

# **Health Insurance Coverage and Write-ins in the American Community Survey**

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This paper is released to inform interested parties of ongoing research and to encourage discussion. The proportions and other statistics in the text, figures, and tables of this report are presented here for the purpose of evaluating data quality. Most analyses presented in the report do not incorporate ACS weights and design effects, so reported statistics cannot be interpreted as estimates of underlying population parameters. For information on confidentiality protection, sampling error, nonsampling error, and definitions in the American Community Survey, see [www2.census.gov/programs-surveys/acs/tech\\_docs/accuracy/ACS\\_Accuracy\\_of\\_Data\\_2016.pdf](http://www2.census.gov/programs-surveys/acs/tech_docs/accuracy/ACS_Accuracy_of_Data_2016.pdf).

Any views expressed on statistical, methodological, technical, or operational issues are those of the authors and not necessarily those of the U.S. Census Bureau.

**Abstract**

The American Community Survey (ACS) is an important source of estimates of health insurance coverage in the United States. The ACS allows respondents to report their health insurance coverage through a series of “Yes”/“No” questions and a write-in field for “other” health insurance information. Respondents may choose to use the write-in field for a variety of reasons, including if they do not know how to classify their health insurance coverage type or if they want to provide additional information about coverage already reported. Previous research suggests that the write-in field contributes to an overestimation of direct-purchase coverage and multiple types of concurrent coverage in the ACS (Mach & O’Hara 2011; Lynch & Kenney, 2011). Yet these analyses occurred before changes to the health insurance landscape that may have affected respondents’ reporting habits. In this paper, we examine the use of write-ins in the ACS. We focus on the demographic predictors of write-in use and consider the relationship between write-in use and health insurance coverage. Results provide additional information on how respondents report their health insurance coverage in surveys.

Accurate measurement of the uninsured rate in the United States is a key concern of federal, state, and local government officials and other policymakers. The American Community Survey (ACS), the largest federal survey, is an important source of estimates of health insurance coverage in the United States. The ACS measures health insurance coverage through a series of “Yes”/ “No” questions about specific coverage types and a write-in field for “other” coverage. Respondents may use the write-in field for a variety of reasons. Two leading possibilities are that (i) they may not know how to report their health insurance coverage type via the list of provided options, and/or (ii) they may want to provide additional information about the coverage type that they already reported.

As suggested by others (Mach & O’Hara 2011; Lynch & Kenney, 2011), this feature of the ACS—the ability to report health insurance coverage through the write-in field—could contribute to the well-documented overestimate of direct-purchase insurance in the ACS. That is, while, overall, ACS estimates of the insured rate are in line with those from other surveys, the prevalence of direct-purchase coverage is higher in the ACS (Bourdreaux et al., 2011, 2014; Turner, Bourdreaux, & Lynch, 2009).

Yet studies that have found an association between the write-in field and overestimates of certain types of coverage used data from 2010. Changes to the health insurance landscape since then may have altered respondents’ reporting habits, including their use of the health insurance write-in field. Demographic, economic, and legislative changes in recent years have reshaped the health insurance landscape. For example, the Patient Protection and Affordable Care Act (ACA) expanded Medicaid eligibility, opened up health insurance marketplaces, and increased the number of individuals with health insurance (Buchmueller et al., 2016; Courtemanche et al., 2017; French et al., 2016). To investigate how response patterns may be related to health insurance coverage estimates in the post-ACA context, we use restricted-use data from the 2015 ACS. Broadly, we find that write-ins contribute to higher-than-expected rates of persons with multiple types of comprehensive health insurance coverage.

### Health Insurance in the ACS

The American Community Survey (ACS) is an important resource for examining health insurance coverage in the United States. The ACS, with nearly 3.5 million households surveyed in 2015, offers detailed information at both the national and subnational level, including for states, large counties, and metropolitan areas. Researchers and policymakers rely on ACS data to investigate heterogeneity in the patterning of health insurance coverage across subpopulations in the United States.

In 2008, the ACS introduced a health insurance question that asks whether a person is *currently* covered by any type of health insurance.<sup>1</sup> The question lists seven types of coverage with “Yes” and “No” checkboxes: employer-sponsored, direct-purchase, Medicare, Medicaid, TRICARE, VA, and Indian Health Service. (See Figure A1 in the Appendix for exact question wording.<sup>2</sup>) The first six types of coverage are comprehensive and, therefore, contribute to estimates of the overall insured rate. Respondents who are unsure about their (or another household member’s) coverage type can indicate that they have an “other” type of insurance and specify it in a write-in field.<sup>3</sup>

The write-in entry is processed and then used to help determine health insurance coverage, where appropriate. Specifically, the write-in field is compared with a “Master File” of previously used write-ins. This file includes a code that corresponds to one of the seven insurance types, the “no coverage” (uninsured) category, out-of-scope/other (e.g., “dental plan”), or a more general category of “public or private coverage.” This last category, which is used when a respondent indicates coverage but the exact type of coverage is unclear, is statistically assigned a specific coverage type via hotdeck imputation in subsequent processing. If the write-in entry does not yet exist in the “Master File,” a subject matter expert manually codes the entry, which then becomes appended to the file. In 2015, approximately 4.4 percent of the unweighted ACS sample opted to write in an insurance type (4.0 percent weighted), and 2.0 percent of the sample had coverage that was at least partly determined by a write-in entry.<sup>4</sup>

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<sup>1</sup> The instruction manual tells respondents to report only comprehensive coverage and not to report single-service plans, such as dental and vision plans (U.S. Census Bureau, 2016a).

<sup>2</sup> There are minor differences in wording across interview modes.

<sup>3</sup> One person in the household may report information for all household members.

<sup>4</sup> Some respondents have coverage assigned through a combination of the write-in field and “Yes”/“No” checkboxes.

Most of the write-ins are disproportionately offered by respondents in one of two self-administered modes (mail and internet). Unlike other national surveys that collect health insurance coverage information, the ACS is a sequential mixed-mode survey. The Census Bureau initially mails a letter to sampled households; this letter invites selected participants to complete the questionnaire online. If members of the household fail to complete the questionnaire online, then they receive a paper form in the mail. If they still do not respond after multiple mailings, then they are contacted by a telephone center (if a phone number is available).<sup>5</sup> Nonrespondents are then subsampled for an in-person interview with a field representative.

The majority of ACS respondents complete the questionnaire through one of the self-administered interview modes (internet or mail). Only a subsample of persons who do not respond to the initial letter or mailed questionnaire are eligible and/or selected for telephone (CATI) or personal interview (CAPI); therefore, most respondents are not interviewed by a trained field representative. Whereas interviewers in other surveys such as the National Health Interview Survey (NHIS) can examine insurance cards or ask probing follow-up questions, the sequential mixed mode design of the ACS does not allow for such verification (Boudreaux et al., 2011; Davern et al., 2009).

