

11.5 Garfield County Public Health Environmental Health Delphi

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11.5.1 Delphi Description

- Anticipated Tasks, to be completed by December 2009 – The Delphi Method (5 pages)

Anticipated Tasks, to be completed by December 2009, creating an effective plan for community involvement on environmental health risk identification and prioritization, and meeting facilitation and moderation.

*A **Delphi exercise is a wide-ranging consensus-building exercise**, to be conducted with a panel of 50-75 Garfield County community representatives, key stakeholders about what constitute the areas of concern about the environmental health of the County.

Delphi is a robust research methodology with a substantial literature to support it. The Delphi approach involves identifying experts – in this case, experts on what matters in Garfield County, using both data already in the hands of GCPH environmental health staff members, an initial outline of categories in which representative stakeholders should be identified, and in-person interviews with key informants, such as elected officials and various Garfield County associations and organizations – and obtaining their views anonymously. This provides qualitative and quantitative information on their views.

The initial contact with respondents will be in personal interviews, including the early key informant interviews, securing participation in the Delphi exercise and eliciting opinions on environmental health issues in their own words, as individuals choose to express themselves, without responding to or being guided by specific written items.

Once participation is secured, the Delphi will involve three rounds of contact with the these respondents, by email or USPS, with response either online or on paper. This means that consensus can develop in a more inclusive manner, with continuous active involvement of respondents, but without convening them in a single time and place to secure participation and without the issues arising from in-person meetings covering highly controversial matters.

In Round One, respondents will be sent a list of questions designed to gain their views about the key issues and concerns. Using a rating scale, respondents will be asked to rank their level of agreement with, interest in, or estimate of the significance with the issues.

The responses are analyzed and summarized by the facilitator in consultation with GCPH staff members. The Round One results are fed back anonymously to the respondent group for further comment in Round Two, together with comparative data from environmental health experts and recent environmental health studies concerning counties near Garfield County and counties comparable in significant respects to Garfield County. Round Three will proceed in a similar manner.

Our past experience with using the Delphi technique has shown that by the end of Round Three, opinions begin to coalesce, reaching substantial consensus. The Delphi approach is also newsworthy. The results of a round, especially Round Three, are noteworthy and can form the basis for assembled meetings, in which the results of the Delphi exercise can be presented and further comment sought.

The approach and the data developed through using it can be integrated into news releases, newsletters, websites, blogs, and other channels for reaching both the general public and communities of interest. By conveying details of the consensus over a period of several months, GCPH will be able to foster a continuing level of interest among respondents and other interested Garfield County citizens. This helps to insure the representative stakeholder group and the general public will be well-prepared, interested, and willing to continue working with GCPH, assuming that a CARE Level Two project is in the offing.

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Following is a more technical description of the Delphi approach, excerpted from a description at the Illinois Institute of Technology website - www.iit.edu. This website consistently uses the word "judgement"; it has not been changed here.

THE DELPHI METHOD

Definition and Historical Background

The objective of most Delphi applications is the reliable and creative exploration of ideas or the production of suitable information for decision making. The Delphi Method is based on a structured process for collecting and distilling knowledge from a group of experts by means of a series of questionnaires interspersed with controlled opinion feedback (Adler and Ziglio, 1996). According to Helmer (1977) Delphi represents a useful communication device among a group of experts and thus facilitates the formation of a group judgement. Wissema (1982) underlines the importance of the Delphi Method as a monovariate exploration technique for technology forecasting. He further states that the Delphi method has been developed in order to make discussion between experts possible without permitting a certain social interactive behavior as happens during a normal group discussion and hampers opinion forming. Baldwin (1975) asserts that lacking full scientific knowledge, decision-makers have to rely on their own intuition or on expert opinion. The Delphi method has been widely used to generate forecasts in technology, education, and other fields (Cornish, 1977).

The technology forecasting studies which eventually led to the development of the Delphi method started in 1944. At that time General Arnold asked Theodor von Karman to prepare a forecast of future technological capabilities that might be of interest to the military (Cornish, 1977). Arnold got the Douglas Aircraft company to establish in 1946 a Project RAND (an acronym for Research and Development) to study the "broad subject of inter-continental warfare other than surface." In 1959 Helmer and fellow RAND researcher Rescher published a paper on "The Epistemology of the Inexact Sciences," which provide a philosophical base for forecasting (Fowles, 1978). The paper argued that in fields that have not yet developed to the point of having scientific laws, the testimony of experts is permissible. The problem is how to use this testimony and, specifically, how to combine the testimony of a number of experts into a single useful statement. The Delphi method recognizes human judgement as legitimate and useful inputs in generating forecasts. Single experts sometimes suffer biases; group meetings suffer from "follow the leader" tendencies and reluctance to abandon previously stated opinions (Gatewood and Gatewood, 1983, Fowles, 1978). In order to overcome these shortcomings the basic notion of the Delphi method, theoretical assumptions and methodological procedures developed in the 1950s and 1960s at the RAND Corporation. Forecasts about various aspect of the future are often derived through the collation of expert judgement. Dalkey and Helmer developed the method for the collection of judgement for such studies (Gordon and Hayward, 1968).

Fowles (1978) asserts that the word Delphi refers to the hallowed site of the most revered oracle in ancient Greece. . . . Dalkey (1968) acknowledged that it was rather unfortunate that the set of procedures developed at the RAND Corporation, and designed to improve methods of forecasting, came to be known as "Delphi". He argued that the term implies "something oracular, something

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smacking a little of the occult", whereas, as a matter of fact, precisely the opposite is involved; it is primarily concerned with making the best you can of a less than perfect kind of information.

One of the very first applications of the Delphi method carried out at the RAND Corporation is illustrated in the publication by Gordon and Helmer (1964). Its aim was to assess the direction of long-range trends, with special emphasis on science and technology, and their probable effects on society. . . .

Delphi has found its way into industry, government, and finally, academe. It has simultaneously expanded beyond technological forecasting (Fowles, 1978). Since the 1950s several research studies have used the Delphi method, particularly in public health issues (such as, policies for drug use reduction and prevention of AIDS/HIV) and education areas (Adler and Ziglio, 1996; Cornish, 1977).

The Basics of the Delphi Method

The Delphi method is an exercise in group communication among a panel of geographically dispersed experts (Adler and Ziglio, 1996). The technique allows experts to deal systematically with a complex problem or task. The essence of the technique is fairly straightforward. It comprises a series of questionnaires sent either by mail or via computerized systems, to a pre-selected group of experts. These questionnaires are designed to elicit and develop individual responses to the problems posed and to enable the experts to refine their views as the group's work progresses in accordance with the assigned task. The main point behind the Delphi method is to overcome the disadvantages of conventional committee action. According to Fowles (1978) anonymity, controlled feedback, and statistical response characterize Delphi. The group interaction in Delphi is anonymous, in the sense that comments, forecasts, and the like are not identified as to their originator but are presented to the group in such a way as to suppress any {individual's} identification.

In the original Delphi process, the key elements were (1) structuring of information flow, (2) feedback to the participants, and (3) anonymity for the participants. . . . The usual problems of group dynamics are thus completely bypassed. Fowles (1978) describes the following ten steps for the Delphi method:

- Formation of a team to undertake and monitor a Delphi on a given subject.
- Selection of one or more panels to participate in the exercise. Customarily, the panelists are experts in the area to be investigated.
- Development of the first round Delphi questionnaire
- Testing the questionnaire for proper wording (e.g., ambiguities, vagueness)
- Transmission of the first questionnaires to the panelists
- Analysis of the first round responses
- Preparation of the second round questionnaires (and possible testing)
- Transmission of the second round questionnaires to the panelists

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Analysis of the second round responses (Steps . . . are reiterated as long as desired or necessary to achieve stability in the results.)
Preparation of a report by the analysis team to present the conclusions of the exercise

Delbecq et al., (1975) argue that the most important issue in this process is the understanding of the aim of the Delphi exercise by all participants. Otherwise the panelists may answer inappropriately or become frustrated and lose interest. The respondents to the questionnaire should be well informed in the appropriate area (Hanson and Ramani, 1988) but the literature (Armstrong, 1978; Welty, 1972) suggest that a high degree of expertise is not necessary. The minimum number of participants to ensure a good group performance is somewhat dependent on the study design. Experiments by Brockhoff (1975) suggest that under ideal circumstances, groups as small as four can perform well.

