

Documentation of Google Consumer Survey of Attitudes to Health Data Privacy and Quality

Lars Vilhuber

April 2017

1 Purpose of the survey

The purpose of the survey is to elicit preferences relative to the quality of health care services as a function of sharing of data.

2 Questions

The respondents are asked three questions:

1. If medical information could be shared electronically between places where a patient receives medical care, how would that affect the privacy and security of medical info? (Likert scale from 1 to 5, graphically symbolized by stars from left - worst - to right - best)
2. Now how do you think that would affect the quality of medical information? (as before)
3. In general, how would you rate your overall health? (Likert scale from 1 to 5, from "Poor" to "Excellent")

2.1 Standard questionnaire

The standard questionnaire is modeled to exactly replicate the order in which the three CNSS questions were fielded (see [CNSS 2012 Questionnaire, page 19](#)). Respondents first see Question 1 (Figure 1)¹, as well as options to choose other surveys fielded by Google Consumer Surveys, and alternate methods to access the content:

2.2 Variations

2.2.1 Inversion of Q1 and Q2

The questions are the same as before, but with the order in which opinion on quality and privacy was asked inverted. The changed order appears in the header of the text, but otherwise the questions are unchanged.

¹The images shown are available while building the survey, and represent a simulated web-page typical of the one respondents would be browsing. We did not capture the equivalent pages adapted for mobile devices. For screenshots of users of the "Google Consumer Surveys" mobile application, see Appendix.

longer Book Review....



Privacy put the paper to bed Fuego news.me photo source: proimos/flickr

Please complete the following survey to access this premium content.

Question 1 of 3 or fewer:

If medical information could be shared electronically between places where a patient receives medical care, how do you think that would affect the **quality** of medical care?

Do you think it would:

☆ ☆ ☆ ☆ ☆

Greatly worsen it Greatly improve it

OR

↺ Show me a different question

↺ Skip survey

Google [INFO](#) [PRIVACY](#)

Figure 1: Question 1: Quality of Medical Care



Privacy put the paper to bed Fuego news.me photo source: proimos/flickr

Please complete the following survey to access this premium content.

Question 2 of 3 or fewer:

Now how do you think that would affect the **privacy and security** of medical information?

Do you think it would:

☆ ☆ ☆ ☆ ☆

Greatly worsen it Greatly improve it

OR

↺ Show me a different question

↺ Skip survey

Google [INFO](#) [PRIVACY](#)

Figure 2: Question 2: Privacy

race coverage advertising the other
longer Book Review....



Privacy put the paper to bed Fuego news.mephot source: proimos/flickr

Please complete the following survey to access this premium content.

Question 3 of 3:

In general, how would you rate your overall health?

Is it

☆

☆

☆

☆

☆

PoorExcellent

OR

↺

Show me a different question

↺

Skip survey

Google

INFO PRIVACY

Figure 3: Question 3: Health overall

Question 3 was exactly the same as before.

2.2.2 Shortened questionnaire

For a fraction of the respondents, Q1 or Q2 are randomly dropped. Respondents know this before hand (the total number of questions is indicated to the potential respondent before entering the survey). Figure 4 shows the resulting question when Q1 (quality) is dropped, and Figure 5 when Q2 (privacy) is dropped. The only difference with respect to Figures 1 and 2 is the text “Question 1 of 2” instead of “Question 1 of 3 or fewer”, shown below the blue bar.

In both cases, the second and final question is the health status question:

3 Conducting the survey

3.1 Fielding the survey

The survey is fielded by Google Consumer Survey, under a simple contract with the purchaser. Respondents answer surveys in exchange for access to premium content, or (when using a custom app provided by Google) in exchange for credits in the Google Play Store, which can be used to purchase mobile apps, movies, etc. (Google, Inc. 2016). Google suggests the following text when describing the data:

Google Surveys show questions across a network of premium on-line news, reference and entertainment sites, where it gets embedded directly into content, as well as through a mobile app, Google Opinion Rewards. On the web, users answer questions in exchange for access to that content, an alternative to subscribing or upgrading. The user’s gender, age, and geographic location are inferred based on anonymous browsing history and IP address. On mobile, users answer questions in exchange for credits for books, music, and apps and users answer demographic questions when first downloading the app. Using this data, Google Surveys can automatically build a representative sample of thousands of respondents. Source: <https://support.google.com/360suite/surveys/answer/6324082>



Privacy put the paper to bed Fuego news.me photo source: proimos/flickr

Please complete the following survey to access this premium content.

Question 1 of 2 or fewer:

If medical information could be shared electronically between places where a patient receives medical care, how would that affect the privacy and security of medical info?

Do you think it would:

☆ ☆ ☆ ☆ ☆

Greatly worsen it Greatly improve it

OR

↺ Show me a different question

↺ Skip survey

Google [INFO](#) [PRIVACY](#)

Figure 4: First question when quality (Q1) is dropped



Privacy put the paper to bed Fuego news.me photo source: proimos/flickr

Please complete the following survey to access this premium content.

Question 1 of 2 or fewer:

If medical information could be shared electronically between places where a patient receives medical care, how do you think that would affect the **quality** of medical care?


Do you think it would:



Greatly worsen it

Greatly improve it

OR

 Show me a different question

 Skip survey

Google

[INFO](#) [PRIVACY](#)

Figure 5: First question when privacy (Q2) is dropped

Please complete the following survey to access this premium content.

