Correction: Access to Electronic Personal Health Records Among Patients With Multiple Chronic Conditions: A Secondary Data Analysis

Alexandra J Greenberg1, MPH, PhD; Angela L Falisi2, MPH; Lila J Finney Rutten1, MPH, PhD; Wen-Ying Sylvia Chou3, MPH, PhD; Vaishali Patel3, MPH, PhD; Richard P Moser2, PhD; Bradford W Hesse2, PhD

1Mayo Clinic, Rochester, MN, United States
2Behavioral Research Program, National Cancer Institute, Bethesda, MD, United States
3Office of the National Coordinator, US Department of Health and Human Services, Washington, DC, United States

Corresponding Author:
Alexandra J Greenberg, MPH, PhD
Mayo Clinic
200 First Street SW
Rochester, MN, 55905
United States
Phone: 1 507 538 7388
Fax: 1 507 555 1212
Email: worisek.alexandra@gmail.com

Related Article:
Correction of: https://www.jmir.org/2017/6/e188/
doi: 10.2196/39719

In “Access to Electronic Personal Health Records Among Patients With Multiple Chronic Conditions: A Secondary Data Analysis” (J Med Internet Res 2017;19(6):e188), the authors made the following updates.

The authors were notified of data errors in one of the Health Information National Trends Survey (HINTS) cycle datasets (HINTS 4, Cycle 4); the errors were in the weights provided for use in the analysis of these data [1]. Following the HINTS error notice [1], the authors reran analyses reported in Table 1 and Table 2. The originally published versions of these tables are in Multimedia Appendix 1 and Multimedia Appendix 2.

In rerunning analyses for Table 1, only one difference was found that resulted in a change in conclusion. Namely, the chi-squared analysis of “Confidence that PHI is safe” versus “Number of Chronic Conditions” was not significant in the updated analysis (P=.11). In the original analysis, the results were significant, with “Very Confident” more likely with two or more chronic conditions, and “Not Confident” more likely with no chronic conditions. Additionally, for “Accessed EHRs at least once” and “Frequency of EHR Access,” the original table used column percentages instead of row percentages; this has been corrected in the updated table.

In section “Associations Between Patient Factors and Number of Chronic Conditions” in the Results, the fourth sentence in the first paragraph originally read as follows:

In general, having two or more chronic conditions was associated with being older, having health

insurance, having a regular provider, being less confident in taking care of themselves, reporting fair to poor health, being less inclined to use the Internet or to use a mobile phone/tablet, and in feeling more confident that their PHI is safe and controllable (Table 1).

It has been corrected as follows:

In general, having two or more chronic conditions was associated with being older, having health insurance, having a regular provider, being less confident in taking care of themselves, reporting fair to poor health, and being less inclined to use the Internet or to use a mobile phone/tablet (Table 1).

The following text from the Discussion was no longer accurate and has been removed from the corrected version of the article:

Additionally, HINTS included items addressing concerns about safety and privacy of electronic health information, which revealed that those with MCC reported slightly higher frequencies of believing that they were “very confident” in having control of the privacy of their records and that their PHI was safe with their providers. This could provide one explanation for the increased use of ePHR among those with MCC.

In rerunning analyses for Table 2, only one difference was found that resulted in a change in conclusion. Namely, for “Confidence that PHI is safe,” a significant association was found for “Very Confident” (OR 2.00, 95% CI 1.21-3.31; P=.01) and “Somewhat
Confident” (OR 1.99, 95% CI 1.25-3.17) as compared to the reference of “Not Confident.” In the original analysis, neither was statistically significant. This change does not affect any of the text within the body of the manuscript. But it is a notable new conclusion, indicating that those who are more confident about the safety of their data are significantly more likely to use ePHR than those who are not confident about such security.

