International Food Information Council Foundation
Food Label Consumer Research Project

Exploring how to enhance consumers’ ability
to make healthful, balanced diet choices
using the Nutrition Facts panel (NFP)

The International Food Information Council Foundation Food Label Consumer Research Project.
International Food Information Council Foundation

Mission:
To effectively communicate science-based information on health, nutrition, and food safety for the public good.

Our programs are primarily supported by the broad-based food, beverage, and agricultural industries. The Foundation does not lobby or further any political, partisan, or corporate interest.

www.foodinsight.org

The International Food Information Council Foundation is a non-profit organization based in Washington, DC. The Foundation is governed by an independent Board of Trustees, with a majority of Trustees coming from academic institutions.

This research is meant to gain an understanding of how to enhance consumers’ ability to make healthful, balanced diet choices using the Nutrition Facts panel (NFP). Provision of this information by the International Food Information Council Foundation does not indicate an endorsement of any specific label enhancement tested in the research but is provided only as a source of information per our mission.
This slide provides an overview of the three phases of the International Food Information Council Foundation’s Food Label Consumer Research Project.
Objectives for Each Phase

Phase I – Ethnographic Interviews
Objective: Understand how consumers make food and beverage purchasing decisions using the Nutrition Facts panel (NFP) in the context of the entire package, as well as other food and nutrition information sources and purchase considerations.

Phase II – Refine the Current NFP (focus groups)
Objective: Explore potential improvements or enhancements to the NFP and packaging design that would facilitate consumers’ decisions.

Phase III – Quantitative Web Survey (experimental design)
Objective: Measure to what extent specific NFP changes or enhancements, compared to the current NFP, help consumers interpret NFP information.
The Foundation has shared data from the all three phases of the Food Label Consumer Research Project with the FDA and others through briefings over the past few years. Summary reports of all phases are available on the Foundation’s Web site, www.foodinsight.org.

The Foundation is currently working to publish the full findings from the research in a peer-reviewed journal.
This slide illustrates the key findings from Phase I: Consumers use the NFP in specific circumstances, but not all elements of it are used.
Key Findings from Phase II:
Three Primary Challenges to NFP Use

Phase II research found three primary challenges limiting consumers’ ability to use the NFP to make healthful, balanced choices.

1. Consumers find the serving size information misleading.
2. Consumers do not consider their consumption of foods and beverages in the context of their daily intake.
3. Consumers do not realize information to help them interpret daily context exists on the current NFP.

This slide details the key findings from Phase II: Consumers have three primary challenges limiting their ability to use the NFP to make healthful, balanced choices.
Key Findings from Phase II: Consumers’ Desired NFP Enhancements

Based on the primary challenges limiting consumers’ ability to use the NFP, three desired improvements were identified:

1. **Clarify serving size.**
   Illustrate that serving size is not arbitrary and increase consumers’ ability to comprehend how serving size relates to the entire NFP.

2. **Call attention to daily intake.**
   Encourage consumers to think about all the foods and nutrients that make up a balanced diet.

3. **Simplify % Daily Value.**
   Improve %DV use and comprehension.

Based on their three primary challenges to NFP use, consumers’ suggested NFP enhancements that may address their challenges.
A more detailed summary report for Phases I and II is available at:
Proposed Enhancements

After qualitatively testing several potential variations of enhanced NFPs, the following emerged as those most likely to address the issues that hamper consumers’ ability to use the NFP to make healthful, balanced choices.

We will now explore the proposed NFP enhancements that were designed to address the three primary challenges consumers face when using the NFP.
**Proposed Solutions to Consumer Challenges**

- **Challenge #1: Consumers find the serving size information misleading.**
  - Solution:
    - Reference FDA in the “Amount Per Serving” header to illustrate that serving size is not arbitrary
    - Include entire package information for those products consumers are likely to eat/drink in one sitting to increase consumers’ ability to comprehend how serving size relates to the entire NFP

Slides 11-13 will provide consumers’ potential solutions to address their primary challenges when using the NFP.
Proposed Solutions to Consumer Challenges

- **Challenge #2:** Consumers do not consider their consumption of foods and beverages in the context of their daily intake.
  - **Solution:**
    - Include %DV of calories to encourage consumers to think about how calories play a part in a balanced diet
    - Include %DV of vitamins/minerals
    - Link serving sizes to MyPyramid using the easy-to-identify graphic to encourage consumers to think about all the nutrients that make up a balanced diet and reference MyPyramid information Web site to obtain personalized nutrient information

Slides 11-13 will provide consumers’ potential solutions to address their primary challenges when using the NFP.
Proposed Solutions to Consumer Challenges

• Challenge #3: Consumers do not realize information to help them interpret daily context exists on the current NFP (%DV).
  – Solution: Move the %DV explanation footnote into a column next to %DV to encourage consumers to think about how serving size relates to the entire NFP

