

Weighing the Evidence

Summative Evaluation



Gretchen Haupt
Kaleen Tison Povis, PhD
*Department of Evaluation and
Research on Learning
Science Museum of Minnesota*

Winter 2016

Weighing the Evidence Summative Evaluation

Background & Questions

In 2012, the Science Museum of Minnesota (SMM) received funding from the National Institutes of Health (NIH) to develop an exhibition utilizing objects from the former Museum of Questionable Medical Devices (QMDs), contextualizing them in the greater conversation about scientific skepticism and how people make healthcare decisions. The resulting exhibition, *Weighing the Evidence*, opened in December 2015. This kt, object-based exhibition is organized into four islands of artifacts with accompanying information and hands-on “Try It” interactives, which allow visitors to experience some questionable medical devices first hand. The exhibition’s positioning at a junction gallery space provides high visitor foot traffic in and out of the area. An exhibition evaluation was conducted in the winter of 2016.

The evaluation questions were:

- How do visitors use the exhibit?
- Does the exhibit present information in ways that are fun & exciting and, at the same time, engage visitors in a thoughtful reflection about healthcare?
- Do the objects help visitors make connections to contemporary issues?
- Is there evidence that visitor knowledge and attitudes reflect exhibit messaging about making healthcare decisions for themselves and/or family?
- Do visitors appear to have developed or reaffirmed critical thinking strategies for examining evidence and influences that motivate their healthcare decisions?

This report includes the methods, instruments, and analysis employed to answer these questions, which provide an understanding of the visitor experience and salient messages visitors were taking from the exhibition.

Methods & Instruments

The evaluation was conducted using a mixed methods approach utilizing surveys, interviews, and observations to yield both qualitative and quantitative data on how the exhibition was used and perceived. Both the survey and interview included closed and open-ended questions as well as demographic information. Each method is described briefly below. Examples of each instrument are available in Appendix A.

Surveys

A random sample of 100 visitors who had not yet seen *Weighing the Evidence* was surveyed upon entering the museum lobby to provide a baseline understanding of our visitors and their healthcare decision-making and perceptions. This sample then served as a contrast group for the 100 visitors who answered a similar, but expanded electronic survey as they exited the exhibition.

The pre/post comparative aspects of the instrument consisted of a series of questions prompting respondents to indicate to what extent a statement about healthcare decision-making seemed to

reflect their own behavior. Given the sensitive and personal nature of healthcare, evaluators tested multiple iterations of the attitude questions to ensure respondents interpreted them as intended and were also inclined to provide answers that accurately reflected their beliefs and practices, rather than responding to the statement in a way they felt was socially desirable. Additionally, evaluators wanted to ensure statements about health-care decisions did not make respondents feel defensive or otherwise make them feel their beliefs or practices were wrong.

Interviews

An additional 60 visitors participated in more in-depth, post-visit interviews immediately after seeing the exhibit. As with the surveys, respondents were recruited through continuous random sampling from multiple exit points around the exhibit, and eligibility included being 18 years or older and having experienced at least two components in the exhibit.

Sampling

Both pre and post surveys were collected through continuous random sampling of general museum visitors 18 years and older. For pre-visit surveys, visitors were approached on their way to the main gallery entrance and invited to participate in a short study about a museum exhibit. After eligibility was confirmed (establishing a respondent was 18 or older and had not seen the exhibit), willing participants completed the electronic survey on their own via tablet device. Eligibility for post-visit surveys, evaluators recruited respondents as they exited from multiple locations in the exhibit to cover the various points of egress (e.g., standing near adjacent exhibits; standing near the stairs; standing near the elevators).

Observations

Additional data on the use of exhibit elements was gathered through observations of nearly 1000 visitors in the exhibition space.

The boundaries of *Weighing the Evidence* are designated by stylistic design choices, rather than physical walls providing multiple access points to the exhibitions four islands of content from three adjacent exhibits as well as sightlines and entry for visitors passing from the main staircase or the elevators. Preliminary observations revealed that visitors frequently moved among the adjoining exhibitions, entering and exiting each several times. Therefore, rather than using a traditional tracking and timing method, a modified, behavior tracking method was developed by dividing the exhibition into zones. The size and shape of each zone was determined by what components an evaluator could easily observe continuously from a single vantage point. In all, 15 zones were designated across the 4 islands (see Appendix B) for diagrams.

The 15 zones were each observed four times for a total of 60 observation periods. Observation periods were 20 minutes in duration. Thereby, each zone was observed for 80 minutes over the course of data collection, totaling 20 hours of observation time.

While conducting unobtrusive observations, an evaluator waited for an eligible visitor (8 years of age and older; not part of a school group) to cross into the designated zone. The observation then focused on this individual along with any other people that seemed to be part of the individual's group. Evaluators recorded behaviors (see Table 1) of all members of the group at each component within the zone until they exited the zone.

