UBC Open Kitchen Group 1 Final Report

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University of British Columbia

FNH 473

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Executive Summary

Open Kitchen is a dining hall opening in September 2016, located in the University of British Columbia's first year residence, Orchard Commons which houses 1,047 students. The main goal of our project was to assess first year UBC student's knowledge and attitudes of the nutrition information provided in Open Kitchen and identify how they can be improved to help influence informed food choices on campus. Our evaluation plan included meeting our target sample size (100 students); quality of data collected and changes in policy influenced by our findings and recommendations. To accomplish this, we conducted a literature review on the efficacy of nutrition labels displayed for menu items in food service establishments and its ability to influence consumer food choices; and the eating patterns and influences on food choices in university students. We also conducted a survey on 125 first year student customers to assess their nutrition-related knowledge, use of the nutrition labels, and their attitudes towards the nutrition labels. Key findings from our survey included that the majority of students find the nutrition labels important but may lack nutrition literacy skills to use the information to make informed eating decisions. Based on our literature review, survey results, as well as the transtheoretical and social cognitive theory, we provided recommendations to Melissa Baker, MHSc, RD, Nutrition and Wellbeing Manager for UBC Student Housing and Hospitality Services. Our recommendations include providing reference ranges for nutrients on the food labels to address the gap in nutrition-related knowledge and provide educational opportunities such as pop-up info-booths by Registered Dietitians to provide credible nutrition information to students and further develop their food literacy skills.

Introduction

Research regarding the dietary patterns of college students indicate that students experience a significant increase in weight attributed to adipose tissue gain, which may predispose them to future health problems if these trends continue into adulthood.[1] University students have been found to consume inadequate amounts of fruits and vegetables, while saturated fat and sugar intake has increased.[2] These findings provide an opportunity for post-secondary institutions to develop policies and programs that promote healthy behaviours, particularly dietary habits. In keeping, the provision of nutrition labels in university dining halls may mediate the selection of healthier food among college students[3.]

Our project aims to evaluate the efficacy of the recently implemented nutrition labels in the residence-dining hall, Open Kitchen (OK), at the University of British Columbia (UBC). OK offers a unique dining experience; instead of serving a rotating menu like other first-year dining halls at UBC, OK has multiple stations where diners can see their food being made to order. Menu items are accompanied by a nutrition label, which includes a nutrition facts panel, ingredients list, and list of allergens. In its first year of operation, our stakeholders, namely Melissa Baker and the Nutrition Task Force, are interested in evaluating how effective the nutrition labels are in influencing student meal choices, and how they could be optimized before being implemented in the two other first year residences on campus (Totem Park and Place Vanier).

We are keenly interested in how these nutrition labels those who frequent OK are using the labels, and whether they help students to make healthier choices. The recommendations that arise from this project may be applicable not only to other first year dining halls on the UBC campus, but may also inform other post-secondary institutions that are looking to increase nutrition transparency.

Situational Analysis and Planning Framework

Literature Review

University students are more likely to make unhealthy and unbalanced food choices by consuming diets high in energy, sodium, and saturated fat.[4] When university students live away from home, they are more likely to consume more chips, sugary food, microwave convenience foods, and restaurant fast-food, while consuming fewer vegetables, fruits, and low fat margarines.[1, 5] These unfavourable diet changes are likely contributing to the significant increase in the number of overweight individuals in the first two years of college.[1, 6]

Despite these findings, studies suggest that students have a strong awareness of health and nutrition.[7] In fact, university students often develop product preferences based on fat and nutritional value.[7] However, despite possessing adequate health literacy, students may overlook the importance of nutrition labels when choosing food in cafeterias due to barriers such as time constraints, lack of label-reading skills, limited label information, and low perceived importance of label-reading.[7, 8] In addition, labels that provide limited information may deter students from using them and may limit their ability to make informed food choices.[7]

Self-regulatory behaviours, such as health awareness and self-discipline, are particularly important in a student's first year of university as they transition from living at home to living independently in residence.[9] While navigating the many challenges of university life, students may not prioritize healthy eating and, instead, opt to purchase food that is convenient and inexpensive.[9] Stress has also been shown to mediate university student food choices; when stressed, students tend to choose foods high in calories, sugar, and fat, and are more inclined to eat larger volumes of food.[10] Therefore, modifying the

environment where students make their food choices may be effective in encouraging healthier eating behaviours.

The implementation of nutrition labels in university dining halls may be beneficial in influencing students to make healthier food choices. However, the evidence on their efficacy has been mixed, which may in part be attributed to lack of label-reading skills. Students have reported finding nutrition labels confusing or ineffective.[3] Nutrition literacy impacts label utilization, therefore it is important to ensure that labels are easily comprehensible to consumers. Food choices may also be mediated by social environment and interpersonal interactions. For example, high school students are influenced by their social circles when it comes to eating; positive social influences can promote transition from unhealthy to healthy eating behaviour.[11] This research can likely be extrapolated to the university setting and supports the need for consideration of the social environment in understanding food choice. This is further supported by Robinson and Higgs who observed that participants were more likely to make better eating choices if they were paired with 'healthy' versus 'unhealthy' eating partners.[12]

Environmental mediators of food choice include cost, convenience, and availability of nutrition information. Currently, our global food environment favours sweet and high-fat foods as the cheapest available options.[13] This directly affects accessibility to healthy food, as cost is a significant barrier to students who may have to afford food on a restricted budget.[13] The low cost of high calorie foods, coupled with large portions and convenience, makes unhealthy eating an appealing choice; however, these meals have low satiating power and offer minimal nutrition, contributing to rising obesity rates.[13] Despite the prevalence of high-fat, high-sugar foods available on university campuses, Kolodinsky and colleagues provide encouraging data showing that students with nutrition knowledge are

better equipped to navigate an obesogenic environment to make healthier choices.[14] For this reason, labeling may help students to apply their nutrition knowledge in order to make informed food choices. Martinez et al. showed that among survey respondents, 98% of students were in favour of making nutrition information available, supporting the importance of information accessibility as an environmental mediating factor in making food choices.[15] Downs et al, however, oppose this viewpoint, citing that access to information is not the main issue; they found that people make poor choices despite full knowledge of consequences and that providing more information can be distracting and unhelpful.[16] Instead, her research supports a shift away from food labeling to focus on improving convenience of healthy options.[16] Ultimately, it appears that providing nutrition information in conjunction with accessibility to convenient, reasonably priced, healthy meal options are factors that are pertinent to making healthy food choices in this target student demographic.