### **Why respondents use the write-in field**

We expect that respondents use the write-in field for a variety of reasons falling into two general categories. First, some respondents may provide information in the write-in box because they are not sure which type of coverage they actually have. Such information would capture coverage that otherwise would have been excluded from estimates. Second, respondents may provide information (such as a plan name) after indicating that they have a particular coverage type (such as employer-based coverage). This information, in other words, is duplicative. Respondents may also report a noncomprehensive health insurance plan (such as a dental or vision plan), which falls outside the scope of the ACS (U.S. Census Bureau, 2016a). Importantly, write-ins offered for the first reason (uncertainty) provides new, nonduplicative information that is necessary for determining the prevalence of health insurance coverage in the United States. Information provided for the second reason (supplementary) does not, *ceteris paribus*.

### **Write-ins and the accuracy of ACS estimates**

Previous research has indicated that the write-in field on the ACS health insurance coverage question is related to the accuracy of ACS coverage estimates. The uninsured rate from the ACS is in line with estimates from other surveys (e.g., Boudreaux et al., 2011; Turner, Boudreaux, & Lynch, 2009),<sup>6</sup> but ACS estimates for certain coverage types differ from estimates derived from other surveys. Specifically, researchers have noted that, compared with other surveys and administrative records, (i) the prevalence of Medicaid coverage is lower in the ACS; (ii) the prevalence of direct-purchase<sup>7</sup> coverage is higher; and (iii) the prevalence of multiple comprehensive plans is higher (e.g., Boudreaux et al., 2011, 2014; Lynch et al., 2011; Mach & O'Hara, 2011).

Research has found that the ACS has a higher percentage of people with direct-purchase coverage than other national surveys (e.g., Boudreaux et al., 2011; Lynch & Kenney, 2011). This overestimate does not appreciably affect estimates of the overall insurance coverage because some respondents report directly purchased noncomprehensive, supplemental plans in addition to another type of coverage (Boudreaux et al., 2011). Individuals may receive their (comprehensive) health insurance coverage through their employer but also purchase a dental or vision plan. Per the scope of the ACS, such individuals should only report employer-based coverage; in practice, they may report both employer-based coverage and direct-purchase coverage (e.g., Lynch & Kenney, 2011).

As others have argued (e.g., Mach & O'Hara, 2011), a large share of the population would not likely have multiple types of comprehensive insurance. Many people would neither want to spend a large share of their income for multiple comprehensive plans nor be able to afford to do so. The average annual out-of-pocket premium for employer-based family coverage was nearly \$5,000 in 2015 (Kaiser Family Foundation & Health Research &

<sup>5</sup> Computer-assisted telephone interviews were phased out beginning in October 2017.

<sup>6</sup> The percentage of people without health insurance coverage in 2015 was 9.1 percent in the Current Population Survey (CPS) compared with 9.4 percent in the ACS (Barnett & Vornovitsky, 2016).

<sup>7</sup> In this paper, we use the terms "direct-purchase," "nongroup private," and "nongroup" interchangeably.

Educational Trust, 2015), and the national average (unsubsidized) premium for the second-lowest cost “Silver Plan” in the ACA Marketplace was nearly \$4,600 per year (Cox et al., 2016).<sup>8</sup> Thus, questions about overreporting of direct-purchase coverage in the ACS are tied to questions about overreporting of multiple coverage types and overreporting of noncomprehensive direct-purchase coverage.

Mach and O’Hara (2011) examined multiple coverage in the 2009 ACS and found that use of write-in field contributed to the documented overestimates of both nongroup private coverage and multiple types of health insurance coverage. As they note, many write-ins are coded as direct purchase because they lack any additional information besides the name of an insurance company. Under the current classification system, for example, whenever a respondent reports only a company name (e.g., Blue Cross), that plan is considered direct-purchase insurance. Although this assumption may have been reasonable when first introduced, changes to the American health insurance landscape as the result of policy changes and demographic shifts increasingly present challenges to that assumption. Many insurance companies also now provide group coverage through employers, sell Medicare supplements, and increasingly offer plans paid for by Medicaid. Moreover, if a person marks employer-sponsored insurance and writes an insurance company name, then the data processing system would mark her as having both employer-sponsored insurance and direct-purchase insurance.

Other features of the ACS might be related to both coverage-type-specific estimates and the use of the write-in field. For example, because all respondents receive the same questionnaire, the ACS does not list state-specific Medicaid names. The CPS and other major surveys list the names of state-specific programs, such as “Husky” in Connecticut and “Badger Care” in Wisconsin. Some ACS respondents may not know how to classify their means-tested coverage (Boudreaux et al., 2011). Instead, they may select another coverage type, such as direct-purchase (or use the write-in field).

### **Post-ACA Health Insurance Landscape**

Economic, demographic, and policy changes may revise the health insurance landscape in ways that may affect the dynamics of reporting coverage. One notable change stems from the health insurance marketplace, a new mechanism for purchasing coverage that was introduced as part of the ACA in 2014. Some marketplace enrollees with income below certain thresholds are eligible to receive subsidies for premiums for plans purchased through the marketplace. Although marketplace coverage is a type of direct-purchase coverage, respondents might report it as Medicaid (Pascale et al., 2013). Moreover, some Medicaid enrollees in certain states now pay premiums (cost sharing). As a result, respondents may not know if they have Medicaid or direct-purchase health insurance coverage.

Compounding this respondent uncertainty is the way in which coverage is obtained in the first place. In many states, people are directed to enroll for both Medicaid and marketplace coverage through the same portal, namely [healthcare.gov](http://healthcare.gov). Even if individuals intended to sign up for marketplace coverage via the [healthcare.gov](http://healthcare.gov) website, income-eligible individuals will be automatically redirected to Medicaid enrollment.

These changes could contribute to differences in the reporting of direct-purchase and/or Medicaid coverage via checkbox. We also expect that some respondents who are unsure how to classify their coverage may report it through the write-in field. However, write-ins on the ACS have received relatively little attention (Lynch & Kenney, 2011; Mach & O’Hara, 2011). Indeed, no research to our knowledge has examined the role of write-ins in recent years.

In this paper, we examine the relationship between the write-in field and health insurance coverage estimates in the post-ACA ACS. We ask two broad questions: Which respondents are likely to respond to the ACS via write-in? What type of information is contained in the write-in field? To do so, we first examine the social and demographic characteristics associated with write-in use in the 2015 ACS. We then see whether, net of these factors, write-in use remains associated with assignment of coverage, particularly the assignment of multiple types of coverage.

Finally, to investigate how changes to the health insurance landscape could have introduced additional uncertainty to the information that respondents offer via the write-in field, we manually recode a subset of write-in entries. This

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<sup>8</sup> Silver plans are the most commonly selected type of Marketplace plan (Cox et al., 2016; Golden, 2015).

part of our analysis allows us to examine whether assumptions about the type of coverage that corresponds to a particular write-in entry may be stronger than they once were.

## Data

We used data from the 2015 American Community Survey (ACS). As noted above, the ACS is an annual cross-sectional survey of households in the United States. In 2015, about 3.65 million households were sampled, and household members were asked about their demographic, economic, and social characteristics, including their health insurance status. We presented information about the ACS earlier in the paper, and Census Bureau documentation provides detailed technical information (U.S. Census Bureau, 2016b).