Slides 11-13 will provide consumers’ potential solutions to address their primary challenges when using the NFP.
The following three NFPs enhancements, based on proposed solutions, were developed to address at least one of the major challenges. Entire Pack Addition
3rd Column Addition
MyPyramid Addition

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Entire Pack NFP Enhancement

Issues addressed:

- Misunderstanding of serving size
- Desire for nutrient/calorie information for entire package for “relevant” products
- FDA serving size reference
- %DV for calories and gram amounts for vitamins and minerals

Slides 15-17 provide greater detail for each of the three NFP enhancements that were developed and the challenges they address.
Issues addressed:

- Lack of awareness of current daily amounts
- FDA reference
- %DV for calories and gram amounts for vitamins and minerals

Slides 15-17 provide greater detail for each of the three NFP enhancements that were developed and the challenges they address.
MyPyramid NFP Enhancement

### Nutrition Facts

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>200</td>
</tr>
<tr>
<td>Total Fat</td>
<td>2g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>1g</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>5mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>110mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>25g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>5g</td>
</tr>
<tr>
<td>Sugars</td>
<td>4g</td>
</tr>
<tr>
<td>Protein</td>
<td>3g</td>
</tr>
</tbody>
</table>

- **Vitamin A:** 86%
- **Vitamin C:** 4%
- **Calcium:** 20%
- **Iron:** 6%

*Values are based on a 2000 calorie diet.*

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**Issues addressed:**

- Alternate form of daily amount information
- Represents servings and sizes via the *MyPyramid* graphic/footnote

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Slides 15-17 provide greater detail for each of the three NFP enhancements that were developed and the challenges they address.
Research Approach: Phase III
Web Survey and Experiment

COGNITIVE TEST
• Confirm differences in comprehension by NFP enhancement exist
• Identify areas of misunderstanding
• Inquire about responses
• Query potential improvements

REFINE
• Simplify language
• Shorten overall survey
• Create one introduction for like questions to improve visual

FIELD
• Collect data

This slide describes the process by which the Web survey and experiment for Phase III was developed. Phase III quantitatively measures differences in consumers' comprehension of the NFP based on the NFP to which they are exposed (e.g., can consumers more easily identify calories on the current or an enhanced NFP?). To achieve these objectives, the Web survey employed a quantitative control-group approach (monadic design). This approach reveals differences among otherwise equal and representative groups of consumers – with the primary variable being the NFP to which the consumer was exposed.

To ensure there were differences between the control group and NFP enhancements and to strengthen the wording of the questions, a qualitative cognitive-test was completed among several consumers. Based on their responses, the survey instrument was improved prior to fielding.
This slide provides an overview of the methodology for Phase III of the Foundation Food Label Consumer Research.
Each label (current NFP and each of the three enhancements) was tested in conjunction with the mention of one of the following products: “frozen dinner for two;” “dairy-based smoothie beverage;” or “trail mix” for a total of 12 cells overall.
Key Phase III Findings: Consumer Ability to Use NFP Enhancements

In order to determine whether the enhancements may help consumers make more healthful choices, it is critical to evaluate their ability to correctly identify and comprehend the information presented.

1. More consumers were able to correctly evaluate the information presented by using some of the enhancements compared to the current NFP.

2. Overall, the 3rd column addition helped consumers with more of the primary challenges limiting consumers’ ability to use the NFP to make healthful, balanced choices than the other enhancements.

This slide provides an overview of the Phase III findings.
Findings by Current NFP Obstacle

Challenge #1: Consumers find the serving size information misleading.

Key Finding: Mention of government helps, and placement may be critical.

While consumers are still not clear on who determines serving size, those who viewed the 3rd column NFP are significantly more likely to believe the government provides guidance than those who viewed the Current or Entire Pack NFP.

The 3rd column NFP positively influences consumers' trust in the NFP. Mention of government involvement helps, and placement may be critical.

Food Label Consumer Research
Phase III Findings: Web Survey

Slides 22-25 detail Phase III findings by the NFP challenge related to the serving size.

While consumers are still not clear on who determines serving size, those who viewed the 3rd column NFP are significantly more likely to believe the government provides guidance than those who viewed the Current or Entire Pack NFP.
Key Finding: Consumers who were shown the 3rd Column, Current, and MyPyramid NFPs are significantly more likely to correctly identify serving size, than those shown the Entire Pack NFP.

When identifying the absolute serving size, the Entire Pack NFP confuses more consumers compared to other NFP types.

Significantly more consumers say the serving size is very hard to figure out on the Entire Pack NFP.

Slides 22-25 detail Phase III findings by the NFP challenge related to the serving size.