Question 2 of 2:

In general, how would you rate your overall health?

Is it

☆ ☆ ☆ ☆ ☆

Poor Excellent

OR

↺ Show me a different question

↺ Skip survey

Google [INFO](#) [PRIVACY](#)

Figure 6: Question 2 of shortened questionnaire

3.2 Creating the survey

There is no influence by the researcher on the way the questionnaire is fielded. For instance, the displayed format, the type of website used to display the questionnaire, the visual format of the response (stars for Likert scales) cannot be changed. A researcher is not identified on the "INFO" screen that users can access from any screen (Figure 7). Potential respondents also have no way of seeing later questions. Santoso et al. (2016) note " Given the 'survey wall' environment, it is essential that the surveys be short. " Researchers are also limited in the amount of information they can convey: only 175 characters are allowed for question text.

Other limitations include limitations on content. Google prohibits researchers from requesting personally and geographically identifying information (Google, Inc. 2017). Sensitive demographics are subject to review by Google, and Google may choose to insert a disclaimer or permission screen. Sensitive opinions, such as "abortions and sexual orientation" (Google, Inc. 2017), adult material, offensive questions, may be censored by Google. **URLs are expressly forbidden.**

4 Other data obtained

Additional data is provided by Google Consumer Surveys. GCS does not use a set panel; rather, respondents are visitors to the pages that have an agreement with GCS. GCS does not collect demographics prior to the interview. Instead, GCS imputes demographics (age, gender, income, geography, see Table 1), relying on browsing history (the types of sites) and IP address (geolocation) to model the characteristics. Note that neither the browsing history nor the IP address are provided to the survey creator. The imputation model relies on CPS Internet Users Supplement (Stephens-Davidowitz and Varian 2015).

5 Consent

Options to collect consent are minimal. However, respondents can break off the survey at all times, and this is identified at each point of the survey. When first offered the survey, all respondents are offered the first question of the questionnaire, without an introduction (unless the researcher explicitly makes the first question into an introduction or invitation, though this is not usually done). At this time, respondents can choose to answer the question, choose to see a different question, or choose to skip the survey. A link to information about Google Consumer Surveys

