Sodium: On American Plates and Minds?

Consumer Perceptions and Behaviors Regarding Dietary Sodium
A Consulting and Communications Company

Specializing in food, beverage, nutrition, health and wellness
Learning Objectives

**After the session, participants will be able to...**

Compare and contrast behavioral determinants of sodium consumption among the general population and specific subgroups.

Employ communication strategies to empower behavior change related to sodium consumption.
SETTING THE STAGE
What’s the problem?

Hypertension (aka, High Blood Pressure)
- Blood pressure is the force of blood pushing against the arterial walls.
- If blood pressure remains high for a long time, it can damage the heart and lead to health problems.
  - Heart Disease
  - Stroke
- Often asymptomatic ("The Silent Killer")
How big of a problem is it?

**Adults**
- About 78 million have been diagnosed with hypertension (approx. 1 in 3)
- Nearly 1 of 3 American adults has pre-hypertension

American Heart Association, 2013
Two thirds of those with elevated blood pressure are able to manage it with medication.

To the best of your knowledge, is your blood pressure...

- High or higher than normal: 12%
- Normal (or in the normal range) with medication: 22%
- Normal (or in the normal range) without medication: 57%
- Low or lower than normal: 6%
- Not sure: 2%

IFIC, 2013 (n=1,006)
How big of a problem is it?

Children
• 1 in 6 children age 8-17 years old has raised blood pressure (pre-high blood pressure or high blood pressure)
Risk Factors of Hypertension

- Dietary Na
- Alcohol
- Smoking
- Stress
- Sedentary

- Genetics
- Overweight
- Ethnicity
- Age
- Diabetes
The Great Sodium Debate

Salt: Why Top Experts Give Wildly Conflicting Advice And What To Do Until They Figure It Out

Salt Doesn’t Cause High Blood Pressure? Here’s What a New Study Says

Death By Salt? New Study Finds Too Much Sodium Is A Global Killer

Low-Salt Diets May Pose Health Risks, Study Finds

Findings Are Latest Challenge to Benefits of Aggressively Low Sodium Targets

Excess sodium intake linked to 1.65 million deaths annually
Sodium Consumption in America

**Adults & Children**
- 9 in 10 eat more than recommended amount of sodium
- Average intake approx. 3300/3400 mg

CDC, 2014.
Sources of Sodium

Processed Foods
• Approx. 75% of the sodium in the average American diet comes from salt added to processed foods.

Salt shaker
• 10-12% added at the table or during cooking
The Great Sodium Debate

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Findings Are Latest Challenge to Benefits of Aggressively Low Sodium Targets

Excess sodium intake linked to 1.65 million deaths annually
BEHAVIORAL DETERMINANTS OF SODIUM CONSUMPTION
In 2014, half of all Americans have given a lot of thought to the healthfulness of foods and beverages they consume.

Over the past year, how much thought have you given to the healthfulness of the foods and beverages you consume?

- **A lot**: 58% (2014), 56% (2013), 51% (2012)
- **A little**: 40% (2014), 40% (2013), 36% (2012)
- **None**: 7% (2014), 3% (2013), 6% (2012)
- **Not sure**: 2% (2014), 1% (2013), 1% (2012)

Who is more likely to have given a lot of thought to the healthfulness of what they consume?

- College grads
- Women
- Lower BMI

IFIC, 2014.
Most Americans feel they have significant control over their activity, diet, and weight—more so than their attractiveness or earnings.

How much control do you believe it is possible to have over...?

% believing they have a high level of control

(4 or 5 on 1-5 scale)

- The level of your physical activity: 90%
- The healthfulness of your diet: 88%
- Your happiness: 83%
- Your weight: 81%
- Your physical attractiveness: 56%
- The amount of money you make: 44%
- The safety of the foods and beverages you consume: 41%

IFIC, 2013.

2013 (n=1,006)
Half of Americans believe complete control over the healthfulness of their diet is possible, but only three in ten try to control it a great deal.