The majority of consumers could correctly identify the serving size on the current NFP, 3rd column, and MyPyramid NFPs. Significantly fewer got it correct using the Entire Pack NFP.
Challenge #1: Consumers find the serving size information misleading for specific product types, i.e., those that could easily be consumed in one sitting.

Key Finding: Placement of “per the FDA” in the Serving Size header does not positively impact consumers trust in its accuracy.

Significantly more Americans trust the serving size on the 3rd Column NFP compared to the Current NFP (but not the Entire Pack). This may be attributed to the placement of the information, i.e., the “per the FDA” note is in the main body of the panel on the 3rd Column NFP, versus in the header or footer of the Entire Pack and MyPyramid NFPs, which we know consumers are less likely to reference.

Slides 22-25 detail Phase III findings by the NFP challenge related to the serving size.

The inclusion of “per the FDA” in the serving size header of the Entire Pack NFP was hypothesized to increase consumers trust in its accuracy. Consumers trust the serving size more on all three NFP enhancements than they do the Current NFP – and all three enhancements mention the government.
Challenge #1: Consumers find the serving size information unrealistic for products that could easily be consumed in one sitting.

Key Finding: The Entire Pack NFP helps consumers correctly calculate the nutrients and calories in an Entire Package.

When it comes to calculating calories and nutrients in the entire package of a product, the Entire Pack NFP is the winner. This NFP helps consumers calculate the number of calories and the %DV of a macronutrient in the entire package. While the majority of consumers correctly calculate the total number of calories on all NFP types, significantly more are correct using the Entire Pack NFP.

Slides 22-25 detail Phase III findings by the NFP challenge related to the serving size.

Significantly more consumers correctly calculate the total number of calories in a product when using the Entire Pack NFP; however, the majority of consumers correctly calculate it on all NFP types.
### Challenge #2: Consumers do not consider their consumption of foods and beverages in the context of their daily intake.

**Key Finding:** More than any other NFP, the 3rd column makes it obvious that the NFP provides information about the recommended number of calories and specific nutrients the average person should eat in an entire day.

When asked if consumers would be meeting recommendations, getting too much or getting below the recommended amount of saturated fat, significantly more referencing the current and 3rd column NFP were correct, compared to the Entire Pack and MyPyramid NFPs.

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>10 fluid ounces (295 mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>210</td>
</tr>
<tr>
<td>Calories from Fat</td>
<td>20g</td>
</tr>
<tr>
<td>Total Fat</td>
<td>4g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>1g</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>1g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>35mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>450mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>55g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>4g</td>
</tr>
<tr>
<td>Sugars</td>
<td>22g</td>
</tr>
<tr>
<td>Protein</td>
<td>10g</td>
</tr>
</tbody>
</table>

Slides 26-27 detail Phase III findings by the NFP challenge related to daily intake.
Key Finding: While consumers feel the *MyPyramid* graphic is easy to use, actual comprehension does not vary by NFP type.

It was hypothesized that including the *MyPyramid* information may help consumers think about their consumption of a product in the context of their daily intake. While consumers say it was easy to figure out the number of food group servings in a product using the *MyPyramid* graphic, equal numbers of consumers actually got the answer correct using all NFP types.

Slides 26-27 detail Phase III findings by the NFP challenge related to daily intake.

Using all NFP types, equal numbers of consumers accurately determined the number of food group servings in a product; however, those using the *MyPyramid* NFP found it easier to do.
Findings by Current NFP Obstacle

Challenge #3: Consumers do not realize the information to help them interpret daily context (%DV) exists on the NFP.

Key Finding: The 3rd column NFP helps consumers correctly interpret the percent daily value of nutrients and calories.

While %DV is still challenging for consumers to understand (only about half to two-thirds correctly interpret), significantly more can identify the %DV in one serving using the 3rd column NFP than the Current. Significantly more Americans also correctly identify the number of calories in one serving using the 3rd column NFP compared to all other NFP types. Still, the %DV column in the 3rd column NFP is selected by many consumers as the most confusing element of the grid.

This slide details Phase III findings by the NFP challenge related to daily context (%DV).

While only about half to two-thirds of consumers correctly interpret %DV, significantly more can identify the %DV in one serving using the 3rd column NFP enhancement than the current. However, the %DV column in the 3rd column NFP enhancement is selected by many consumers as the most confusing element of the grid, perhaps because it is a completely new way of providing the information that is in in the current NFP footnote.
This slide illustrates how the current and enhanced NFPs performed on individual measures. On this chart, both statistical significance (denoted by capital letters) and numerical improvement (represented by the colors) are included.

Capital letters denote a statistically significant improvement compared to the noted NFP at 95% confidence.