Before deciding whether or not the Delphi method should be used, it is very important to consider thoroughly the context within which the method is to be applied (Delbecq et al. 1975). A number of questions need to be asked before making the decision of selecting or ruling out the Delphi technique (Adler and Ziglio, 1996):

What kind of group communication process is desirable in order to explore the problem at hand?

Who are the people with expertise on the problem and where are they located?

What are the alternative techniques available and what results can reasonably be expected from their application?

. . . . The outcome of a Delphi sequence is nothing but opinion. The results of the sequence are only as valid as the opinions of the experts who made up the panel (Martino, 1978). The panel viewpoint is summarized statistically rather than in terms of a majority vote. The Delphi method has got criticism as well as support. The most extensive critique of the Delphi method was made by Sackman (1974) who criticizes the method as being unscientific and Armstrong (1978) who has written critically of its accuracy. Martino (1978) underlines the fact that Delphi is a method of last resort in dealing with extremely complex problems for which there are no adequate models. Helmer (1977) states that sometimes reliance on intuitive judgement is not just a temporary expedient but in fact a mandatory requirement. . . .

Goldschmidt (1975) agrees that there have been many poorly conducted Delphi projects. However, he warns that it is a fundamental mistake to equate the applications of the Delphi method with the Delphi method itself, as too many critics do. There is, in fact, an important conceptual distinction between evaluating a technique and evaluating an application of a technique.

On the other hand there have been several studies (Ament, 1970; Wissema, 1982; Helmer, 1983) supporting the Delphi method. A study conducted by Milkovich et al. (1972) reports the use of the Delphi method in manpower forecasting. The results of the comparison indicated high agreement between the Delphi estimate and the actual number hired and less agreement between quantitative forecasts and the number hired. Another study by Basu and Schroeder (1977) reports similar results in a general forecasting problem. They compared Delphi forecasts of five-year sales with both unstructured, subjective forecasts and quantitative

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forecasts that used regression analyses and exponential smoothing. The Delphi forecasting consisted of three rounds using 23 key organization members. When compared against actual sales for the first two years, errors of 3-4% were reported for Delphi, 10-15% for the quantitative methods, and of approximately 20% for the previously used unstructured, subjective forecasts.

In general, the Delphi method is useful in answering one, specific, single-dimension question. There is less support for its use to determine complex forecasts concerning multiple factors. . . . Therefore cross impact analysis has developed as an extension of Delphi techniques.

11.5.2 Garfield County Board of County Commissioners/ Board of Health Letter of Support

- Letter to the citizens of Garfield County
(1 page)



Garfield County Public Health

195 W. 14th Street
Rifle, CO 81650
970-625-5200

July 20, 2009

Dear Garfield County Citizen,

We are writing you today to ask for your assistance on a project that we believe will be of major importance to Garfield County residents today and for generations to come.

As elected County Commissioners, we also serve as the Garfield County Board of Health and are responsible for setting direction and priorities for Garfield County Public Health. Garfield County Public Health recently received a grant from the Environmental Protection Agency to define environmental health concerns related to rapid community and industrial growth in Garfield County.

Garfield County Public Health, along with other County departments, has recently conducted several technical studies related to a number of environmental health issues. The EPA grant allowed us, through a competitive procurement process, to engage an experienced consulting firm to help Garfield County residents identify environmental health issues that are of greatest concern. In addition, the Colorado School of Public Health, Center for Public Health Practice, has agreed to facilitate a process to validate these concerns and place them in priority order. We would be grateful for your assistance in meeting both of these objectives.

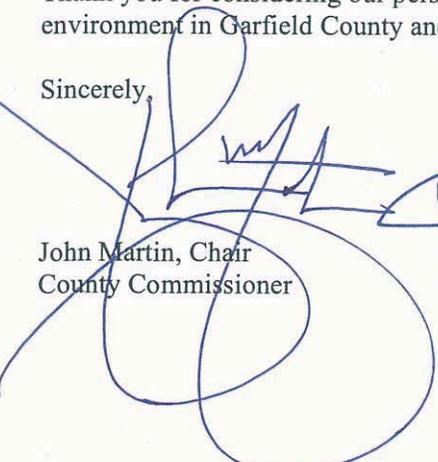
We would like you to be one of 50-75 residents to work with our consultants and the Center for Public Health Practice. We know your time is both limited and valuable. The process we ask you to join will minimize your time commitment while providing the tools you need.

Our specific request is that you participate in one of the community meetings that will take place over the course of the next two months. Then, later in the fall, you will be asked to respond to three requests to review summary materials and fill out a brief response form, which can be done online or on paper in your home or office. Each response will take approximately one-half hour to complete. There will be other opportunities to offer input, if you choose to do so.

Our "facilitation consultant" firm is Royce Arbor, Inc. The consultants on this project are Diana Royce Smith, founder of the firm, who has more than 25 years experience working with communities and organizations in Colorado and elsewhere, and Chuck Stout, who served as Public Health Director in Boulder County for 18 years, where he led community engagement processes focused on environmental and human health issues. An associate from Royce Arbor will contact you soon to ascertain your willingness to participate in this important work, to provide a schedule of meeting times, and to ascertain your preferred way of participating in the three review and response exercise.

Thank you for considering our personal request to offer your insights to this important effort to sustain the environment in Garfield County and the health of our citizens.

Sincerely,


John Martin, Chair
County Commissioner


Tresi Houpt
County Commissioner


Mike Samson
County Commissioner

11.5.3 Arrangements for Conducting the Delphi Exercise

- Email communication regarding arrangement for Delphi (10 pages)

From: "Oreilly, Lisa" <Lisa.Oreilly@ucdenver.edu>
Subject: **Feb 8 Delphi Updates**
Date: February 9, 2010 1:02:50 AM MST
To: Diana Royce Smith <diana@roycearbour.com>, "Byers, Tim" <Tim.Byers@ucdenver.edu>
Cc: "Chuck L. Stout" <CStout01@comcast.net>
1 Attachment, 107 KB

Thanks for the edits, Tim. I changed the instructions a bit more to reflect Diana's "do not use" words. You can see my changes in the attached document. Changes to the survey include:

- * A new survey title
- * No use of the word "survey" or "question" or "answer" (instead, they are asked to "provide information")
- * Surveys referred to as "rounds"

Tim's text changes to the questions have also been made. Diana, let me know what you decide about question #33 and Tim's note about segregating questions about agreement vs. importance.

I did not change the scale response items from "very important" first (on top) declining to "not at all important" on the bottom. (Tim and I are having a philosophical debate about this issue.) First, let me say that I have found examples in my textbook of "very important" on top and "not at all important" on the bottom. However, as an instructional designer, my strong sense is that it is counter-intuitive and would add confusion. My reasoning, as a designer, is that things in our culture are ordered from left-to-right, top-to-bottom, low-to-high. Combining top-to-bottom, HIGH-TO-LOW is a mix that would require me, as a user, to think more--not about the question--but about carefully clicking the answer I want. I would also wonder why there was a flip-flop: Am I being encouraged to rank items high, since the highest is on top? Also, if we will be reporting the averages in the 2nd and 3rd round as a numerical value (3.7 for example), it would make more sense to have the low number on top and high number on the bottom. (This assumes that people would put a low number value on "disagree" and a high value on "agree.") WHEW! Are we getting academic or what?!

You can review the survey at: <http://www.surveymonkey.com/s/ZKTV2JZ>

Thanks!

Lisa

From: Diana Royce Smith [diana@roycearbour.com]
Sent: Monday, February 08, 2010 5:13 PM
To: Oreilly, Lisa; Byers, Tim
Cc: Chuck L. Stout
Subject: Delphi name

Hi, Lisa -

I went to the url you gave me earlier, Lisa, and see that you've made changes - thanks! I know you'll put up the changes from today, too, and I'll look again tomorrow.

I would appreciate your renaming the effort - Garfield County Environmental Health Issues. That would be a good title.

Refer to the rounds - no other word, like "phase".

No use of the words "survey" or "question" or "answer" anywhere. If you need to, use "item" and "response" but with the new instructions from today, I don't think you'll need to.

