And in this case, were the
22 decision up to the Census Bureau with regard to the request for
23 the question from the Department of Justice, I think you
24 already have my answer on what we would do. But that's not the
25 case.

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Abowd - Redirect

1 Q. Is a process where the head of a cabinet agency personally
2 directs staff not to meet with the Census Bureau to discuss the
3 Census Bureau's ideas for producing better quality data for
4 that agency at lower cost consistent with principle four?

5 A. Once again, I think I have answered that question. I've
6 already said that if it were up to the Census Bureau, I already
7 said what we would have done with that request.

8 Q. I appreciate that that is your position, Dr. Abowd.

9 But my question wasn't about what the Census Bureau would
10 do, it was about whether or not this process comports with
11 principle four as you understand it as an expert on statistical
12 practices.

13 Is what I described to you, in terms of what the
14 Attorney General did in directing Department of Justice staff
15 not to meet with the Census Bureau to discuss the Census
16 Bureau's proposal for producing higher quality block level CVAP
17 data at lower cost, consistent with principle four?

18 MR. EHRLICH: Objection.

19 THE COURT: Sustained as to form.

20 Q. Dr. Abowd, was the process leading up to the decision to
21 include the citizenship question, to the extent -- the aspect
22 of the process where the Department of Justice was directed by
23 the Attorney General not to meet with the Census Bureau, was
24 that aspect of the process consistent with principle four?

25 MR. EHRLICH: Objection.

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Abowd - Redirect

1 THE COURT: I'll allow it.

2 Overruled.

3 A. Many experts, including myself, would interpret that as
4 political influence.

5 Q. Dr. Abowd, was the process in which you were and other
6 Census Bureau professionals were directed to conduct a
7 technical analysis of DOJ's data request without being told
8 that the Commerce Secretary had been working for months on
9 including a citizenship question in the census, is that aspect
10 of the process consistent with principle four?

11 MR. EHRLICH: Objection, mischaracterizes the
12 evidence.

13 THE COURT: Why don't you rephrase, Mr. Ho?

14 MR. HO: Thank you, your Honor.

15 BY MR. HO:

16 Q. The process here involved a directive to you and your swat
17 team to study the technical aspects of the Department of
18 Justice's request to include a citizenship question on the
19 census for the purpose of producing block level CVAP data for
20 VRA enforcement; you understand that, right, Dr. Abowd?

21 A. Yes, I do.

22 Q. The process that you undertook where you conducted an
23 extensive technical review of that request, without being told
24 that for months the Secretary had already been considering the
25 inclusion of a citizenship question, does that process comport

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Abowd - Redirect

1 with principle four?

2 A. I don't personally have an opinion on that, because I have
3 viewed it as the Secretary's authority to make that
4 determination. If he had already made up his mind, which I
5 don't have any direct evidence of, I would have preferred being
6 told in December, because all of those resources could have
7 been deployed more efficiently.

8 But if you acknowledge that it is the Secretary's legal
9 authority to modify content on the decennial census, which the
10 Census Bureau does acknowledge in the sense of -- not at the
11 particular level, but the level we are talking about here, to
12 add a question to the 2020 census, if you acknowledge that is
13 within the Secretary's authority, then that is outside the
14 scope of political influence.

15 That is the way the statute intended the census to be
16 conducted and that is the way the civil servants in the Census
17 Bureau intend to conduct it. So political influence doesn't
18 speak to his authority to make that decision.

19 Q. Dr. Abowd, you spoke a moment ago, a word about what you
20 would have preferred to have known.

21 Would you have preferred when you undertook this process to
22 know that in May of 2017, Secretary Ross had sent an e-mail to
23 Earl Comstock seven months before you undertook this process
24 stating that he was mystified why nothing had been done with
25 respect to his months' old request to include a citizenship

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Abowd - Redirect

1 question on the census?

2 A. I would have preferred to know as early as possible in
3 Secretary Ross' term that he intended to add a question on
4 citizenship to the 2020 census, once he had come to that
5 determination. I don't know when he actually came to that
6 determination.

7 Q. You made a number of comments during your direct testimony,
8 your testimony with Mr. Ehrlich, Dr. Abowd, about the time
9 constraints that you were under.

10 Do you remember that?

11 A. Yes, I do.

12 Q. Those time constraints were a function of the bracketing of
13 time between when you began working on this in December and
14 when Secretary Ross had to make his decision at the end of
15 March 2018, correct?

16 A. That's correct.

17 Q. If you had known in May of 2017 that Secretary Ross was
18 mystified why nothing had been done on his months' old request
19 to include a citizenship question on the census, the time
20 constraints under which you were operating would have been very
21 different, correct?

22 A. That's correct.

23 Q. We'll come back to that in a second.

24 I want to, for a minute, Dr. Abowd, talk about the adequacy
25 of the ACS testing of the citizenship question.

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Abowd - Redirect

1 Secretary Ross relied on the fact that the question had
2 appeared on the census -- I'm sorry -- that a citizenship
3 question had appeared on the ACS in support of his conclusion
4 that the question had been well tested, correct?

5 A. I believe you're referring to the sentence that you read
6 me, and that's correct as far as I understand it.

7 Q. OK. So just to be clear, Secretary Ross' memo states that
8 evidence of nonresponse to the citizenship question on the ACS
9 is not sufficient evidence to establish that a citizenship
10 question on the 2020 census will reduce response rates, but at
11 the same time, he says the experience of the question's
12 presence on the ACS is sufficient for satisfying the pretesting
13 requirements for deploying a question on the 2020 census.

14 Is that your understanding?

15 MR. EHRLICH: Objection.

16 THE COURT: Sustained.

17 Q. Dr. Abowd, is it your understanding that any questions'
18 appearance on the ACS over the last decade is sufficient for
19 inclusion -- is sufficient to satisfy the pretesting
20 requirement for inclusion on the 2020 census?

21 A. It is my opinion that if a question had to be put on the
22 2020 census at the direct instruction of the secretary that had
23 been previously tested for the American Community Survey, that
24 that is the version that we would propose, absent the time to
25 test any alternative content versions.

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Abowd - Redirect

1 Q. Every question that appears on the ACS has been tested,
2 correct, Dr. Abowd?

3 A. That's correct.

4 Q. So there is a question on the ACS, this house includes a
5 flush toilet, correct?

6 A. Yes.

7 Q. So by the standard that you've set forth, we can import
8 that question, does this house include a flush toilet, will be
9 on the 2020 census questionnaire, correct?

10 A. What I said was, if instructed by the Secretary to include
11 a question on flush toilets on the decennial census and such a
12 question has appeared on the decennial census, the question we
13 would select would be the one from the American Community
14 Survey.

15 Q. The American Community Survey also has a question for every
16 household member, does this person have difficulty dressing or
17 bathing themselves, correct?

18 A. Yes.

19 Q. And if the Secretary directed the inclusion of that
20 question on the 2020 census and said it didn't need to be
21 pretested because it's already been on the ACS, then by the
22 standard you've articulated, you could include that question on
23 the census, correct?

24 A. The standard I articulated including the time constraint
25 that prohibited additional content testing, and that is

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1 correct.

2 Q. Dr. Abowd, it is fair to say that the environment in which
3 the American Community Survey is deployed is different from the
4 environment in which the decennial census is taken, correct?