We used an internal version of the 2015 ACS that included additional health insurance coverage data. Internal data included information about which checkboxes respondents did or did not mark, the text of their write-in field, and how the write-in was classified. We also used publicly available variables, which included the coverage type(s) ultimately assigned to the respondent through logical assignment or imputation (see Turner, Davern, & Lynch, 2009), as well as social and demographic characteristics. Our analyses were restricted to household respondents, as the internal file did not include information from group quarter interviews.

## Measures

The probability of having health insurance coverage and the distribution of coverage types varies by age. To account for age differences, we included indicator variables for five-year age intervals in our models, and most analyses were stratified by age (< 19 years, 19-64 years, and 65 years or older). We chose these categories because 19 years of age is the threshold of eligibility/non-eligibility for Medicaid and/or CHIP in many states, and most adults 65 years and older are eligible for Medicare coverage. The middle group generally captures working-age adults.

Our models also contained information about individuals' social and demographic characteristics. Sex was included as an indicator of whether a respondent was female, and race was included as a combined measure (white, nonwhite).<sup>9</sup> Marital status was included with separate indicators: married, widowed, divorced, and separated (reference: never married). We also included a measure of whether the first person on the survey speaks a language other than English at home (reference: does not).<sup>10</sup>

We included a measure of disability status because it might affect a person's ability to complete the survey, as well as the type(s) of health insurance she has. Disability status was measured via respondents' self-report. The ACS asks about six types of disability: hearing, vision, cognitive, ambulatory, self-care, independent living. We combined these separate measures into a single item that indicated whether a respondent had any disability (disability, no disability).

Socioeconomic resources, such as education and income, may also affect individuals' reporting behaviors. Educational attainment was measured through separate indicators for less than high school, high school (reference), some college, and bachelor's degree or above. Income was measured through the ratio of income to federal poverty levels (<100 percent, ≥100 percent).

Given our interest in examining the role of write-ins in the post-ACA context, analyses included a measure of whether an individual lives in a state that expanded Medicaid eligibility as part of the ACA. By January 2014, 24 states and the District of Columbia expanded Medicaid eligibility. By January 2015, three more states expanded eligibility (see Centers for Medicare and Medicaid, 2017 for a list of states by expansion status).

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<sup>9</sup> The internal file we used did not have the final set of race recodes that are available on the public-use file and other versions of the internal file.

<sup>10</sup> We examined a few alternative parameterizations as well. In other models, we substituted this measure with (i) an indicator of whether anyone in the household reported speaking a language other in English at home or (ii) an indicator of whether a person (him/herself) speaks a language other than English at home. As the measure is only asked about people ages 5 and older, we also tried a combination measure by which we used the latter approach for children and the former for adults. All of these alternative parameterizations yielded similar results.

We also included two additional variables concerning the survey itself. First, as one person in the household reported information for all other individuals living in the home, we also included an indicator for whether the record corresponds to “Person 1” (i.e. the first person for whom information is provided). This measure assumed that, in general, someone reports information about himself or herself before turning to others in the household. A respondent may have had incomplete information about other household members’ insurance coverage. Second, we also included information about the survey mode: mail, internet, or computer-assisted interview. Due the number of covariates included in our models, we collapsed computer-assisted interview (CATI), and computer-assisted personal interview (CAPI) into a single category.

### **Analytic strategy**

We started by describing the ACS sample, separately reporting characteristics for the share of the population with information in the write-in field and the share without a write-in.<sup>11</sup> We focused on the key sociodemographic characteristics above, as they have been demonstrated to be related to write-in status (e.g., Mach and O’Hara, 2011) or insurance coverage (e.g., Barnett & Vornovitsky, 2016). As we were primarily interested in the population of 2015 ACS respondents, not the U.S. population, we focused on unweighted estimates.

We then estimated additional models in order to investigate how write-in field use was related to health insurance coverage in the 2015 ACS sample. We paid particular attention to the previously documented overestimate of multiple forms of coverage and direct-purchase coverage. We first explored whether a write-in could plausibly be related to the presence of two or more types of health insurance coverage. Consistent with prior work (e.g., Mach & O’Hara, 2011) and in light of overestimates of direct-purchase coverage, we focused on the following combinations of coverage: direct alone, direct in combination with another a type of coverage, direct and employer-based, direct and Medicare, and direct and Medicaid.<sup>12</sup> We separately regressed each of these combinations on write-in use and the social, demographic, and economic characteristics described above. In interpreting our results, we pay close attention to whether average marginal effects (AMEs) are consistent with write-ins providing nonduplicative information about in-scope types of health insurance coverage.

Finally, we recoded all write-in entries that were classified as direct-purchase coverage and were used to assign coverage in 2015. This component of the analysis helped us to understand how recent changes to the health insurance landscape could have introduced additional uncertainty to the information that respondents offer via the write-in field. We chose to focus on direct-purchase coverage because it was the most common coverage type assigned in 2015 (see appendix) and was the type of greatest conceptual interest. We generally followed the classification guidance used during annual production but modified some categories to reflect the current health insurance landscape (early 2017). As we did not rerun allocation hotdecks, did not use the final ACS weights, and restricted our sample to household respondents, this recoding cannot provide population-level estimates of direct-purchase coverage.

## **Results**

### **How common are write-ins?**

In order to establish that the use of the write-in field is plausibly related to coverage estimates, we begin by examining the prevalence of certain coverage types within the ACS sample. As noted above, unlike with published estimates (e.g., Barnett & Vornovitsky, 2016), our analyses do not focus on the civilian noninstitutionalized population and, in most cases, are unweighted. Even the few weighted statistics we present use preliminary weights, not the final ACS weights. Write -in information is only available before the internal file has been fully processed; therefore, final weights were not available. Therefore, our estimates may differ from estimates published elsewhere.

[Table 1 about here]

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<sup>11</sup> ACS weights and design effects are not incorporated into most analyses; therefore, reported statistics cannot be interpreted as estimates of underlying population parameters.

<sup>12</sup> These categories are a modified set of the ones that Mach and O’Hara (2011) examined. We added the direct-only and direct and Medicare categories and adjusted the direct and “other private or public” category to exclude Medicare recipients.

We see that the write-ins contribute to the estimates of health insurance coverage. About two percentage points of the uninsured rate are attributable to information provided through the write-in field. About one percentage point of the direct-purchase coverage rate and one percentage point of multiple coverage rate are attributable to write-in information. In other words, the write-in field is an important source of health insurance information in the ACS.

### Who has a write-in?

To offer a sense of the sample population and the sample that has a health-insurance reported via a write-in, Table 2 describes key characteristics of the 2015 ACS sample (column 1), the subgroup with health insurance without write-in information (column 2), and the subgroup with a write-in entry (column 3). These characteristics correspond to the person in the household with information reported via the write-in field, not necessarily the respondent who completed the questionnaire.