Table 1: Observation Behaviors and Definitions

Behavior	Definition
Look	Feet planted, facing component for at least 3 seconds
Read	Continuing to look at component with text beyond initial 3 seconds.
Use	Engages with “Try-It” components for more than 3 seconds. Engagement involves intentionally exploring the interactives; superficial use is “Look” or “Read.”
Reaction	Visible reaction to information, images, objects. Laughing, frowning, gasping, snickering.
Call out/ over	Beckoning another person in target group to see/hear/experience something in the exhibit. Includes pointing and reading things aloud.
Talk	Members of target individual’s group seem to be speaking to each other about something in the exhibit beyond an initial calling over.
Photo	Taking a photo or of with exhibit component.
Wait	Member of target group waits to use a Try-It component.
Missed	No one in group used or looked at component.

Analysis & Results

A limited set of demographic questions at the end of the surveys and interview indicate the samples closely align with the SMM population demographics (as indicated from an ongoing audience study) except for a skewed gender sample among post-exhibit respondents (Table 2). However, there were no significant differences in responses by gender on any pre-post measures. Therefore, all data was analyzed in aggregate.

Table 2: Demographics Compared Across Instrument Samples

Select Demographics	Pre-Exhibit Survey Sample	Post-Exhibit Survey Sample	Post-Exhibit Interview Sample	SMM Exit Study
Race: % Caucasian	86%	89%	81%	89%
Gender: % Female	59%	72%	58%	70%
Some College or Associates Degree	26%	28%	23%	29%
Bachelor’s Degree	36%	37%	41%	35%
Post-graduate Degree	30%	28%	31%	30%

Descriptive and inferential statistics were used to analyze the quantitative data gathered from the survey, interview, and observations. Qualitative data were coded into categories to reveal themes across the data. The results from these analyses are presented below in five sections: visitation, impression, conversation, reflection, and recommendations.

Visitation

In the post-exhibition survey, visitors were asked about their use of exhibit components. As shown in Table 3, 82% of visitors reported that they looked at one or more of the Questionable Medical Devices, 77% said they used one or more of the Try-Its, and 27% of visitors reported that they watched one or more of the videos. A follow-up question revealed that of video

watchers 74% viewed *Placebo Effect*, 39% watched *Good and Bad Science*, and 39% reported seeing *Cost Risks and Benefits*.

Table 3: “While you were in this area today, what did you look at or use?”

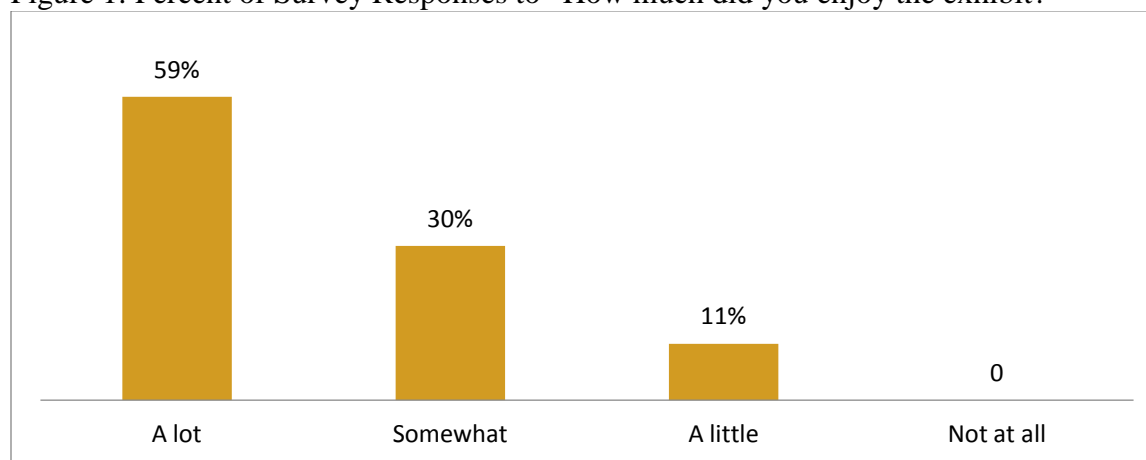
<i>Value</i>	<i>Percent</i>
I used one or more of the "Try-It" interactives.	77%
I watched one or more of the videos.	27%
I looked at one or more of the Questionable Medical Devices.	82%

Survey responses align with visitor observations revealing the three most frequently used Try-Its were the Kellogg Shake Chair, the Psychograph, and Violet Ray. In fact, when all 100 exhibit components (Try-Its, videos, objects, and text panels) are ranked according to the observed number of visitors seen utilizing each, all nine hands-on experiences (Try-Its) are in the top quartile. Also seen in this top quartile of most utilized exhibit elements are three screen-based media components. Six objects, none with a complimentary Try-It, are also ranked in the top quartile (see Appendix C for images). While two of the objects are large pieces (Diagnostics B Machine and the Roller) the remaining objects, or clusters of objects, are rather small. All of the text panels that garnered this high-level of audience attention were associated with either the Try-Its or these six objects with the most attracting power.

