Impact of Nutrition Labels and Claims on Consumers’ Food Choices
The China Story

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GB 28050—2011
General Standard for Nutrition Labeling of Prepackaged Foods
Issued in Oct 2011; Came into force in Jan 2013.

Mandatory labeling items

• Nutrition labeling is mandatory in all prepackaged food (foods exempt from mandatory nutrition labeling were also listed: such as fresh food, alcoholic beverages, food with small packaging surface area, food prepared and sold on the spot, bottled drinking water, food of which daily intake is ≤10 g or 10 mL).

• Mandatory labeling information: 1+4 nutrients ——Energy and 4 core nutrients (protein, fat, carbohydrate and sodium)

• The percentage of Nutrient Reference Values (NRV) is also mandatory.
When nutrition claim or nutrient function claim were made for those nutrients other than energy and core nutrients, the content and percentage of Nutrient Reference Values (NRV) of such nutrients should also be indicated.

**About trans fatty acid (conditional mandatory)**

- When a food ingredient contains or uses hydrogenated and/or partially oil, trans-fat (fatty acid) content should also be mandatory indicated in the Nutrition Information.

- Result of risk assessment of dietary trans fatty acid intake in China had showed that the overall intake is low;

- But in order to prevent the overuse of hydrogenated oil in food, and to protect the right of consumer to know and to choose, the above requirement was added.

**Consumer education**

- This standard was implemented in Jan 2013
- Market survey results showed that milk and milk product have a higher compliance, and the large companies do better;
- So the understanding and scientifically using of people to nutrition labeling is an important work now;
- China government had launched a “National education action of nutrition labeling” in 2012;
- Many works had been done for consumer education via different media(TV, web, newspaper, magazine, poster etc)
Poster in supermarket and public places

Video in schools and kindergartens

National education action of nutrition labeling 2012-2015

Essay competition in newspaper and website

How about the usage and compliance rate of food nutrition labels in China?

Data source: CNKI, WANGFANG DATA, VIP
Through literature retrieval

- Mainly in 6 cities of China
- Community residents & students / teachers
- Involve 30,270 respondents
- Totally usage and compliance rate of food nutrition labels: about 30%

Community residents: Shunyi district, Beijing

Sample size: 1434 Respondents of 12 communities, aged 15 to 79
Date: Oct, 2012
Results: 39.3% of the residents will refer to the nutrition label on the packaging when purchasing food


Community residents: Beijing (8 districts)

Sample size: 10,148 Respondents, aged 18 to 79
Date: Aug-Oct, 2013
Results:
- The proportion of adult Beijing residents who refer to nutrition labels when purchasing food is 30.5%*
- People aged 18 to 44 had the highest proportion (34.2%) of reference nutrition labels when buying food
- Residents in urban had a higher compliance rate than that of rural, 39.5% VS 17.4%


Community residents: Shanghai

<table>
<thead>
<tr>
<th>District</th>
<th>Respondents</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hongkou</td>
<td>368 community residents ( \geq 18 ) y</td>
<td>The proportion of nutrition labels used as the reference basis for purchasing food more than once was 41.04%, among which 2.99 percent (n=11) of the respondents used nutrition labels every time, 22.83 percent (n=84) frequently and 15.22% (n=56) occasionally. [1]</td>
</tr>
<tr>
<td>Jinshan</td>
<td>660 community residents ( \geq 15 ) y</td>
<td>The application rate of nutrition label in food selection is 35.0%. [2]</td>
</tr>
<tr>
<td>Minhang</td>
<td>1040 community residents ( \geq 18 ) y</td>
<td>31.2% of residents often refer to nutrition labels when purchasing food. [3]</td>
</tr>
<tr>
<td>Luwan</td>
<td>1141 community residents ( &gt; 18 ) y</td>
<td>30.3% of consumers affected by nutrition labels when purchasing food. [4]</td>
</tr>
</tbody>
</table>

Students and teachers

• 4 Cities: Wuhan, Chengdu, Shenyang, Guangzhou
• 11,120 students and 2,370 teachers
• 76.81% of students and 82.24% of teachers use food nutrition labels when shopping for food
• Only 14.61% (1,625) of students and 16.12% (382) of teachers regularly use food nutrition labels when shopping for food.