[Table 2 about here]

Several key findings stand out in the table. First, about 4.4 percent of respondents (4.0 percent of the population) used the write-in field. The average age of respondents with a write-in was more than a decade older than the population without. The social and demographic profile of the population with and without write-ins differed with respect to all of the key characteristics examined. About 13.4 percent of respondents with a write-in reported at least one of six types of disability, which was about half the prevalence for respondents without write-ins (23.5 percent). Respondents with a write-in tended to be less educated, less likely to never have been married, more likely to speak a language other than English at home, and more likely to live in poverty than respondents without a write-in. They were also less likely to answer “Yes” or “No” to any other part of the health insurance coverage question and were more likely to have responded via the paper (mailed) questionnaire.

With these broad relationships in mind, we then turned to a multivariate context in order to investigate the importance of each characteristic net of the others (Table 3). We stratified models by three age groups: less than 19 years, 19-64 years, and 65 years or older. We also accounted for age patterns within the age category through additional five-year age indicators. In lieu of coefficients or odds ratios, we present average marginal effects (AMEs) to allow for increased comparability across models (Allison, 1999; Mood, 2010).

[Table 3 about here]

Starting with the youngest age group (individuals less than 19 years old), we see that most social and demographic characteristics included in our models remained significantly associated with having a write-in entry. Sex was the only characteristic not significantly associated with use of the field. For example, individuals with a disability were 1.1 percentage points more likely to report information via the write-in field, and people assumed to be reporting for themselves (Person 1) were about 1.0 percentage point less likely.<sup>13</sup> Age was jointly associated with write-in use, but the magnitudes of age-specific differences were relatively minor and/or non-significant. AMEs were relatively small for many other characteristics as well. For example, children in poverty were only two-tenths of a percentage point more likely to have a write-in compared with those living above poverty.

However, a few characteristics were strongly predictive of write-in use. Answering any part of the health insurance coverage question (through a “Yes” or “No” response) was associated with a 4.6 percentage-point increase in the probability of having a write-in, and answering “Yes” to at least one part was associated with a 10.0 percentage-point decrease.<sup>14</sup> These large terms and their countervailing direction suggest that individuals with a write-in did not necessarily provide duplicative information. The first term shows that people provided information through the standard checkbox responses but still offered additional coverage information through the write-in field. However, if

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<sup>13</sup> Nonetheless, very few children were Persons 1. The ACS asks a knowledgeable person ages 15 or older to complete the questionnaire; therefore, children were likely not responding for themselves. Future research could consider characteristics of others’ in the household for children and for others. However, such considerations lie beyond the scope of the present analyses.

<sup>14</sup> We do not exclude the population who left the entire health insurance coverage question blank. As shown in Table 2, some respondents leave the question blank *except* for the write-in field. We keep the population without *any* information in the sample to serve as a comparable comparison group.

they were sure of their coverage type—or at least sure enough to answer affirmatively to at least one of the items—then they were less likely to write-in information.

We saw similar patterns for working-age adults (ages 19-64 years), described in Table 3, Column 2. This model included the same covariates as the previous model plus additional indicators for educational attainment and marital status. All characteristics included in the model were significantly associated with write-in use. Moreover, we observed a clear age pattern: the probability of having a write-in across middle adulthood tended to increase with age, with larger AMEs for older adults than for younger adults.<sup>15</sup> As with the younger sample, we also saw statistically significant—but generally relatively modest—associations for other characteristics. Not surprisingly, age, being Person 1, interview mode, and presence of marked responses (including marking “Yes” for at least one type of coverage) tended to be the strongest predictors for respondents in this age group. This finding supports the notion that some write-ins were used when a respondent does not have sufficient information to classify a particular type of coverage.

Finally, adults ages 65 and older (Table 3, Column 3), exhibit the same broad pattern as the younger two age groups with only a few minor differences. AMEs tended to be appreciably larger than for the younger age groups, especially for survey-related characteristics, such as interview mode and the presence of “Yes” and/or “No” responses, and for marital status. However, education was only weakly associated with write-in use, potentially due to the lower mean attainment for the older birth cohorts that comprise the older-age sample in this cross-sectional survey (see Mare, 1995). Older adults with less than a high school diploma were slightly less likely to use the write-in field than were high school graduates, but high school graduates did not significantly differ from either those who completed some college or earned a degree. Finally, while 19-64 year-olds living in poverty were more likely to have information in the write-in field, adults ages 65 and older in poverty were less likely to have a write-in.

In general, these age-specific regressions show that social and demographic characteristics were related to use of the write-in field. However, the direction and magnitude of AMEs suggested that there was no clear pattern by socioeconomic status (SES). In some cases, higher SES individuals were more likely to have a write-in, whereas in other cases, lower SES individuals were.

### **What type of information is contained in the write-in field: Are write-ins related to the prevalence of multiple types of coverage?**

How does the use of the ACS health insurance write-in field relate to the higher-than-expected prevalence of multiple types of health insurance coverage?<sup>16</sup> As described above, prior research has suggested that write-ins may influence the higher-than-expected prevalence of multiple types of coverage in the ACS, and one of our motivating aims was to examine the relationship between write-ins and health insurance coverage. The majority of respondents with a write-in entry also reported at least one type of coverage via checkbox (see Table 2). Depending on the quality of the information in the write-in field and/or how information is used to assign coverage, this reporting pattern might put respondents with a write-in at greater risk to be assigned a second type of current coverage.

Our earlier results suggested a strong relationship existed: As noted in Table 2, 18.2 percent of respondents without a write-in entry had multiple types of health insurance coverage; for the population with a write-in, 46.4 percent did. Table 4 unpacks this finding and considers it alongside the prevalence of health insurance coverage, particularly direct-purchase coverage.

[Table 4 about here]

In general, the populations with and without write-ins had similar proportions of health insurance coverage: 7.4 percent of those without a write-in did not have health insurance coverage and 7.8 percent of those with a write-in were uninsured.<sup>17</sup> The difference in the prevalence of direct-purchase coverage by write-in status was substantially

<sup>15</sup> Although not all age indicators were significantly different from one another, they were jointly significant.

<sup>16</sup> The ACS does not collect information on multiple plans within the same coverage type. Consistent with prior research, we define multiple coverage as having two or more types of coverage.

<sup>17</sup> These rates are lower than published ACS estimates of health insurance coverage (see Barnett & Vornovitsky, 2016). These rates are lower because (a) published estimates use a more restrictive universe of the civilian noninstitutionalized population and

more pronounced, with about a three-fold difference (14.6 percent for people without a write-in and 42.5 percent for people with a write-in). Among the combinations of direct-purchase, rates were larger for direct purchase alone as well as for direct-purchase coverage in addition to employer-sponsored coverage, Medicaid, Medicare, and VA coverage.