Situational Analysis

Open Kitchen (OK) is the dining hall at Orchard Commons, a new (2016) UBC residence that houses over 1,000 first year students. OK is UBC Food Services' (UBCFS) newest dining hall and flagship, showcasing UBCFS and the greater UBC Community's commitment to improving nutrition and sustainability on campus. It is open to residents as well as other customers. Instead of offering a cycling menu rotation, OK includes a number of different stations offering a set menu with daily features. OK claims they are committed to serving a plant-based menu that promotes healthy eating. Keeping with its goal of transparency, OK has invested resources toward developing nutrition information for many of their menu items; this information includes nutrition facts, ingredients, and common allergens. Currently, key stakeholder Melissa Baker, MHSc, RD, and Nutrition and Wellbeing

Manager for Student Housing and Hospitality Services (SHHS), is interested in assessing (1) if students understand the information displayed and (2) if they use the available information to make informed decisions about eating. As OK is piloting nutrition labels in UBC residence dining halls, the current public perception of the nutrition information on display is unknown. Evaluation would allow improvements to be implemented for the 2017-2018 academic year and would inform the implementation of nutrition information in the other residence dining halls on campus (Totem Park and Place Vanier, which in combination serve over 3,000 residents). Our role in this initiative is to create and distribute a survey tool to analyze the following issues in regards to the nutrition information displayed in OK: (1) Do students utilize the nutrition information displayed in OK to make informed decisions about their food choices? (2) Do students understand the nutrition information displayed in OK? (3) Is there nutrition information that students would like to see displayed and/or are there any suggested improvements to the current nutrition facts?

Creating nutrition information for all menu items requires an extensive amount of time and resources. Baker and UBCFS would like to ensure they are meeting the needs of students by providing nutrition information that is important to them and is conveyed in a way that is appropriate for their level of nutrition knowledge.

As discussed in the literature review, there are multiple factors that influence a student's dietary choices in a university setting and these should be considered in how they affect the current situation at UBC. Potential barriers to healthy food choice at OK include independence over food choice, limited option availability, and unfamiliarity with nutrition guidelines/recommendations. OK's target customers are first year residents living in Orchard Commons. This population often experiences newfound autonomy over food choices and are more likely to opt for highly palatable, less nutrient-dense foods despite adequate

knowledge about healthy food choices. Students living in residence receive the majority, if not all, of their meals from UBCFS, which includes OK. Furthermore, OK offers limited options for students with dietary restrictions such as allergies or plant-based diets. In addition, 23% of UBC's undergraduate population are international students who may not be familiar with the nutrition information tables, which are based on Canadian guidelines.[20]

UBC has identified food and nutrition as a priority interest on campus and has developed the UBC Action Framework for a Nutritionally Sound Campus. Baker's position as the Nutrition and Wellbeing Manager for SHHS was recently created in 2015, showing a positive step towards investing in a nutritionally sound campus. Nutrition labelling at all food establishments on campus is a priority of action identified by this framework. Using OK to identify the best practices for developing successful nutrition labelling will improve informed dining in Totem Park, Place Vanier, and other UBCFS establishments.

UBC's new direction toward a nutritionally sound campus reflects the general trend across many food service institutions in the province. The provincial government is working to develop policies and programs to address healthy eating. For example, the Informed Dining program aims to help consumers make informed choices by offering nutrition facts for all menu items served at food service locations registered in the program.[17] A recent program evaluation found that most customers prefer having access to nutrition information to inform their menu selection.[18] This supports the efficacy of nutrition labeling programs in restaurants; however, it does not analyze university dining settings.

The provincial government recently mandated that all food service locations in the BC Health Authority participate in the Informed Dining program.[19] While UBC is not currently a part of the Informed Dining program, some key stakeholders at UBC feel that other public institutions may soon be included in the requirements. The University of

Victoria (UVIC) is the first university in BC to implement the program, offering nutrition information both online and at all of their campus dining locations. UVIC has not published any reports assessing the efficacy of the Informed Dining program on their campus; therefore, our research at OK will inform the efficacy of UBC's current nutrition information labeling in residential dining programs.

Health Behaviour Theories

Our project centers on evaluating the intrinsic motivation of consumers at OK to use (or not use) the posted nutrition labels, as well as understanding their confidence (or lack thereof) in interpreting this information. As such, our intervention has been developed based on the *Transtheoretical* and *Social Cognitive* theories of health behaviour change.

Using the transtheoretical model, we developed our survey to include questions that assessed where the students fell on the Stages of Change spectrum. We incorporated this model into our survey (Appendix A) by including questions such as "When you purchase food from OK, how often do you read the nutrition label before purchasing?" and "How do you determine if you are eating a healthy/balanced diet?" along with responses that allow us to analyze their stage of change. Knowing this information will allow our stakeholder to target appropriate interventions in the future. The social cognitive theory was also integrated into our planning process. This theory, which centers more around the confidence, goals, and expectancies of outcomes of the target populations, is important to assess as it gives context to how the population is motivated and informed. To assess these factors, we included survey questions like: "How true is this statement to you?: 'I feel confident in my ability to read nutrition labels'". Knowing how our population feels about their own abilities to change will allow for more accurate and valuable interventions by our stakeholders.

Project Goals and Objectives

The goals for this project are as follows:

- Assess UBC first year student's knowledge of information provided on nutrition labels
- Gain feedback from first year students on how to improve the information included on the nutrition labels
- Begin formulating a plan to apply nutrition labels to two other first year residences (Totem Park and Place Vanier)
- Make recommendations for future labeling and nutrition policy to key stakeholders in UBC Food Services

The objectives for this project are as follows:

- Administer survey to 100 UBC first year students dining at OK to determine motivation and current attitudes that influence UBC first year students' food choices and assess current utilization of nutrition labeling program by April, 2017
- Identify at least three barriers and three enablers for UBC first year students to make healthy food choices at OK by April, 2017
- Develop and deliver a quantitative survey to assess nutrition knowledge of first year students eating in residence dining halls by April, 2017
- Summarize and present results of survey (through an infographic) to key stakeholders at UBC Food Services to inform future implementation of nutrition labels in other first year residences on campus by April, 2017

Description of Project Outputs

This project had two main outputs: the survey results and the recommendations that are based off of the survey findings The survey and survey results can be found in Appendices A and B.