How much control do you believe it is possible to have over: How much do you try to control:

**The healthfulness of your diet**

- Amount of control possible
- Amount of control attempted

<table>
<thead>
<tr>
<th>5 - Complete control/Try to control a great deal</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1 - No control possible/Do not try to control at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>49%</td>
<td>39%</td>
<td>39%</td>
<td>24%</td>
<td>2% &lt;0.5% 2%</td>
</tr>
<tr>
<td>29%</td>
<td>10%</td>
<td>2%</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

2013 n=1,006

IFIC, 2013.
Half of Americans feel that enjoying their food is more important than worrying about what’s in it.

To what extent do you agree or disagree with the following statements? (2012, n=1,057)

- I would rather just enjoy my food than worry too much about what's in it
  - Strongly Agree: 13%
  - Somewhat Agree: 40%
  - Total: 54%

- I would rather take a medication for a health condition than change my lifestyle
  - Strongly Agree: 4%
  - Somewhat Agree: 12%
  - Total: 16%

IFIC, 2012.
Of the 10 behaviors surveyed based on Dietary Guidelines recommendations, 93% began doing at least one in the past year or had been doing at least one more than a year.

Over the past year, which of the following, if any, have you made an effort to do?

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Began in Past Year</th>
<th>Doing for More Than a Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat more fruits and vegetables</td>
<td>31%</td>
<td>51%</td>
</tr>
<tr>
<td>Cut calories by drinking water, low and no calorie beverages</td>
<td>26%</td>
<td>53%</td>
</tr>
<tr>
<td>Eat more foods with whole grains</td>
<td>23%</td>
<td>49%</td>
</tr>
<tr>
<td>Cut back on foods higher in added sugars</td>
<td>25%</td>
<td>45%</td>
</tr>
<tr>
<td>Cut back on foods higher in salt</td>
<td>20%</td>
<td>46%</td>
</tr>
<tr>
<td>Consume smaller portions</td>
<td>30%</td>
<td>36%</td>
</tr>
<tr>
<td>Cut back on foods higher in solid fats</td>
<td>21%</td>
<td>42%</td>
</tr>
<tr>
<td>Compare sodium in foods like soup, bread, and frozen meals, and choose the foods with lower numbers</td>
<td>19%</td>
<td>40%</td>
</tr>
<tr>
<td>Balance calories to manage my weight</td>
<td>22%</td>
<td>35%</td>
</tr>
<tr>
<td>Cut back on full fat dairy and replace with a low- or no-fat alternative</td>
<td>15%</td>
<td>40%</td>
</tr>
</tbody>
</table>
Half of all Americans make an effort to avoid salt.

To what extent do you try to consume or avoid the following?

<table>
<thead>
<tr>
<th>% Try to limit or avoid entirely</th>
<th>% Try to get a certain amount or as much as possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium/salt</td>
<td>53%</td>
</tr>
<tr>
<td>flavonoids</td>
<td>53%</td>
</tr>
<tr>
<td>sugars in general</td>
<td>50%</td>
</tr>
<tr>
<td>omega-3 fats</td>
<td>36%</td>
</tr>
<tr>
<td>omega-6 fats</td>
<td>21%</td>
</tr>
<tr>
<td>omega-9 fats</td>
<td>19%</td>
</tr>
<tr>
<td>probiotics</td>
<td>18%</td>
</tr>
<tr>
<td>calories</td>
<td>13%</td>
</tr>
<tr>
<td>omega-9 fats</td>
<td>11%</td>
</tr>
<tr>
<td>omega-6 fats</td>
<td>10%</td>
</tr>
<tr>
<td>complex carbohydrates</td>
<td>10%</td>
</tr>
<tr>
<td>caffeine</td>
<td>9%</td>
</tr>
<tr>
<td>fats/oils</td>
<td>8%</td>
</tr>
<tr>
<td>mono/poly unsaturated fats</td>
<td>7%</td>
</tr>
<tr>
<td>soy</td>
<td>7%</td>
</tr>
<tr>
<td>sugars in general</td>
<td>5%</td>
</tr>
<tr>
<td>sodium/salt</td>
<td>4%</td>
</tr>
<tr>
<td>flavonoids</td>
<td>3%</td>
</tr>
<tr>
<td>calories</td>
<td>2%</td>
</tr>
<tr>
<td>omega-3 fats</td>
<td>2%</td>
</tr>
<tr>
<td>omega-6 fats</td>
<td>2%</td>
</tr>
<tr>
<td>probiotics</td>
<td>2%</td>
</tr>
<tr>
<td>calories</td>
<td>2%</td>
</tr>
<tr>
<td>omega-3 fats</td>
<td>2%</td>
</tr>
<tr>
<td>probiotics</td>
<td>2%</td>
</tr>
<tr>
<td>calcium</td>
<td>3%</td>
</tr>
<tr>
<td>fiber</td>
<td>4%</td>
</tr>
<tr>
<td>whole grains</td>
<td>4%</td>
</tr>
<tr>
<td>protein</td>
<td>4%</td>
</tr>
<tr>
<td>calcium</td>
<td>3%</td>
</tr>
</tbody>
</table>
If so many consumers are trying to cut back on salt and compare sodium, why are so few meeting Dietary Guidelines recommendations?
Just a bit about behavior change...