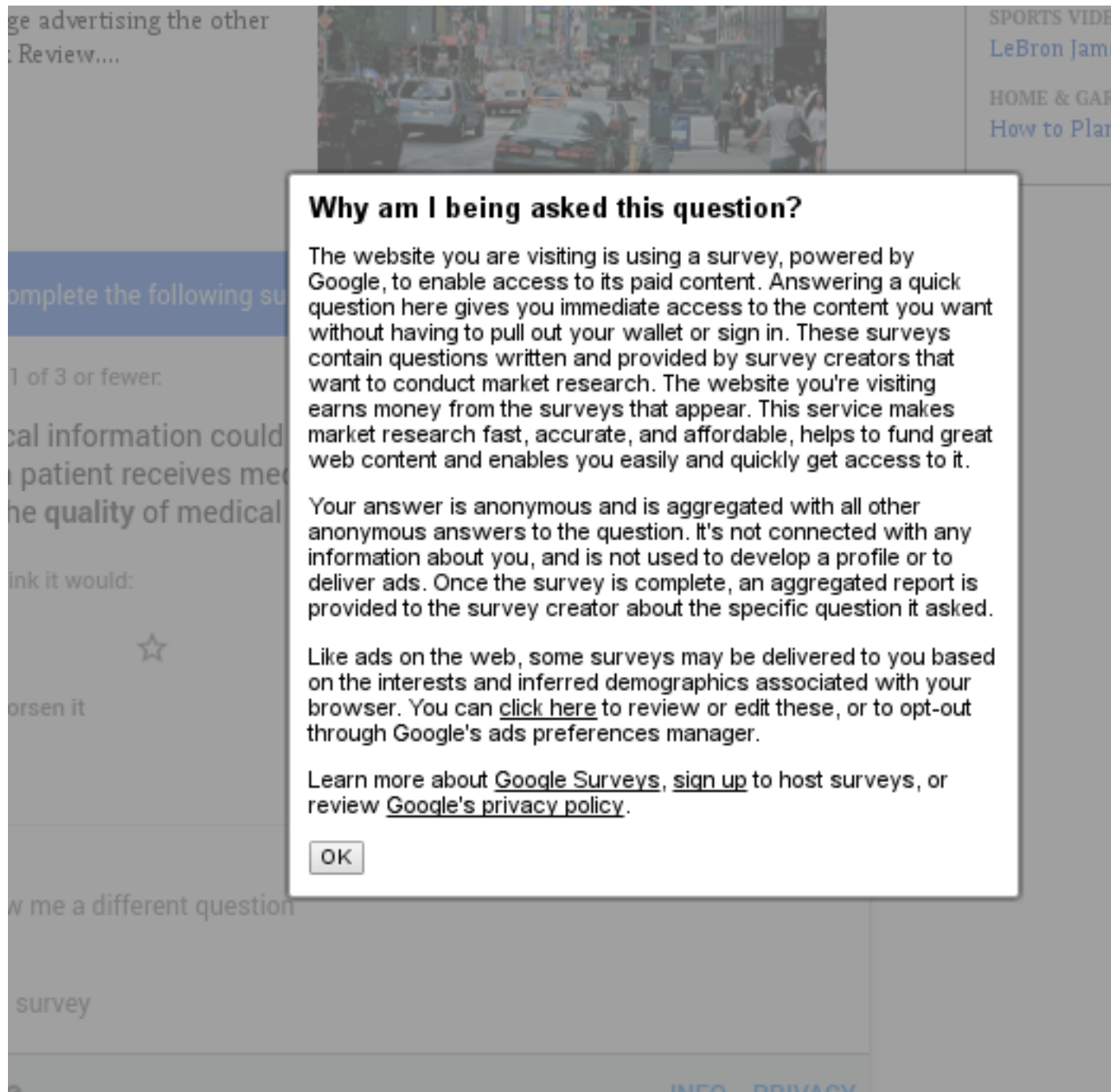


Figure 7: Info screen

Table 1: Data provided by GCS

User ID	Ten-digit number
Time (UTC)	Time the survey was completed
Publisher Category	Type of website the survey appeared on. Can be 'Mobile App', 'News', 'Arts & Entertainment', 'Other'
Gender	Inferred gender: 'Male', 'Female', and 'Unknown'
Age	Inferred age, in 10-year bands, including 'Unknown'
Geography	Inferred geography, typically state, but may be 'US', and may identify large metropolitan areas
Urban Density	Inferred: Urban, Suburban, Rural
Income	Inferred income: Bands of \$25,000 or 'Unknown'
Weight	Computed weight relative to CPS

(but not the researcher) and Google's Privacy policy are prominently displayed. This setup cannot be changed. Figure 8 shows an example. The same generic setup repeats for each question. After answering the last question, or skipping the survey, the desired article appears. Thus, at all times, all respondents have a way to skip a shown question and still access the premium content.

Santoso et al. (2016) note that non-conforming content can be embedded into the questionnaire using images, however, this cannot be used for all question types.

6 Security and IT

Every page of a GCS shows a link to 'PRIVACY', which directs to <http://www.google.com/intl/en/policies/privacy/>. A copy of the privacy policy as of April 14, 2017 is provided in the appendix.

Bibliography

Google, Inc. (2016). Google Surveys product overview: A new approach to online market research, http://services.google.com/fh/files/helpcenter/googlesurveys_newonlinemktrsrch_overview_final.pdf. Accessed: 2017-4-14.

The Daily Globe

Top Stories

World

US

Business

Entertainment

Sports


search

Fair Use Digital Circulation Strategy Information Overload

The Work of Art in the Age of Mechanical Reproduction

Matthew Dodd from the January 16, 2013 issue

Jurgen Habermas R&D Android cops beat The Weekender mathewi Tim Carmody attracting young readers tweets, collaboration tags the medium is the message blog plagiarism horse-race coverage advertising the other longer Book Review....



Privacy put the paper to bed Fuego news.me photo source: proimon, m...

Popular on The Daily Globe

MOST EMAILED

MOST VIEWED

OPINION

A Line in the Sand Against Rate Hikes

ENTERTAINMENT

A-List Guide to Oscar Parties

THE BUZZ

Memorable Quotes from 2012

SPORTS VIDEO

LeBron James Youngest to Score 20000

HOME & GARDEN

How to Plant a Winter Garden

Please complete the following survey to access this premium content.

Question 1 of 3 or fewer:

If medical information could be shared electronically between places where a patient receives medical care, how do you think that would affect the quality of medical care?

Do you think it would:

☆

☆

☆

☆

☆

Greatly worsen it

Greatly improve it

OR

Show me a different question

Skip survey

Google

INFO

PRIVACY

Indication of rest of article which will appear after completing the survey, or choosing to skip the survey

First part of text reader wants to access

Invitation to participate in the survey

Body of first question

Offer to choose a different survey

Offer to skip the survey entirely

Link to information about Google Consumer Surveys

Link to Google Privacy Policy

12

Figure 8: Anatomy of a page

Google, Inc. (2017). Google Surveys policies, https://support.google.com/360suite/surveys/answer/2375134?hl=en&ref_topic=6194669. Accessed: 2017-4-14.

Santoso, L. P., Stein, R. and Stevenson, R. (2016). Survey experiments with Google Consumer Surveys: Promise and pitfalls for academic research in social science, *Political Analysis* **24**(3): 356.

URL: + <http://dx.doi.org/10.1093/pan/mpw016>

Stephens-Davidowitz, S. and Varian, H. (2015). A hands-on guide to Google data, *Technical report*, University of California-Berkeley, Information School.

URL: <http://people.ischool.berkeley.edu/hal/Papers/2015/primer.pdf>

APPENDIX

A.1 Questionnaire for users of the Google Opinion Rewards mobile app

Users of the app choose to participate (Figure 9). They then get the same questions, but are not offered an explicit option to exit (Figures 10-12). They can, of course, leave the app at any time. At the end of the survey, the amount of credit earned is shown (Figure 13). It is unknown if any credit is earned if users break off the survey. The amount is not determined by the researcher, and cannot be modified.