The corrected versions of Table 1 and Table 2 are below:
| Respondent characteristics | Number of chronic conditions, n (weighted %) | $\chi^2$ (df) | $P$ value |
|---------------------------|--------------------------------------------|---------------|-----------|
|                           | 0             | 1              | $\geq$2             |
| Overall                   | 1050 (39.8)   | 892 (26.0)     | 1555 (34.1) |
| Sex                       |               |                |               |
| Female                    | 624 (36.2)    | 543 (27.3)     | 920 (36.5)   |
| Male                      | 420 (43.5)    | 344 (25.2)     | 605 (31.3)   |
| Age (years)               |               |                |               |
| 18-34                     | 283 (64.6)    | 117 (25.4)     | 60 (10.0)    |
| 35-49                     | 322 (48.1)    | 200 (24.2)     | 188 (27.8)   |
| 50-64                     | 272 (30.9)    | 299 (28.9)     | 556 (40.3)   |
| 65-74                     | 72 (14.9)     | 149 (27.0)     | 349 (58.1)   |
| $\geq$75                  | 28 (6.3)      | 74 (21.4)      | 274 (72.2)   |
| Race/ethnicity            |               |                |               |
| Hispanic                  | 185 (41.9)    | 132 (28.5)     | 194 (29.6)   |
| Non-Hispanic White        | 555 (38.7)    | 496 (26.1)     | 844 (35.2)   |
| Non-Hispanic Black        | 142 (39.9)    | 123 (24.0)     | 252 (36.1)   |
| Non-Hispanic other        | 94 (57.4)     | 56 (22.5)      | 85 (20.0)    |
| Missing                   | 74 (28.9)     | 85 (26.9)      | 180 (44.2)   |
| Education                 |               |                |               |
| Less than high school     | 59 (27.5)     | 65 (27.0)      | 163 (45.6)   |
| High school graduate      | 171 (38.1)    | 140 (23.0)     | 323 (38.9)   |
| Some college              | 257 (34.9)    | 282 (27.0)     | 511 (38.1)   |
| College graduate          | 534 (49.6)    | 377 (26.7)     | 500 (23.7)   |
| Income (US$)              |               |                |               |
| <$20,000                  | 163 (31.5)    | 182 (27.0)     | 442 (41.5)   |
| $20,000 to <$35,000       | 127 (29.1)    | 116 (22.1)     | 265 (48.8)   |
| $35,000 to <$50,000       | 145 (40.6)    | 139 (26.7)     | 220 (32.7)   |
| $50,000 to <$75,000       | 180 (38.2)    | 153 (26.7)     | 252 (35.0)   |
| $\geq$75,000             | 421 (48.7)    | 295 (26.5)     | 349 (24.9)   |
| Health insurance          |               |                |               |
| Yes                       | 872 (38.3)    | 768 (25.8)     | 1397 (35.9)  |
| No                        | 168 (51.6)    | 110 (27.2)     | 130 (21.2)   |
| Regular provider          |               |                |               |
| Yes                       | 548 (32.4)    | 612 (25.1)     | 1256 (42.5)  |
| No                        | 494 (54.3)    | 266 (27.7)     | 268 (18.0)   |
| Self-reported ability to take care of own health |               |                |               |
| Completely confident/very confident | 787 (42.9) | 629 (27.2) | 890 (29.8) |
|Somewhat confident         | 224 (34.8)    | 231 (24.8)     | 518 (40.4)   |
|A little confident/not at all confident | 36 (25.9) | 29 (19.2) | 137 (54.9) |
| Self-reported general health |               |                |               |
|Excellent/very good        | 675 (53.3)    | 443 (26.4)     | 427 (20.3)   |
|Good                       | 301 (31.5)    | 345 (28.8)     | 672 (39.7)   |
|Fart/Poor                  | 69 (17.9)     | 97 (17.5)      | 443 (64.7)   |
| Respondent characteristics                  | Number of chronic conditions, n (weighted %)a | $\chi^2$ (df) | $P$ value |
|---------------------------------------------|-----------------------------------------------|---------------|-----------|
|                                             | 0                                             | 1             | $\geq 2$  |
| **Regular Internet use**                    |                                               |               |           |
| Yes                                         | 923 (42.9)                                    | 709 (26.1)    | 1077 (31.0) |