Transtheoretical Model of Change
Prochaska & DiClemente

Figure 1—Cognitive Dissonance Theory

The Health Belief Model

Social Cognitive Theory
Bandura
Sodium - To limit, or not to limit?

Sodium?

How much should I consume?

How much do I consume?

Should I be concerned?

Should I buy low-sodium?

Will it taste good?
BARRIERS: WHY CONSUMERS DO NOT LIMIT SODIUM
While more than a third of consumers have heard about the Government recommendation to decrease sodium consumption, about half are still unaware.

As far as you know, has the Government made any recommendations regarding sodium consumption?

2011 (n=1,003)

- Yes, increasing: 1%
- Yes, decreasing: 37%
- Don’t know: 53%
- No recommendations: 9%
Overall, more than 4 out of 10 consumers are concerned with their personal sodium intake.

IFIC, 2011.
Awareness of personal sodium consumption is low, including among those with high blood pressure or heart disease.

As far as you know, how much sodium do you personally consume in one day?

<table>
<thead>
<tr>
<th>Sodium Intake</th>
<th>Total n=1003</th>
<th>High Blood Pressure n =290</th>
<th>Heart Disease n=74</th>
</tr>
</thead>
<tbody>
<tr>
<td>About 3,000 mg</td>
<td>59%</td>
<td>59%</td>
<td>61%</td>
</tr>
<tr>
<td>About 2,300 mg</td>
<td>11%</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>About 1,500 mg</td>
<td>18%</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>About 1,000 mg</td>
<td>9%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Don't know</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
</tr>
</tbody>
</table>

IFIC, 2011.
Taste continues to be the number one factor driving food and beverage selection.

How much of an impact do the following have on your decision to buy foods and beverages?
(% Rating 4 to 5 on 5-point scale, from No Impact to A Great Impact)

2014 n=1,005
Arrows indicate significant (.95 level) differences vs. 2013.
IFIC, 2014.
When Americans choose not to limit sodium, it is because they believe they are in good overall health and because of taste.

**[IF NOT LIMITING SODIUM INTAKE]** For which of the following reasons are you not limiting your sodium intake? 2011 (n = 541)

- I am in good overall health: 44%
- Taste: 36%
- Not convinced I need to: 31%
- Don't really care all that much: 20%
- I have low blood pressure: 20%
- Lack of willpower: 14%
- Don't know how/lack information: 12%
- Conflicting information about whether or not I should: 9%
- Physical performance: 9%
- I don't need to since I'm on blood pressure medicine: 7%
- I don't think sodium is bad for you: 6%
- Don't have enough time: 5%
- Can't afford to do it: 4%
- It's too difficult: 4%
MOTIVATORS: WHY CONSUMERS DO LIMIT SODIUM
The most common reasons Americans consider the sodium content of their foods are to prevent a future health condition, reduce their risk of heart disease, and improve overall health.