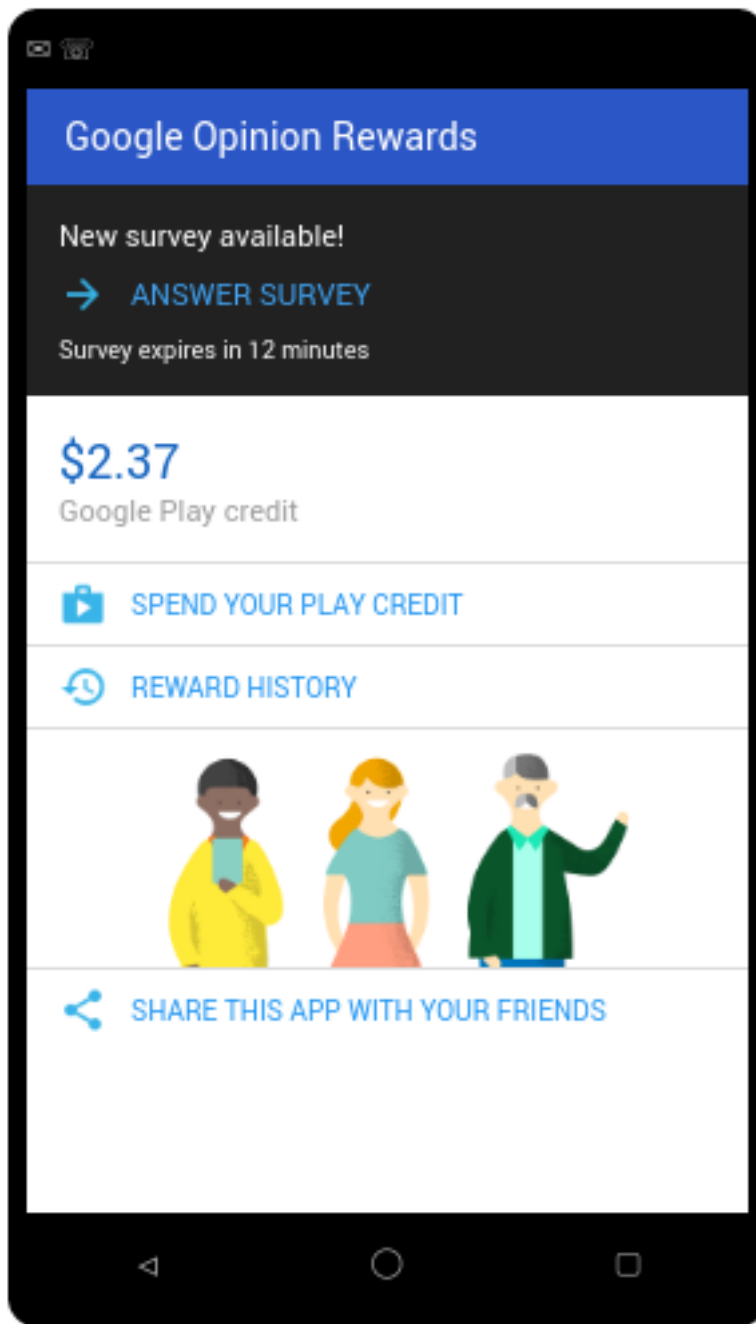


Figure 9: Invitation to participate for app users

The image is a screenshot of a smartphone screen displaying the Google Opinion Rewards app. At the top, there is a blue header bar with the text "Google Opinion Rewards" in white. Below the header, the text "Question 1 of 3 or fewer:" is displayed. The main question is: "If medical information could be shared electronically between places where a patient receives medical care, how do you think that would affect the **quality** of medical care?". Below the question, it says "Do you think it would:". There are five star icons arranged horizontally. Below the first star is the text "Greatly worsen it", and below the last star is the text "Greatly improve it". At the bottom of the screen, there is a grey button with the text "NEXT". The phone's navigation bar at the very bottom shows three icons: a back arrow, a circle, and a square.

Google Opinion Rewards

Question 1 of 3 or fewer:

If medical information could be shared electronically between places where a patient receives medical care, how do you think that would affect the **quality** of medical care?

Do you think it would:

☆ ☆ ☆ ☆ ☆

Greatly worsen it Greatly improve it

NEXT

Figure 10: Question 1: Quality of Medical Care (app)