5 A. Yes, that's correct.

6 Q. And you would have preferred, rather than relying
7 exclusively on the presence of the question on the ACS to have
8 conducted a full field test of the 2020 decennial census
9 questionnaire, including a citizenship question before a
10 decision had been made to include the question on the real
11 thing in 2020, correct?

12 A. Yes.

13 Q. Now, the ACS has many more questions than the decennial
14 census questionnaire, correct?

15 A. Yes.

16 Q. And the Census Bureau agrees that question sequencing can
17 affect response rates to a survey, correct?

18 A. Yes.

19 Q. And the Census Bureau would agree that if you preface one
20 question with another, that can affect survey response rates,
21 correct?

22 A. Yes.

23 Q. And you would agree that if you preface one question with
24 another particular question, that could affect data quality in
25 terms of the accuracy of responses you receive to that

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Abowd - Redirect

1 question, correct?

2 A. That's correct.

3 Q. And that can sometimes happen in unanticipated ways that
4 you wouldn't know without testing, right?

5 A. That's correct.

6 Q. And the question sequencing can affect the response rate to
7 a survey in a way that you wouldn't anticipate without some
8 testing, correct?

9 A. That can happen, yes.

10 Q. OK. Now, the 1950 census, the long form, and the ACS all
11 had citizenship questions on it, correct, Dr. Abowd?

12 A. The 1950 census?

13 Q. The 1950 census.

14 A. Those are separate, the 1950 census, the long form.

15 Q. And the American Community Survey all include a citizenship
16 question, correct?

17 A. The short form of the 1950 census?

18 Q. Yes.

19 A. Long forms from 1970 forward and the American Community
20 Survey all include a citizenship question.

21 Q. Correct?

22 A. Yes.

23 Q. OK. In all of those surveys, the citizenship question on
24 those surveys was preceded by a question about place of birth
25 or nativity?

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Abowd - Redirect

1 A. I think I corrected that the first time I was asked to
2 point out that when the census was conducted by enumerators,
3 all you can see is the sheet with columns in it. So I will
4 agree that in the earlier forms conducted by enumerators, there
5 was a column for nativity and a column for citizenship. In
6 subsequent ones where they are self-administered, the question
7 does precede the citizenship question, yes.

8 Q. The citizenship question on the 2020 census will not be
9 preceded by a question on nativity, correct?

10 A. That's correct.

11 Q. The Census Bureau is not aware of any cognitive testing of
12 the citizenship question planned for the 2020 census without a
13 preceding question on nativity, correct?

14 A. That's correct.

15 Q. And the Census Bureau's opinion is that the 2020 census
16 questionnaire, including a citizenship question, has not
17 undergone adequate cognitive testing, correct?

18 A. That's correct.

19 Q. Dr. Abowd, I want to talk about your opinion on the
20 exception for the pretesting requirement under the Census
21 Bureau's standards. I want to start with your expert report,
22 which just for identification is Plaintiffs' Exhibit 310.

23 MR. HO: We are not offering this into evidence, your
24 Honor. We withdraw it from our list as an official exhibit.
25 But I want to look at page 22 of your report, which is page 23

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1 of the PDF.

2 BY MR. HO:

3 Q. Under the header adding survey questions, you have two
4 paragraphs, and I want to ask about the second paragraph.

5 In the second sentence, you write: Pretesting of a
6 specific question previously used on another survey however is
7 not required (see the note to standard sub requirement
8 A2-3.3.1).

9 That is what you wrote, right?

10 A. Yes.

11 Q. Now, you're relying on the note to Census Bureau standards
12 subrequirement A2-3.3.1 for your opinion that pretesting was
13 not required in accordance with the Census Bureau's standards,
14 correct?

15 A. Yes.

16 Q. OK. Lets look at that section of the Census Bureau's
17 quality standards, Plaintiffs' Exhibit 260, which is in
18 evidence.

19 These are the U.S. Census Bureau statistical quality
20 standards, correct?

21 A. Yes.

22 Q. And your work at the Census Bureau is guided by these
23 standards, correct?

24 A. That's correct.

25 Q. And these standards are intended to reflect the OMB's

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standards and guidelines for statistical surveys, correct?

A. That's correct.

(Continued on next page)

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1 MR. HO: Look at page 8 of this document, which is
2 page 18 of the PDF, once you get past the table of contents.

3 Q. And this is subrequirement A2-3.3. Do you see that?

4 A. Yes, I do.

5 Q. And under subrequirement A2-3.3, generally speaking, survey
6 questionnaires must be pretested to identify problems and then
7 refined based on pretesting results before being implemented.
8 Correct?

9 A. I assume you're reading from that. I haven't found the
10 sentence you were reading.

11 Yes, that's correct.

12 Q. OK. I believe you discussed the note to this
13 subrequirement with Mr. Ehrlich, the one that reads --

14 MR. HO: Not that one yet. Let's start with the top
15 note:

16 "On rare occasions, cost or schedule constraints may
17 make infeasible to perform complete pretesting. In such cases,
18 subject matter and cognitive experts must discuss the need for
19 and feasibility of pretesting. The program manager must
20 document any decisions regarding such pretesting, including the
21 reasons for the decision. If no acceptable options for
22 pretesting can be identified, the program manager must apply
23 for a waiver".

24 Q. Do you remember discussing that with Mr. Ehrlich?

25 A. I remember discussing the other note, but -- yes, I do

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1 recall discussing that. Yes. Go ahead.

2 Q. I think you said that this note contemplates the fact that
3 there might be time constraints sometimes, which makes
4 pretesting difficult. Do you remember that?

5 A. Yes, I do.

6 Q. OK. And then the note says that under such circumstances,
7 essentially, the program manager must apply for a waiver. Do
8 you see that?

9 A. Yes, I do.

10 Q. A waiver was not applied for before the citizenship
11 question was decided to be added to the 2020 census, correct?

12 A. That's correct.

13 Q. Now I want to talk about the note to subrequirement
14 A2-3.3.1. "Pretesting is not required for questions that
15 performed adequately in another survey." Did I read that
16 right?

17 A. Yes, you did.

18 Q. This is what you're relying on when you say that pretesting
19 was not required of the citizenship question in accordance with
20 the Census Bureau's standards, correct?

21 A. That's correct.

22 Q. And you would agree, Dr. Abowd, that if this note to
23 subrequirement A2-3.3.1 did not exist, that you would have to
24 perform pretesting of the citizenship question before including
25 it in the 2020 census, correct?

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1 A. Or apply for a waiver.

2 Q. But that didn't happen either, right?

3 A. That's correct.

4 Q. OK. So if this note didn't exist, you'd have two options,
5 either pretest or apply for a waiver, right?

6 A. That's correct.

7 Q. And you didn't do either of those things, right?

8 A. That's correct.

9 MR. HO: Let's bring up your report now, and I want to
10 bring it up alongside that note so we can compare the text of
11 the two.

12 Q. Now, in your note, when you describe standard
13 subrequirement A2-3.3.1 and the need for pretesting under it,
14 you noted that the exception excuses pretesting for a question
15 that has been previously used on another survey, but you left
16 out the fact that in order for this exception to apply, the
17 question at issue has to have performed adequately on that
18 survey, right, Dr. Abowd?

19 A. If I didn't say it in that paragraph, I certainly said it
20 in another paragraph of my --

21 Q. OK. Well, just stay here for a second, Dr. Abowd. The
22 note says that you don't need pretesting if a question's been
23 on another survey if it's been performed adequately on that
24 survey, right?