Colors, as illustrated in the key in the upper right hand corner of the slide, represent numerical improvement. The darker the green, the better the label performed and the higher the scores for that particular challenge. Scores were determined by two types of measures: 1) consumers’ ability to correctly comprehend information (answer questions correctly) and 2) their perception of how easy or hard it was to do so. While the colors do not denote statistical significance, they do represent a numerical improvement, decline, or equivalence in scores when compared to the Current NFP.

For a closer look at the above information, please see the following slides (31 and 32).
This slide illustrates how the current and enhanced NFPs performed on individual measures. On this chart, both statistical significance (denoted by capital letters) and numerical improvement (represented by the colors) are included.

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Here is an example of how to interpret the colors and capital letters:
Consider consumers’ ability to identify the amount of recommended calories in an entire day (sixth row in the chart on the slide). Scores are numerically higher for consumers who were exposed to the Current NFP, Entire Pack NFP, and 3rd Column NFP than those exposed to the Pyramid NFP. There was a statistical difference between how consumers scored on this measure using the 3rd column compared to all other NFP conditions; in other words, consumers’ scores are significantly more correct when exposed to the 3rd Column NFP than the three other NFPs.
This slide illustrates how the current and enhanced NFPs performed on individual measures. On this chart, both statistical significance (denoted by capital letters) and numerical improvement (represented by the colors) are included.

Capital letters denote a statistically significant improvement compared to the noted NFP at 95% confidence.

Colors, as illustrated in the key in the upper right hand corner of the slide, represent numerical improvement. The darker the green, the better the label performed and the higher the scores for that particular challenge. Scores were determined by two types of measures: 1) consumers’ ability to correctly *comprehend* information (answer questions correctly) and 2) their *perception* of how easy or hard it was to do so. While the colors do not denote statistical significance, they do represent a numerical improvement, decline, or equivalence in scores when compared to the Current NFP.

### NFP Enhancement Performance with Product Neutralized

<table>
<thead>
<tr>
<th>NOTE: Caps denote statically-significant improved performance compared to noted NFP at 95% confidence</th>
<th>Current (C)</th>
<th>Entire Pack (EP)</th>
<th>3rd Column (3C)</th>
<th>MyPyramid (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to identify whether the entire package met, exceeded or came below the recommended amount of a nutrient</td>
<td>EP, P</td>
<td>EP, P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to correctly calculate the amount of nutrients left to consume in a day if entire package was consumed</td>
<td></td>
<td>C, EP, P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of correctly calculating the amount of nutrients left to consume in a day if entire package was consumed</td>
<td></td>
<td>C, EP, P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to correctly calculate absolute value of nutrient in <em>entire package</em></td>
<td>C, 3C, P</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to correctly calculate calories in <em>entire package</em></td>
<td>C, 3C, P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to identify %DV of a nutrient in <em>entire package</em></td>
<td>C, 3C, P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to identify %DV of a nutrient in <em>one serving</em></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to correctly calculate number of food groups based on MyPyramid recommendations</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of calculating food groups based on MyPyramid recommendations</td>
<td></td>
<td>C, 3C, EP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In Summary

• The mention of a government body, like the FDA, in a highly used area of the NFP, such as a header in the main body of the NFP, increases trust in the information provided, particularly serving size.

• Moving the location of calories into the main body of the NFP encourages greater use.

• Adding the %DV of calories helps consumers consider a product within the context of their daily diet.

• Moving the information in the current footnote into an easily referenced column in the main body of the NFP (3rd column) greatly increases consumers’ ability to evaluate a product.

This slide provides a summary of Phase III findings and components of the NFP enhancements that consumers found most helpful.
It is worth considering further research to determine whether the benefits of certain enhancement components outweigh any confusion they may generate.
For Consideration Continued...

- Many factors and influencers, not just labeling, impact consumers’ food choices.
  - Phase I found that consumers take into consideration the look of the package; claims and statements on the front of the package; input from others; sales or specials; as well as other factors when making food choices; not just the information provided on the NFP.

- There is variation between what consumers’ say they like and what they will do with the information.
  - Findings from Phase I indicate that consumers do not actually use the NFP as frequently as they report.

Multiple factors influence consumers’ food purchasing decisions besides label information, including the NFP.
For Consideration Continued...

• Consumer research is necessary to ensure that new approaches help achieve desired goals and outcomes.
  • More research is needed to determine if these NFP enhancement components will prove helpful in a “real world” setting and have a positive impact on consumers’ health.

• Nutrition information must be accompanied by appropriate consumer education to achieve some success.

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Any changes need to be tested with consumer research to ensure they help consumers make healthful, balanced food choices. Also, any changes must be accompanied by appropriate consumer education to ensure consumers know how to correctly use the information they are provided.
For more information on the International Food Information Council Foundation’s Food Label Consumer Research, please contact Wendy Reinhardt Kapsak, MS, RD, Senior Director of Health and Wellness at the Foundation (reinhardt@ific.org).