Survey Results

In analyzing the results of the survey, five key quantitative findings emerged from the data. In addition, there were several general qualitative themes that could be identified from the open feedback section of the survey. These findings have been summarized in an infographic, which was developed by request for the project stakeholders, David and Melissa (Appendix C). The five main qualitative findings are as follows. (1) First, it was important to know how frequently patrons view the nutrition labels at OK in order to assess

their level of motivation to use the labels along the Stages of Change spectrum. Results were mixed, with 66% of respondents selecting sometimes (24%), often (25%), or always (17%). It can be concluded that the majority of students are viewing the labels at least sometimes. We interpret this finding to indicate that most students in our population are at least interested in using the labels, likely placing the majority of students in the 'contemplation' or even the 'action' Stage of Change. (2) Next, it was found that a vast majority of respondents viewed nutrition labels *in general* as being beneficial while only 2% viewed them as harmful, and 6% had mixed views. This indicates that students view the availability of nutrition information as an important tool for making informed food choices. This finding should be considered as contributing to the self-efficacy of students, as they know that having the dietary information available ultimately leads to positive food choices. (3) A slim majority of students (54%) agreed that the tables provided at OK were helpful for making informed choices, while the other 46% disagreed or were unsure. This indicates that there is room for improvement of the current labels. In addition, this finding highlights a potential barrier for student's to use the labels (such as the accuracy of the labels), which may be inhibiting their ability to achieve self-efficacy. (4) Participants are largely getting their dietary advice from friends and family, government dietary guidelines, or a mixture of the two. It is promising to see that 38% of respondents use Health Canada Guidelines, as the nutrition labels were developed from these recommendations. This finding is positive in terms of the 'expectations' component of the social cognitive theory, as the Health Canada guidelines serve as an excellent model for positive health outcomes. (5) Lastly, participants answered three knowledge-testing questions to act as a proxy for baseline nutrition skills. These questions assessed knowledge of calorie, sugar, and sodium recommendations. Very few (7%) participants got all three questions correct, while the majority of participants

scored 2/3 (35%) or 1/3 (35%). 23% of participants did not answer any of these questions correctly. These scores indicate a potential nutrition knowledge gap, as well as a place for future targeted interventions surrounding the behavioural capability of students, as outlined in the social cognitive theory. Ultimately, the quantitative findings indicate three main takeaways: (1) Students want nutrition labeling to be available and find labels to be beneficial for knowing the nutritional contents of the food they purchase, (2) the labels that are currently in place at OK could be improved to better relay information in a way that students might understand better, and (3) there is a knowledge gap, which suggests that students may not have adequate nutrition skills required to successfully interpret nutrition information. In applying these quantitative findings to our chosen health behaviour theories, we achieved a baseline understanding of the general place the population sits on the Stages of Change spectrum, as well as a basic understanding of the self-efficacy of the population. Although initiating an educational session to enhance skills through mastery training (i.e. assessing behavioural capability) was beyond the scope of this project, having this baseline data would allow our stakeholders (or future stakeholders) to more effectively produce a future intervention that targets our population's specific needs.

In addition, there were four common feedback themes that were important to consider. Many respondents commented on the high sodium content of the dishes offered at OK. This was an interesting finding, as 40% of respondents indicated looking at sodium when reading nutrition labels but even fewer, only 33%, answered the sodium knowledge-testing question correctly. Knowing this information, there is an incongruency in the knowledge our population has (specifically about sodium) and their ability to initiate a positive behaviour change. Others commented positively that the labels are useful and important. Another theme that arose was constructive feedback regarding the visibility and

placement of the labels; many found that the information was difficult to view without holding up the line, which can be noted as an additional barrier that the students encountered when attempting to use the current nutrition labels. Lastly, there were several respondents who were concerned by the accuracy and consistency of the labels. Reducing barriers like these will likely help our population reach positive behaviour change. Ultimately, the use of both the transtheoretical model in addition to the social cognitive theory allowed us to deliver our project outputs in a thoughtful and constructive manner.

Recommendations

Include Reference Ranges on or next to nutrition labels: Many first year students lack have difficulty in identifying the recommended intakes for key nutrients. To resolve this challenge, we recommend placing more comprehensive information, which include the reference ranges, around the dining hall. Doing so can address the nutrition knowledge gap that students may experience and would strengthen the students' self-efficacy in their ability to comprehend and use the nutrition labels.

Invest in an industry standard nutrition analysis software: Students expressed a wariness in the accuracy of the labels. In conversation with our stakeholders, we discovered that the current nutrient analysis software was not ideal for meeting OK's needs. As such, we recommend that UBCFS invest in an industry standard nutrition analysis software. This may increase students' level of trust in the accuracy of the labels, and potentially lead to positive behaviour change.

Increase availability and access to nutrition labels: Students identified that the labels can be hard to read, placed in inconvenient locations, and do not exist for every product. Therefore, we recommend expanding the current program to provide nutrition information

on online platforms, such as the UBCFS website, providing printed copies in the dining hall, and adjusting the positioning of the current labels to more convenient viewing locations.

Provide educational opportunities to strengthen nutrition knowledge: Students are mostly interested in developing healthy eating knowledge and behaviour; yet only 33% felt that they were eating a balanced diet. Therefore, we can gather that students may want to consume a healthier diet but may lack the information and resources to do so. As such, we believe that it would be valuable for our stakeholder, Melissa Baker, to organize education opportunities to provide credible nutrition information and resources in first-year residences. This may include "Dietitians in Residence" pop-up booths in OK. Doing this would increase the behavioural capability of the students, as they would have the opportunity to develop the skills and confidence to translate nutrition knowledge into action and may achieve positive behaviour change.

Evaluation Plan

Evaluating the outcomes of this project will involve assessing the extent to which this project was able to successfully achieve the stated goals and objectives. Due to the nature of this project being primarily focused on collecting data to guide future interventions, rather than implementing an intervention that results in behaviour change, process indicators largely determined the measures for evaluating the methods used and recommendations of this project.