| No                                          | 123 (25.3)                                    | 173 (25.4)    | 455 (49.2) |
| **Accessed EHRs at least once**             |                                               |               |           |
| Yes                                         | 284 (28.0)                                    | 250 (26.7)    | 371 (25.5) |
| No                                          | 757 (72.0)                                    | 630 (73.3)    | 1158 (74.5) |
| **Frequency of EHR access**                 |                                               |               |           |
| Never                                       | 757 (72.0)                                    | 630 (73.3)    | 1158 (74.5) |
| 1-2 times                                    | 158 (15.4)                                    | 124 (14.2)    | 153 (9.1)  |
| 3-5 times                                    | 74 (7.5)                                      | 78 (7.4)      | 101 (7.6)  |
| 6-9 times                                    | 24 (2.2)                                      | 30 (3.4)      | 57 (3.7)   |
| $\geq$10 times                               | 28 (2.9)                                      | 18 (1.6)      | 60 (5.1)   |
| **Use a mobile phone or tablet**            |                                               |               |           |
| Yes                                         | 848 (29.1)                                    | 610 (26.0)    | 854 (29.1) |
| No                                          | 185 (25.7)                                    | 256 (26.2)    | 638 (48.1) |
| **Use health-related mobile phone/tablet apps** |                                               |               |           |
| Yes                                         | 297 (24.4)                                    | 295 (24.4)    | 592 (48.6) |
| No                                          | 522 (44.2)                                    | 388 (27.9)    | 516 (27.9) |
| **Exchanged emails with provider(s)**       |                                               |               |           |
| Yes                                         | 246 (25.7)                                    | 331 (32.3)    |           |
| No                                          | 791 (39.6)                                    | 1179 (34.3)   |           |
| **Confidence that PHI is safe**             |                                               |               |           |
| Very confident                               | 207 (38.9)                                    | 178 (23.7)    | 389 (37.5) |
| Somewhat confident                           | 534 (38.3)                                    | 473 (27.4)    | 809 (34.3) |
| Not confident                                | 295 (44.4)                                    | 221 (24.9)    | 324 (30.8) |
| **Control privacy of records**              |                                               |               |           |
| Very confident                               | 255 (34.5)                                    | 246 (26.8)    | 487 (38.7) |
| Somewhat confident                           | 479 (39.2)                                    | 420 (26.0)    | 733 (34.7) |
| Not confident                                | 307 (47.6)                                    | 215 (25.2)    | 302 (27.1) |
| **Ever withheld information due to privacy concern** |                                               |               |           |
| Yes                                         | 160 (43.0)                                    | 222 (32.6)    |           |
| No                                          | 882 (39.4)                                    | 1306 (34.2)   |           |
| **Concerned about security of information when sent between providers** |                                               |               |           |
| Very concerned                               | 226 (41.9)                                    | 338 (32.3)    |           |
| Somewhat concerned                           | 510 (40.4)                                    | 756 (35.3)    |           |
| Not concerned                                | 305 (37.9)                                    | 433 (33.2)    |           |