25 A. That's what the note says, yes.

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1 Q. OK, but your report, at least in this paragraph, when you
2 cite this exception, you describe it as allowing the use of
3 questions that have appeared on other surveys, but you left out
4 the fact that the question has to have performed adequately on
5 that survey, right?

6 A. It's not in that paragraph, but I did say that the question
7 had to have been adequately tested in the context of the ACS,
8 so I've already established that point.

9 Q. Well, we can talk about that, but this paragraph certainly
10 doesn't say that, right, Dr. Abowd?

11 A. I don't see the words in this particular set of sentences,
12 that's right.

13 Q. Now, you know, based on the analysis of your SWAT team,
14 Dr. Abowd, that more than 30 percent of individuals who were
15 identified in administrative records as noncitizens respond to
16 the citizenship question on the ACS stating that they are, in
17 fact, citizens, right?

18 A. Yes, that's right.

19 Q. And as we went over yesterday, you have reason to believe
20 that if you put this question on the 2020 census, noncitizens
21 are going to get the answer wrong even more frequently on the
22 2020 census than they do on the ACS, correct?

23 A. You're interpreting the higher disagreement rate in 2016 as
24 that evidence, if that's what you mean, then yes.

25 THE COURT: What do you mean by the higher

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1 disagreement rate?

2 THE WITNESS: The statistic that Mr. Ho quoted at
3 around 30 percent applies to the 2010 American Community
4 Survey. The disagreement rate is higher for the 2016 American
5 Community Survey, closer to 37 percent.

6 THE COURT: And that's based on the breakoff data?

7 THE WITNESS: That's based on the linkage, your Honor,
8 to the --

9 THE COURT: I'm sorry. Keep your voice up.

10 THE WITNESS: The numbers that we're talking about
11 right now are based on the linkage of the American Community
12 Survey to the administrative record data on citizenship.

13 THE COURT: Understood.

14 BY MR. HO:

15 Q. Given the rate at which noncitizens provide inaccurate
16 responses to the citizenship question on the American Community
17 Survey, Dr. Abowd, the Census Bureau now acknowledges that
18 there's a problem with the ACS citizenship question, correct?

19 A. That's correct.

20 Q. There's no consensus view right now within the Census
21 Bureau as to what to do about that problem, right?

22 A. That's correct.

23 Q. Given this problem, when the next ACS content review takes
24 place, there's going to be a review of the citizenship question
25 on the ACS and how it's performing on that survey, correct?

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1 A. That's my understanding, yes. That program hasn't actually
2 started, so all I can say is that's the intention.

3 Q. And I believe you testified with Mr. Ehrlich that this
4 problem, assessing and addressing it will be an important
5 component of the ACS content review process, correct?

6 A. That's my expectation, yes.

7 Q. And it's possible that at the conclusion of that ACS
8 content review process, the recommendation that will come out
9 of that will be to remove the citizenship question from the ACS
10 because of its problematic performance, correct?

11 MR. EHRLICH: Objection.

12 THE COURT: Sustained.

13 Q. Dr. Abowd, it's fair to say that one possible result of
14 this process of content review is that the citizenship question
15 could be removed from the ACS, right?

16 A. That is a possible outcome, yes.

17 Q. Dr. Abowd, when you have questions as to whether or not a
18 certain procedure or methodology within the Census Bureau is
19 compliant with the bureau's statistical quality standards, you
20 ask a quality program staff for guidance about how to proceed,
21 right?

22 A. That's one option, yes.

23 Q. And the content review process of the ACS, the intention to
24 review the performance of the ACS question as part of that
25 content review process, that's consistent with this practice of

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1 getting quality program staff involved for guidance, correct?

2 A. Yes, it is.

3 Q. Dr. Abowd, for purposes of the 2020 census, you haven't
4 gone to the quality program staff for guidance about how to
5 proceed in light of the problem that we've identified with the
6 ACS citizenship question in terms of noncitizens frequently
7 giving erroneous answers, correct?

8 A. I don't believe that the quality program staff has been
9 consulted directly. One member of the quality program staff
10 was among the people that was consulted when we were preparing
11 our internal position.

12 Q. Do you remember agreeing with me earlier, Dr. Abowd, that
13 changes to the decennial census questionnaire are more dramatic
14 than changes to the ACS?

15 A. Yes, I do.

16 Q. But before Sec'y Ross made a decision to add a citizenship
17 question to the decennial census, the Census Bureau had not
18 undertaken a review of the citizenship question and its
19 performance for purposes of adjusting content in the same way
20 that is currently being contemplated for the ACS content
21 review, correct?

22 A. I'm sorry, Mr. Ho. I don't understand exactly what you're
23 asking me.

24 Q. That's all right. That was inartful. Let me try again.

25 The content review for the ACS is going to look at the

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1 performance of the citizenship question on the ACS; at least
2 that's the current intention, correct?

3 A. That's correct.

4 Q. And one reason for that is because of the problematic
5 performance of the ACS citizenship question, correct?

6 A. The specific reason for that is the evidence uncovered in
7 the process of addressing the DOJ request of the disagreement
8 between the survey response and the administrative records.

9 Q. There's no analogous review that's taken place for the 2020
10 decennial census and the inclusion of the citizenship question
11 in it that's been completed prior to Sec'y Ross's decision to
12 include the question, correct?

13 A. Well, the analyses that we did and the technical report
14 that we've been talking about today is the beginning of that
15 analysis. That's what's been done.

16 Q. But you haven't completed a content review process along
17 the lines of what's being contemplated for the ACS, where,
18 among other things, you'll look at how the question's performed
19 and make a decision about whether or not to continue to include
20 it; you haven't done something like that for purposes of the
21 2020 census before Sec'y Ross made his decision, correct?

22 A. That's correct.

23 Q. And the Census Bureau was not making any refinements to the
24 citizenship question in light of its performance problems on
25 the ACS prior to its implementation on the 2020 census

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1 questionnaire, correct?

2 A. So, I would characterize the current state of the research
3 as a question about whether a survey response or an
4 administrative record response is the preferred way of managing
5 the burden in collecting data on citizenship, so the actionable
6 consequence -- one of the actionable consequences is certainly
7 to modify the survey question, but the actionable consequence
8 that we pursued with respect to the 2020 census was to simply
9 get the content from an alternative source. That's a live
10 option for the ACS as well.

11 Q. But there's no possibility you're going to remove it from
12 the questionnaire based on the content review?

13 A. Not unless the secretary so instructs.

14 MR. HO: Let's bring plaintiffs' demonstrative exhibit
15 1 back on the screen, Dr. Hillygus's --

16 THE COURT: Let me interrupt for a moment.

17 In your expert opinion, would you say in light of the
18 30 to 37 percent, I'll call it error rate for lack of a better
19 term, that the citizenship question on the ACS has performed
20 adequately?

21 THE WITNESS: So, your Honor, first of all, we call it
22 a disagreement rate, and it should be clear from all of the
23 technical advice that you've heard me talk about that I do not
24 believe that the survey question is the best way to collect
25 that information. And so if your conclusion from that is that

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1 it is not performing adequately, then I'd accept that
2 conclusion.