Which of the following, if any, are reasons why you consider the salt/sodium content of the foods and beverages you buy?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>To prevent a future health condition</td>
<td>69%</td>
</tr>
<tr>
<td>To help reduce my risk of heart disease</td>
<td>64%</td>
</tr>
<tr>
<td>Because sodium plays a role in overall health</td>
<td>60%</td>
</tr>
<tr>
<td>To manage a current health condition</td>
<td>40%</td>
</tr>
<tr>
<td>I've read or heard that I should</td>
<td>28%</td>
</tr>
<tr>
<td>Products containing salt/sodium taste better compared to low-sodium products</td>
<td>15%</td>
</tr>
<tr>
<td>Some other reason</td>
<td>6%</td>
</tr>
</tbody>
</table>

2013 Base: Considers the presence/absence of salt/sodium (n=691)
Consumers are most likely to reduce the amount of sodium consumed by using less during or after food preparation.

**[IF LIMITING/LIMITED SODIUM INTAKE]** How do you/did you limit your sodium intake?

- Limiting the salt I use during food preparation: 72%
- Limiting the salt I put on foods after they're prepared: 69%
- Purchasing reduced or low sodium products: 57%
- Comparing labels of similar products and choosing lower sodium product: 51%
- Avoiding specific types of foods or beverages: 47%
- Reducing specific foods or beverages: 38%

IFIC, 2011.
SUBGROUP DIFFERENCES
African-Americans

• Less value for physical activity as a hypertension prevention or control strategy
  • More emphasis on diet and stress management
• More likely to cite taste as a reason for not limiting sodium
• Lack of culturally-relevant educational information
• Cultural identity is of critical influence

African-Americans

**Acting Different**
“I made a decision for my health reasons [to stop drinking]...and people look at me totally different. Totally! With family it's a good different, for real, but with others, it's not good.”

“Outside the family it's like ‘Who the heck is she? She gone all high and mighty? What's she gonna go change her lifestyle?’”

“I used to weigh 400 pounds and they don't like me now [that I've lost weight]. They think she thinks ‘She's this and that’, and it goes on in my family, I have nothing but myself, really, they're going to think that anyway...”
Seniors

More likely to be currently trying to limit sodium...

• To manage a current health condition (e.g., high blood pressure, pre-eclampsia, heart disease)
• Because they read or heard that they should
Seniors

Strategies for sodium management

- More likely to be limiting the salt put on foods after preparation
- More likely to deliberately purchase low or reduced sodium products
- More likely to compare labels of similar products and choose the lower sodium product

IFIC, 2011.
Seniors

**Barriers** include eating alone, loss of motivation to prepare foods, and lack education and counseling

**Motivators** include concern for family members and adverse health outcomes (stroke, heart attack, premature death)

- Want to see grandchildren grow up

Sheahan, 2008.
Least likely age group to be currently trying to limit or avoid sodium.

To what extent do you try to consume or avoid the following? 2014 (n=1,005)

- Millennials: 39%
- Gen X: 51%
- Boomers: 62%
- Silent: 70%
Millennials influenced by price and convenience more than previous generations.

How much of an impact do the following have on your decision to buy foods and beverages? (% Rating 4 to 5 on 5-point scale, from No Impact to A Great Impact)

<table>
<thead>
<tr>
<th></th>
<th>Millennials</th>
<th>Gen X</th>
<th>Boomers</th>
<th>Silent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taste</td>
<td>89%</td>
<td>86%</td>
<td>93%</td>
<td>91%</td>
</tr>
<tr>
<td>Price</td>
<td>78%</td>
<td>72%</td>
<td>73%</td>
<td>66%</td>
</tr>
<tr>
<td>Healthfulness</td>
<td>66%</td>
<td>69%</td>
<td>74%</td>
<td>77%</td>
</tr>
<tr>
<td>Convenience</td>
<td>60%</td>
<td>50%</td>
<td>47%</td>
<td>44%</td>
</tr>
<tr>
<td>Sustainability</td>
<td>36%</td>
<td>39%</td>
<td>37%</td>
<td>42%</td>
</tr>
</tbody>
</table>

IFIC, 2014.
IFIC Millennial Focus Group Research (2013)

Top Barriers to Healthful Diet
Nearly all participating Millennials acknowledge that they generally do not eat as healthfully as they would like.