People whom we contact are "respondents" and they are to "respond" - no other words, please.

Thanks much, Diana
Diana Royce Smith
President, Royce Arbour, Inc.
Hands-On Help for Management

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[cid:F3D2E900-679D-46F9-819C-47480C56D582@domain.actdslttmp]



Updated Sur..._ocx (107 KB)

From: "Oreilly, Lisa" <Lisa.Oreilly@ucdenver.edu>
Subject: **RE: Garfield survey**
Date: February 10, 2010 4:09:11 PM MST
To: Diana Royce Smith <diana@roycearbour.com>, "Byers, Tim" <Tim.Byers@ucdenver.edu>
▸ 1 Attachment, 16.5 KB

Hi Tim and Diana,

I played with SurveyMonkey a bit and have two display options on the first page. The example image is smaller now, but the charts will ultimately need to have larger text. Let me know your preference on placement: <http://www.surveymonkey.com/s/ZKTV2JZ>

Diana, wiping out the survey responses only requires me to click the "Clear" button before we send it out--very simple. Even if we didn't clear the data before the survey link was sent to the group, the spreadsheet shows the date that data was collected. Attached is an example of the Excel spreadsheet you'll get. There are only two records, but it gives you an idea of what the data will look like.

Lisa

From: Diana Royce Smith [diana@roycearbour.com]
Sent: Wednesday, February 10, 2010 1:15 PM
To: Byers, Tim
Cc: Oreilly, Lisa
Subject: Re: Garfield survey

Hi, Tim -

Would you please let both Chuck and me know the IRB outcome when you have word about it? All deliberate full-speed-ahead, you know. Until we have that word, there's only so far we can go, I guess.

I'll be out of town but still intermittently available by email and cell phone 2/11-17/10. Chuck ditto 2/16-22/10. We'll be working on this during the entire period.

We will spread the url for the Delphi around to a few folks on GCPH's staff so they can try it and see how they think the instructions work, etc. So, at some time, we'll want to wipe it clean before we start the real exercise - will double-check with you and Lisa on that. We're also going to step through it ourselves and understand from Lisa that means recording responses so we can see the next page, etc.

Thanks for working together with Lisa on the bar charts that will be displayed in the second and third rounds. What I could see on the first page is great, but pretty big. As you mentioned - making it smaller is a good idea.

Thanks, Diana
Diana Royce Smith
President, Royce Arbour, Inc.
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[cid:F3D2E900-679D-46F9-819C-47480C56D582@domain.actds/ltmp]

On Feb 10, 2010, at 9:15 AM, Byers, Tim wrote:

Diana:
It looks like we are close to starting our engines. I have submitted this as an exempt IRB protocol, and should hear about that decision in the next day. The worst outcome from that is that they will require this to be reviewed as an expedited protocol, which would probably be a 2 week process. I had thought we were planning on adding to survey rounds #2 and #3 some additional information about each environmental problem in addition to only the feedback about the group responses, but if that is not the case, then this survey #1 is all we need for IRB review, so that is what they have. As for the formatting of the second and third surveys, we can work with Lisa to identify a histogram display style and size that fits the screen. Hopefully, Lisa, we could place this in the white space to the right of the response options, but we will see what is possible. Thanks for sending Jim's memo. That looks fine to me.
Tim.

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From: Diana Royce Smith <diana@roycearbour.com>
Subject: **Responses to your Suggestions**
Date: February 8, 2010 1:05:30 PM MST
To: Tim Byers <Tim.Byers@ucdenver.edu>
Cc: "Chuck L. Stout" <CStout01@comcast.net>, Lisa Oreilly <Lisa.Oreilly@ucdenver.edu>
1 Attachment, 35.7 KB



Tim, thanks for your thorough review - much appreciated. I've put Chuck's and my thoughts and changes in blue (we've collaborated on them) in beside where your suggestions are, in hopes that will help Lisa proceed. First, here is some overall commentary, applying throughout.

1. We have been repeatedly advised to keep language very simple, so that's the source of some of these edits.
2. Another piece of advice, again for clarity, is not to reinvent language - so let's deploy language used before on the C.A.R.E.S. website.
3. It's always "environmental health issues" - we are trying hard to deter people from addressing purely "environmental" issues.
4. It's never a "survey" and these are not "questions" - hence that type of rewording, because it is absolutely critical for the EPA funding.

Thank you for agreeing to help develop a consensus among Garfield County residents about priorities on environmental health issues in Garfield County.

Environmental Health Issues are any environmental factors that may:

have a bad impact on human health, or
have an impact on the natural world that is bad in the long term for human health and the environments in which people live.

People care about Environmental Health Issues because improvements in people's health are due more to changes in their environments, both indoors and outdoors, than to medical science and medicine.

The summary information will be used by Garfield County Public Health and the Board of Health in planning how to address environmental health issues in Garfield County. Response data will be summarized for report to you and to Garfield County Public Health. Your responses are confidential. Nothing about you will be shared - not your name, identity or individual responses.

Each item asks for your true opinion and perception of the importance of the environmental health issue. Each response is neither right nor wrong - it represents your assessment of the environmental health issue.

The 39 environmental health issues came from comments offered to Garfield County Public Health over the past several months. You can add environmental health issues that are not listed. Any new issue will be presented in the next round to all respondents.

This is Round 1 of three online response rounds you will be asked to complete. A gentle email reminder will be sent if you have not responded after the first week.

Participation is voluntary. The more people respond, the better the insight into Garfield County residents' thinking about environmental health issues.

Each round will arrive by email about every 2 weeks. When Round 2 arrives, you will see how the entire group of respondents rated each environmental health issue in Round 1. Seeing the group opinions may, or may not, influence your rating in Round 2. When Round 3 arrives, you will see how the entire group of respondents rated each environmental health issue in Round 2 before you provide your rating.

The environmental health issues are listed in alphabetical order. You will be reminded, if necessary, to respond to each issue before moving on.

Suggested edits to the questions:

My cognitive preference is to list the response options from very important first (on top), declining to not at all important. I do not feel strongly about that preference, but more important things seem "on top" of less important things in my cognitive hierarchy. The eventual numbering of the items should not matter.

We must do everything we can to avoid explicitly or implicitly leading people. If we put the highest importance on top, we might influence that to be the knee-jerk response. If that's how they feel, we make them get to that themselves. A knee-jerk "not important" is much more tolerable.

We do not have a copy of the Delphi Exercise with numbers and with the demographic items included. Where may we see that, please?

#1 "...and homes may transmit illness." Yes, make this change.

#2 "...and drinking water supplies." Yes, make this change.

#4 "...threaten the safety of..." Yes, make this change.

#5 "...and other hazards." Yes, make this change.

#6 "...sources, including vehicles, open burning, forest fires, fireplaces, lawnmowers, create..." No, leave this as it is, as items of equal stature in a list.

#9 "...corridors may harm the..." Yes, make this change.

#10 "...REPRODUCTION can be regarded as..." No, leave this as it is, because this represents the input we received better.

#19 - delete line break Yes, make this change.

#33 this is odd to me. Were there actually underground tests in Garfield County? If not, this could be regarded as insulting. No, leave this as it is. There was such a test and not to acknowledge it would be the wrong thing, in this case - it's a widely known fact and some people's top concern.

#47 "I have been living or working in ..." Yes, *make this change.*

#48 options can be: under 21 years, 21 to 39 years, 40 to 64 years, 65 or more years Good idea, thanks - Yes, *make this change.*

Several of the questions seem different to me in their nature and purpose, requiring options more on a scale of agreement (or not) than on a scale of importance (or not). Might it not be better to segregate those questions to the end of the survey and use agreement (rather than importance) language for the response options?

One scale only, the one provided. Otherwise we cannot integrate them as to priority without interpolating, and we want this as clean as clean can be. I know what you're saying - it has been excruciating to get these worded so they can be used. This has been vetted at GCPH.

Do we have any draft text yet for the surveys 2 and 3 – ie, the information that will be added to provide feedback about these issues for the second and third rounds? I will need some of that before the IRB can approve this as an expedited protocol.

I We thought that IRB approval had been secured. Please help us understand what's happening with this.