The survey was completed by 125 first-year students who dine at OK; we were therefore able to achieve the objective of reaching at least 100 first-year UBC students. The data derived from the quantitative survey met the expectations of the stakeholders and were relevant to the goals of this project, as indicated by the ability to respond to each objective with supporting data from the survey. The number of respondents that completed

all questions in the survey indicated that each objective was achieved through the survey. Furthermore, the literature review, which was conducted before surveys were distributed, was successful in establishing the groundwork of understanding the factors that affect the food choices of university students and current nutrition label usage among consumers. In particular, several parallels between the results of our feedback survey and findings of several studies in the literature were noted. This included the students' overall distrust of the accuracy of nutrition labels, which was also a key finding in the literature. These parallels demonstrate that we were able to develop a strong survey tool that collected high quality data, with results from the survey that aligned with those in the literature.

A presentation that highlighted the key outcomes of this project was delivered to fellow peers who also provided feedback regarding the project. The feedback regarding the survey delivery and the recommendations from our peers was generally positive. Feedback from instructors and stakeholders regarding the outcomes of this project, when received, will also provide valuable insight on how successful the outputs of this project were and the quality of the data we collected.

It was intended that this project be modeled upon the *Transtheoretical* and *Social cognitive* theories of health behaviour change. We were successful in utilizing these theories during the planning process of this project to gain insight on the students' stage of change and their level of self-efficacy when understanding the nutrition labels. When designing the survey, the theories of this model were kept in mind and, as a result, we ensured that we included questions in the survey that sought to determine the students' level of confidence (self-efficacy) when reading nutrition labels, as well as their motivation and attitudes towards them (Stage of Change).

As our project primarily focused on collecting data, we will evaluate the efficacy of the methods used to collect our data, as well as the outcomes of this project. We plan to determine whether the survey tool was an effective method of collecting feedback from this population or if other methods, such as a focus group, may have provided more in-depth insight. In addition, we would assess whether there was a sufficient number of respondents to draw conclusions from this data. To assess the usefulness of the data we collected and the recommendations that were developed, we can identify the total number of nutrition labels implemented at UBC residence dining halls when the nutrition labels have actually been implemented. As a goal of the project was to make recommendations that informed nutrition policy at UBC, the number of policies that have been implemented as a result of these recommendations can also be identified. These indicators can inform whether the recommendations that were developed as an outcome of this project, were successful. Furthermore, a survey or a focus group that involve students and UBCFS staff can be conducted to evaluate the efficacy of the newly implemented labels in other residence dining halls at UBC.

Conclusion

The findings of the literature review demonstrated that there is evidence to support that nutrition labels may be effective in influencing consumers to make nutritious food choices. This project, which sought to evaluate the efficacy of the nutrition labels in OK, can inform guidelines for future nutrition labels in other residence dining halls, which would ultimately contribute in helping students (the consumers) make healthier food decisions, thereby improving their nutritional status. By conducting the feedback survey, we were able to assess first-year students' level of nutrition knowledge, their utilization of the nutrition labels, as well as their attitudes towards them.

The results of our survey indicated that most first-year students find the nutrition labels beneficial. However, we found that our population may experience a knowledge gap and could benefit from further nutrition education in order to increase their utilization and understanding of the nutrition labels. In addition, the accuracy and visual presentation of the nutrition labels was determined as a concern among users. As discussed, providing nutrient reference ranges on the nutrition labels, ensuring that all menu items have been labeled, and improving the placement of nutrition labels would benefit the ease with which the labels are interpreted and used by the students.

Through this project, our group was able to gain a deeper insight and develop skills in planning and evaluating health promotion programs, as well as understand the key inputs, outputs, and outcomes of a successful project. Ultimately, we hope that our work with OK and our stakeholders will provide a sound basis to catalyze the conversation around the benefits of nutrition labels and help students make more informed food choices. We anticipate that our recommendations will enhance the labelling system and food policies at OK, and guide future implementation of nutrition labels in Place Vanier and Totem Park.

Authors Contributions

All members of OK Group A were active in meetings and contributed to creating agendas, taking meeting minutes and completing group reflections.

LP contributed to the executive summary, situational analysis, data interpretation, and appendices portions of the final report. LP also participated in conduction of the survey in OK, as well as distributed the survey online to Orchard Commons residents.

SY was involved in the literature searching process to find out more about what caused the unfavourable change in first years' eating habits, as well as some of the environmental and personal factors that may contribute to the changes. In addition to developing the project

objectives and goals, she worked with the group to identify some possible evaluation indicators for development of the evaluation plan. She also worked on the literature review and conclusion for the report.

LR contributed to the project by working with SY and NO on the literature review, revising the first half of the report, creating the infographic, and collaborating with PC and OJ on developing the Outputs section of the report. LR also participated in in-person survey administration.

NO contributed in writing the literature review, submitting the preliminary draft, formatting references according to the AMA style guide, and developing the evaluation plan. She was also involved in developing the newsletter and assisted in conducting the survey at OK.

PC was involved with integrating the health belief theories into our planning process, helping build meeting agendas, taking meeting minutes, as well putting together the final survey to be distributed. She also worked on the analysis of the data from the survey, and contributed to the appendices and outputs section of the report.

OJ provided insight from his work with UBCFS developing the nutrition labels at OK. He contributed to the Situational Analysis, collaborated with PC and LR to develop the Outputs section of the report, assisted in conducting the survey at OK, and corresponded with the community stakeholders to arrange meetings and provide project updates.

Appendix

Appendix A.

Sample of survey administered to diners at OK on March 15th and 17th, 2017. Available online between March 15th and 17th, 2017

Open Kitchen Survey

The following questions are about the Nutrition Facts Tables displayed in OK. We are gathering data about the use and general opinions about these tables for a SEEDS Sustainability Project. The findings from this report will be posted on the SEEDS library by the end of this semester. We are hoping to improve how they are used in OK, and other first year residence dining areas. All responses collected will be anonymous. We appreciate your honest opinions, and taking the time to improve your UBC community. The final question in this survey is optional, only for those wishing to be entered in a draw for 1 of 2 $25 Food Service Gift cards.

* Required

1. Nutrition information labels (in Canada) are based on an average diet containing: *

Mark only one oval.

1000 Calories

2000 Calories

3000 Calories

4000 Calories

Don't know

2. It is recommended that intake of sodium should not exceed ____ per day *

Mark only one oval.

1300 mg

2300 mg

3300 mg

4300 mg

Don't know

3. It is recommended that intake of added sugar should not exceed _____ per day *

Mark only one oval.

2 teaspoons (8 grams)

4 teaspoons (16 grams)

6 teaspoons (24 grams)

8 teaspoons (32 grams)

Don't know

4. What is your year status? (Select one of the below) *

Mark only one oval.