3 I do have to say, though, that among the
4 methodologists at the Census Bureau, many would like to see a
5 further analysis of the -- that disagreement in light of
6 additional data about naturalizations and missing updates to
7 our source of citizenship data before concluding that it's in
8 error. And so the disagreement is not in dispute. The fact
9 that it is so large makes it difficult to attribute the bulk of
10 it to an error in updating naturalizations, but we would like
11 to know about how often it is -- they disagree because one of
12 our primary citizenship data sources has to be updated by an
13 affirmative action if citizenship happens, and we don't know
14 the rate at which that happens.

15 We can tell that it happens in looking at successive
16 copies of the NumIdent, but that's the sort of quantitative
17 research that a content review would normally undertake before
18 deciding to whom the question would be posed or whether the
19 question would be substituted for an alternative source.

20 THE COURT: All right. Let me ask you, in your
21 opinion, your expert opinion, based on the existing data --
22 that is to say, the absence of a content review that breaks
23 down the disagreement rate in the way that you just
24 described -- would you describe the question as performing
25 adequately in light of the existing data?

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1 THE WITNESS: No, I don't think the question performs
2 adequately.

3 BY MR. HO:

4 Q. Dr. Abowd, at the time that Sec'y Ross made his decision,
5 he was aware of the fact that noncitizens were likely answering
6 this question on the ACS incorrectly more than 30 percent of
7 the time, correct?

8 A. Yes, that's correct.

9 Q. And he knew that because you told him that in your January
10 2018 memo, correct?

11 A. Yes, I did.

12 Q. And Sec'y Ross also mentioned this fact in his decision
13 memo, correct?

14 A. As I recall, yes.

15 Q. But Sec'y Ross's view was that a question that noncitizens
16 get wrong 30 percent of the time has been well tested, right?

17 A. That was also the advice we gave the secretary.

18 Q. Sec'y Ross made his decision to include the citizenship
19 question without conducting any analysis of whether or not
20 people might answer the question more accurately -- less
21 accurately in today's political environment, correct?

22 A. I'm sorry. Could you repeat that? It was clear. I just
23 lost the first part.

24 Q. No. It's all right. It's my fault.

25 The decision to add the citizenship question was made by

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1 Sec'y Ross without conducting any testing to see whether or
2 not, in today's political environment, noncitizens might answer
3 the citizenship question erroneously at an even higher rate
4 than they had in previous ACSs, correct?

5 A. It was made without any additional testing of the question,
6 correct.

7 Q. And just to close the loop on what well tested meant, well
8 tested, as used in Sec'y Ross's memo, is consistent with not
9 performing adequately?

10 MR. EHRLICH: Objection.

11 THE COURT: I'll allow you to answer. In your
12 opinion, are those two terms consistent?

13 THE WITNESS: Yes, they are, and I agree it's rather
14 nuanced.

15 MR. HO: Thank you, Dr. Abowd.

16 Let's turn to your next opinion, the one about whether
17 or not the reduction in self-response rates will translate into
18 an undercount.

19 Q. I believe you testified with Mr. Ehrlich that you have no
20 ability, I think, is the phrase that you used to predict the
21 effect of the reduction in response rates caused by the
22 citizenship question on a differential undercount. Is that
23 right?

24 A. I'm not sure which of my statements you're directly
25 quoting, so let me make it as precise as I can.

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1 I cannot predict -- so, the data quality deteriorate, I've
2 been clear about that, and each of the components of net
3 coverage, net undercount change. I have no ability to reliably
4 predict the direction that the cumulative effect of all those
5 changes has on the net undercount. That is my testimony.

6 Q. Dr. Abowd, the Census Bureau has not produced, in your
7 words, "credible quantitative evidence" that the addition of a
8 citizenship question to the 2020 census would increase the net
9 undercount or differential net undercount, correct?

10 A. That's correct.

11 Q. And you did describe, however, to Judge Furman, a way that
12 the Census Bureau could have conducted that kind of analysis
13 that would have produced the kind of credible quantitative
14 evidence that you're referring to. Do you remember that?

15 A. I do. I believe I said "might."

16 Q. And that analysis that you described to Judge Furman, that
17 would have been performed with confidential data not available
18 to the public generally, correct?

19 A. Yes. It would have had to use the coverage measurement
20 data.

21 Q. And it was within the scope of your authority, Dr. Abowd,
22 to assemble a team that would have conducted -- that could have
23 conducted that analysis, correct?

24 A. It was within my authority to recommend that those
25 resources be committed to that activity but not necessarily to

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1 assign them to that activity, yes.

2 Q. Given the time constraints, it was not possible to conduct
3 such an analysis that would produce that kind of credible
4 quantitative evidence prior to Sec'y Ross's March 2018
5 decision, correct?

6 A. That's correct.

7 Q. If you had been given more lead time, it might have been
8 possible, right?

9 A. Yes, it might have.

10 Q. The reason why you didn't conduct the analysis that would
11 have produced that kind of credible quantitative evidence of an
12 undercount, Dr. Abowd, is because you didn't believe that such
13 information was necessary for the Census Bureau's
14 recommendation not to include a citizenship question, correct?

15 A. I believe that's the answer I gave you in deposition, yes,
16 and I believe that.

17 Q. OK. So even though the Census Bureau has not produced any
18 credible quantitative evidence about the effect of a
19 citizenship question on the undercount, even in absence of such
20 evidence, you are confident in your recommendation not to
21 include a citizenship question, correct?

22 A. Yes.

23 Q. Now, Dr. Abowd, you also say that the plaintiffs' experts
24 have not produced such quantitative -- such credible
25 quantitative evidence, correct?

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1 A. Yes, I did.

2 Q. I want to ask you a few questions about plaintiffs'
3 experts. You know plaintiffs' expert, Dr. Sunshine Hillygus,
4 correct?

5 A. Yes, I do.

6 Q. You're familiar with Dr. Hillygus's professional
7 qualifications, correct?

8 A. Yes, I am.

9 Q. You know that Dr. Hillygus is a member of CSAC, the census
10 scientific advisory committee?

11 A. She was a member of CSAC, yes.

12 Q. And CSAC members are highly regarded as social scientists
13 by the Census Bureau, correct?

14 A. Yes, that's correct.

15 Q. And Dr. Hillygus is highly regarded as a social scientist
16 by the Census Bureau, correct?

17 A. Yes, she is.

18 Q. As of your October 12 deposition, you had not reviewed the
19 September 1 or October 1 expert reports of Dr. Hillygus,
20 correct?

21 A. That's correct.

22 Q. You're familiar with plaintiffs', one of plaintiffs' other
23 experts, former Census Bureau Director John Thompson, correct?

24 A. I'm sorry?

25 Q. You're familiar with John Thompson, right?

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1 A. Yes.

2 Q. You don't dispute Mr. Thompson's qualifications to provide
3 the opinions that he provided in this case?

4 A. I do not.

5 Q. And the Census Bureau has a high opinion of Mr. Thompson as
6 a social scientist?

7 A. As a mathematical statistician and a census specialist,
8 yes.

9 Q. And you have a high opinion of Mr. Thompson in those
10 respects as well, correct?

11 A. Yes, I do.

12 Q. You're familiar with plaintiffs' expert, Dr. O'Hare,
13 correct?

14 A. Yes.

15 Q. You're familiar with his professional qualifications?

16 A. Yes, I am.

17 Q. And you don't dispute Dr. O'Hare's professional
18 qualifications to provide the opinion that he gave in his
19 report, right?

20 A. I do not.

21 Q. I want to ask you about this term "credible quantitative
22 evidence." That's not a term of art in the social sciences,
23 correct?