What will be shown for feedback. I hope - is bar charts with vertical bars, showing the respondent group's collected ratings for each choice for each item, labeled as "Round 1 rating" inserted right under the item and right above the request for a new rating. Ditto "Round 2 rating" inserted for round 3.

The items shown in round 1 will be shown as-is in rounds 2 and 3. If new items are offered by respondents in round 1 or round 2, there may be additional items in rounds 2 and 3.

Presenting response data graphically is a must. Respondents are not going to deal well with only numbers.

We still do not have info as to what's possible with presenting response data in the second and third rounds in Survey Monkey. I don't know what words to use to get the information. We must not be making the concerns clear to you and Lisa. If you can help, we will be so grateful.

How does Survey Monkey return data from each round? What does the format look like?

What response data is available? What statistics can be seen as info comes from Survey Monkey?

How can we download and work with the data?

What collected response data in what format can be put into the next round's offering?

How must we, CSPH and RAI, format text and graphics to get it into Round 2 and Round 3?

Can Survey Monkey upload our formatted response data, or does SM format them automatically?

What is the current planned timeline? Is the plan still to get the three waves done by March? Yes.

I think this is possible to do, but our need to link individual responses to individual people (with email identifiers though not names) means that we will need to file this as an expedited protocol (not exempt), so at least a draft of surveys 2 and 3 will need to be written up-front.

We do not need to "link individual responses to individual people". We only need to provide the group's collective responses on each item back to respondents in the second and third rounds. In the second and third rounds, individuals do not need to see how they responded in a previous round. Individuals' responses will always be anonymous and will not be reported out. There will be no report or data that compromises individual confidentiality.

Expedited approvals take about 2 weeks. Another approach to get going now while that work (drafting and review) is proceeding in the coming 2 weeks would be to launch the survey # 1 as a truly anonymous survey to the panel. Survey # 2 would then report the group – level opinions and the additional information about each item, and then proceed to ask each respondent to again report his/her opinion. What we would lose in survey # 2 in this approach is the individual response juxtaposition with the group. Survey # 3 would then directly compare each respondent's previous answer with that of the group mean, as in the classical Delphi. This modified Delphi method would accomplish about the same result, I expect, with the advantage being that we could launch the first survey soon as it is truly anonymous while the drafting of the text for survey # 2 and the expedited IRB approvals for that survey are proceeding. This modification might also avoid perceptions by some respondents that they are being badgered a bit by the repeated comparisons.

This is NOT a "survey". We never refer to it as a survey because of EPA restrictions. It is also not a "survey of opinions" in the colloquial sense. We are trying to get people to rethink their ratings as they see what others' ratings, cumulatively, look like.

If what we are after is a survey of opinions rather than an intervention to modify opinions, I think that such a modification makes sense.

Thanks so much, Tim. Your input was very helpful in our thinking on this.

Diana Royce Smith
President, Royce Arbour, Inc.
Hands-On Help for Management

Office 303.499.3272
Fax 720.304.3255
Cell 303.618.7762

5390 Manhattan Circle, Suite 101
Boulder, CO 80303
www.RoyceArbour.com



From: Diana Royce Smith <diana@roycearbour.com>
Subject: **Re: Delphi comments**
Date: February 24, 2010 3:11:13 PM MST
To: Jim Rada <jrada@garfield-county.com>
Cc: "Chuck L. Stout" <CStout01@comcast.net>
1 Attachment, 35.7 KB



Jim,

Yes, I did get the comments. As you know, it's been important to get people into the applicable mental framing for "Environmental Health" - the statement here is part, only part, of that. It's been on the website since the beginning, after we all worked hard on all the language describing Environmental Health in everyday words. You remember we began with that wonderful exposition with pictures that you sent us.

We think it should stay in, because we cannot tell how many of these respondents will have seen the website or been exposed to the concept of "Environmental Health" before they get into the Delphi. Furthermore, the science backs up that this is a fact; it IS true.

Similar comments about framing the statements have come in before, notably from CSPH. We concluded to leave things as they are.

The comments could be taken as applicable if this were an opinion survey, but it isn't an opinion survey. And if the statements were not facts, but they are facts. Both in the sense that this is the input from County residents which were stated as assertions, not questions, and in the sense that we took pains to craft the statements accurately, as far as past experience, history, science etc. is known.

So - Let us know if this isn't okay for any reason.

Here are my thoughts:

On the intro page this sentence - "People care about Environmental Health Issues because improvements in people's health are due more to changes in their environments, both indoors and outdoors, than to medical science and medicine." - should be referenced or deleted - sounds too much like you are telling people this is true.

As far as the statements go, agree or disagree seems to be a more appropriate response than important or unimportant because the statements are written as if they are facts. If the statements are not facts, that should be clear and they should be written more as questions if you are looking for level of importance.

Thanks,

Sara Harter RN, MSN
Garfield County Public Health
Immunization Program Coordinator
Ph: (970) 665-6385
Fax: (970) 625-4804
sharter@garfield-county.com

Thanks, Diana

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On Feb 24, 2010, at 2:41 PM, Jim Rada wrote:

Thanks Diana,

I'll look forward to receiving the info. Did you get the email I sent yesterday with the comments from my coworker?

Jim Rada, REHS

Environmental Health Manager
Garfield County Public Health
195 W 14th Street
Rifle, CO 81650
Phone 970-625-5200 x8113
Cell 970-319-1579
Fax 970-625-8304

Email jrada@garfield-county.com

Web www.garfield-county.com

From: Diana Royce Smith [<mailto:diana@roycearbour.com>]

Sent: Wednesday, February 24, 2010 2:16 PM

To: Jim Rada

Cc: Chuck L. Stout; Paul Reaser

Subject: ~150 on Delphi Respondent list

Hi, Jim -

Waiting on just one or two more pieces of info and a final pass cleaning typos out of the list of Delphi respondents. It looks like there will be just about 150 names on the list.

Tomorrow we begin querying the respondents by email to get their agreement to participate. We are using the Commissioners' letter with updated info about the timeframe. I will send you two a trial version.

Best, Diana

Diana Royce Smith

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<image001.png>

<Jim Rada (jrada@garfield-county.com).vcf>

From: Diana Royce Smith <diana@roycearbour.com>
Subject: **IRB and the Delphi**
Date: February 25, 2010 8:38:34 PM MST
To: "Byers, Tim" <Tim.Byers@ucdenver.edu>
Cc: "Chuck L. Stout" <CStout01@comcast.net>
Bcc: Jim Rada <jrada@garfield-county.com>, Danielle Money <MoneyDanielle@gmail.com>, Paul Reaser <PREaser@garfield-county.com>
* 1 Attachment, 35.7 KB



Tim, this is good news!

I appreciate your efforts to get approval. Let me know what wording changes you and the IRB have in mind so we can come to a meeting of the minds.

The Delphi next week seems possible. I've asked Jim Rada for his final okay on the invitations and the respondent list. When he says okay, the invitations go out, as early as tomorrow. With a few days for people to accept the invitation to participate, Round One could begin.

Question for you: How am I to load the email addresses of respondents to send the link to Round One of the Delphi? - Since CSPH wants respondent anonymity as far as you and Lisa O'Reilly are concerned. Do I email the link to respondents, or do I load respondent addresses into SurveyMonkey and SurveyMonkey sends emails to respondents with the link to the Delphi?

Given prompt answers on these two items - Jim's concurrence and the plan for sending the link to Round One, we can set the date to launch the Delphi. Which will indeed be exciting!

Best, Diana
Diana Royce Smith
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On Feb 25, 2010, at 5:55 PM, Byers, Tim wrote:

I have the IRB approval, pending some minor wording changes that are trivial I can take care of tomorrow. Can we launch this next week? Tim

Tim Byers MD MPH
Associate Dean, Colorado School of Public Health
Deputy Director, University of Colorado Cancer Center
Mail Stop B-119
Building 500, room 3000c
13001 East 17th Place
Aurora, CO 80045
phone: 303-724-1283
cell: 720-256-4054
tim.byers@ucdenver.edu

From: Diana Royce Smith <diana@roycearbour.com>
Subject: **wording of Delphi respondent participation email**
Date: March 1, 2010 12:37:14 PM MST
To: Jim Rada <jrada@garfield-county.com>
Cc: "Chuck L. Stout" <CStout01@comcast.net>, Danielle Money <MoneyDanielle@gmail.com>
1 Attachment, 35.7 KB



This is a personal invitation to you to participate on a panel of about 150 people representing Garfield County residents.