### Write-ins per se?

Certain social and demographic characteristics may have been associated with both use of the write-in field (see Table 2) and having certain types and/or combinations of health insurance coverage (see Barnett & Berchick, 2017; Currie, 2008; Mach & O'Hara, 2011). To examine whether write-in use was associated with higher rates of multiple coverage net of other characteristics, we regressed multiple coverage on write-in use and these characteristics (Table 5). Insofar as our model captured the main determinants of write-in use, write-in presence should not be a significant predictor of health insurance coverage (or should only be weakly predictive of coverage).<sup>18</sup>

[Table 5 about here]

After accounting for social and economic characteristics, write-in use remained substantially associated with having multiple types of health insurance coverage. Among the youngest age category (less than 19 years old), individuals with a write-in present were 12.0 percentage points more likely to have multiple coverage types. For adults ages 19-64, this probability was almost one percentage point higher (13.0 percentage points). These results suggest that use of the write-in field may have influenced multiple types of coverage beyond differences in the characteristics of the population likely use a write-in and/or have multiple types of coverage. The same general relationship, albeit a weaker one, was observed for older adults as well. Older adults (65 and above) with a write-in were only 3.3 percentage points more likely to have multiple coverage compared with their peers who did not have a write-in.

### Specific combinations of coverage

We then considered whether certain types of coverage were more strongly related to write-in use. Prior research suggested that the documented overreport of direct-purchase health insurance coverage and the overreport of multiple forms of coverage are interrelated. As noted earlier, write-ins may describe a noncomprehensive plan, and many nonspecific write-in entries are classified as direct-purchase coverage. If a person also reports (nongroup) coverage through checkboxes, then she could be assigned multiple coverage types.

To examine this possibility, we present age-specific AMEs for various combinations of coverage (Table 6). All models included the same characteristics as earlier models; however, all coefficients are not presented in the table for space considerations. Once again, because our model included characteristics associated with write-in use and with health insurance coverage type, write-in presence should only be weakly predictive of health insurance coverage, if at all.

[Table 6 about here]

Although the magnitude of the relationship varies with age, write-in use was significantly associated with combinations of direct-purchase coverage examined (Panel A). We then considered the group with direct-purchase coverage alone (Panel B) and the group with direct purchase in combination with another type of coverage (Panel C).

Use of the write-in field was strongly related to having any direct-purchase for all three age groups: respondents with a write-in were between 12.3 and 21.5 percentage-points more likely to have direct-purchase coverage (Panel A). The relationship between write-ins and direct-purchase coverage alone was weaker, especially for the population 65 and older. This finding was unsurprising given that older adults are nearly universally insured, mostly by

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(b) the present analyses are unweighted. Using weights (but keeping a slightly different universe) yields an uninsured rate of 8.80 percent (s.e.: 0.03): 8.81 percent (s.e.: 0.03) for the population without a write-in and 8.44 (s.e.: 0.13) for the population with one.  
<sup>18</sup> We also estimated a number of models as robustness checks. These included propensity score models and two-stage regressions in which we included both an indicator of write-in presence as well as the predicted probability / propensity to have a write-in. Results from these additional models are consistent with presented results.

Medicare (Barnett & Berchick, 2017). Potentially for similar reasons, this age group had the strongest relationship between write-in use and having direct-purchase insurance in combination with another type. For all three age groups, though, write-in use was associated with increases of about five percentage-points or more.

We then disaggregated this category to examine potential heterogeneity (Panels D-F). Across all age groups and coverage combinations, write-ins were associated with an increased likelihood of multiple coverage. For the combination of direct-purchase and employer-sponsored coverage, the relationship was present for all three age groups and was strongest for adults ages 19 to 64, perhaps suggesting that they are reporting an employer-sponsored plan name or noncomprehensive coverage in the write-in field. Unsurprisingly, the presence of a write-in was also strongly associated with the combination of direct-purchase coverage and Medicare for the oldest population. Respondents with a write-in were 18.6 percentage points more likely to have this combination. Finally, respondents with a write-in present were 1.6-2.4 percentage points more likely to have both direct-purchase and Medicaid coverage, an unlikely combination given the low-income population Medicaid targets and Medicaid eligibility criteria.

These results suggest write-ins are providing nonduplicative information about out-of-scope plans but are providing information about already-reported plans in a way that leads the information to be misclassified as direct-purchase coverage. In the first scenario, respondents may report noncomprehensive coverage through the “other” insurance write-in field, even though only comprehensive coverage (i.e., coverage that does not include single-service plans) is in-scope for the ACS. Many noncomprehensive plans are generally purchased directly (although some supplemental plans may be obtained through an employer). In the second scenario, they could be providing the name of an insurance provider or some other limited amount of information.

As an additional check, we replicated this set of results, substituting the indicator of whether a write-in was present with an indicator used to assign direct-purchase coverage. Although generally of larger magnitude, these results were substantively similar and are presented in the Appendix. We also estimated additional models in which we regressed self-reported (i.e. via checkbox) direct-purchase onto the social and economic characteristics. Consistent with our expectation, the presence of a write-in was negatively associated with the report of direct-purchase coverage for all three age groups.

### **Are write-in classifications accurate?**

To investigate how changes to the health insurance landscape could have introduced additional uncertainty to the information that respondents offer via the write-in field, we manually recoded write-ins that were classified as direct purchase for the 64,876 individuals who did not explicitly report having direct-purchase health insurance coverage (see Appendix Table A3 for a breakdown of write-in classification). In these cases, the direct purchase checkbox was marked “No” or was left unanswered, and the write-in was classified as direct-purchase coverage. Our classification used information about the health insurance landscape at the time of reclassification (early 2017) to guide our decisions. Whenever the type of coverage was ambiguous (e.g., because a company offered multiple types of coverage or if there was insufficient information in the field), we erred on selecting a less specific classification. For example, if a person wrote “Blue Cross” we classified it as the general category of “public or private coverage.” As a result, this accounting exercise should be considered an upper-bound estimate for potential differences in the post-ACA landscape, not the expected change.

[Table 7 about here]

About 20.1 percent of these write-ins previously classified as direct-purchase coverage remained classified as such (Table 7). Another 6.7 percent explicitly mentioned the Affordable Care Act or a related term (e.g., “exchanges,” “marketplaces,” “Obamacare”). Although there is no ACA-specific classification for the ACS, we choose to highlight this type of write-in response for two reasons. First, we wanted to gauge the extent to which the implementation of the ACA could have affected the prevalence of direct-purchase insurance in the ACS. Second, this group likely has direct-purchase coverage, but does not necessarily have it. Individuals can enroll in government programs via the marketplace (and in many states, Medicaid enrollment is advertised with the [healthcare.gov](http://healthcare.gov) website).

Indeed, this growing uncertainty contributed to the majority of these cases (59.0 percent) being recoded as “private/public coverage.” That is, their write-in response (e.g., “Blue Cross” or “Aetna”) indicates health insurance coverage but does not provide sufficient information to determine the type of coverage. As a result of these health insurance developments, listing a private health insurance’s company name may no longer necessarily imply nongroup coverage. Several companies offer health plans that can be any of the four major types of public/private coverage. For example, someone who reported “Blue Cross” could have had state-paid coverage through the private health insurance company (e.g., Blue Cross and Blue Shield in Alabama), a Medicare Advantage plan, a direct-purchase plan, or an employer-provided plan. Some companies also offer dental plans, which are out-of-scope in the ACS. Plans classified as “private/public coverage” are assigned one of the four types of comprehensive coverage through imputation.