a Percentages are weighted.
Table 2. Weighted multivariate logistic regression model of predictors of using electronic personal health records among those reporting having Internet access or who own a mobile phone (n=2941).

| Predictors of use of electronic personal health records | OR (95% CI) | Beta (SE) | Adj Wald F (df) | P value |
|---------------------------------------------------------|-------------|-----------|-----------------|---------|
| **Number of chronic conditions**                        |             |           |                 |         |
| 0                                                       | Ref         | Ref       |                 |         |
| 1                                                       | 0.98 (0.60-1.59) | -0.02 (0.24) |                 | .02     |
| ≥2                                                      | 1.88 (1.09-3.24) | 0.63 (0.27) |                 |         |
| **Sex**                                                 |             |           |                 |         |
| Male                                                    | Ref         | Ref       |                 |         |
| Female                                                  | 1.06 (0.77-1.45) | 0.16 (0.16) |                 | .72     |
| **Age (years)**                                         |             |           |                 |         |
| ≥75                                                     | Ref         | Ref       |                 |         |
| 65-74                                                   | 1.80 (0.69-4.66) | 0.59 (0.48) |                 | .10     |
| 50-64                                                   | 2.39 (1.01-5.67) | 0.87 (0.43) |                 |         |
| 35-49                                                   | 2.68 (1.13-6.36) | 0.98 (0.43) |                 |         |
| 18-34                                                   | 3.23 (1.24-8.41) | 1.17 (0.47) |                 |         |
| **Race/ethnicity**                                      |             |           |                 |         |
| Non-Hispanic White                                      | Ref         | Ref       |                 |         |
| Hispanic                                                | 0.62 (0.31-1.26) | -0.47 (0.35) |                 | .43     |
| Non-Hispanic Black                                      | 0.90 (0.57-1.42) | -0.11 (0.23) |                 |         |
| Non-Hispanic other                                      | 1.34 (0.70-2.55) | 0.29 (0.32) |                 |         |
| Missing                                                 | 0.47 (0.14-1.54) | -0.76 (0.59) |                 |         |
| **Education**                                            |             |           |                 |         |
| Less than high school                                    | Ref         | Ref       |                 |         |
| High school graduate                                    | 1.22 (0.25-5.88) | 0.20 (0.78) |                 | .27     |
| Some college                                            | 1.51 (0.35-6.52) | 0.41 (0.73) |                 |         |
| College graduate                                        | 1.85 (0.41-8.31) | 0.61 (0.75) |                 |         |
| **Income (US$)**                                        |             |           |                 |         |
| <$20,000                                                | Ref         | Ref       |                 | .03     |
| $20,000 to <35,000                                      | 1.90 (0.81-4.47) | 0.42 (-0.21) |                 |         |
| $35,000 to <50,000                                      | 2.75 (1.25-6.08) | 0.39 (0.22) |                 |         |
| $50,000 to <75,000                                      | 1.89 (0.85-4.23) | 0.40 (-0.16) |                 |         |
| ≥75,000                                                 | 3.17 (1.50-6.71) | 0.37 (0.41) |                 |         |
| **Health insurance**                                    |             |           |                 | .20     |
| No                                                      | Ref         | Ref       |                 |         |
| Yes                                                     | 1.48 (0.81-2.71) | 0.30 (-0.21) |                 |         |
| **Regular provider**                                    |             |           |                 | .01     |
| No                                                      | Ref         | Ref       |                 |         |
| Yes                                                     | 1.84 (1.17-2.88) | 0.61 (0.22) |                 |         |
| **Self-reported ability to take care of own health**    |             |           |                 | .81     |
| A little confident/not at all confident                 | Ref         | Ref       |                 |         |
| Somewhat confident                                      | 0.97 (0.40-2.34) | -0.03 (0.44) |                 |         |
| Completely confident/very confident                     | 1.14 (0.54-2.39) | 0.13 (0.37) |                 |         |
| **Self-reported general health**                         |             |           |                 | .19     |
### Predictors of use of electronic personal health records

| Predictor                    | OR (95% CI)     | Beta (SE)   | Adj Wald F (df) | P value |
|------------------------------|-----------------|-------------|-----------------|---------|
| Excellent/very good          | Ref             | Ref         |                 |         |
| Good                         | 1.40 (0.94-2.09) | 0.34 (0.20) |                 |         |
| Fair/Poor                    | 1.04 (0.52-2.10) | 0.04 (0.35) |                 |         |

**Confidence that PHI is safe**

| Confidence Level              | OR (95% CI)     | Beta (SE)   |
|------------------------------|-----------------|-------------|
| Not confident                 | Ref             | Ref         |
| Somewhat confident            | 1.99 (1.25-3.17) | 0.69 (0.23) |
| Very confident                | 2.00 (1.21-3.31) | 0.69 (0.25) |

5.24 (2) .01

In addition, the corresponding author's email address has been changed to worisek.alexandra@gmail.com, as the author is no longer affiliated with Mayo Clinic College of Medicine and Science.

The correction will appear in the online version of the paper on the JMIR Publications website on June 20, 2022, together with the publication of this correction notice. Because this was made after submission to PubMed, PubMed Central, and other full-text repositories, the corrected article has also been resubmitted to those repositories.

**Multimedia Appendix 1**

Originally published Table 1.

[PDF File (Adobe PDF File), 69 KB-Multimedia Appendix 1]

**Multimedia Appendix 2**

Originally published Table 2.

[PDF File (Adobe PDF File), 47 KB-Multimedia Appendix 2]

**Reference**

1. HINTS Data Errors, Remediation, and Recommendations. Health Information National Trends Survey. URL: [https://hints.cancer.gov/data/data-remediation.aspx](https://hints.cancer.gov/data/data-remediation.aspx) [accessed 2022-05-19]

**Abbreviations**

HINTS: Health Information National Trends Survey