Impression

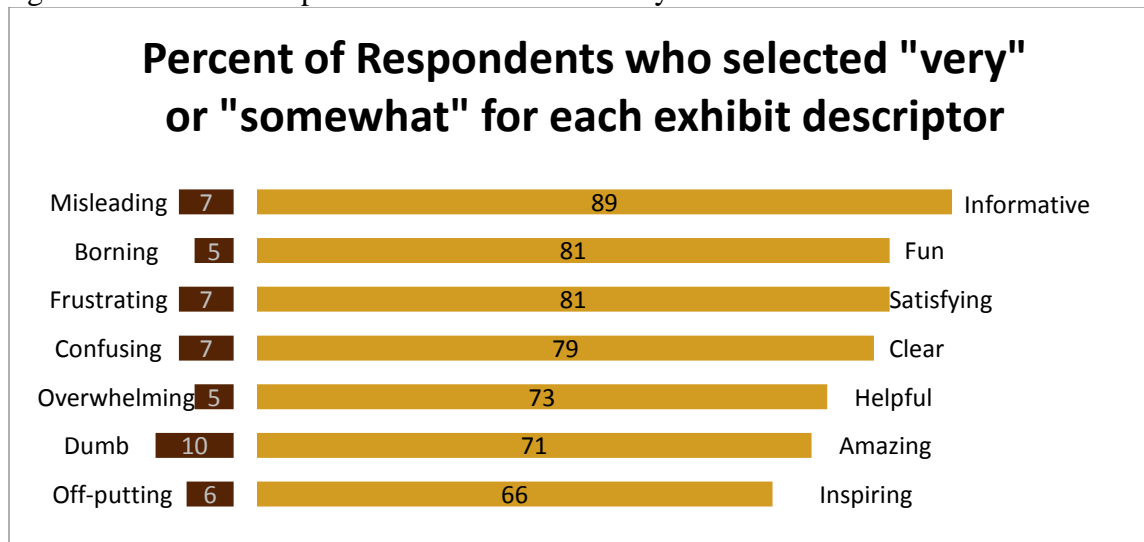
All respondents indicated they enjoyed the exhibition. Specifically, when asked, “How much did you enjoy the exhibit?” 59% of survey respondents said they enjoyed the exhibit “a lot,” another 30% said they enjoyed the exhibit “somewhat,” and the remaining 11% said they enjoyed the exhibit “a little.” No visitors indicated they did not enjoy the exhibit at all (see Figure 1).

Figure 1: Percent of Survey Responses to “How much did you enjoy the exhibit?”



Visitors' impressions of *Weighing the Evidence* were overwhelmingly positive with more than two thirds of survey respondents indicating that the exhibition was "very" or "somewhat" informative, fun, satisfying, clear, amazing, helpful, and inspiring (see Figure 2).

Figure 2: Percent of respondents who selected "very" or "somewhat" for each exhibit descriptor



Conversation

In addition to engaging with the exhibition, visitors interacted with one another. When asked about these social interactions, 88% of visitors who came in a group reported having conversations about the things they saw or did while in the exhibit. More specifically, visitors said their conversation included discussions focused on medical devices and treatments (77%), the Try-Its (53%), and occasionally the videos (6%). So while the Try-Its were shown to have more attracting power as mentioned in the Visitation section above, it is the collections objects, more so than the interactives, that visitors mention stimulating their conversions (see Figure 3).

Interview data provides more insight into these conversations. Visitors reported that their discussions focused on **particular objects** or a general fascination with the objects, **the people** behind the inventions, explaining **persuasion and scientific evidence**, and sharing **personal connections**. Statements from each category serve as examples below:

Object Focus:

[We] talked about the advertisements and how recent most of them were.

[We discussed] the novelty of the artifacts.

People Focus:

Some people want money and others actually want to help but are wrong. What made the original inventor believe in these treatments?

We were wondering what the hell these charlatans were trying to pull off and why.

Persuasion and Evidence Focus:

The vibration treatments - it's amazing that people thought it worked for such a long time without evidence.