Given the imputation-based assignment of coverage, differences in our sample universe, and the unavailability of final weights, we cannot calculate the extent to which these alternative coding decisions could influence national-level “final” rates of health insurance coverage. They nonetheless reveal the increasing complexity in classifying coverage described via a write-in entry.

## Discussion and Conclusion

Our analyses extended the work of Mach and O’Hara (2011), who reported that the positive association between write-in presence and multiple health insurances coverage in the ACS—particularly combinations involving direct-purchase coverage—was their “most striking” finding. We focused on the ACS write-in field, particularly as it related to estimates of direct-purchase coverage alone and in combination with other types of coverage. Overall, our results suggested that the write-in field is related to multiple type of coverage, even net of social and economic characteristics. Our analyses were the first to consider this relationship after the full implementation of the Affordable Care Act (ACA).

We demonstrated that that the individuals’ social and demographic profiles were related to the presence of information in the ACS health insurance write-in field. However, the population with write-ins was not consistently higher or lower SES than the population without write-ins. This lack of a clear pattern was coupled with relatively modest AMEs. This result was consistent with a situation in which the population with write-ins likely contained two distinct subgroups: (1) people with coverage types that they were not sure how to classify (such as persons with subsidized marketplace coverage) and (2) people who wanted to provide additional information about a plan that they reported via “Yes” responses to earlier parts of the health insurance coverage question.

Yet, what is the relative composition of these two groups? As only about half of write-ins are used to assign any coverage, we can assume that at least half of write-ins provide clear duplicative information. The presence of a write-in significantly—and in many cases, substantially—increased the likelihood that someone has multiple types of insurance coverage, including direct-purchase coverage and one other type. For adults 65 and older, the presence of a write-in increased individuals’ chances of having direct-purchase coverage and Medicare by nearly 19 percentage points, and the presence of a write-in was associated with 1.6 to 2.4 percentage point increases in having direct-purchase and Medicaid. Absent other information, we assumed that the second group is providing information because they are unsure how to describe their plan, whereas the first group (older adults with direct-purchase and Medicare) are describing a noncomprehensive plan with their write-in entry. This interpretation that the sample providing “redundant” information comprises the larger share (but not totality) of the population with a write-in is also supported by relative weak associations between the presence of write-in field and direct-purchase alone. As names of certain companies (e.g., “Blue Cross”) are coded as direct-purchase coverage, we would have expected higher AMEs if the group unsure how to categorize coverage were more prevalent.

Our interpretation is also consistent with previous work. A field test of an experimental version of the ACS question that included clear instructions to limit responses to comprehensive plans (in addition to other changes) reduced the prevalence of write-ins by about one-third (Berchick et al., 2017). Although the experimental version of the question also slightly revised the language of the direct-purchase item and moved it higher on the health insurance coverage question list, this result is broadly consistent with our findings. Additionally, Cantor and colleagues (2007) note the difficulties in capturing the direct-purchase coverage in household surveys, which tend to produce higher estimates of direct-purchase coverage than administrative records due to misclassification of public coverage as private

nongroup. Our analyses (like Mach & Hara, 2011) reflect that a feature of the survey designed to help respondents report additional health insurance coverage may potentially contribute to some misclassification as well.

However, our results (and those of others) suggest that the write-in field does not only provide redundant and/or out-of-scope information. A number of respondents reported information exclusively through the write-in field. Without this coverage, the uninsured rate—which is considered to be accurate in the ACS—would be upwardly biased.

We were also motivated by an interest in understanding write-in dynamics after the implementation of the ACA. Mach and O’Hara note that in the 2009 ACS 44.3 percent of write-ins were classified as direct/nongroup insurance. In 2015, the unweighted percentage of write-ins classified as direct-purchase was 32.9 percent (32.4 percent weighted). Although it is difficult to discern a true trend from two point-in-time estimates, this decrease suggests that a smaller share of write-ins are direct-purchase related post-ACA.

However, prior work has documented a relationship between the use of write-in responses, particularly and direct-purchase coverage (e.g., see Lynch & Kenney, 2011). In re-examining the coverage, we found that some coverage classified as direct-purchase coverage may no longer necessarily correspond to this type. Understanding how this misclassification influences national-level estimates lies beyond the scope of this paper. However, our results did not suggest any major effect on the uninsured rate, as potential misclassification occurs between types of coverage.

Our results highlight at least three important avenues for future research. First, additional research could consider the impact of revising considerations of checkbox-reported coverage when assigning coverage based on the write-in field. Second, as our results suggest that write-in information is nonduplicative but potentially out-of-scope, future research could re-consider the addition of instructions reminding participants to only report comprehensive coverage (see Berchick et al., 2017). Third, our results revealed important variation by treatment mode and by whether any other coverage was reported via checkbox. Future research can use the allocation flags on the public-use variable to examine how estimates of health insurance dynamics could change if direct-purchase coverage assigned from write-in information were ignored from those who explicitly reported at least one coverage type. All three of these avenues can help to inform ways to better utilize the specific but nondetailed information contained in write-ins.

The ACS remains a valuable source of national, state, and sub-state estimates of individuals’ health insurance coverage. Estimates of overall coverage are in line with other surveys. However, compared with other surveys, the direct-purchase and multiple coverage rates are higher in the ACS (Bourdreaux et al., 2011, 2014; Lynch et al., 2011; Mach & O’Hara, 2011). The ways in which respondents report information via the “other” health insurance write-in field likely contributes to these overestimates but also provides important, nonduplicative information about health insurance coverage.

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Table 1. Prevalence of selected insurance types in the 2015 ACS sample

<b>Coverage Type</b>	<b>Unweighted %</b>	<b>Weighted<sup>1</sup> %</b>
Any coverage	92.57	91.20
Determined by write-in	1.95	1.97
Not determined by write-in	90.62	89.23
Direct purchase	15.85	14.05
Determined by write-in	1.04	1.01
Not determined by write-in	14.80	13.04
Multiple coverage	19.44	16.78
Determined by write-in	0.94	0.85
Not determined by write-in	18.50	15.93

Source: U.S. Census Bureau, 2015 American Community Survey internal file

<sup>1</sup> Weighted using preliminary weights, not the final ACS weights.