1st year

2nd year

3rd year

4th year

5th+ year

Faculty/Staff

Other:

5. Do you have any dietary restrictions/allergies/intolerances (i.e. Halal, vegetarian, peanut allergy, lactose intolerance)? If so, specify below. If not, enter 'N/A' *

6. If/when you look at nutrition labels, what do you look for? (You may select as many or as few as you like. If none apply, choose 'none') * Check all that apply.

Calories

Protein

Sugar

Total fat

Sodium

Ingredients

Allergens

None

Other:

7. When you purchase food from OK, how often do you look at the Nutrition Tables? *

Mark only one oval.

Always

Often

Sometimes

Rarely

Never

8. How confident do you feel in your ability to read nutrition labels? *

Mark only one oval.

1 2 3 4 5

Very unconfident Very confident

9. What affects your confidence in reading nutrition tables? *

Check all that apply.

It takes too long to look at the nutrition tables before purchasing

The nutrition tables are difficult to read

I don't understand the information on the nutrition tables

I don't trust the accuracy of the nutrition tables

N/A

Other:

10. How do you perceive your current diet quality? *

Mark only one oval.

I eat a healthy, well balanced diet almost all of the time

I eat a healthy, well balanced diet sometimes

I rarely eat a healthy, well balanced diet

11. How do you determine if you are eating a healthy/balanced diet (Select all that apply) *

Check all that apply.

Government dietary guidelines (e.g. Canada's Food Guide, American Food Guide Pyramid, Japanese Spinning Top)

Advice from family/friends

Internet sources (e.g. YouTube, Food Blogs)

Health Care Providers (e.g. Doctors, Dietitians)

I don't often think about if I am eating a healthy/balanced diet

Other:

12. Do you believe the Nutrition Tables in OK provide helpful information to make informed food choices? * Mark only one oval.

Yes No Not sure

13. How important is it to have nutrition information available in OK/ other residence dining areas on campus? * Mark only one oval.

1 2 3 4 5

Not at all important Extremely important

14. Having nutrition information posted is: *

Mark only one oval.

Beneficial, knowing what is in the food I am buying is information I want to know

Harmful, I don't like being overloaded with information when I am buying food

Somewhere in between harmful and beneficial

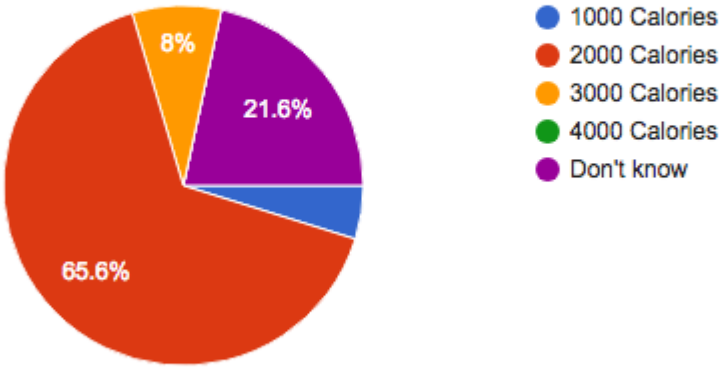
Other

Appendix B.

Data collected from first year residents who completed the survey in OK

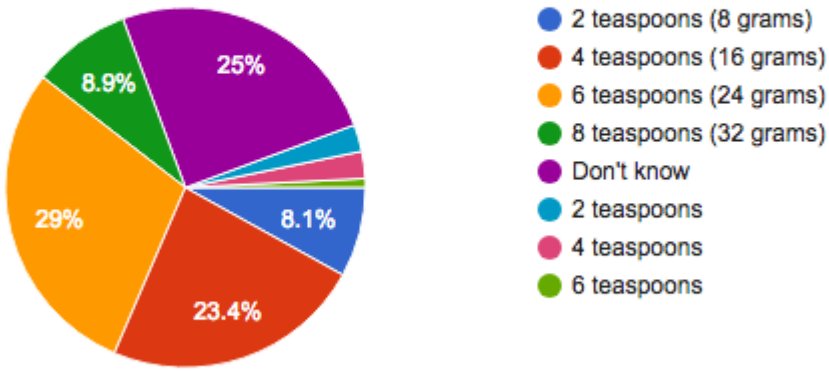
Nutrition information labels (in Canada) are based on an average diet containing:

(125 responses)



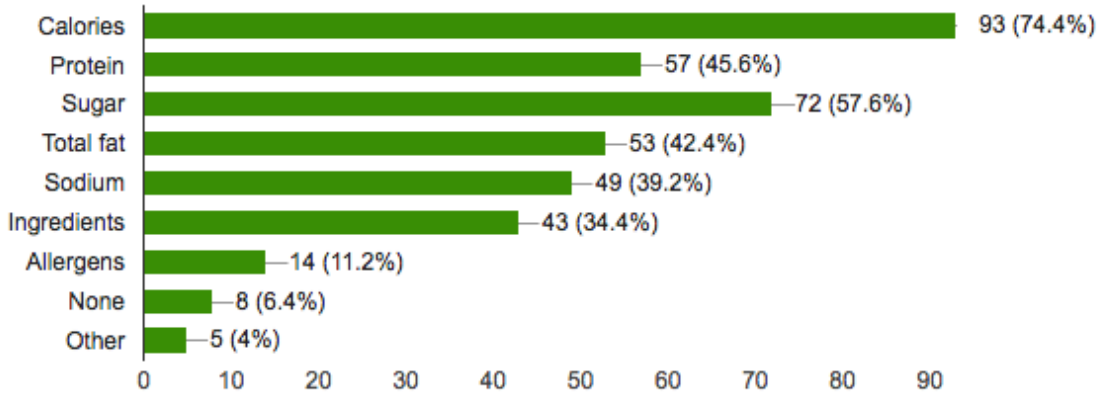
It is recommended that intake of added sugar should not exceed _____ per day

(124 responses)