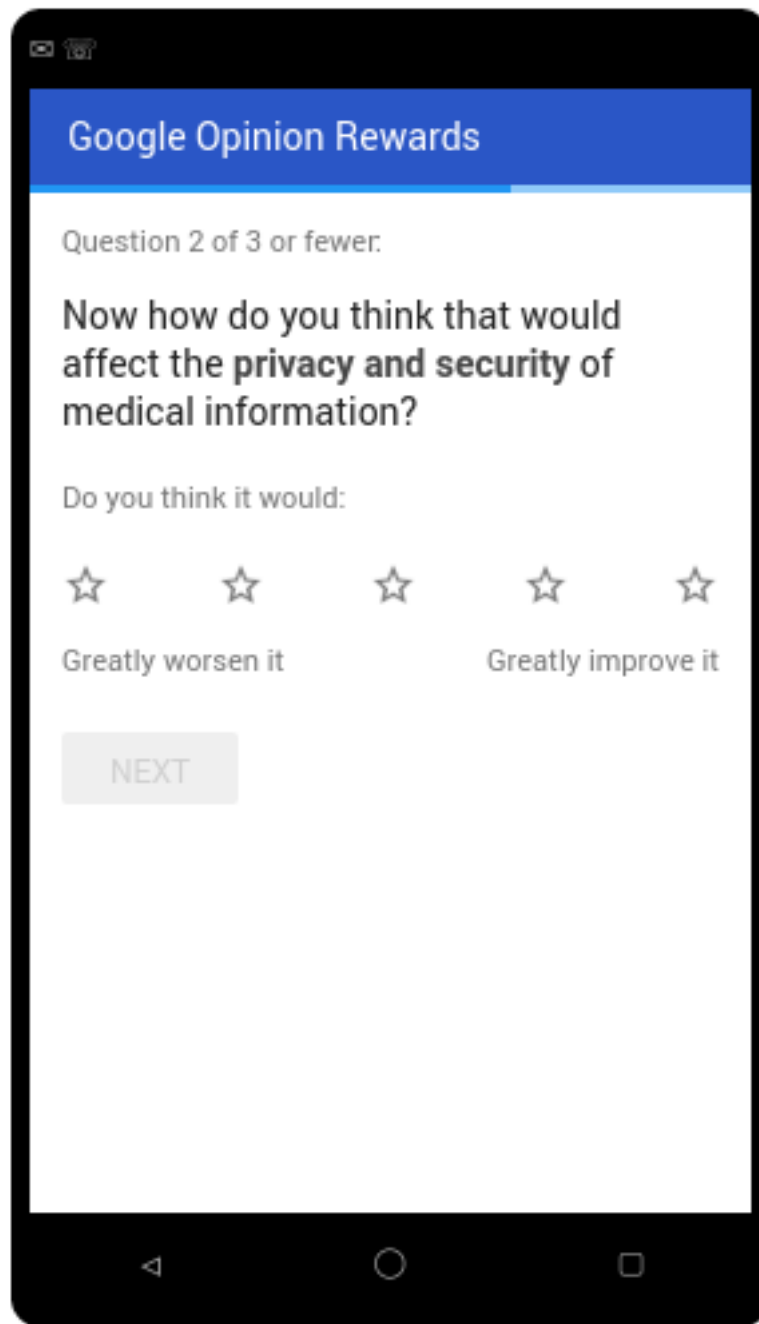


Figure 11: Question 2: Privacy (app)

The image is a screenshot of a mobile application interface. At the top, there is a blue header bar with the text "Google Opinion Rewards" in white. Below the header, the text "Question 3 of 3:" is displayed. The main question is "In general, how would you rate your overall health?". Below the question, the text "Is it" is followed by five star icons arranged horizontally. Below the stars, the word "Poor" is on the left and "Excellent" is on the right. At the bottom left, there is a grey button with the text "NEXT". The entire interface is framed by a black border, and at the very bottom, there are three white navigation icons: a triangle, a circle, and a square.

Google Opinion Rewards

Question 3 of 3:

In general, how would you rate your overall health?

Is it

★ ★ ★ ★ ★

Poor Excellent

NEXT

Figure 12: Question 3: Health overall (app)



Figure 13: Exit screen for app users

A.2 Google Privacy Policy

The following copy of Google's Privacy Policy was downloaded on 2017-04-14.



Privacy Policy

Last modified: March 1, 2017 ([view archived versions](#)) (The hyperlinked examples are available at the end of this document.)

There are many different ways you can use our services – to search for and share information, to communicate with other people or to create new content. When you share information with us, for example by creating a [Google Account](#), we can make those services even better – to show you **more relevant search results** and ads, to help you **connect with people** or to make **sharing with others quicker and easier**. As you use our services, we want you to be clear how we're using information and the ways in which you can protect your privacy.

Our Privacy Policy explains:

- What information we collect and why we collect it.
- How we use that information.
- The choices we offer, including how to access and update information.

We've tried to keep it as simple as possible, but if you're not familiar with terms like cookies, IP addresses, pixel tags and browsers, then read about these [key terms](#) first. Your privacy matters to Google so whether you are new to Google or a long-time user, please do take the time to get to know our practices – and if you have any questions [contact us](#).

Information we collect

We collect information to provide better services to all of our users – from figuring out basic stuff like which language you speak, to more complex things like which **ads you'll find most useful, the people who matter most to you online**, or which YouTube videos you might like.

We collect information in the following ways:

- **Information you give us.** For example, many of our services require you to sign up for a Google Account. When you do, we'll ask for [personal information](#), like your name, email address, telephone number or **credit card** to store with your account. If you want to take full advantage of the sharing features we offer, we might also ask you to create a publicly visible [Google Profile](#), which may include your name and photo.
- **Information we get from your use of our services.** We **collect information** about the services that you use and how you use them, like when you watch a video on YouTube, visit a website that uses our advertising services, or **view and interact with our ads** and content. This information includes:

- **[Device information](#)**

We collect **device-specific information** (such as your hardware model, operating system version, [unique device identifiers](#), and mobile network information including phone number). Google may associate your **device identifiers** or **phone number** with your Google Account.

- **[Log information](#)**

When you use our services or view content provided by Google, we automatically collect and store certain information in [server logs](#). This includes:

- details of how you used our service, such as your search queries.
- telephony log information like your phone number, calling-party number, forwarding numbers, time and date of calls, duration of calls, SMS routing information and types of calls.
- [Internet protocol address](#).

- device event information such as crashes, system activity, hardware settings, browser type, browser language, the date and time of your request and referral URL.
- cookies that may uniquely identify your browser or your Google Account.