Table 2. Selected Social and Demographic Characteristics of Analytic Sample, By Presence of a Health Insurance Write-in

Characteristic	Total (100.0%)	No write-in (95.6%)	Write-in present (4.4%)	Signif.
Age (yrs)	41.26 (23.50)	40.73 (23.27)	52.81 (25.51)	***
Female (%)	51.54	51.32	56.42	***
Race/ethnicity (%)				
White	77.04	76.97	78.73	***
Education (%)				***
< High school	30.45	30.59	27.38	
High school	22.31	22.06	27.72	
Some college	23.91	23.89	24.45	
College or greater	23.32	23.46	20.45	
In poverty <sup>1</sup>	12.71	12.60	15.09	***
Marital status (%)				***
Married	44.47	44.39	46.19	
Divorced/separated/widowed	15.54	15.16	23.69	
Never married	40.00	40.45	30.12	
Has disability (%) <sup>2</sup>	13.83	23.45	13.38	***
Expansion state (%) <sup>3</sup>	59.60	59.58	59.90	**
Yes/No checkbox marked (%)	91.79	92.09	85.34	***
Yes checkbox marked	83.62	84.79	58.11	***
Multiples (%) <sup>4</sup>	19.44	18.20	46.35	***
Language other than English spoken at home (%)	17.26	17.15	19.56	***
Interview mode (%)				***
Mail	27.81	27.06	44.08	
Internet	45.60	46.06	35.62	
CATI/CAPI	26.60	26.89	20.30	
Person 1	41.30	40.86	51.00	***

Standard errors in parentheses.

\* p &lt; .05 \*\*p&lt;.01 \*\*\*p&lt;.001

Source: U.S. Census Bureau, 2015 American Community Survey internal file

<sup>1</sup> See <https://www2.census.gov/programs-surveys/cps/tables/times-series/historical-poverty-thresholds/thres15.xls> for 2015 poverty thresholds.<sup>2</sup> A respondent is considered disabled if s/he reports one of six disabilities (hearing, vision, cognitive, ambulatory, self-care, independent living).<sup>3</sup> By January 2015, 29 states and the District of Columbia expanded Medicaid eligibility as part of the Affordable Care Act (ACA).<sup>4</sup> Indicates whether a person is currently covered by multiple types of health insurance.

Table 3. Predictors of Write-in Presence in Sample, Average Marginal Effects (AMEs)

	(1) Ages 0-18	(2) Ages 19-64	(3) Ages 65+
Female	.0003(.0003)	.0080(.0002)***	.0242(.0007)***
Age			
0-4	-.0012(.0004)**	---	---
5-9	-.0002(.0004)	---	---
10-14	Ref.	---	---
15-19	-.0014(.0004)**	.0119(.0008)***	---
20-24	---	.0089(.0004)***	---
25-29	---	.0019(.0004)***	---
30-34	---	-.0006(.0004)	---
35-39	---	Ref.	---
40-44	---	.0013(.0004)**	---
45-49	---	.0050(.0004)***	---
50-54	---	.0084(.0004)***	---
55-59	---	.0153(.0004)***	---
60-64	---	.0231(.0005)***	---
65-69	---	---	-.0395(.0011)***
70-74	---	---	-.0174(.0012)***
75-79	---	---	-.0041(.0013)**
80-84	---	---	Ref.
85-89	---	---	-.0023(.0016)
90-94	---	---	-.0099(.0021)***
95+	---	---	-.0186(.0037)***
Education (ref.=HS)			
Less than HS	---	-.0015(.0003)***	-.0072(.0010)***
Some college	---	.0044(.0003)***	.0004(.0009)
College	---	.0048(.0003)***	-.0013(.0009)
Medicaid Expansion	.0114(.0003)***	.0072(.0002)***	-.0058(.0007)***
In poverty	.0022(.0004)***	.0036(.0003)***	-.0188(.0013)***
White	.0008(.0003)*	-.0011(.0002)***	.0393(.0011)***
Any disability	.0114(.0007)***	.0166(.0003)***	.0017(.0007)*
Interview mode (ref.= CATI/CAPI)			
Mail	.0101(.0004)***	.0236(.0003)***	.0681(.0008)***
Internet	.0017(.0004)***	.0098(.0002)***	.0328(.0008)***
Language other than English	.0021(.0003)***	.0073(.0002)***	-.0038(.0012)**
Any checkbox marked	.0459(.0004)***	.0115(.0003)***	.1704(.0029)***
"Yes" checkbox marked	-.1004(.0005)***	-.0721(.0003)***	-.0985(.0023)***
Person 1	-.0098(.0016)***	.0102(.0002)***	.0211(.0008)***
Marital status (ref.=married)			
Div./Sep./Widow.	---	-.0040(.0003)***	-.0109(.0008)***
Never married	---	-.0009(.0003)**	-.0101(.0016)***

Standard errors in parentheses.

\* p &lt; .05 \*\*p&lt;.01 \*\*\*p&lt;.001

Source: U.S. Census Bureau, 2015 American Community Survey internal file

Table 4. Types of Insurance Coverage in Sample, by Write-in Presence

	(1) Total	(2) No write-in	(3) Write-in	Diff. <sup>1</sup>
Uninsured	7.43	7.41	7.84	***
Insured	92.57	92.59	92.16	***
Any direct	15.85	14.62	42.52	***
Direct alone	7.14	7.01	9.84	***
Direct and employer-sponsored	3.02	2.71	9.60	***
Direct and Medicaid	1.19	0.98	5.65	***
Direct and Medicare	6.65	5.88	25.69	***
Direct and military/VA	1.02	0.93	3.03	***

Standard errors in parentheses.

\* p &lt; .05 \*\*p&lt;.01 \*\*\*p&lt;.001

*Source:* U.S. Census Bureau, 2015 American Community Survey internal file<sup>1</sup>Based on a chi-square test

Table 5. Average Marginal Effects (AMEs) for Write-In Presence on Multiple Types of Health Insurance Coverage in Sample

	(1) Ages 0-18	(2) Ages 19-64	(3) Ages 65+
Write-in present	.1204 (.0010)***	.1297(.0007)***	.0328(.0016)***
Female	.0002 (.0004)	-.0152(.0003)	-.0087(.0010)***
Age			
0-4	-.0019(.0006)**	---	---
5-9	-.0020(.0006)**	---	---
10-14	Ref.	---	---
15-19	.0038 (.0006)***	-.0133(.0012)***	---
20-24	---	-.0037(.0007)***	---
25-29	---	-.0006(.0008)	---
30-34	---	.0008(.0007)	---
35-39	---	Ref.	---
40-44	---	.0022(.0007)**	---
45-49	---	.0051(.0007)***	---
50-54	---	.0068(.0007)***	---
55-59	---	.0140(.0006)***	---
60-64	---	.0277(.0007)***	---
65-69	---	---	-.0838(.0015)***
70-74	---	---	-.0424(.0016)***
75-79	---	---	-.0155(.0016)***
80-84	---	---	Ref.
85-89	---	---	-.0003(.0020)
90-94	---	---	-.0008(.0028)
95+	---	---	-.0224(.0052)***
Education (ref.=HS)			
Less than HS	---	.0058(.0006)***	-.0275(.0015)***
Some college	---	.0029(.0004)***	.0190(.0012)***
College	---	-.0175(.0004)***	.0130(.0013)***
Medicaid expansion	.0065(.0005)***	-.0081(.0003)***	.0284(.0009)***
In poverty	.0031(.0006)***	.0155(.0005)***	-.0082(.0017)***
White	-.0076(.0005)***	-.0187(.0004)***	.0197(.0013)***
Any disability	.0463(.0008)***	.1004 (.0004)***	.0539(.0011)***
Interview mode (ref.= CATI/CAPI)			
Mail	.0087(.0006)***	.0042 (.0004)***	-.0159(.0013)***
Internet	.0110(.0005)***	.0096 (.0004)***	.0126(.0013)***
Language other than English	-.0130(.0006)***	-.0184(.0005)***	-.0769(.0015)***
Checkbox marked	-.1826(.0021)***	-.2447(.0019)***	-.3955(.0048)***
"Yes" checkbox marked	.1455(.0021)***	.2361(.0018)***	.3869(.0045)***
Person 1	.0234(.0026)***	.0125(.0003)***	.0351(.0011)***
Marital status (ref.=married)			
Div./Sep./Widow.	---	.0068(.0005)***	-.0357(.0012)***
Never married	---	-.0019(.0004)***	-.0343(.0024)***

Standard errors in parentheses.