Their top two reasons—lack of money and lack of time—parallel the top factors they identified as driving their food choices.

Most of their meals are unplanned and based primarily on what is available or accessible at the moment.

Social situations are a nutritional challenge, because they are both more likely to go to restaurant when they are with others and to choose less healthful options.

"I don’t have time. I’m so busy all the time. I go to a restaurant I’ll try to at least cheat a little, but I just can’t eat as healthy at a restaurant as I can eat because I eat a salad and I don’t believe you can make the bag of salad as expensive as the bag of fries. So I get a salad and I buy the chips because I can afford it.

Social situations are a nutritional challenge, because they are both more likely to go to restaurant when they are with others and to choose less healthful options.

"I don’t have time. I’m so busy all the time. I just can’t eat as healthy at a restaurant as I can eat because I eat a salad and I don’t believe you can make the bag of salad as expensive as the bag of fries. So I get a salad and I buy the chips because I can afford it."
IFIC Millennial Focus Group Research (2013)

Top Food Purchasing Goals

• Minimize cost
• Minimize the time it takes to shop for and prepare meals
• Pick up foods or eat in restaurants that are close to their home or workplace
• Eat "on the go"

"My early morning breakfast would be a couple of chicken rollers from 7-Eleven... Then at lunch, I would have a king size kit kat. Nowadays I go to 7-Eleven and I get a little turkey and ham sub... especially if I’m running late. I can grab it, I don’t have to wait for somebody to make it and all I’ve got to do is get to work."

"I had soup and salad from Olive Garden for lunch today. It was driven by convenience and price, because it’s all you can eat for $6 and it’s right next to my job."

IFIC, 2013.
POPULATION SOLUTIONS
Close to two thirds of Americans believe that reducing the amount of salt they consume will impact their preference for it.

To what extent do you agree with the following statement? 

*If you cut down on the amount of salt you eat, your preference for the taste of salt will change.*

2011 (n=1,003)

- Strongly agree: 24%
- Somewhat agree: 36%
- Neither disagree nor agree: 26%
- Somewhat disagree: 10%
- Strongly disagree: 5%
Forty-four percent of Americans are aware of food manufacturers’ efforts to decrease sodium in their products.

As far as you know, have food manufacturers made any changes recently to the sodium content of their foods?

2011 (n=1,003)

- Yes, decreasing 44%
- No changes 22%
- Don’t know, 42%
- Yes, increasing 3%

IFIC, 2011.
About half of Americans know little, if anything, about changes to the sodium content in foods made by restaurants.

As far as you know, have restaurants made any changes recently to the sodium content of their foods?

2011 (n=1,003)

- Yes, increasing 3%
- Yes, decreasing 24%
- No changes 22%
- Don’t know, 51%
Barriers for food manufacturers

- Loss of Palatability and Consumer Acceptance
- Texture and Other Quality Characteristics
- Preservation and Microbial Safety
- Economic Considerations
  - Labeling Effect

Figure 6. Generic sodium reduction timeline. Red portions of each bar indicate the time of each individual step in the timeline. Blue portions of each bar indicate the cumulative time of all prior steps in the timeline. Courtesy of Unilever, shared in presentation by Lisa Carlson, ©2013 Unilever Food Solutions.
Examples of Success Stories

TATE & LYLE

Campbells

SUBWAY
WHAT CAN HEALTH PROFESSIONALS DO?
The majority of Americans believe that all of the listed diet and lifestyle changes have a positive impact on blood pressure management.

If someone were trying to reduce their blood pressure or keep it from going higher, how much impact do you believe the following would have?