◦ Location information

When you use Google services, we **may collect and process information about your actual location**. We use various technologies to determine location, including IP address, GPS, **and other sensors** that may, for example, provide Google with information on nearby devices, **Wi-Fi access points and cell towers**.

◦ Unique application numbers

Certain services include a unique application number. This number and information about your installation (for example, the operating system type and application version number) may be sent to Google when you install or uninstall that service or when that service periodically contacts our servers, such as for automatic updates.

◦ Local storage

We may collect and store information (including personal information) locally on your device using mechanisms such as browser web storage (including HTML 5) and application data caches.

◦ Cookies and similar technologies

We **and our partners** use various technologies to collect and store information when you visit a Google service, and this may include using cookies or similar technologies to identify your browser or device. We also use these technologies to collect and store information when you interact with services we offer to our partners, such as **advertising services** or Google features that may appear on other sites. Our Google Analytics product helps businesses and site owners analyze the traffic to their websites and apps. When used in conjunction with our advertising services, such as those using the DoubleClick cookie, Google Analytics information is **linked, by the Google Analytics customer or by Google, using Google technology, with information about visits to multiple sites**.

Information we collect when you are signed in to Google, in addition to information we obtain about you from partners, may be associated with your Google Account. When information is associated with your Google Account, we treat it as personal information. For more information about how you can access, manage or delete information that is associated with your Google Account, visit the Transparency and choice section of this policy.

How we use information we collect

We use the information we collect from all of our services to **provide, maintain, protect** and improve them, to **develop new ones**, and to **protect Google and our users**. We also use this information to offer you tailored content – like giving you more relevant search results and ads.

We may use the name you provide for your Google Profile across all of the services we offer that require a Google Account. In addition, we may replace past names associated with your Google Account so that you are represented consistently across all our services. If other users already have your email, or other information that identifies you, we may show them your publicly visible Google Profile information, such as your name and photo.

If you have a Google Account, we may display your Profile name, Profile photo, and actions you take on Google or on third-party applications connected to your Google Account (such as +1's, reviews you write and comments you post) in our services, including displaying in ads and other commercial contexts. We will respect the choices you make to **limit sharing or visibility settings** in your Google Account.

When you contact Google, we keep a record of your communication to help solve any issues you might be facing. We may use your email address to inform you about our services, such as letting you know about upcoming changes or improvements.

We use information collected from cookies and other technologies, like pixel tags, to **improve your user experience** and the overall quality of our services. One of the products we use to do this on our own services is Google Analytics. For example, by saving your language preferences, we'll be able to have our services appear in the language you prefer. When showing you tailored ads, we will

not associate an identifier from cookies or similar technologies with sensitive categories, such as those based on race, religion, sexual orientation or health.

Our automated systems analyze your content (including emails) to provide you personally relevant product features, such as customized search results, tailored advertising, and spam and malware detection.

We may **combine personal information from one service with information, including personal information, from other Google services** – for example **to make it easier to share things with people you know**. Depending on your account settings, your activity on other sites and apps may be associated with your personal information in order to improve Google's services and the ads delivered by Google.

We will ask for your consent before using information for a purpose other than those that are set out in this Privacy Policy.

Google processes personal information on our servers in many countries around the world. We may process your personal information on a server located outside the country where you live.

Transparency and choice

People have different privacy concerns. Our goal is to be clear about what information we collect, so that you can make meaningful choices about how it is used. For example, you can:

- Review and update your Google activity controls to decide what types of data, such as videos you've watched on YouTube or past searches, you would like saved with your account when you use Google services. You can also visit these controls to manage whether certain activity is stored in a cookie or similar technology on your device when you use our services while signed-out of your account.
- Review and control certain types of information tied to your Google Account by using Google Dashboard.
- View and edit your preferences about the Google ads shown to you on Google and across the web, such as which categories might interest you, using Ads Settings. You can also visit that page to opt out of certain Google advertising services.
- Adjust how the Profile associated with your Google Account appears to others.
- Control who you share information with through your Google Account.
- Take information associated with your Google Account out of many of our services.
- Choose whether your Profile name and Profile photo appear in shared endorsements that appear in ads.

You may also set your browser to block all cookies, including cookies associated with our services, or to indicate when a cookie is being set by us. However, it's important to remember that many of our services **may not function properly** if your cookies are disabled. For example, we may not remember your language preferences.

Information you share

Many of our services let you share information with others. Remember that when you share information publicly, it may be indexable by search engines, including Google. Our services provide you with different options on **sharing** and **removing your content**.

Accessing and updating your personal information

Whenever you use our services, we aim to provide you with **access to your personal information**. If that information is wrong, we strive to give you ways to update it quickly or to delete it – unless we have to keep that information for legitimate business or legal purposes. When updating your personal information, we may ask you to verify your identity before we can act on your request.

We may reject requests that are unreasonably repetitive, require disproportionate technical effort (for example, developing a new system or fundamentally changing an existing practice), risk the privacy of others, or would be extremely impractical (for instance, requests concerning information residing on backup systems).

Where we can provide information access and correction, we will do so for free, except where it would require a disproportionate effort. We aim to maintain our services in a manner that protects information from accidental or malicious destruction. Because of this, after you delete information from our services, we may not immediately delete residual copies from our active servers and may not remove information from our backup systems.