24 A. I think in our other discussions that we've had about that,
25 I've tried to make it clear that I mean evidence that would

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1 stand up to internal and external peer review in the relevant
2 scientific community. That's a long phrase that should be
3 substituted for "credible scientific evidence" whenever I say
4 it.

5 Q. But "credible quantitative evidence," that's not a term
6 that would show up in a glossary of social science terms,
7 correct?

8 A. Probably not.

9 Q. And you didn't use that term in your January memo to Sec'y
10 Ross, correct?

11 A. I don't recall using it, that's correct.

12 Q. And you didn't use that term in your March memo to Sec'y
13 Ross when you analyzed the differences between alternatives C
14 and D, the Census Bureau's recommendation to use administrative
15 records and Sec'y Ross's eventual decision to include a
16 question and also look at administrative records, right?

17 A. I believe that the secretary expected that the only
18 quantitative evidence that we would present him was credible
19 quantitative evidence in the sense that I have used it.

20 Q. But you didn't use that term in your memo, right,
21 Dr. Abowd?

22 A. I did not.

23 Q. Now, leaving all that aside, Dr. Abowd, you agree that the
24 citizenship question might increase the differential undercount
25 of particular subgroups like noncitizens, right?

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1 A. Yes, it might.

2 Q. You're not saying that there is credible quantitative
3 evidence indicating that a citizenship question will not affect
4 the undercount, correct?

5 A. That's correct.

6 MR. HO: So let's look again at PDX-1 and
7 Dr. Hillygus's opinions.

8 Q. You disagree with Dr. Hillygus's opinions about undercount
9 because you believe that NRFU, nonresponse follow-up, will
10 adequately address a decline in self-response caused by the
11 citizenship question, right?

12 A. Yes.

13 Q. Dr. Abowd, the Census Bureau has not produced credible
14 quantitative evidence indicating whether or not NRFU will be
15 sufficient to address the marginal increase in nonresponse
16 caused by the citizenship question, correct?

17 A. By the standards I've defined, we have used the modeling
18 assumptions from the 2020 census, and so that's correct, yes.

19 Q. Dr. Abowd, you would agree with me that if a household
20 self-responds accurately and completely, then that household
21 will be counted in the decennial enumeration, right?

22 A. Yes.

23 Q. Those households, by definition, will not be omitted from
24 the enumeration count, right?

25 A. That's correct.

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1 Q. Now, by definition, the only households that might be
2 omitted from the enumeration are those that fail to
3 self-respond, right?

4 A. Let me correct my answer to the last question. I was too
5 quick.

6 The self-responses will definitely be counted, and we won't
7 know until the coverage evaluation their contribution to
8 correct enumerations. There can be self-responses that are not
9 correct enumerations, and so they can contribute to omissions.

10 Q. If you self-respond to the census, you're not going to get
11 left out of the count, right?

12 A. That's true.

13 Q. The only way that you could be left out of the count is if
14 you don't self-respond in the first place, right?

15 A. Yes, that's right.

16 MR. HO: Now, let's look at PDX-12.

17 Q. This was Dr. Hillygus's summary of the steps in the NRFU
18 process. If you don't self-respond, you get an in-person
19 visit. If that doesn't produce a response, the bureau will
20 look at administrative records. If they can't enumerate you
21 that way, there are further in-person visits. If that doesn't
22 work, they look for proxy responses, like a neighbor or
23 landlord; and then if that doesn't work you go to imputation.

24 Is that an accurate characterization of the steps in the
25 NRFU process?

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1 A. Yes, it is.

2 Q. So if a household doesn't self-respond, the only way that
3 they're going to get counted is if one of these steps in the
4 NRFU process picks them up, correct?

5 A. OK. Here it goes again. Four components to coverage
6 measurement. Put the dual-system estimator aside, because we
7 just don't need to go there right now.

8 Omission, erroneous enumeration, whole-person census
9 imputation. You do get counted even though it's an error from
10 an erroneous enumeration and that's even an erroneous
11 enumeration within your racial subgroup, and you do get counted
12 if there's a whole-person census imputation, so it is not the
13 case that you won't get counted if, if, as a consequence of the
14 NRFU even from self-responses.

15 Q. I'm sorry, Dr. Abowd. I was including imputation as a part
16 of this process.

17 A. Were you also including erroneous enumeration?

18 Q. Well, let's leave erroneous enumerations aside for a
19 second. OK?

20 A. It's an important offset, so I don't accept that you can
21 set one thing to zero and then just talk about the effects of
22 the others. If you arbitrarily zero out one component of the
23 change, then you will get the estimate that that assumption
24 implies, but you still haven't justified that assumption.

25 Q. OK. Well, I want to talk about your erroneous enumerations

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1 separately, but let's just start here. OK?

2 If you don't self-respond, you can still be counted if
3 you're picked up in one of these steps of the NRFU process
4 listed on your screen, correct?

5 A. Yes, that's right.

6 Q. OK. Now, your opinion is that even with a decline in
7 self-response rates because of a citizenship question there
8 will be a complete enumeration, right?

9 A. Yes. That sentence is what I said.

10 Q. And that's largely because of the effectiveness of NRFU,
11 correct?

12 A. It depends upon the effectiveness of NRFU, yes.

13 Q. OK. It depends on the effectiveness of NRFU? All right.

14 A. And the integrated campaign, but that's the
15 self-response -- the partnership and communication campaign.
16 It depends on both of those, but it certainly does depend on
17 NRFU.

18 Q. I want to ask you about your experience with respect to
19 NRFU, Dr. Abowd. You've never designed a nonresponse follow-up
20 operation plan, correct?

21 A. I have designed other things that are statistically
22 similar, but I've never designed a field operation from a
23 nonresponse follow-up.

24 Q. You've never implemented a NRFU operations plan at the
25 Census Bureau, correct?

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1 A. That's correct.

2 Q. You've never run NRFU operations yourself, correct?

3 A. That's correct.

4 Q. You've never had any of the positions that someone in a
5 NRFU operation would have, correct?

6 A. That's correct.

7 Q. You've never designed an integrated communications plan
8 either, correct?

9 A. Also correct.

10 Q. You've never implemented an integrated communications plan,
11 correct?

12 A. Correct.

13 Q. You've never designed a trusted partners campaign, correct?

14 A. Correct.

15 Q. You're not seeking to be qualified as an expert in public
16 communications strategy, correct?

17 A. Yes, that's correct.

18 Q. Now, your opinion is that the Census Bureau conducted
19 successful NRFU operations in previous censuses and in the 2018
20 end-to-end tests, correct?

21 A. Yes.

22 Q. When you say previous censuses, you're referring to
23 censuses including the 2010 census, correct?

24 A. Yes.

25 Q. In the 2010 census in which you say the Census Bureau

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1 conducted a successful NRFU operation, that obviously did not
2 include a citizenship question, correct?

3 A. That's correct.

4 Q. And in the 2018 end-to-end tests in which you say the
5 Census Bureau conducted successful NRFU operations, that was
6 not in the context of a census questionnaire that featured a
7 citizenship question, correct?

8 A. That's correct.

9 Q. Now, none of the successful NRFU operations that you're
10 referencing in your opinion took place in the context of a
11 situation where the census questionnaire had a citizenship
12 question on it, correct?

13 A. Correct.

14 Q. Now, you said that the end-to-end test had a successful --
15 you said that the 2018 end-to-end tests were successful
16 overall, correct?