The purpose is to help Garfield County citizens to come to consensus on Environmental Health issues.

You will receive emails asking you personally to register your thinking online three (3) different times in March 2010. Each time you participate, it will take you 10-12 minutes. It is completely anonymous and easy.

Easy directions will guide you. The approach is designed to help reach consensus on Environmental Health issues. As a panel member, you will see consensus grow, plus receive a complete report on the results.

Please hit <return> and say, Yes! I will help and participate on the panel this month.

Or, hit <return> and say, Sorry, can't.

The Garfield County Board of Health - the same people as the Garfield County Commission - are asking for your help with this unique project. This project is known as Garfield County C.A.R.E.S. The letters stand for **Community Action for Responsible Environmental Solutions**.

A letter to you from the Commissioners is attached. There have been some changes in the Garfield County C.A.R.E.S. project since the letter was written:

- The panel has doubled in size to 150 participants, to insure many perspectives are well represented.
- Many individual contacts have been made, also to insure many perspectives are well represented.
- A website - www.GarfieldCountyCARES.com - was created to explain the project. Visit it for more information
- A special email address - GarCoCARES@Gmail.com - was created for Jim Rada, GCPH Environmental Health Manager.
- People with many perspectives offered their input on Environmental Health
- 39 Environmental Health issues have been framed from the input of County residents. The list is on the website.
- As a panel member, you can add to the Environmental Health issues list if any seem to be missing.

In April and May, several public meetings in the County will present the draft consensus you help reach. You will receive a personal invitation to attend. Everyone in the County will be welcome to attend and comment.

With a consensus on the order of importance of these Environmental Health issues, GCPH will look for the best approaches and funding to address the issues.

To participate on the panel, you must respond to this email.

Please hit <return> and say, Yes! I will help and participate on the panel this month.

Thank you very much for your help.

Diana Royce Smith
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From: "Jim Rada" <jrada@garfield-county.com>
Subject: **RE: Delphi list**
Date: March 19, 2010 12:10:24 PM MDT
To: "Danielle Money" <moneydanielle@gmail.com>
Cc: "Diana Royce Smith" <diana@roycearbour.com>
1 Attachment, 0.5 KB

Danielle,

Can you call me this afternoon? I'd like to talk with you about this list.

Jim Rada, REHS

Environmental Health Manager
Garfield County Public Health
195 W 14th Street
Rifle, CO 81650
Phone 970-625-5200 x8113
Cell 970-319-1579
Fax 970-625-8304
Email jrada@garfield-county.com
Web www.garfield-county.com

From: Danielle Money [<mailto:moneydanielle@gmail.com>]
Sent: Friday, March 19, 2010 10:58 AM
To: Jim Rada; Paul Reaser
Cc: Diana Royce Smith
Subject: Delphi list

Hello
here (attached) is the list of people who may possibly be interested and those we have hear back from. The list is color coded:
Blue= people we have heard back from that are interested in participating
Orange= People we have heard back from that do not want to participate
Yellow= emails that have come back as FAILED, either the email is wrong or they have a blocker up that keeps catching our email.
-note on that: both Chuck Stout and I have gone through this and tried to contact via phone or a different email address. All yellow contacts have been emailed a number of times. First in the main batch, then as individual emails, then they were contacted by phone to try and find the correct email, and finally emailed one last time either with an updated email or again with the old (as individual emails not in batches)

The rest of the contacts are not colored as we have not heard back from them. The majority of the emails were found online on websites and such. It's very possible that they have not been updated and the email posted on certain websites are old? They may still be active emails (meaning they wont come back as failed) but that person no longer checks that email. I'm not sure what to do about that as there is no real way for me to know if this is the case or if they simply have chosen not to respond. If you wouldn't mind going through and checking to see if you know of a better email for any of the people listed.

*If a contact is not colored and is missing the email address all together it is because they are a duplicate. That contact is more than likely on the list elsewhere with an email address in the appropriate color.

Let us know if there are any ways that we could possibly be in better contact with the 'non-colored' list.
Danielle



[Jim Rada \(jrada.vcf\) \(0.5 KB\)](#)

From: "Jim Rada" <jrada@garfield-county.com>
Subject: **RE: Great Stuff!**
Date: March 24, 2010 1:34:33 PM MDT
To: "Diana Royce Smith" <diana@roycearbour.com>
▶ 2 Attachments, 31.0 KB

Keep in mind that some of the school districts will be out on spring break next week. You may want to verify and plan the release accordingly.

Jim Rada, REHS

Environmental Health Manager
Garfield County Public Health
195 W 14th Street
Rifle, CO 81650
Phone 970-625-5200 x8113
Cell 970-319-1579
Fax 970-625-8304
Email jrada@garfield-county.com
Web www.garfield-county.com

From: Diana Royce Smith [<mailto:diana@roycearbour.com>]
Sent: Wednesday, March 24, 2010 1:20 PM
To: Jim Rada; Paul Reaser
Cc: Chuck L. Stout
Subject: Great Stuff!

Dear Jim and Paul,

Chuck and I just finished going over the material that you sent. It is great - just what we need to work with. So, Paul, keep it coming. We'll use it to prepare public meeting material as well as for the final report.

Jim, this morning we are up to 60 participants agreeing to help with the Delphi, a net gain of 10 after your email last week. That or the stars have now aligned. Really want a minimum of 75. Now it seems within reach.

We reviewed the non-responding prospective Delphi respondents to see what slices of the County are missing. Next, we are about to "gang up" on them in particular. Chuck and I have divided the list of people whom we really want to have participating. We are making a targeted round of phone calls today and tomorrow to them.

Current plan is to launch the Delphi early next week. The thing is, of course, Delphi participants have to be reachable by email and respond to each Delphi Round with dispatch. Meaning, people not responding to emails, or doing so only after repeated contacts, isn't okay.

We have agreed that if it takes follow-up phone calls and multiple emails per respondent to get participation, at least in the first round of the Delphi, that's what we'll be doing.

That's the latest update from here. We'll be in touch again toward the end of the week.

Best, Diana and Chuck

Diana Royce Smith
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Jim.Rada.(jra...).vcf (0.5 KB)

11.5.4 Round 1 Delphi Printout from SurveyMonkey

- Graphic representation of Garfield County citizens' responses for Round 1 (24 pages)

Garfield County Environmental Health Issues

1. BACTERIA and OTHER CONTAMINANTS in FOOD, due to unsafe food handling in retail food establishments and homes may transmit illness.

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant 	2.3%	1
Neutral 	11.4%	5
Somewhat important 	34.1%	15
Very important 	52.3%	23
<i>answered question</i>		44
<i>skipped question</i>		1

2. CHEMICALS USED in HYDRAULIC FRACTURING of natural gas wells may contaminate soil, ground water, and drinking water supplies.

	Response Percent	Response Count
Not at all important 	4.5%	2
Somewhat unimportant	0.0%	0
Neutral 	6.8%	3
Somewhat important 	13.6%	6
Very important 	75.0%	33
<i>answered question</i>		44
<i>skipped question</i>		1

3. DISEASES like Rabies, West Nile Virus, Hantavirus, and Plague are transmitted to humans by insects and animals.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		0.0%	0
Neutral		18.2%	8
Somewhat important		50.0%	22
Very important		29.5%	13
<i>answered question</i>			44
<i>skipped question</i>			1

4. DRIVERS USING CELLPHONES or OTHER DISTRACTIONS threaten the safety of others on the roadways.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		4.5%	2
Neutral		9.1%	4
Somewhat important		43.2%	19
Very important		40.9%	18
<i>answered question</i>			44
<i>skipped question</i>			1

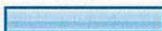
5. ELECTROMAGNETIC FIELDS from power lines and transmission towers may have human health consequences, potentially including cancer and other hazards.