Information we share

We do not share personal information with companies, organizations and individuals outside of Google unless one of the following circumstances applies:

- **With your consent**

We will share personal information with companies, organizations or individuals outside of Google when we have your consent to do so. We require opt-in consent for the sharing of any sensitive personal information.

- **With domain administrators**

If your Google Account is managed for you by a domain administrator (for example, for G Suite users) then your domain administrator and resellers who provide user support to your organization will have access to your Google Account information (including your email and other data). Your domain administrator may be able to:

- view statistics regarding your account, like statistics regarding applications you install.
- change your account password.
- suspend or terminate your account access.
- access or retain information stored as part of your account.
- receive your account information in order to satisfy applicable law, regulation, **legal process or enforceable governmental request**.
- restrict your ability to delete or edit information or privacy settings.

Please refer to your domain administrator's privacy policy for more information.

- **For external processing**

We provide personal information to our affiliates or other trusted businesses or persons to process it for us, based on our instructions and in compliance with our Privacy Policy and any other appropriate confidentiality and security measures.

- **For legal reasons**

We will share personal information with companies, organizations or individuals outside of Google if we have a good-faith belief that access, use, preservation or disclosure of the information is reasonably necessary to:

- meet any applicable law, regulation, **legal process or enforceable governmental request**.
- enforce applicable Terms of Service, including investigation of potential violations.
- detect, prevent, or otherwise address fraud, security or technical issues.
- protect against harm to the rights, property or safety of Google, our users or the public as required or permitted by law.

We may share non-personally identifiable information publicly and with our partners – like publishers, advertisers or connected sites. For example, we may share information publicly **to show trends** about the general use of our services.

If Google is involved in a merger, acquisition or asset sale, we will continue to ensure the confidentiality of any personal information and give affected users notice before personal information is transferred or becomes subject to a different privacy policy.

Information security

We work hard to protect Google and our users from unauthorized access to or unauthorized alteration, disclosure or destruction of information we hold. In particular:

- We encrypt many of our services using SSL.
- We offer you two step verification when you access your Google Account, and a Safe Browsing feature in Google Chrome.
- We review our information collection, storage and processing practices, including physical security measures, to guard against unauthorized access to systems.
- We restrict access to personal information to Google employees, contractors and agents who need to know that information in order to process it for us, and who are subject to strict contractual confidentiality obligations and may be disciplined or terminated if they fail to meet these obligations.

When this Privacy Policy applies

Our Privacy Policy applies to all of the services offered by Google Inc. and its affiliates, including YouTube, services Google provides on Android devices, and services offered on other sites (such as our advertising services), but excludes services that have separate privacy policies that do not incorporate this Privacy Policy.

Our Privacy Policy does not apply to services offered by other companies or individuals, including products or sites that may be displayed to you in search results, sites that may include Google services, or other sites linked from our services. Our Privacy Policy does not cover the information practices of other companies and organizations who advertise our services, and who may use cookies, pixel tags and other technologies to serve and offer relevant ads.

Compliance and cooperation with regulatory authorities

We regularly review our compliance with our Privacy Policy. We also adhere to several [self regulatory frameworks](#), including the EU-US Privacy Shield Framework. When we receive formal written complaints, we will contact the person who made the complaint to follow up. We work with the appropriate regulatory authorities, including local data protection authorities, to resolve any complaints regarding the transfer of personal data that we cannot resolve with our users directly.

Changes

Our Privacy Policy may change from time to time. We will not reduce your rights under this Privacy Policy without your explicit consent. We will post any privacy policy changes on this page and, if the changes are significant, we will provide a more prominent notice (including, for certain services, email notification of privacy policy changes). We will also keep prior versions of this Privacy Policy in an archive for your review.

Specific product practices

The following notices explain specific privacy practices with respect to certain Google products and services that you may use:

- [Chrome and Chrome OS](#)
- [Play Books](#)
- [Payments](#)
- [Fiber](#)
- [Project Fi](#)
- [G Suite for Education](#)

For more information about some of our most popular services, you can visit the [Google Product Privacy Guide](#).

Other useful privacy and security related materials

Further useful privacy and security related materials can be found through Google's [policies and principles pages](#), including:

- Information about our [technologies and principles](#), which includes, among other things, more information on
 - [how Google uses cookies](#).
 - technologies we use for [advertising](#).
 - how we [recognize patterns like faces](#).
- A [page](#) that explains what data is shared with Google when you visit websites that use our advertising, analytics and social products.
- The [Privacy Checkup](#) tool, which makes it easy to review your key privacy settings.
- Google's [safety center](#), which provides information on how to stay safe and secure online.

"access to your personal information"

For example, with Google Dashboard you can quickly and easily see some of the data associated with your Google Account. [Learn more.](#)

"ads you'll find most useful"

For example, if you frequently visit websites and blogs about gardening, you may see ads related to gardening as you browse the web.

[Learn more.](#)

"advertising services"

For example, if you frequently visit websites and blogs about gardening that show our ads, you may start to see ads related to this interest as you browse the web.

[Learn more.](#)

"and other sensors"

Your device may have sensors that provide information to assist in a better understanding of your location. For example, an accelerometer can be used to determine things like speed, or a gyroscope to figure out direction of travel.

[Learn more.](#)

"collect information"

This includes information like your usage data and preferences, Gmail messages, G+ profile, photos, videos, browsing history, map searches, docs, or other Google-hosted content.