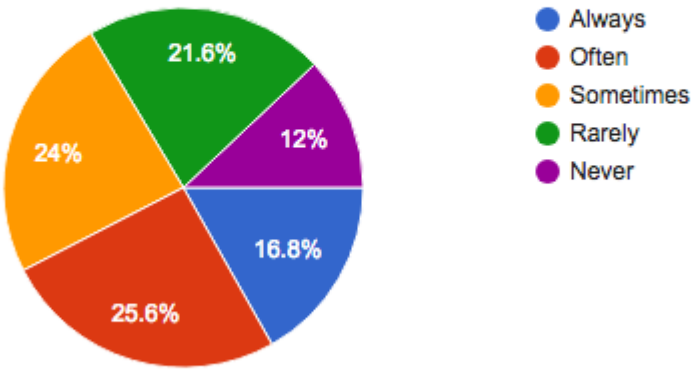
If/when you look at nutrition labels, what do you look for? (You may select as many or as few as you like. If none apply, choose 'none')

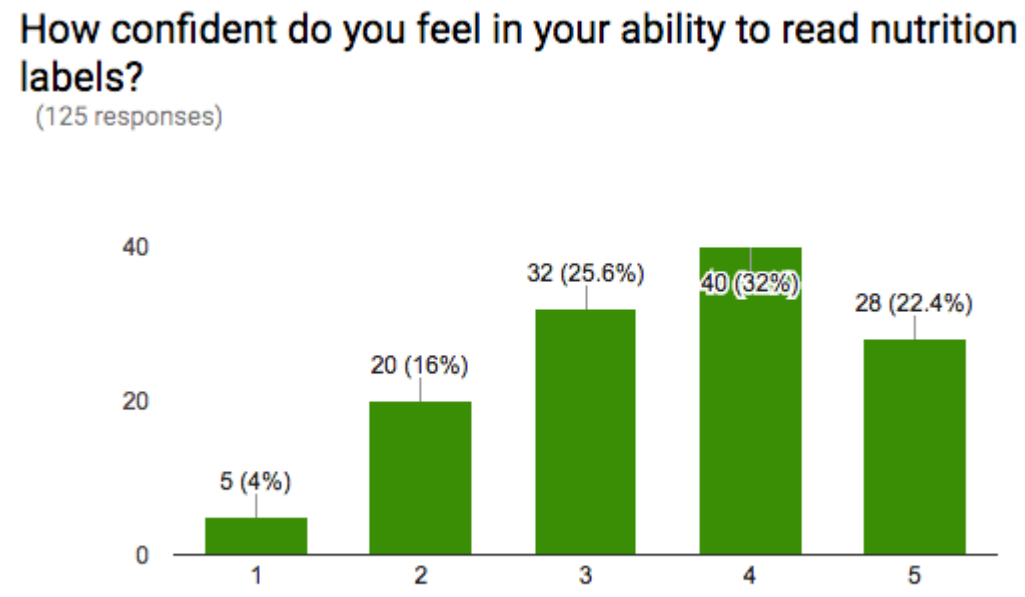
(125 responses)



When you purchase food from Open Kitchen, how often do you look at the Nutrition Tables?

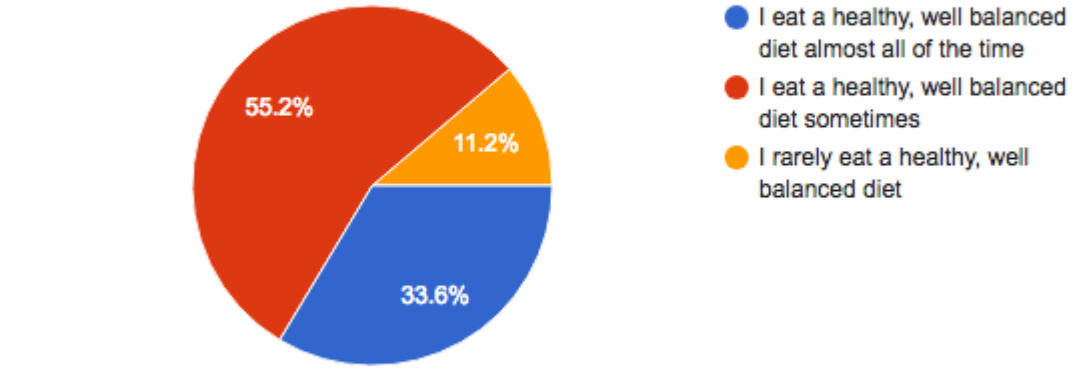
(125 responses)





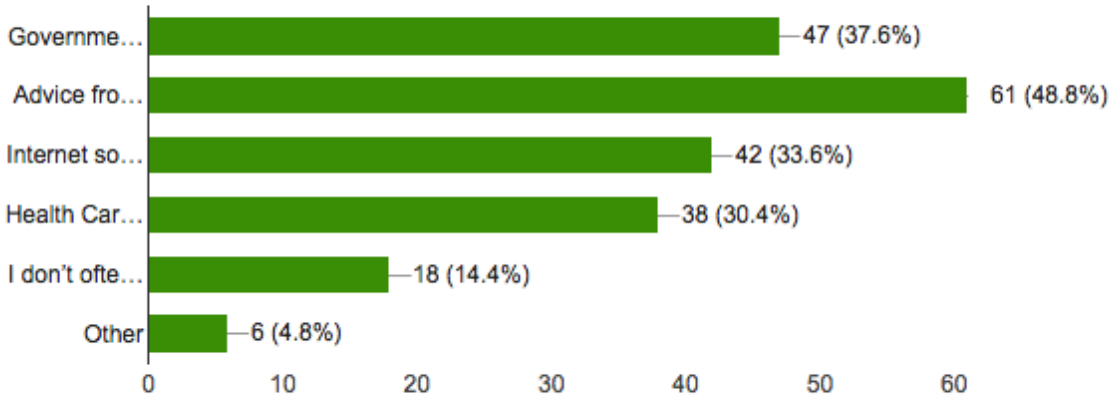
1 very unconfident, 5 very confident

How do you perceive your current diet quality? (125 responses)



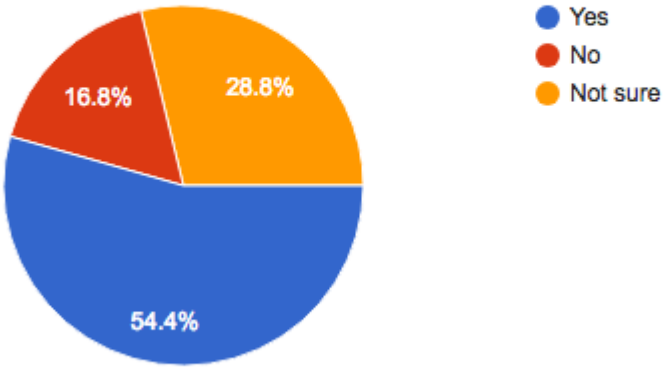
How do you determine if you are eating a healthy/balanced diet (Select all that apply)