		Response Percent	Response Count
Not at all important		13.6%	6
Somewhat unimportant		2.3%	1
Neutral		34.1%	15
Somewhat important		38.6%	17
Very important		11.4%	5
<i>answered question</i>			44
<i>skipped question</i>			1

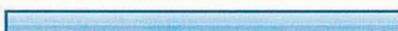
6. EMISSIONS from manufacturing and industry sources, vehicles, open burning, forest fires, fireplaces, lawnmowers, and many other sources, creates outdoor air pollution that can be a human health hazard.

		Response Percent	Response Count
Not at all important		0.0%	0
Somewhat unimportant		11.4%	5
Neutral		13.6%	6
Somewhat important		29.5%	13
Very important		45.5%	20
<i>answered question</i>			44
<i>skipped question</i>			1

7. EMISSIONS that may include Volatile Organic Compounds (VOC's) from drilling next to Battlement Mesa golf course could affect the health of golfers and residents.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		9.1%	4
Neutral		15.9%	7
Somewhat important		25.0%	11
Very important		47.7%	21
<i>answered question</i>			44
<i>skipped question</i>			1

8. EXPOSURE to BENZENE from gas wells in proximity to residences may cause or worsen human health problems, such as nerve and bone marrow damage.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		2.3%	1
Neutral		4.5%	2
Somewhat important		27.3%	12
Very important		63.6%	28
<i>answered question</i>			44
<i>skipped question</i>			1

9. EXPOSURE to LEAD from paint in older homes, imported children’s toys, and tailpipe gases in high-traffic corridors may harm the growth and development of children, including exposure before they are born.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		9.1%	4
Neutral		11.4%	5
Somewhat important		34.1%	15
Very important		43.2%	19
<i>answered question</i>			44
<i>skipped question</i>			1

10. FARM ANIMAL ILLNESS and REPRODUCTION should be recognized as warnings about environmental exposures with potential to impact human health.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		2.3%	1
Neutral		20.5%	9
Somewhat important		43.2%	19
Very important		31.8%	14
<i>answered question</i>			44
<i>skipped question</i>			1

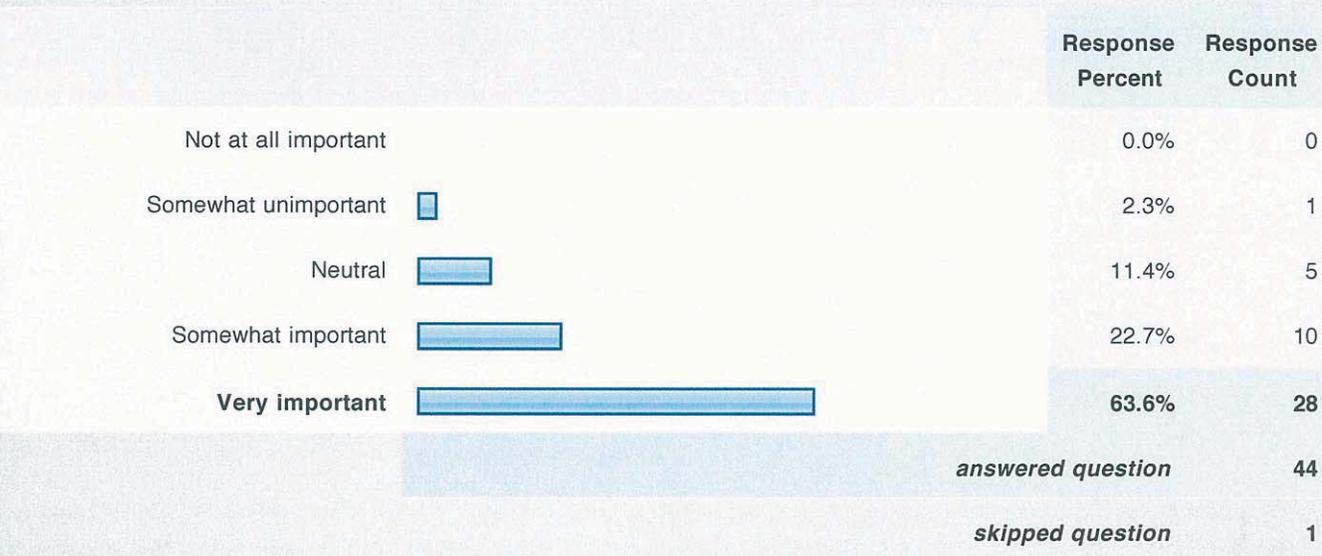
11. FLUORIDE in public drinking water supplies prevents tooth decay.

		Response Percent	Response Count
Not at all important		20.5%	9
Somewhat unimportant		2.3%	1
Neutral		25.0%	11
Somewhat important		29.5%	13
Very important		22.7%	10
<i>answered question</i>			44
<i>skipped question</i>			1

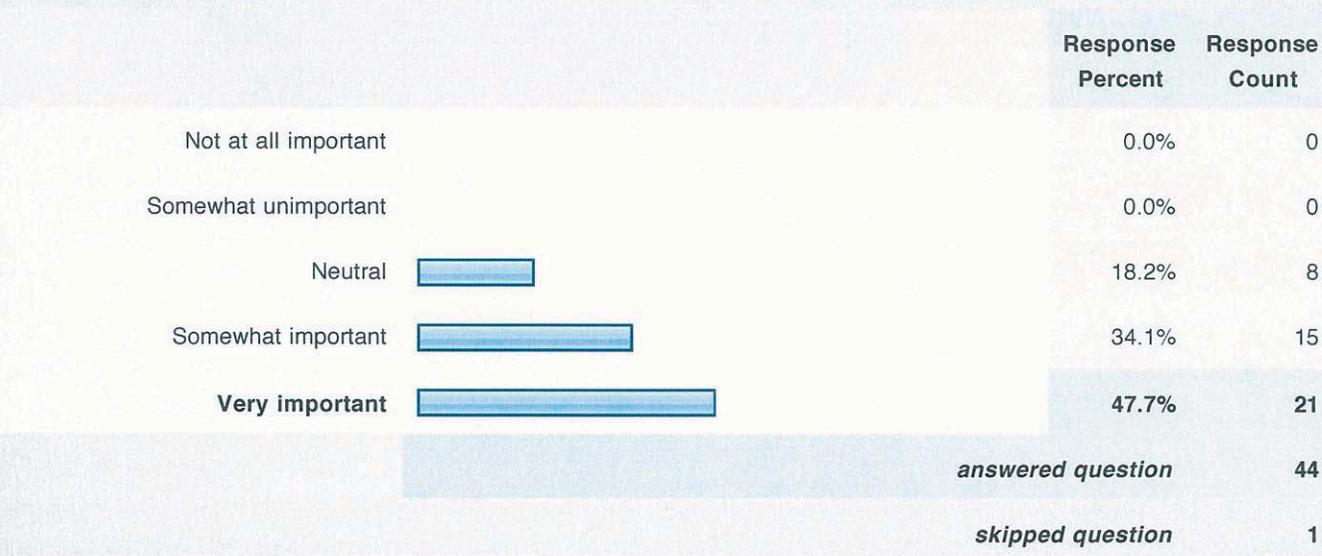
12. FOCUS on SUSTAINABLE COMMUNITY PLANNING helps people take steps toward energy efficiency, zero waste, energy-conserving transportation, green building, and natural resource conservation.

		Response Percent	Response Count
Not at all important		0.0%	0
Somewhat unimportant		0.0%	0
Neutral		4.5%	2
Somewhat important		40.9%	18
Very important		54.5%	24
<i>answered question</i>			44
<i>skipped question</i>			1

13. GAS WELL EMISSIONS into the AIR, including flaring and venting, release known and unknown substances which may cause human health problems.



14. GROUND-LEVEL OZONE formed as a result of driving, fueling, solvent use, industrial emissions, etc., is a harmful air pollutant that affects human health.



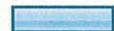
15. HEAVY LARGE-VEHICLE TRAFFIC on roads not constructed for them creates road damage and may be hazardous for other vehicles and roadside activity.

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant 	4.5%	2
Neutral 	9.1%	4
Somewhat important 	38.6%	17
Very important 	47.7%	21
<i>answered question</i>		44
<i>skipped question</i>		1

16. HOUSEHOLD HAZARDOUS WASTE, including pharmaceuticals and personal care products, fluorescent light bulbs, paint, cleaning products, etc., may contaminate drinking water.