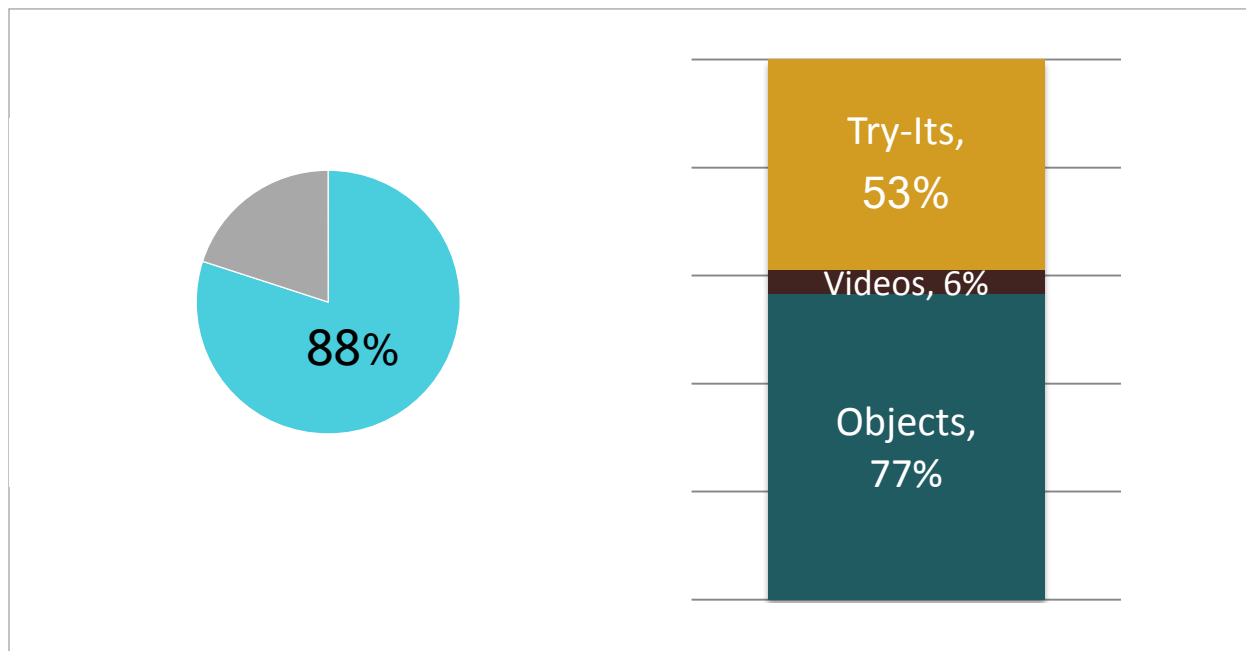
[I] explained to kids about idea of false science.

Personal Focus:

I remember seeing weight thing on ad as a kid.

We talked about people in his family who had experienced the placebo effect.

Figure 3: Pie Graph of Percent of Survey Respondents who had reported conversations and Stacked Bar Graph Delineating the Focus of those Conversations



Reflection

Personal Connections

While the interactives were enticing and visitors reported enjoying the exhibition and having fun, *Weighing the Evidence* also encouraged reflection. Visitors seem to have reflected personally on the exhibit, with 57% of survey visitors reporting finding themselves thinking about decisions they've made about medical treatments including these thoughts:

[My] daughter has Type 1 diabetes. [I'm] expert on it now, but am skeptical of others' advice.

I'm supposed to have my last chemo treatments. I was thinking about not having this one, but now I'm thinking "what if I don't?" I love looking at the artifacts, and the advances we've made since then.

I buy supplements (Vitamins). It makes me think if it really helps.

I worked for a chiropractor's office and they still have light devices which they charge people to use, and I don't know if it's just a placebo or not.

People call me to ask about new technology, particularly senior citizens and my mother in law because we are her caretaker, I tell them to consider what they're buying. People taunted Louis Pasteur about his beliefs; science isn't always willing to embrace change either.

Weighing the Evidence

Summative Evaluation

The color therapy - all my kids had jaundice and had to go through blue light color therapy. My niece has Rhett's Syndrome, and also went through some color therapy at a pediatric hospital, so it wasn't just some guy doing it.

Value of psychotherapy. My daughter is depressed and looking for a therapist. Will it actually work? Is this therapist really worth the money?

Memorable Components

Visitors were asked, "What is one piece of information from the exhibit that really stuck with you?" While 15% of respondents spoke about past medical devices as "fraud" and how "gullible" people were "back then" in response to this question, 33% percent of respondents moved the conversation to a bigger lesson they had learned about modern medicine or mentioned a new understanding of medical information they had gained.

I liked how there was a mix of old/failed remedies and new/failed remedies. It's not just like something that happens in the past- [the exhibit] showed how the two are linked. This stuff has always gone on- people selling a product to prey on insecurities.

Dieting pills don't have to be FDA approved.