(125 responses)

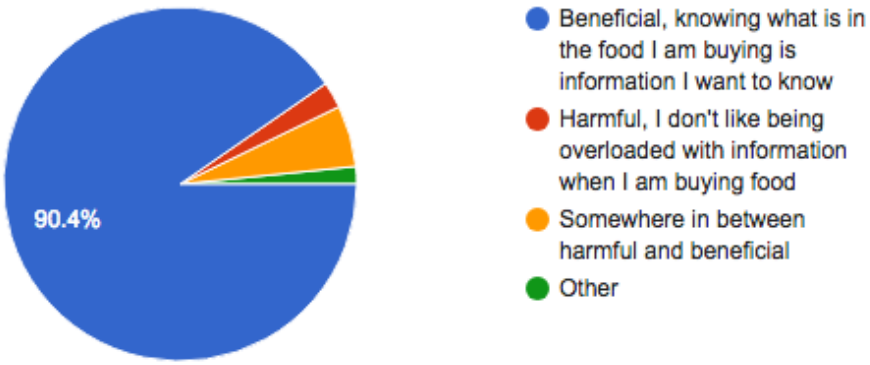


Do you believe the Nutrition Tables in Open Kitchen provide helpful information to make informed food choices?

(125 responses)

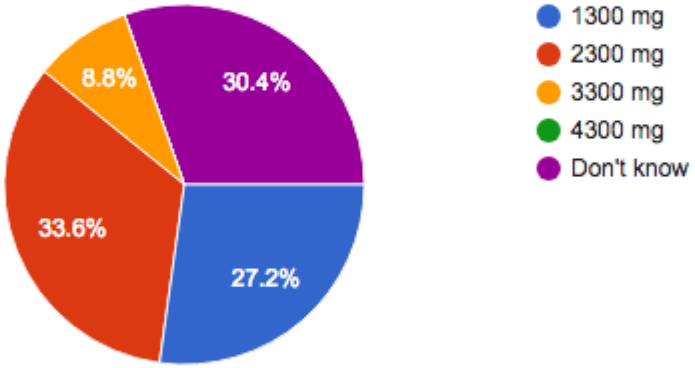


Having nutrition information posted is: (125 responses)



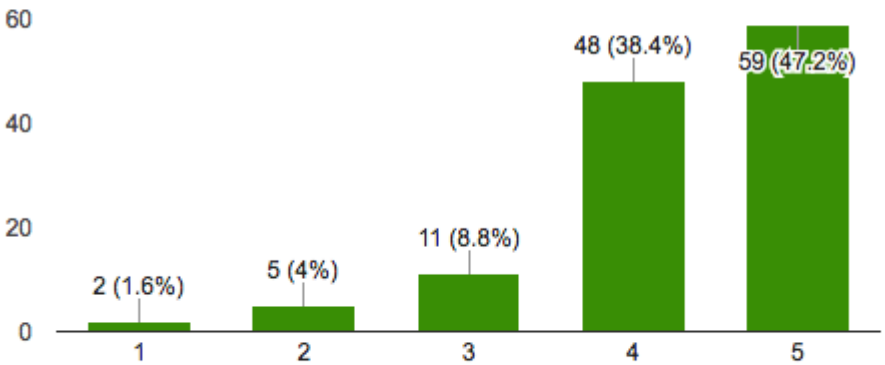
It is recommended that intake of sodium should not exceed ____ per day

(125 responses)



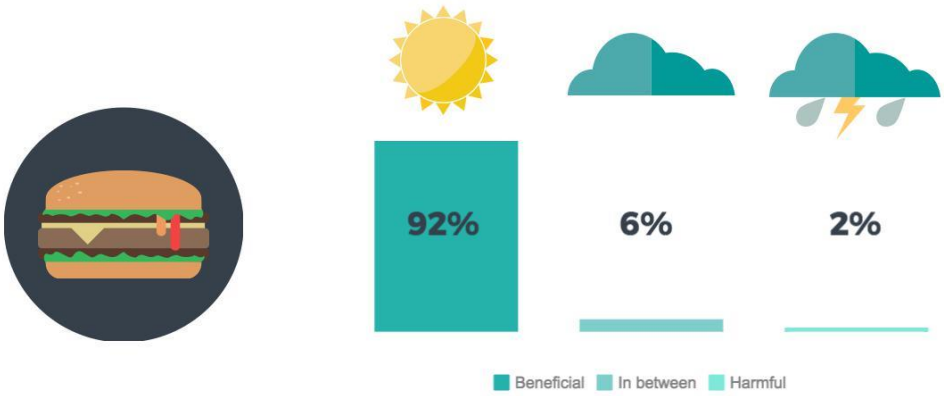
How important is it to have nutrition information available in Open Kitchen/ other residence dining areas on campus?

(125 responses)



Appendix C.
Infographic

2. Having nutrition information posted is:

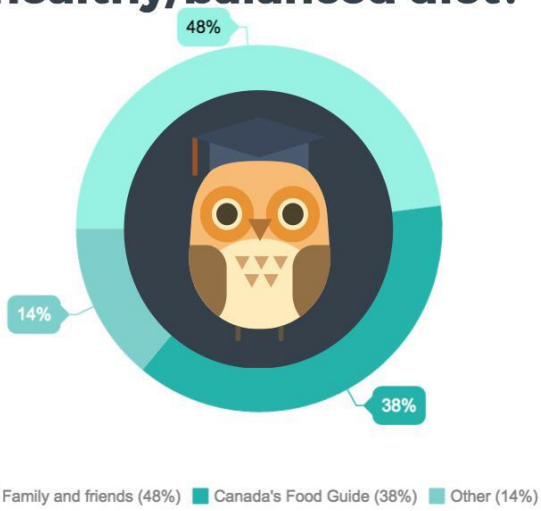


The vast majority of respondents view nutrition labels as beneficial.