[Learn more.](#)

"combine personal information from one service with information, including personal information, from other Google services"

For example, when you're signed in to your Google Account and search on Google, you can see search results from the public web, along with pages, photos, and Google+ posts from your friends and people who know you or follow you on Google+ may see your posts and profile in their results.

[Learn more.](#)

"connect with people"

For example, you could get suggestions of people you might know or want to connect with on Google+, based on the connections you have with people on other Google products, like Gmail; and people who have a connection with you may see your profile as a suggestion.

[Learn more.](#)

"credit card"

Whilst we currently don't ask for a credit card during sign up, verifying your age through a small credit card transaction is one way to confirm that you meet our age requirements in case your account was disabled after you have entered a birthday indicating you are not old enough to have a Google Account.

[Learn more.](#)

"develop new ones"

For example, Google's spell checking software was developed by analyzing previous searches where users had corrected their own spelling.

[Learn more.](#)

"device identifiers"

Device identifiers let Google know which unique device you are using to access our services, which can be used to customise our service to your device or analyse any device issues related to our services.

[Learn more.](#)

"device-specific information"

For example, when you visit Google Play from your desktop, Google can use this information to help you decide on which devices you'd like your purchases to be available for use.

[Learn more.](#)

"improve your user experience"

For example, cookies allow us to analyse how users interact with our services.

[Learn more.](#)

"legal process or enforceable governmental request"

Like other technology and communications companies, Google regularly receives requests from governments and courts around the world to hand over user data. Our legal team reviews each and every request, regardless of type, and we frequently push back when the requests appear to be overly broad or don't follow the correct process.

[Learn more.](#)

"limit sharing or visibility settings"

For example, you can choose your settings so your name and photo do not appear in an ad.

[Learn more.](#)

"linked with information about visits to multiple sites"

Google Analytics is based on first-party cookies. Data generated through Google Analytics can be linked, by the Google Analytics customer or by Google, using Google technology, to third-party cookies, related to visits to other websites, for instance when an advertiser wants to use its Google Analytics data to create more relevant ads, or to further analyze its traffic.

[Learn more.](#)

"maintain"

For example, we continuously monitor our systems to check that they are working as intended and in order to detect and fix errors.

[Learn more.](#)

"may collect and process information about your actual location"

For example, Google Maps can center the maps view on your current location.

[Learn more.](#)

"may not function properly"

For example, we use a cookie called 'lbcx' which makes it possible for you to open many Google Docs in one browser.

[Learn more.](#)

"and our partners"

We allow trusted businesses to use cookies or similar technologies for advertising and research purposes on our services.

[Learn more.](#)

"phone number"

For example, if you add a phone number as a recovery option, if you forget your password Google can send you a text message with a code to enable you to reset it.

[Learn more.](#)

"protect Google and our users"

For example, if you're concerned about unauthorized access to your email, "Last account activity" in Gmail shows you information about recent activity in your email, such as the IP addresses that accessed your mail, the associated location, as well as the time and date.

[Learn more.](#)

"protect"

For example, one reason we collect and analyze IP addresses and cookies is to protect our services against automated abuse.

[Learn more.](#)

"provide"

For example, the IP address assigned to your device is used to send the data you requested back to your device.

[Learn more.](#)

"sharing"

For example, with Google+, you have many different sharing options.

[Learn more.](#)

"sharing with others quicker and easier"

For example, if someone is already a contact, Google will autocomplete their name if you want to add them to a message in Gmail.

[Learn more.](#)

"the people who matter most to you online"

For example, when you type an address in the To, Cc, or Bcc field of a message you're composing, Gmail will suggest addresses from your Contacts list.

[Learn more.](#)

"to make it easier to share things with people you know"

For example, if you have communicated with someone via Gmail and want to add them to a Google Doc or an event in Google Calendar, Google makes it easy to do so by autocompleting their email address when you start to type in their name.

[Learn more.](#)

"view and interact with our ads"

For example, we regularly report to advertisers on whether we served their ad to a page and whether that ad was likely to be seen by users (as opposed to, for example, being on part of the page to which users did not scroll).

[Learn more.](#)

"We may share aggregated, non-personally identifiable information publicly"

When lots of people start searching for something, it can provide very useful information about particular trends at that time.

[Learn more.](#)

"Wi-Fi access points and cell towers"

For example, Google can approximate your device's location based on the known location of nearby cell towers.

[Learn more.](#)

"more relevant search results"

For example, we can make search more relevant and interesting for you by including photos, posts, and more from you and your friends.

[Learn more.](#)

"removing your content"

For example, you can delete your [Web & App Activity](#), [your blog](#), [a Google Site you own](#), [your YouTube Channel](#), [your Google+ profile](#) or [your entire Google account](#).

[Learn more.](#)

"to show trends"

You can see some of these at [Google Trends](#) and [YouTube Trending Videos](#).

[Learn more.](#)

"your activity on other sites and apps"

This activity might come from your use of Google products like Chrome Sync or from your visits to sites and apps that partner with Google. Many websites and apps partner with Google to improve their content and services. For example, a website might use our advertising services (like AdSense) or analytics tools (like Google Analytics). These products share information about your activity with Google and, depending on [your account settings](#) and the products in use (for instance, when a partner uses Google Analytics in conjunction with our advertising services), this data may be associated with your personal information.

[Learn more.](#)