Orgone. We always hear that doctors "found something new" but this example wasn't real. Provided new perspective on when doctors/scientists try to discover things.

The [incorrect] idea that something that looks scientific must work. We're always looking for easy answers [to medical problems].

The color therapy - I don't think it's complete trash - yeah, I don't think your broken bone is going to be healed by yellow light, but I think it can be effective for some conditions, especially mental conditions.

I like the mix of old-timey, how dumb we used to be, but also how dumb we are now. Bret Favre says copper helps his back, so we all use those stupid copper bracelets.

Interplay behind science and belief, there's an interplay behind science, like the placebo effect. Also, people are wired to improve their situation, to look for our benefit and will reach out to any new idea sometimes.

Though visitors were asked about a piece of information that stuck with them, 27% of respondents choose to talk about an object, which indicates compelling nature of the collection.

Visitors were also asked, "What is something you saw in the exhibit that really stuck with you?" Responses to this question were fairly widespread. However, half of all responses fell into one of three object categories: vibration treatments, phrenology, and drug choices. Given the popularity of the Try-Its and the shake chair, in particular, it is perhaps not surprising that the vibration treatments were mentioned in a quarter of the responses. The next most frequent topic mentioned was the psychograph and phrenology (15%), followed by drug choices, especially the video on

the placebo effect (10%). This selection of salient objects aligns with the two most used Try-Its based on observations and the top used video according to survey self-reports.

Healthcare Decisions

The qualitative data presented in this section indicates that visitors gained knowledge or perspective through their experience of *Weighing the Evidence*. Some of this critical thinking can be quantified based on likert scale survey responses about healthcare decisions and compared between the pre and post exhibit survey groups. For each healthcare decision making question, a Mann-Whitney test was used to compare responses between visitors who had not yet seen *Weighing the Evidence* and those who had just seen the exhibition. Responses to the statement “I feel I should rely on health experts to tell me what to do about my health problems.” were statistically different (Mann–Whitney $U = 3610$, $Z=2.37$, $p<.05$) between the pre and post exhibition groups. Visitors who had seen *Weighing the Evidence* indicated they did not feel as strongly that they should rely on health experts as compared with visitors who had not visited the exhibition. This might indicate an increase in skepticism or an increased understanding of the need for evidence and critical thinking, as suggested by the main message visitors expressed which are presented next.

Main Messages

The main message as communicated by visitors in response to the post-exhibit survey and interview question, “Briefly, what do you think the people who created this exhibit are trying to tell you?” was inductively coded into four categories: past, precautionary tale, story of progress, science promoter. These four categories represent how visitors encapsulated the exhibition. About 15 percent of interview and survey respondents expressed the purpose of the exhibit was to look at the past: “History of medical devices.” About a fifth of visitors phrased the exhibit main message as a precautionary tale (21%: “Beware of quack science”) or a story of progress (18%: “How far medicine has come”). However, the majority of respondents (45%), labeled as science promoters, furthered the storyline toward the importance of critical thinking and scientific evidence, “Just because someone makes a claim doesn't mean it's backed by true science.” Visitors’ summary of the exhibit main message reveal that the majority left the exhibit thinking critically about the relationship of the questionable medical devices on display to healthcare today.

Table 4: Summary of Exhibit Main Message Coding Categories

Coding Category	Past	Story of Progress	Precautionary Tale	Science Promoter
Percent Responses	15%	18%	21%	45%
Representative Quotes	About the "cures" of yesteryear	Times have changed. Great improvements in technology and what really works.	Don't trust every "medical" idea.	Some history of "medical" inventions and the importance of scientific method and studies.

Recommendations

While the exhibition seems to be meeting its overarching goals, there is room for improvement to enhance the visitor experience and increase impacts and outcomes. First, some recommendations were provided directly from visitors:

I wanted to have an answer key for all the X-rays. I recognized brown bone, hip replacement and screws, and extra finger, but others I didn't understand – maybe impacted wisdom teeth?
Wanted the key.

Add buttons that read; kids not attracted to text and want interaction. Maybe have buttons that ask questions for parents to help kids answer. When kids don't have interaction, parents don't have time to read.

Worth the trip from CA. Go to a lot of science things, and this exhibit is unique and special. Thought it was odd that the exhibit was all about evidence but the actual evidence wasn't presented. Next step: How to train people to evaluate the evidence? No evidence to evaluate presented. Example, Pacemaker v. other electric treatments; we have to just accept exhibit saying that one works and the other doesn't.