3. Do the tables provide information to make informed choices?

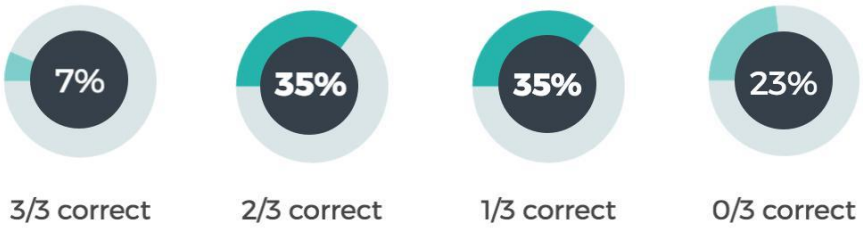
A slim majority of respondents agree with this statement about the current labels.

4. How do you determine if you are eating a healthy/balanced diet?



Over one third of respondents use Health Canada Guidelines.

5. Results of nutrition knowledge-testing questions:



The majority of respondents answered one or two of these questions correctly.

Common feedback themes:

"Most of the dishes here are extremely high in salt!"

"Very useful, great for someone looking to better understand their dietary habits"

"Make them larger or in a more visible area"

"Improve accuracy and consistency"

Appendix D.

Newsletter for Stakeholders

NUTRITION LABELS AT OPEN KITCHEN

As part of their Applied Public Health Nutrition course, a team of six students worked with key stakeholders, David Gill (SEEDS Program) and Melissa Baker, RD (UBC Food Services, UBC SHHS), to conduct a feedback survey that examined the utilization of nutrition labels among first year students at the Open Kitchen dining hall in Orchard Commons. We are grateful for Melissa and David's guidance throughout this project. We hope that the feedback we gathered will provide valuable direction for future nutrition labels in dining halls at UBC!

Image Credit: UBC Housing

What we learned about ourselves:

We learned that setting timelines and breaking down tasks is integral to success! It was daunting to take on such a large project and it was important that we had a strong timeline going for our project in order to achieve everything we had planned. Learning about the Logic Model, including the inputs, outputs, and outcomes of a project, guided us through this process and helped us consider all aspects of our project. We learned that in addition to strong communication with team members, it is important to communicate effectively with our stakeholders in order to understand their goals and expectations for us.

Image Credit: UBC Food Services

Image Credit: UBC Food Services

What we learned about the community we worked with:

Literature doesn't lie! We found that in the literature there was evidence supporting a general distrust of nutrition labels among consumers and were surprised to discover that many of our respondents were also concerned about their accuracy. We also learned that there are many exciting initiatives here at UBC to improve the nutritional status of students and were able to learn more about the values and vision of UBC Food Services. Lastly, sometimes seen as apathetic, we discovered that the population of students we sampled truly does believe that nutrition labels are beneficial.

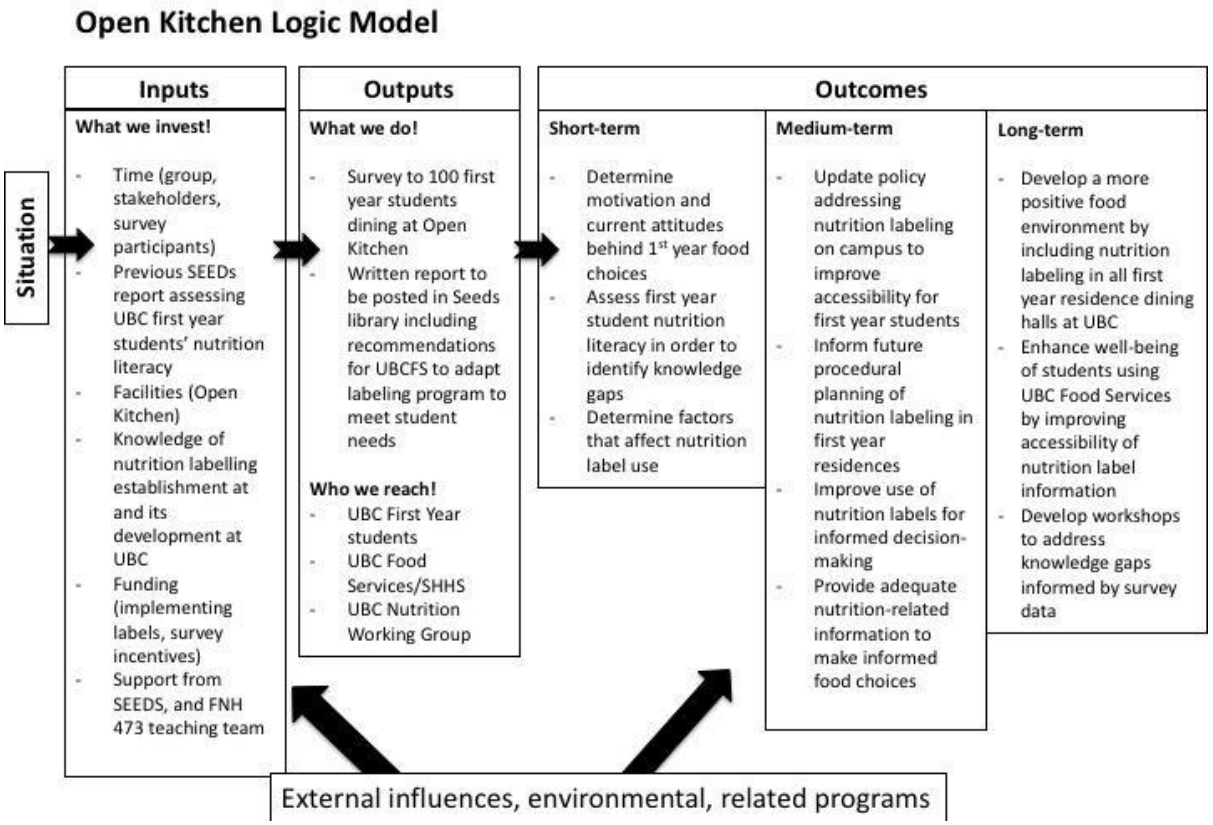
What we learned about public health nutrition in the community:

We learned that planning and implementing interventions in public health can be messy and takes time, with many phases and steps involved (but worth it of course)! We realized that there are many levels and layers to approach when it comes to affecting change, whether it is institutional, individual, or at any other level; and, that it can be quite a process to get all potential stakeholders on board with new decisions and change. It became clear to us that our project was part of a grander strategy for the University's goals to improve healthy eating and wellbeing on campus.

Image Credit: UBC Food Services

Appendix F.

Logic Model



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