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant	0.0%	0
Neutral 	9.1%	4
Somewhat important 	40.9%	18
Very important 	50.0%	22
<i>answered question</i>		44
<i>skipped question</i>		1

17. HOUSEHOLD WATER WELL CONTAMINATION by bacteria and other organisms, due to mining activity, grazing animals, leaking septic systems or storm water runoff, may cause serious illness.

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant	0.0%	0
Neutral 	15.9%	7
Somewhat important 	25.0%	11
Very important 	59.1%	26
<i>answered question</i>		44
<i>skipped question</i>		1

18. IMPROPER DISPOSAL of GARBAGE and LITTER on both public and private lands may contaminate water and shelter animals that carry disease to humans.

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant 	2.3%	1
Neutral 	9.1%	4
Somewhat important 	50.0%	22
Very important 	38.6%	17
<i>answered question</i>		44
<i>skipped question</i>		1

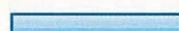
19. INDOOR AIR POLLUTION accumulating in high concentrations from cleaning products, fireplaces, stoves, paints, solvents, cigarette smoke, and chemicals used in building materials and home furnishings can contribute to a variety of health problems including asthma.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		11.4%	5
Neutral		34.1%	15
Somewhat important		31.8%	14
Very important		20.5%	9
<i>answered question</i>			44
<i>skipped question</i>			1

20. INFECTIOUS DISEASE spreads more easily when people are not fully immunized.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		4.5%	2
Neutral		25.0%	11
Somewhat important		27.3%	12
Very important		40.9%	18
<i>answered question</i>			44
<i>skipped question</i>			1

21. LIGHT POLLUTION at night may interfere with normal daily cycles that regulate and maintain human health.

		Response Percent	Response Count
Not at all important		6.8%	3
Somewhat unimportant		13.6%	6
Neutral		31.8%	14
Somewhat important		27.3%	12
Very important		20.5%	9
<i>answered question</i>			44
<i>skipped question</i>			1

22. MAGNESIUM CHLORIDE used on roads to melt snow and ice and reduce dust is a health concern for some individuals.

		Response Percent	Response Count
Not at all important		4.5%	2
Somewhat unimportant		6.8%	3
Neutral		47.7%	21
Somewhat important		29.5%	13
Very important		11.4%	5
<i>answered question</i>			44
<i>skipped question</i>			1

23. METH LABS create risks of fire and explosion and toxic chemicals that contaminate the interiors of buildings where meth labs are located and are challenging to clean up.

		Response Percent	Response Count
Not at all important		0.0%	0
Somewhat unimportant		0.0%	0
Neutral		6.8%	3
Somewhat important		36.4%	16
Very important		56.8%	25
<i>answered question</i>			44
<i>skipped question</i>			1

24. MORE OUTDOOR TOILETS would reduce the possibility of contaminating surface waters and causing illness.

		Response Percent	Response Count
Not at all important		11.4%	5
Somewhat unimportant		2.3%	1
Neutral		43.2%	19
Somewhat important		25.0%	11
Very important		18.2%	8
<i>answered question</i>			44
<i>skipped question</i>			1

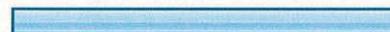
25. MORE PEOPLE UNDERSTANDING the IMPACT of ENVIRONMENTAL FACTORS on human health in Garfield County would improve residents' health.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		2.3%	1
Neutral		13.6%	6
Somewhat important		36.4%	16
Very important		45.5%	20
<i>answered question</i>			44
<i>skipped question</i>			1

26. NOISE POLLUTION can produce stress reactions, such as increases in blood pressure, pulse rate, and hormone secretion, that over time damage people's circulatory systems.

		Response Percent	Response Count
Not at all important		6.8%	3
Somewhat unimportant		6.8%	3
Neutral		18.2%	8
Somewhat important		45.5%	20
Very important		22.7%	10
<i>answered question</i>			44
<i>skipped question</i>			1

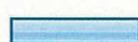
27. NOT ENFORCING ENVIRONMENTAL LAWS and REGULATIONS leads to environmental health problems.

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant	0.0%	0
Neutral 	9.1%	4
Somewhat important 	29.5%	13
Very important 	61.4%	27
<i>answered question</i>		44
<i>skipped question</i>		1

28. NOT ENFORCING LABOR LAWS and REGULATIONS leads to unsafe working conditions.

	Response Percent	Response Count
Not at all important 	2.3%	1
Somewhat unimportant 	6.8%	3
Neutral 	13.6%	6
Somewhat important 	47.7%	21
Very important 	29.5%	13
<i>answered question</i>		44
<i>skipped question</i>		1

29. ODORS and FUMES emitted from gas wells close to residential housing causes some residents to feel ill in and around their homes.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		2.3%	1
Neutral		11.4%	5
Somewhat important		20.5%	9
Very important		63.6%	28
<i>answered question</i>			44
<i>skipped question</i>			1

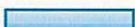
30. OVERCROWDED HOUSING leads to the spread of contagious illnesses.

		Response Percent	Response Count
Not at all important		13.6%	6
Somewhat unimportant		4.5%	2
Neutral		36.4%	16
Somewhat important		31.8%	14
Very important		13.6%	6
<i>answered question</i>			44
<i>skipped question</i>			1

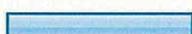
31. POLLUTION of COLORADO RIVER WATER, used for human consumption, may occur if drilling takes place too close to the river.

		Response Percent	Response Count
Not at all important		6.8%	3
Somewhat unimportant		0.0%	0
Neutral		9.1%	4
Somewhat important		29.5%	13
Very important		54.5%	24
<i>answered question</i>			44
<i>skipped question</i>			1

32. RADON, a radioactive gas found in soil, rock and water from naturally occurring uranium, with long exposure, can lead to lung cancer when it accumulates in homes where families spend time.

		Response Percent	Response Count
Not at all important		0.0%	0
Somewhat unimportant		2.3%	1
Neutral		20.5%	9
Somewhat important		36.4%	16
Very important		40.9%	18
<i>answered question</i>			44
<i>skipped question</i>			1

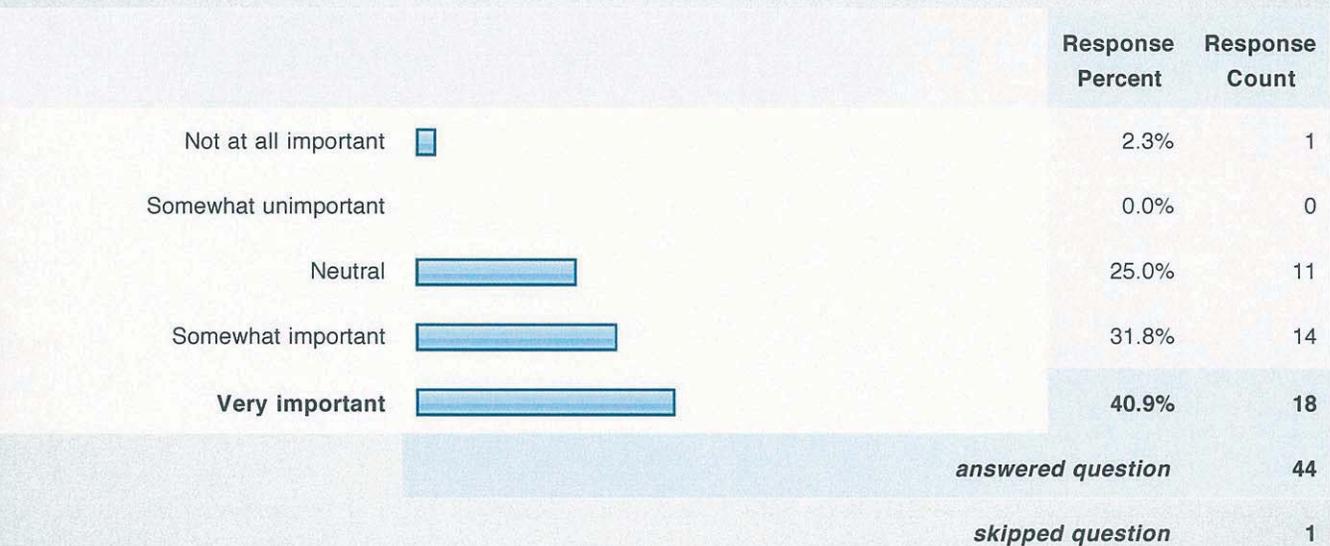
33. RELEASE of RADIOACTIVE CONTAMINANTS into water, soil, and air from drilling where a nuclear device was once detonated may cause health problems.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		4.5%	2
Neutral		15.9%	7
Somewhat important		29.5%	13
Very important		47.7%	21
<i>answered question</i>			44
<i>skipped question</i>			1