This last point aligns with the finding that while visitors are walking away with the intended general messages (it's good to be critical when looking for evidence; the most reliable healthcare information is based on scientific evidence; and new evidence emerges as science changes and treatments advance), fewer are expressing the more nuanced understanding of how to assess the quality of the evidence. Perhaps this is the one area for exhibition remediation: to work to increase the group of visitors labeled as science promoters (29%) who mentioned the importance of scientific rigor and further develop new strategies for questioning the evidence behind different health products. One route to this end might be drawing more attention to the cost, risks, benefits message thread already woven throughout the exhibit. While there are numerous ways to think through this, resetting the video interface and reworking the title tombstone might be feasible places to start.

The Cost, Risk, Benefits video is getting many fewer views compared to the Placebo Effect video (39% of visitors who watched a video saw Cost, Risk, Benefits vs. 74% who watched Placebo Effect). Perhaps one video is truly more enticing, or perhaps the interface could be changed so that the screen defaults to Cost, Risk Benefit or the order of the touch screen icons could be rearranged to minimize unintentional selection bias due to positionality. Another adjustment might be reworking the title tombstone to enhance its attracting power and to emphasize the cost, risk, benefits message. None of the 1000 visitors observed in this evaluation attended to the title tombstone, but research shows that labels are read more when paired with objects (Bitgood, 2014; Serrell, 1996). Perhaps including a compelling object or even a simple kinesthetic element (such as a tactile balance beam or sliding scale interactive) emphasizing the cost, risk, benefits message would entice visitors and help them engage with this concept.

Summary & Discussion

Recall that the evaluation question asked about:

- visitor use of exhibition components
- if the exhibit was fun while also thought provoking
- if the objects helped visitors make connections
- exhibit messaging and
- critical thinking strategies for examining evidence and making healthcare decisions

The results above provide information on the most visited exhibition components and indicate that the exhibition was enjoyable. The Try-Its were found to be particularly attractive to visitors, but it was the objects on display that incited the most conversation. So while more visitors attended to the hands-on elements and the screen technology, in general, the objects in the collection seemed to be more thought provoking. Recounts of their conversations reveal that visitors were making contemporary and personal connections to the issues presented and thinking critically about scientific evidence and healthcare decisions. For example, one visitor who responded affirmatively to the question, “Based on what you saw, are you considering changing how you will make future decisions about health treatments?” mentioned wanting to “do more research” by seeking out information from a source suggested in the exhibit.

On the Science Museum of Minnesota’s website, this exhibition is billed as follows:

Odd, fascinating, and outrageous objects from the Science Museum's Questionable Medical Devices collection are used in *Weighing the Evidence* to examine erroneous practices and fraudulent health products of the past and to illuminate parallel realities in our contemporary healthcare marketplace. The exhibition is rich in humor and entertaining interactives, but it also offers opportunities to reflect on science, society, ethics, and personal decision-making. Throughout *Weighing the Evidence*, visitors are urged to keep a few decision-making aids in mind: seek out trusted sources of information; ask lots of questions.

This evaluation adds data to that description. The collection objects were compelling and stimulated conversation, visitors understood these devices were fraudulent, and some visitors made parallel connections to medicine today and thought critically about their own healthcare decisions. The interactives were enticing and visitors saw humor in the exhibition, but they also engaged in thoughtful reflection. Many visitors walked away with the main messages aligned with the project goals including: it’s good to be critical when looking for evidence, the most reliable healthcare information is based on scientific evidence, and new evidence emerges as science changes and treatments advance. As one visitor said, “The exhibit was very easy to understand and all the items were very interesting to see- visually a very good exhibit, and interactive, also thought-provoking.”

Appendix A: Select Evaluation Instruments

Weighing the Evidence Post-Interview

Date:

ME:

Time:

1. While you were in this area, what did you look at or use today? (gesture to exhibit area and check off what they name/describe.)

<u>Try its</u>	<u>Videos</u>	<u>Objects</u>	<u>Other:</u>
<input type="checkbox"/> Orgone accumulator <input type="checkbox"/> Psychograph <input type="checkbox"/> Spectro Chrome <input type="checkbox"/> Shake chair <input type="checkbox"/> Violet Ray <input type="checkbox"/> Magnets <input type="checkbox"/> Perkins Tractors <input type="checkbox"/> Touch screen table	<input type="checkbox"/> Placebo Effect <input type="checkbox"/> Good and Bad Science <input type="checkbox"/> Cost Risks and Benefits	<input type="checkbox"/> Dieting and supplements <input type="checkbox"/> Diagnostic objects <input type="checkbox"/> Light-based treatments <input type="checkbox"/> Magnetic treatments <input type="checkbox"/> Electricity-based treatments <input type="checkbox"/> Radiation treatments <input type="checkbox"/> Orgone treatments <input type="checkbox"/> Title objects <input type="checkbox"/> Vibration treatments	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>

2. What do you think the people who created this exhibit are trying to tell you?

3. What is one piece of information from the exhibit that really stuck with you?

4. What is something you saw in the exhibit that really stuck with you? (note to interviewer: can prompt to say you are asking about objects, images, media, as well as text. It's okay, if after prompting, they have the same answer as above)

5. While you were in the exhibit, did you find yourself thinking about decision's you've made (for yourself or your family) about medical treatments? Yes No

5a. [If yes] What were you thinking about? (If you are comfortable talking about it) [If no] Was there a reason you didn't?