17 A. I actually qualified that, that they're not over. Through
18 the end of peak operations, that is the current assessment,
19 yes.

20 Q. Thus far, they've been successful within the goals that you
21 had for them, correct?

22 A. Yes, that's correct.

23 Q. But you had to scale those goals back because of the
24 citizenship question, correct; that was your testimony with
25 Mr. Ehrlich?

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Abowd - Redirect

1 MR. EHRLICH: Objection. Mischaracterizes the
2 testimony.

3 THE COURT: The witness can answer.

4 A. I don't recall saying that. I recall saying that we had to
5 scale back the end-to-end test because of the 2017 and '18
6 budgets, but those happened before the citizenship question.

7 Q. Thank you for that clarification.

8 Now, Sec'y Ross's decision came too late for you to
9 incorporate the citizenship question into the end-to-end tests,
10 correct?

11 A. That's correct.

12 Q. If you had had the decision earlier, you could have
13 incorporated the question into the end-to-end tests and seen if
14 NRFU could work in those circumstances, correct?

15 A. That's correct.

16 Q. When you say that you had a successful NRFU operation,
17 you're not referring to any kind of written standard for what
18 constitutes NRFU success, according to the Census Bureau,
19 correct?

20 A. I think I'll agree with that. We did set out in writing
21 what the goals were, but we did not set out in writing what a
22 clear failure would be.

23 A clear failure would be that one of the operations has to
24 be shut down and redesigned before it can be used in the
25 census. Those are the sorts of things we haven't had. That's

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Abowd - Redirect

1 a fairly low bar. We also have studied the performance of
2 others of the 25 operations, so we had no clear failures. We
3 had incidents in all of the systems that, and operations that
4 are being investigated to see what needs to be corrected for
5 production use in the 2020 census. So the stated goal was to
6 ensure that the 25 operations being tested were properly
7 integrated, and to the extent that the tests have gone through
8 the peak operations, they've met that stated goal.

9 Q. Dr. Abowd, my question is pretty simple. It was, there's
10 no defined standard for a successful NRFU operation, correct?

11 A. Well -- so, I tried to nuance my answer, because I don't
12 agree with the no defined statement. We stated the goals in
13 advance, and they were materially different from the goals from
14 when the '18 end-to-end test was originally designed. So if it
15 is the case that the things that you say in writing can change
16 because you change the design, then it must be the case that
17 the goals that you set yourself to have some written standards,
18 not as explicit as the quality standards, but we did state
19 public *ex ante* goals for the rescoped end-to-end test.

20 Q. You stated goals, but you didn't have written standards for
21 what constitutes the success or failure for NRFU operations in
22 2018, correct?

23 A. We didn't have standards like you've seen embodied in the
24 2013 quality standards test.

25 Q. Dr. Abowd, do you remember testifying that the macro

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Abowd - Redirect

1 environment can affect response rates?

2 A. Yes.

3 Q. The macro environment can also affect NRFU success,
4 correct?

5 A. Yes, it can.

6 Q. And the Census Bureau's CBAMS research suggests that
7 current political environment has negative implications for the
8 likely effect of including a citizenship question on the
9 census, correct?

10 A. Assuming you read back the conclusion without modification,
11 yes. We've had the slide up. What it says was the conclusion.

12 Q. And you would agree, then, that the political environment,
13 as reflected in the CBAMS research, also suggests negative
14 implications for the current macro environment on the
15 effectiveness of NRFU if the census questionnaire were to
16 include a citizenship question, correct?

17 A. Yes, I agree with that.

18 Q. There's been no testing of the efficacy of NRFU operations
19 with a census questionnaire including a citizenship question,
20 right?

21 A. That's correct.

22 Q. And part of NRFU success hinges upon the success of the
23 Census Bureau's integrated communications plan to encourage
24 census participation, right?

25 A. Yes.

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Abowd - Redirect

1 Q. And that includes partnering with trusted community voices,
2 correct?

3 A. It's technically the partnership and not the communication
4 plan, but yes.

5 Q. And the partnership, the community voices with whom you
6 partner are expected to carry forward a message that census
7 participation is safe and important, correct?

8 A. Yes, and to help us develop that message.

9 Q. OK. The ability of trusted partners to carry forward the
10 message that the census is, that participation in the census is
11 safe and important has been made more difficult by the
12 inclusion of a citizenship question, correct?

13 A. Yes.

14 Q. So, one example of a trusted voice is NALEO, correct?

15 A. Which?

16 Q. NALEO.

17 A. Yes.

18 Q. OK. NALEO opposes the citizenship question, correct?

19 A. As far as I understand it, yes.

20 Q. So the citizenship question on the census, that's going to
21 make NALEO's job harder to be a trusted voice to carry forward
22 the message that census participation is safe and important,
23 correct?

24 A. Yes.

25 Q. That's also true for the National Urban League, correct?

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Abowd - Redirect

1 A. I'm unaware of their public position on the question, but
2 if it is that the citizenship question should be removed, then
3 yes.

4 Q. It's also going to make it harder for the National
5 Conference of American Indians, correct?

6 A. Same qualification, but if so, yes.

7 Q. It's also going to make it harder for the Leadership
8 Conference on Civil Rights, correct?

9 A. Same qualification, but yes.

10 Q. Dr. Abowd, there hasn't been any testing of how well
11 messaging promoting citizenship -- promoting census
12 participation will work for a questionnaire including a
13 citizenship question taking account of the current macro
14 environment, correct?

15 A. So, I'm unable to tell the difference between that question
16 and the half a dozen others I've answered. The answer's yes.
17 If there's a subtle difference between them, I haven't seen it.

18 Q. Dr. Abowd, there hasn't been any effort to test the
19 effectiveness of NRFU operations to counteract a reduction in
20 response rates due to a citizenship question in the macro
21 environment context of a president who has referred to Mexicans
22 and rapists and murderers, correct?

23 MR. EHRLICH: Objection.

24 THE COURT: Overruled.

25 You may answer.

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Abowd - Redirect

1 A. There has been no test of the NRFU with a citizenship
2 question in the current political environment.

3 Q. There's been no testing of the efficacy of NRFU to
4 counteract the expected reduction in response rates caused by a
5 citizenship question in a macro environment where the president
6 has implemented a policy of separating children from their
7 parents at the border, correct?

8 MR. EHRLICH: Objection.

9 THE COURT: Sustained.

10 I think, Mr. Ho, we got the point.

11 BY MR. HO:

12 Q. Dr. Abowd, sometimes it happens that a household will
13 respond to the census questionnaire but omit a member of the
14 household, correct?

15 A. Yes.

16 Q. And in fact, one of the reasons in which the Census Bureau
17 has attributed the undercount of Hispanics in previous censuses
18 has been the failure of Hispanic households to include
19 responses for every member of their household, correct?

20 A. There is empirical research that supports that statement,
21 yes.

22 Q. Now, here, the analysis that your team conducted is
23 consistent with the notion that adding a citizenship question
24 will cause an incremental increase in the number of households
25 that respond to the census but do not provide a response for

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Abowd - Redirect

1 every member of their household, correct?