- **Getting regular physical activity**: 86% major impact, 6% minor impact, 92% high impact.
- **Losing weight**: 83% major impact, 9% minor impact, 92% high impact.
- **Reducing or managing stress**: 80% major impact, 12% minor impact, 92% high impact.
- **Reducing salt/sodium in diet**: 78% major impact, 13% minor impact, 91% high impact.
- **Eating a diet rich in fruits, vegetables, whole grains and low-fat dairy foods**: 75% major impact, 14% minor impact, 90% high impact.
- **Limiting or stopping smoking**: 82% major impact, 7% minor impact, 89% high impact.
- **Limiting or stopping drinking alcohol**: 61% major impact, 23% minor impact, 84% high impact.
- **Using spices or herbs instead of salt in their foods**: 59% major impact, 23% minor impact, 82% high impact.

IFIC, 2014.
More consumers believe they would be likely to succeed in moderating their alcohol consumption and eating a balanced diet than in reducing the sodium they consume or losing weight.

How successful would you be personally in achieving the following?

**Somewhat/Extremely Successful**

- Moderate alcohol consumption: 73%
- Eating a balanced diet rich in fruits and vegetables, whole grains, and low-fat dairy foods: 70%
- Being physically active regularly: 66%
- Reducing my weight if I am overweight: 63%
- Reducing my sodium: 60%

IFIC, 2011.
Communication Strategies: Getting Through to Consumers

Crafting Effective Messages

1. Identify one segment of the ‘public’ whose behavior you hope to influence.
2. Think like a consumer by understanding what drives their behavior.
3. What do consumers get in return for changing behavior?
4. Change doesn’t occur overnight. Select one behavior at a time, facilitate that behavior, and evaluate the outcome.
5. Surprising messages are the most memorable.
6. Positive, upbeat, encouraging, and suggest a goal that is attainable.

fhi, 2012.
Positive messaging about foods to include in a healthful diet is preferred by three out of four Americans.

To what extent do you agree with the following statement?

*I would rather hear what I should eat than what I should not eat.*

- Agree strongly: 26%
- Agree somewhat: 52%
- Disagree somewhat: 12%
- Disagree strongly: 4%
- Not sure: 6%

2013 (n=1,006)
Communication Strategies: Getting Through to Consumers

**Impact on Willingness to Believe Information**

- 92% Having done my own research on the information
- 87% Hearing the same information from multiple different sources
- 87% Hearing the information from someone who has an advanced degree in health or nutrition
- 86% Hearing the information from a trusted friend or family member
- 70% Hearing the info in the news, whether on TV, radio, internet news site, or in a newspaper
- 37% Hearing or seeing the information on social media

IFIC, 2013.
Delivery Channels – Consider Your Audience!

From which of the following sources would you want to hear about sodium and its impact on health? (Select all that apply)

- Medical community: 55%
- Food packaging or label: 46%
- Government: 31%
- Food manufacturers: 30%
- Magazines: 23%
- TV: 24%
- Newspapers: 20%
- Friends/family: 20%
- Food retailers: 20%
- Food service: 18%
- Online social websites: 15%
- None of the above: 16%

IFIC, 2011.
Application

Clinical
- Tailor educational materials specifically for target audiences
- Address disparities among different demographic subgroups
- Dispel misinformation they might find doing their own research

Community/Public Health
- Develop campaigns promoting prevention & control of hypertension
- “Surround sound” approach; Coordinated, collaborative effort
- Evidence-based policies

Supermarkets/Industry
- Adopt effective messaging techniques
- Work with public health initiatives
Application

Research
• Address gaps in behavior change related to hypertension
• Strong, quality studies to elucidate the sodium-health relationship

Food Science
• Continue to deliver innovative, cost-effective techniques to reformulate products to lower sodium content

Media/Communications
• Positive, upbeat, and encouraging messaging on multiple platforms; Success stories
Key Takeaways

1. Consumers face many barriers to sodium reduction, including low awareness of recommendations and personal intake, low concern, and taste. Food manufacturers also face many barriers.

2. Tailored, audience-specific messaging that addresses both barriers and motivators to sodium reduction and promotes an overall lifestyle approach to hypertension prevention and control.

3. Continue to evaluate the evidence and consider new science as it emerges to guide our policies and practice.
References


THANK YOU!