6. Before seeing this exhibit, what did you do to decide if a treatment is the right choice for you (before you decided to take/use it)?

7. Based on what you saw, are you considering changing how you will make future decisions about health treatments?

Yes No

7a. [if YES] In what ways? What about the exhibit makes you say that?

8. Did you talk to other people in your group about things you saw or did while you were in the exhibit?

Yes No I visited the exhibit alone

8a. [if yes] What did you talk about? [Probe about why they talked about those things] [if No] Were there any reasons why?

9. Is there anything else you'd like to share about this exhibit?

[Hand over the demographics section for the respondent to complete]

1

Weighing the Evidence

Summative Evaluation

Demographics

For the last set of questions we want to know a little bit about you because we want to better understand whether the exhibit works the same way for everyone. You may skip any or all of the questions.

D1. Including yourself, who are you visiting the museum with today?

(Check ALL that apply)

- Someone 18 years or older
- Someone younger than 18
- There is no one else in my group, it's just me today

D2. How old are you?

D3. What is your gender?

- Female
- Male
- Transgender
- Do not identify as female, male, or transgender
- Prefer not to say

D4. What is your race/ethnicity? (check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> American Indian/Native American/Alaskan Native | <input type="checkbox"/> White or Caucasian |
| <input type="checkbox"/> Asian | <input type="checkbox"/> Multiracial (unspecified) |
| <input type="checkbox"/> Black/African-American | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Hispanic or Latino | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Native Hawaiian or other Pacific Islander | |

D4. Which one of the following categories best represents your highest level of education?

- | | |
|---|---|
| <input type="checkbox"/> Grade school | <input type="checkbox"/> Associates degree |
| <input type="checkbox"/> Some high school | <input type="checkbox"/> Bachelors degree |
| <input type="checkbox"/> High school degree | <input type="checkbox"/> Post-graduate degree |
| <input type="checkbox"/> Some college | |

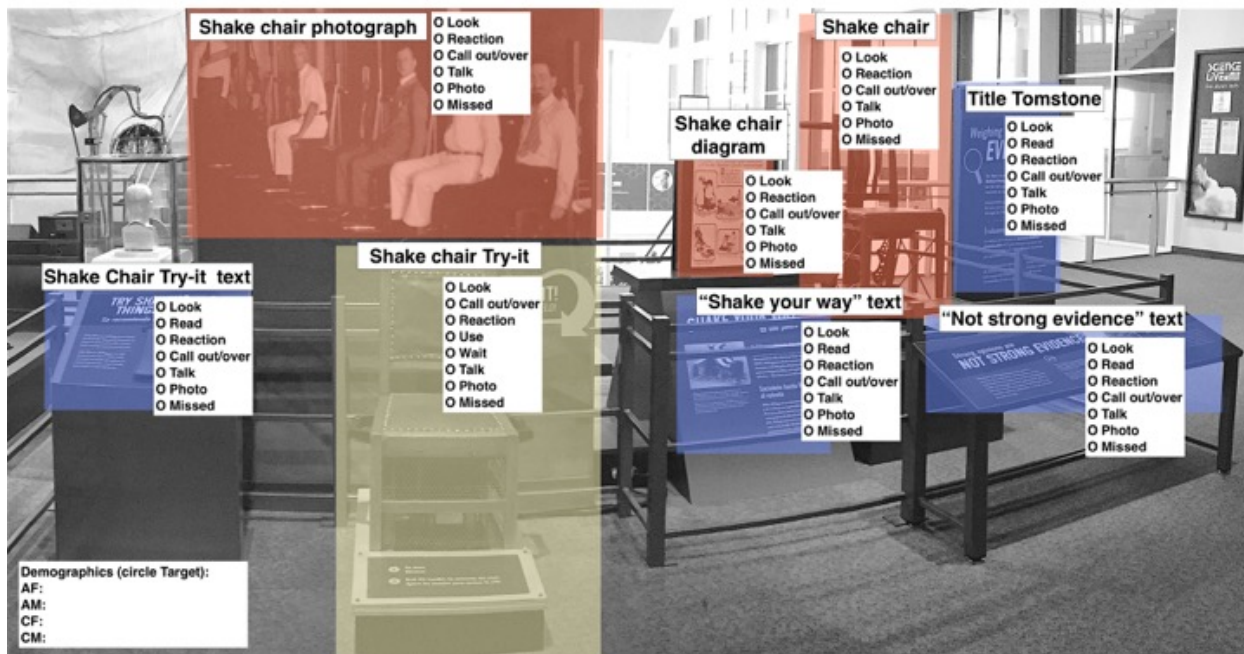
D5. What is your annual household income?