\* p &lt; .05 \*\*p&lt;.01 \*\*\*p&lt;.001

Source: U.S. Census Bureau, 2015 American Community Survey internal file

Table 6. Average Marginal Effects (AMEs) for Write-In Presence on Various Combinations of Health Insurance Coverage in Sample

	(1) Ages 0-18	(2) Ages 19-64	(3) Ages 65+
<b>A. Direct purchase</b>	.1226 (.0012)***	.2150 (.0010)***	.1884 (.0015)***
<b>B. Direct purchase alone</b>	.0563 (.0012)***	.1121 (.0009)***	.0008 (.0002)***
<b>C. Direct purchase &amp; another type</b>	.0493 (.0005)***	.0730 (.0004)***	.1872 (.0014)***
<b>D. Direct purchase &amp; employer-based coverage</b>	.0268 (.0004)***	.0504 (.0004)***	.0234 (.0008)***
<b>E. Direct purchase &amp; Medicare</b>	.0009 (.0001)***	.0104 (.0001)***	.1862 (.0015)***
<b>F. Direct purchase &amp; Medicaid</b>	.0238 (.0003)***	.0158 (.0002)***	.0180 (.0005)***

Standard errors in parentheses.

\* p &lt; .05 \*\*p &lt; .01 \*\*\*p &lt; .001

*Source:* U.S. Census Bureau, 2015 American Community Survey internal file

Categorizations are not mutually exclusive. All models adjust for age, sex, race, educational attainment, poverty status, disability, interview mode, marital status, non-English language spoken at home, “Yes” and/or “No” responses to any coverage types, person number, and state Medicaid expansion status. See text for additional detail.

Table 7. Recodes of Write-ins Classified as Direct-Coverage

<b>Recode</b>	<b>N</b>	<b>Unweighted %</b>
ESI	626	0.96
<b>Direct</b>	<b>13066</b>	<b>20.14</b>
ACA-related	4322	6.66
Medicare	3100	4.78
Medicaid	878	1.35
VA/ Military /Other	10	0.02
Private/public coverage	38306	59.04
Not covered	7	0.01
Covered by family member	1733	2.67
Out of scope	2828	4.36

Source: U.S. Census Bureau, 2015 American Community Survey internal file

## APPENDIX

Figure A1. ACS Health Insurance Coverage Question, Paper (Mailed) Questionnaire

**16** Is this person **CURRENTLY** covered by any of the following types of health insurance or health coverage plans? Mark "Yes" or "No" for EACH type of coverage in items a – h.

	Yes	No
a. Insurance through a current or former employer or union (of this person or another family member)	<input type="checkbox"/>	<input type="checkbox"/>
b. Insurance purchased directly from an insurance company (by this person or another family member)	<input type="checkbox"/>	<input type="checkbox"/>
c. Medicare, for people 65 and older, or people with certain disabilities	<input type="checkbox"/>	<input type="checkbox"/>
d. Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability	<input type="checkbox"/>	<input type="checkbox"/>
e. TRICARE or other military health care	<input type="checkbox"/>	<input type="checkbox"/>
f. VA (including those who have ever used or enrolled for VA health care)	<input type="checkbox"/>	<input type="checkbox"/>
g. Indian Health Service	<input type="checkbox"/>	<input type="checkbox"/>
h. Any other type of health insurance or health coverage plan – <i>Specify</i> ↘	<input type="checkbox"/>	<input type="checkbox"/>

Table A1. Average Marginal Effects (AMEs) for Write-Ins Used to Assign Direct-Purchase Coverage on Various Combinations of Health Insurance Coverage

	Ages 0-18	Ages 19-64	Ages 65+
<b>A. Direct purchase</b>	.5849 (.0081)***	.7099 (.0042)***	1.3104 (.0204)***
<b>B. Direct purchase alone</b>	.1943 (.0018)***	.2637 (.0013)***	.0036 (.0003)***
<b>C. Direct purchase &amp; another type</b>	.0927 (.0009)***	.1244 (.0007)***	1.0961 (.0121)***
<b>D. Direct purchase &amp; employer-based coverage</b>	.0477 (.0006)***	.0806 (.0005)***	.0878 (.0012)***
<b>E. Direct purchase &amp; Medicare</b>	.0009 (.0001)***	.0164 (.0002)***	1.051 (.0109)***
<b>F. Direct purchase &amp; Medicaid</b>	.0342 (.0004)***	.0216 (.0002)***	.0373 (.0007)***

Standard errors in parentheses. \* p < .05 \*\*p < .01 \*\*\*p < .001

Source: U.S. Census Bureau, 2015 American Community Survey internal file

Categorizations are not mutually exclusive. All models adjust for age, sex, race, educational attainment, poverty status, disability, interview mode, marital status, non-English language spoken at home, “Yes” and/or “No” responses to any coverage types, person number, and state Medicaid expansion status. See text for additional detail.

Table A2. Average Marginal Effects (AMEs) for Write-In on Reported Direct-Purchase Coverage

	Ages 0-18	Ages 19-64	Ages 65+
Write-in present	-.0494 (.0020)***	-.0323 (.0013)***	-.0897 (.0016)***

Standard errors in parentheses.

\* p < .05 \*\*p<.01 \*\*\*p<.001

Source: U.S. Census Bureau, 2015 American Community Survey internal file

Categorizations are not mutually exclusive. All models adjust for age, sex, race, educational attainment, poverty status, disability, interview mode, marital status, non-English language spoken at home, person number, and state Medicaid expansion status. See text for additional detail.

Table A3. Breakdown of 2015 Write-ins

<b>Type of insurance</b>	<b>% of write-ins (unweighted)</b>
Employer-based	3.75
Direct-purchase/nongroup	32.94
Medicare	10.08
Medicaid	16.15
TRICARE	0.47
VA	0.12
Indian Health Services	0.08
Other (not insurance)	2.76
Public or private	9.23
Uninsured	1.11
Dependent (family) coverage	2.87
Out of Scope	20.43

Source: U.S. Census Bureau, 2015 American Community Survey