2 A. I'm not sure which component of our analysis you're
3 referring to. Could you refresh my memory?

4 Q. Sure. The ACS analysis that you conducted showing the
5 sensitivity of a citizenship question, the reduced unit, item
6 nonresponse rates and the breakoff rates, all of that research
7 is consistent with the notion that adding a citizenship
8 question to the census will cause an incremental increase in
9 the number of households that respond to the census but fail to
10 provide a response for every member of their household,
11 correct?

12 A. If you mean fail to provide an item response, then I agree
13 with the interpretation of the evidence that we developed. If
14 you mean leave someone off the roster, none of our evidence has
15 any direct empirical support for that proposition.

16 Q. Your evidence is consistent with the expectation that the
17 addition of a citizenship question will cause an incremental
18 increase in the number of households that respond to the census
19 but don't provide a response for every member of their
20 household, correct, Dr. Abowd?

21 A. Doesn't contradict that hypothesis, that's correct.

22 Q. That wasn't my question, Dr. Abowd. My question was
23 whether or not the research that you had done was consistent
24 with the notion that there will be an incremental increase in
25 the number of households that provide a response to the census

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Abowd - Redirect

1 but do not provide a response for every member of their
2 household.

3 MR. EHRLICH: Objection.

4 THE COURT: Overruled.

5 A. All I'm trying to say is that there's no direct empirical
6 connection between the research that you've cited from the
7 technical paper and other memoranda that I supervised the
8 preparation of and the conclusion that more people will be left
9 off the household roster. If "consistent with" means that
10 there's no empirical connection but both could happen, then
11 yes.

12 Q. Dr. Abowd, do you remember your third deposition in this
13 case, on October 5, 2018?

14 A. I'm afraid you're about to refresh my memory, but yes, go
15 ahead. I don't, no.

16 Q. You were under oath that day, right?

17 A. Yes, I was.

18 Q. Told the truth that day, right?

19 A. Yes, I did.

20 MR. HO: OK. Let's look at page 396 of your
21 deposition transcript, lines 2 to 11:

22 "Q. Is the evidence that we've seen and discussed about item
23 nonresponse, unit nonresponse, breakoff rates with a
24 citizenship question, is that evidence consistent with the
25 notion that adding a citizenship question to the census would

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Abowd - Redirect

1 cause an incremental increase in the number of households that
2 respond to the census but don't provide a response for every
3 member of the household?

4 "A. Yes."

5 Q. Was that my question to you and was that your answer?

6 A. Yes.

7 MR. EHRLICH: Objection. Not inconsistent.

8 THE COURT: The witness answered, so in that regard,
9 overruled.

10 Go ahead.

11 THE WITNESS: It isn't inconsistent because the
12 response there isn't qualified.

13 Q. Excuse me, Dr. Abowd. My question was, was this my
14 question and was this your answer to my question?

15 A. Yes, and yes.

16 THE COURT: That was page 371, you said?

17 MR. HO: Page 396, lines 2 to 11, your Honor.

18 THE COURT: Thank you.

19 BY MR. HO:

20 Q. Generally speaking, Dr. Abowd, NRFU is triggered when you
21 get a unit nonresponse, a failure to respond to the census
22 questionnaire altogether, correct?

23 A. Yes.

24 Q. So if a household sends in a completed census
25 questionnaire, responds to all the questions but omits a member

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Abowd - Redirect

1 of that household, the Census Bureau is not going to send an
2 in-person enumerator to their door, correct?

3 A. That's correct.

4 Q. And if a household sends in a completed response to the
5 census questionnaire but omits one or more members of their
6 household, the Census Bureau is not going to try to get a proxy
7 response for that household, correct?

8 A. That's correct.

9 Q. And if a household sends in a completed census
10 questionnaire but omits one or more members of its household,
11 the Census Bureau is not going to use administrative records to
12 start adding head count to that household, correct?

13 A. Not in the current design, that's correct.

14 Q. And if a household sends in a completed census
15 questionnaire but omits one or more members of that household
16 in its census response, the Census Bureau is not going to
17 impute more members of that household, correct?

18 A. Not under current design, that's correct.

19 Q. There's nothing in current census protocols to address
20 situations where a household provides a response to the census
21 questionnaire but does not include every member of their
22 household in those responses, correct?

23 A. That's correct.

24 Q. I want to ask you about the first step of the NRFU process,
25 Dr. Abowd, starting with in-person enumerators. That's the

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Abowd - Redirect

1 first step, right, when a household doesn't provide a
2 self-response, to send an in-person enumerator to that
3 household?

4 A. Yes.

5 Q. And that's been done in prior censuses, correct?

6 A. Yes, it has.

7 Q. Your opinion is that that step, sending in in-person
8 enumerators, can mitigate the effect of the reduction in
9 self-response rates caused by the citizenship question,
10 correct?

11 A. My opinion is the entire NRFU process can mitigate the
12 effect, yes.

13 Q. Do you have an opinion one way or the other as to whether
14 this particular step of the NRFU process can mitigate the
15 reduced self-response caused by the citizenship question?

16 A. To the extent that it's a part of the NRFU process, yes.

17 Q. OK. But you'd rather have a self-response, right,
18 Dr. Abowd, than sending an in-person enumerator to that
19 household? Right?

20 A. Yes, we would.

21 Q. Now, you would expect this component of the NRFU process,
22 sending a federal employee to someone's door, to be sensitive
23 to the same considerations that are at play in driving down
24 self-response rates by including a citizenship question on the
25 census questionnaire, correct?

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Abowd - Redirect

1 A. Well, not in the 2020 NRFU as compared to historical ones,
2 because in the 2020 NRFU, if the household doesn't respond,
3 then they will be given an invitation to respond that includes
4 a way to do it on the Internet. And if they do so, no
5 enumerator will show up again. So that's a feature of the 2020
6 NRFU that was not a feature of the 2010 NRFU.

7 Q. Dr. Abowd, I'm not talking about that feature of the NRFU
8 process.

9 A. Right.

10 Q. I'm only talking about sending in-person enumerators to
11 someone's door, and you would expect that the same
12 considerations at play that would cause a citizenship question
13 to lead a household not to respond to the 2020 census
14 questionnaire, that those same considerations would be at play
15 when you send an in-person enumerator to a person's door,
16 correct?

17 A. Yes.

18 THE COURT: Mr. Ho, I want to leave a little time to
19 discuss some evidentiary issues, and it's increasingly clear
20 and obvious that we're not finishing with Dr. Abowd today.

21 MR. HO: Sorry, your Honor.

22 THE COURT: No apology required.

23 If there's a natural breaking point, I don't mean to
24 cut you off right now, but if there is, why don't you tell me.

25 MR. HO: Would another less than five minutes be all

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1 right, your Honor?

2 THE COURT: Sure.

3 MR. HO: Thank you.

4 Q. Dr. Abowd, your cost estimate in your January 2018 memo --

5 THE WITNESS: Excuse me, Mr. Ho.

6 I'm sorry, your Honor. If possible, I would prefer to
7 break now. He does seem to be starting a new line of
8 questioning. I was being patient to get all the way through
9 his NRFU questions before I made the request for what amounts
10 to an early-dismissal bathroom break.

11 THE COURT: All right. In deference to the witness,
12 we'll call the examination quits here.

13 Dr. Abowd, because you're constructively on
14 cross-examination, I would instruct you that you can't discuss
15 the substance of your testimony with defense counsel during the
16 overnight break.

17 THE WITNESS: Understood.

18 THE COURT: We will stop there for the night and pick
19 up tomorrow. Because of another commitment that I have, we're
20 going to start a little bit later tomorrow, and my sense is
21 that we will still be done tomorrow.