- | | |
|--|--|
| <input type="checkbox"/> Less than \$25,000 | <input type="checkbox"/> \$150,000 - \$199,000 |
| <input type="checkbox"/> \$25,000 - \$49,999 | <input type="checkbox"/> \$200,000 - \$249,000 |
| <input type="checkbox"/> \$50,000 - \$74,999 | <input type="checkbox"/> \$250,000 - \$299,000 |
| <input type="checkbox"/> \$75,000 - \$99,999 | <input type="checkbox"/> \$300,000 or more |
| <input type="checkbox"/> \$100,000 - \$149,999 | |

Sample Observation Sheet

Weighing the Evidence: Observations

Island A: Zone 2

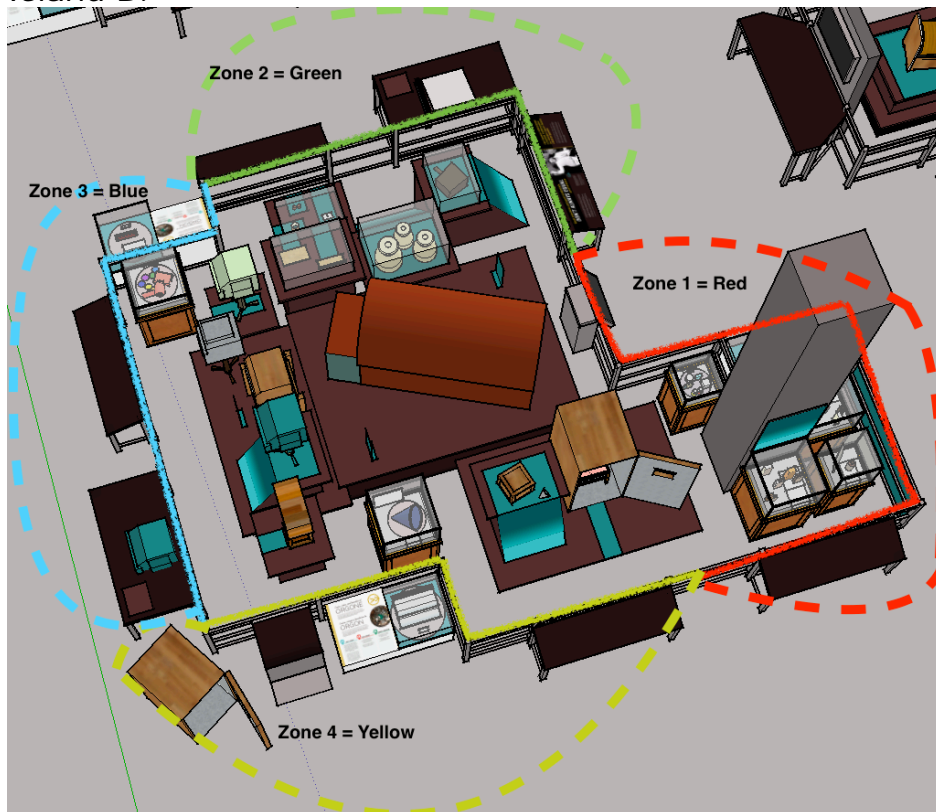
Date:
Time:
ME:**Look:** Feet planted, facing component for at least 3 seconds.**Read:** Continuing to look at components with text beyond initial 3 seconds.**Use:** Engages with "Try-It" components for more than 3 seconds. Engagement is intentionally exploring the interactive; superficial use is "Look" or "Read"**Reaction:** Visible reaction to information, images, objects. Laughing, frowning, gasping, snickering**Call out/over:** Beckoning another person in target group to see/hear/experience something in the exhibit. Includes pointing and reading things aloud**Talk:** Members of target individual's group seem to be speaking to each other about something in the exhibit beyond an initial calling over.**Photo:** Taking a photo of or with exhibit component.**Wait:** Member of target group waits to use a Try-It component.**Missed:** No one in group used or looked at component.

Appendix B: Sample Exhibition Diagrams

Island A:



Island B:



Appendix C: Objects in Top Quartile of Observed Attracting Power



References

Bitgood, S. (2014). Exhibition Design that Provides High Value and Engages Visitor Attention. *Exhibitionist*, 33(1), 6-11.

Serrell, B. (1996). *Exhibit labels: An interpretive approach*. Walnut Creek: Alta Mira Press.