Students from medical university

• School of medicine, Shihezi University, Xinjiang Uygur Autonomous Region
• 1989 college students
• 30.2% of medical students regularly read food nutrition labels;
• 47.7% of medical students think it will have an impact. They will look at the nutrition labels when they buy food;


Primary cost-benefit analyses of mandatory nutrition labeling in China

• By providing information to consumers, nutrition labels on foods have the potential impact of contributing to public health.
• In some countries that now require mandatory nutrition labeling, the monetary costs involved relative to the health benefits accrued, have formed a major part of the decision-making process.
• Cost-benefit analyses had actually been used to support the mandatory nutrition labeling in some countries.
• US FDA, Australia and New Zealand, Health Ministry of Canada.
• United States FDA (1993): Costs were calculated at US $1500 million, including administration, nutrition content determination tests, printing and inventory; Benefits were valued at US $4200 million (amount people are willing to pay for reduced death risk valued at $3600 million; reduced medical costs at $600 million).
• Australia and New Zealand (2004): costs of a one-year delay in implementing mandatory nutrition labeling, it was estimated that between 320-460 deaths, with costs to the health system of between US $47-$67 million, and a lowered value of life by US $341-$486 million;

• The Health Ministry of Canada estimated that nutrition labels could save US $5300 million in 20 years in direct and indirect costs. (2004)

• In Hong Kong, China, conducted a cost-benefit analysis when preparing mandatory nutrition labelling regulations. Costs were calculated between HK $1.18 billion to HK $1.757 billion, and benefits were valued between HK $900 million to HK $1.6 billion every year. (2005)

Technology roadmap

OUTCOME

• **COST**
  • Enterprise cost including test cost, printing cost, design cost, administration cost and inventory cost.
  • Government cost including standard setting cost, education and promotion cost, and regulatory cost.
**OUTCOME**

• **Benefit**
• The analysis estimated the costs of a one-year delay in implementing mandatory labelling, including medical expenses for diet-related diseases and DALY losses for diet-related diseases.

**Model A —— 2 diet-related diseases**

**Medical expense**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Medical expenses (100 million)</th>
<th>Diet-related risks (%)</th>
<th>Medical expenses caused by diet-related risks(100 million)</th>
<th>Discount to 2014 (100 million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorectal cancer</td>
<td>95.65 (2005)</td>
<td>15.00%</td>
<td>14.38</td>
<td>18.8088</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>40.62 (2005)</td>
<td>11.00%</td>
<td>4.49</td>
<td>5.8752</td>
</tr>
<tr>
<td>Total</td>
<td>--</td>
<td>--</td>
<td>18.87</td>
<td>24.684</td>
</tr>
</tbody>
</table>

Mandatory labelling would result in the decline of unhealthy food in the market, according to the usage 30% and compliance 14% of people in China, it contribute about 4% decline of diet-related risk factors, which will reduce medical costs about 98.736 million yuan RMB per year.

**OUTCOME**

• **Model A——2 diet-related diseases**

**DALY losses**

<table>
<thead>
<tr>
<th>Disease</th>
<th>DALY(2010)</th>
<th>Diet-related risks (%)</th>
<th>DALY caused by diet-related risks</th>
<th>Monetized value discount to 2014 (yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorectal cancer</td>
<td>3422.6</td>
<td>15.00%</td>
<td>513</td>
<td>17.925608.27</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>1670.67</td>
<td>11.00%</td>
<td>184</td>
<td>6.429457.938</td>
</tr>
<tr>
<td>Total</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>24.355066.208</td>
</tr>
</tbody>
</table>

Based on the similar calculation, it will reduce DALY at about RMB 1 million yuan.

• **Model A -2 diet-related diseases**
• It was estimated that the nutrition labelling could save RMB 99.7 million yuan every year (reduced DALY valued at RMB 1 million and reduced medical expense at 98.7 million).
According to Model B, it was estimated that the nutrition labelling could save RMB **4.82 billion** yuan every year (amount reduced DALY valued at RMB **33 million** and reduced medical expense at **4.788 billion**)

### Diet-related diseases

<table>
<thead>
<tr>
<th>Disease Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Ischaemic heart disease</td>
<td>Hypertensive heart disease</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>Prostatic cancer</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>Type 2 diabetes</td>
</tr>
<tr>
<td>Stroke</td>
<td>Back problems</td>
</tr>
<tr>
<td>Peripheral arterial disease</td>
<td>Uterine Cancer</td>
</tr>
<tr>
<td>Gallbladder diseases</td>
<td>Kidney cancer</td>
</tr>
<tr>
<td>Gallbladder diseases</td>
<td>Osteoarthritis</td>
</tr>
<tr>
<td>Gallbladder diseases</td>
<td>Nephritis</td>
</tr>
</tbody>
</table>

### Newest progression

- In December 2016, the China National Health and Family Planning Commission (NHFPC) announced it would revise the national standard for food nutrition labeling.
- The key nutrients to be listed on the label will be added;
- The primary proposal text included saturated fat, sugar, vitamin A and calcium etc;
- It is expected that the revised draft standard will be ready by the end of 2018.