22 Everybody's nodding, so I'm pleased to hear that.
23 We'll start at 9:45 tomorrow rather than 9:00, so if you could
24 be here by then and prepared to go, hopefully we'll get you off
25 the stand at some point.

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1 With that, have a pleasant evening and counsel stay
2 where you are.

3 You may step down.

4 THE WITNESS: Thank you, your Honor.

5 (Witness excused)

6 THE COURT: All right. I noticed at some point this
7 afternoon defendants filed their response to the first motion
8 with respect to the admission of additional exhibits. I have
9 not yet had a chance to review it, so I'll reserve judgment on
10 that, but I did have a chance to review the submissions on the
11 second motion for the admission of certain exhibits that was
12 originally docketed at 528 but I think was refiled at 529.

13 As I indicated this morning, the first two categories
14 have been resolved, and those were admitted by agreement. With
15 respect to the remainder of the exhibits, I think with one
16 exception, I will sustain defendants' objections and not admit
17 them.

18 First, I agree with the government that the newspaper
19 publications are hearsay. I think they are being offered for
20 the truth of the matter and to prove the falsity of some other
21 statement, but the only way in which they bear on the falsity
22 of other statements -- namely, the secretary's rationale -- is
23 by assuming the truth of the statements themselves, and by that
24 definition, they are, in fact, hearsay. That applies to
25 Exhibits 495, 496, 497, 498 and 501. Those are not admitted.

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1 With respect to 487, I think that, too, is also being
2 offered for the truth notwithstanding what plaintiffs say, and
3 there's also, I think, an authentication problem there, so that
4 is not admitted.

5 The one exception is Plaintiffs' Exhibit 531, which is
6 the White House press release. I think insofar as that is a
7 public statement of the White House, there is no authenticity
8 issue there, and it is admitted.

9 (Plaintiffs' Exhibit 531 received in evidence)

10 THE COURT: I'll reserve judgment on its relevance. I
11 certainly understand there's an objection on that basis.

12 Plaintiffs' Exhibit 269, which purports to be a draft
13 executive order, the objection to that is sustained. First of
14 all, I don't think it's self-authenticating. It is not, in
15 fact, issued by a public authority. It purports to be a draft
16 executive order, but I have no idea if it is or isn't; whether
17 it was, in fact, drafted by someone within the White House, if
18 that person had any authority to do so, where it got it.
19 There's no evidence whatsoever that Sec'y Ross was aware of it,
20 saw it, considered it, had any bearing on anything in this
21 case, and on top of that, the draft order makes reference to
22 the long-form census, and in that regard, because there is no
23 such thing, I don't have any idea which survey it's even
24 referring to.

25 For all of those reasons, I think it's both

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1 nonauthenticated and not relevant to this case.

2 That resolves plaintiffs' motion at 528 and 529. As I
3 said, I'm not prepared to rule at this time on the initial
4 motion, which is, I think, at 522.

5 I have some reason to think that there may be some new
6 exhibits that are at issue or may be at issue. I received an
7 email with some exhibits, including, I must say I was a little
8 surprised to see that Sec'y Ross was giving interviews about
9 the subject matter of this litigation, given that he didn't
10 have time to sit for a deposition.

11 MR. COLANGELO: So were we, your Honor. Those are
12 exhibits that were served on defendants last night that I
13 understand counsel may use in his continued examination of
14 Dr. Abowd. They all, I believe, are exhibits that did not
15 exist before yesterday. We served them last night and served
16 them on the Court this afternoon, and we're not asking the
17 Court to admit them into evidence now. We wanted to make sure
18 that opposing counsel and the Court had them in the case if my
19 colleague elects to use them during his examination.

20 THE COURT: I see. All right. I wanted to understand
21 that, and I guess in that regard, we can wait and see whether
22 they are offered and what use is made of them. But again, I
23 was a little surprised to see that.

24 Anything else that we need to discuss?

25 MR. GARDNER: Nothing from the defendants.

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1 MR. COLANGELO: Nothing for the plaintiffs right now,
2 your Honor.

3 THE COURT: All right. Let me make sure there's
4 nothing else for me.

5 I don't think there is. As I told Dr. Abowd, I
6 apologize that I need to start a little later tomorrow, but
7 we'll start at 9:45.

8 How much time do you expect to have remaining, Mr. Ho?

9 MR. HO: I don't believe that I have much more. I
10 have to look over my outline, but my guess is in the range of
11 45 minutes.

12 THE COURT: All right. Ms. Goldstein, do you have any
13 estimate?

14 MS. GOLDSTEIN: Probably ten minutes or less, your
15 Honor.

16 THE COURT: All right. Then I would imagine there
17 would be some re-re-cross.

18 MR. EHRLICH: Yes, I believe so, your Honor.

19 MR. HO: And a short rebuttal witness, your Honor,
20 maybe 15 minutes.

21 THE COURT: And tell me about that.

22 MR. HO: That would be Dr. Hillygus.

23 THE COURT: Can you proffer what the substance of the
24 rebuttal testimony would be and why you couldn't have
25 anticipated it first time that she was on the stand?

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1 MR. FREEDMAN: It is primarily going to be responding
2 to Dr. Abowd's previously undisclosed criticism of her report
3 and discuss a number of her demonstratives.

4 THE COURT: Why don't you go to the podium.

5 MR. FREEDMAN: Your Honor, it's three topics. One is
6 to respond to Dr. Abowd's criticisms of her, a number of
7 conclusions, including his discussion of several of her
8 demonstratives.

9 Two, Dr. Abowd's placed greater emphasis than he did
10 in his report and in his deposition testimony on the integrated
11 campaign, communications campaign and the partnership, and she
12 has a couple of observations she would like to share.

13 The third is imputation, where he talked more at
14 length, and obviously she gave some discussion, but there was a
15 lot that was not in his report or not discussed at his
16 deposition.

17 THE COURT: All right.

18 Any issues on that front?

19 MR. GARDNER: Thank you, your Honor.

20 I still haven't heard, though, from plaintiffs why
21 this wasn't anticipated. Dr. Abowd was deposed three different
22 times extensively about all of these issues. In fact, during
23 plaintiffs' case in chief, plaintiffs' experts did respond to
24 Dr. Abowd's responsive report. So this is not unanticipated
25 testimony.

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1 MR. FREEDMAN: Dr. Abowd testified at his deposition
2 that he had not read Dr. Hillygus's report and he had no
3 intentions of offering criticisms of her, so --

4 THE COURT: I think he reiterated that today, or
5 confirmed that today.

6 I'll tell you what. I think the long and the short of
7 it is what makes sense is that I'll allow Dr. Hillygus to
8 testify with the caveat that I'm only going to consider her
9 testimony to the extent that it is actually responding to new
10 testimony from Dr. Abowd, and I'll make that evaluation after I
11 hear it at which point I'll be in a better position to assess
12 that, and to the extent that you want to renew the objection
13 because you don't think it's fair rebuttal, then you can do so
14 at that time.

15 MR. GARDNER: Thank you, your Honor.

16 THE COURT: All right.

17 Anything else?

18 All right. I'll see you tomorrow morning at 9:45.

19 Have a pleasant evening.

20 (Adjourned to November 15, 2018, at 9:45 a.m.)
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JOHN MARON ABOWD	
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PLAINTIFF EXHIBITS

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