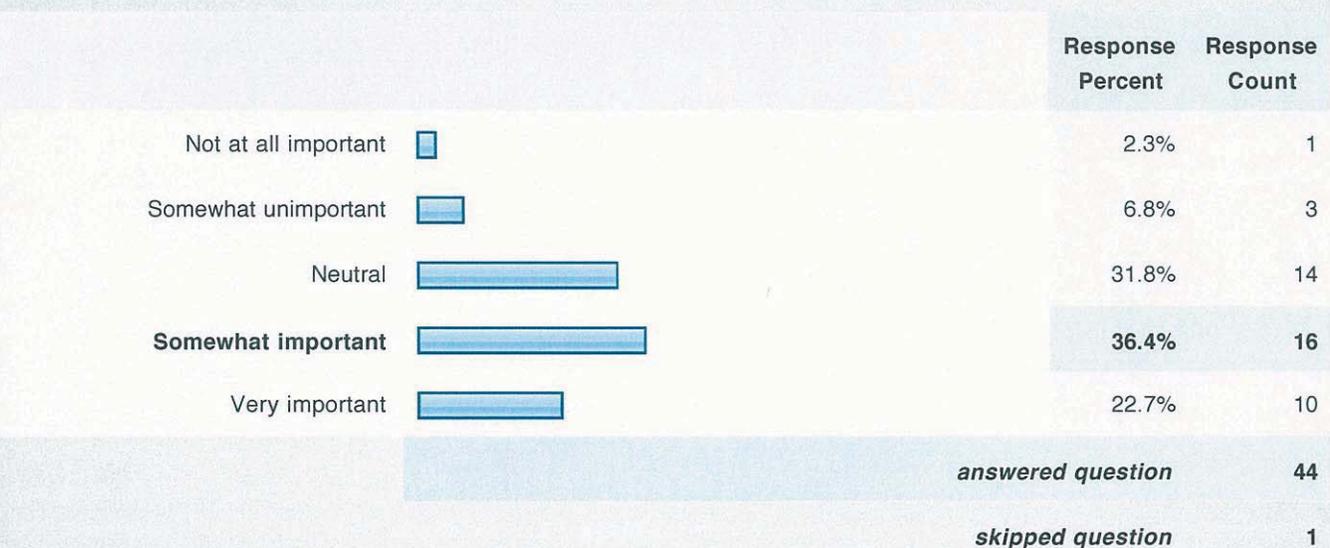
34. RESPONSE to ENVIRONMENTAL EMERGENCIES to protect human health should be part of emergency preparedness plans.

		Response Percent	Response Count
Not at all important		0.0%	0
Somewhat unimportant		2.3%	1
Neutral		4.5%	2
Somewhat important		15.9%	7
Very important		77.3%	34
<i>answered question</i>			44
<i>skipped question</i>			1

35. SMALL SOLID PARTICLES of DUST, created by construction, land development, crushing gravel, mining, and traffic on paved and unpaved roads, lodge deep in people's lungs and cause health problems.



36. TRANSIENT HOUSING SITES may be sources of soil and water contamination that have bad effects on human health.



37. ULTRAVIOLET (UV) RADIATION, whether from the sun or tanning beds, is the major cause of skin cancer.

		Response Percent	Response Count
Not at all important		9.1%	4
Somewhat unimportant		13.6%	6
Neutral		31.8%	14
Somewhat important		27.3%	12
Very important		18.2%	8
<i>answered question</i>			44
<i>skipped question</i>			1

38. WALKING and CYCLING PATHS and RECREATION OPPORTUNITIES would encourage physical activity essential to maintaining good health.

		Response Percent	Response Count
Not at all important		2.3%	1
Somewhat unimportant		4.5%	2
Neutral		9.1%	4
Somewhat important		31.8%	14
Very important		52.3%	23
<i>answered question</i>			44
<i>skipped question</i>			1

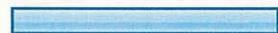
39. WATERBORNE and WATER-RELATED DISEASE TRANSMISSION may be caused by storm water runoff picking up dangerous materials from households, construction sites, agricultural production, and other locations.

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant 	4.5%	2
Neutral 	22.7%	10
Somewhat important 	40.9%	18
Very important 	31.8%	14
<i>answered question</i>		44
<i>skipped question</i>		1

40. I want to offer an additional environmental health issue for consideration. (Please rate the issue on its importance and describe the issue below.)

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant	0.0%	0
Neutral 	36.4%	8
Somewhat important 	4.5%	1
Very important 	59.1%	13
Please describe the environmental health issue you would like to add:		14
<i>answered question</i>		22
<i>skipped question</i>		23

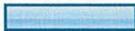
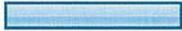
41. I want to offer an additional environmental health issue for consideration. (Please rate the issue on its importance and describe the issue below.)

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant 	7.1%	1
Neutral 	50.0%	7
Somewhat important	0.0%	0
Very important 	42.9%	6
Please describe the environmental health issue you would like to add:		6
<i>answered question</i>		14
<i>skipped question</i>		31

42. I want to offer an additional environmental health issue for consideration. (Please rate the issue on its importance and describe the issue below.)

	Response Percent	Response Count
Not at all important	0.0%	0
Somewhat unimportant 	9.1%	1
Neutral 	63.6%	7
Somewhat important	0.0%	0
Very important 	27.3%	3
Please describe the environmental health issue you would like to add:		3
<i>answered question</i>		11
<i>skipped question</i>		34

43. The part of Garfield County I live in is:

	Response Percent	Response Count
North of I-70, east of Silt 	20.9%	9
South of I-70, east of Silt 	27.9%	12
North of I-70, Silt and west 	27.9%	12
South of I-70, Silt and west 	14.0%	6
I don't live in Garfield County 	9.3%	4
	<i>answered question</i>	43
	<i>skipped question</i>	2

44. The part of Garfield County I work in is:

	Response Percent	Response Count
North of I-70, east of Silt 	9.3%	4
South of I-70, east of Silt 	44.2%	19
North of I-70, Silt and west 	27.9%	12
South of I-70, Silt and west 	18.6%	8
I don't work in Garfield County	0.0%	0
	<i>answered question</i>	43
	<i>skipped question</i>	2

45. The community I live in or closest to is:

	Response Percent	Response Count
Battlement Mesa	7.0%	3
Carbondale	18.6%	8
Glenwood Springs	20.9%	9
Newcastle	14.0%	6
Parachute	7.0%	3
Rifle	20.9%	9
Silt	11.6%	5
Other (please specify)	0.0%	0
<i>answered question</i>		43
<i>skipped question</i>		2

46. The community I work in or closest to is:

	Response Percent	Response Count
Battlement Mesa	4.7%	2
Carbondale	9.3%	4
Glenwood Springs	30.2%	13
Newcastle	4.7%	2
Parachute	11.6%	5
Rifle	30.2%	13
Silt	9.3%	4
Other (please specify)	0.0%	0
<i>answered question</i>		43
<i>skipped question</i>		2

47. I have been living or working in Garfield County:

		Response Percent	Response Count
less than 5 years		27.9%	12
5 or more years but less than 10 years		16.3%	7
10 or more years but less than 20 years		20.9%	9
20 or more years		34.9%	15
<i>answered question</i>			43
<i>skipped question</i>			2

48. My age is:

		Response Percent	Response Count
Under 21		0.0%	0
21 to 39		14.0%	6
40 to 64		76.7%	33
65 or more years		9.3%	4
<i>answered question</i>			43
<i>skipped question</i>			2

11.5.5 Round 2 Delphi Printout from SurveyMonkey

- Graphic representation of Garfield County citizens' responses for Round 2 (26 pages)