Creating a Mobile App to Boost Vegetable Consumption: Development, Field Testing, and Dissemination

Susan H. Evans and Peter Clarke
University of Southern California

Grant no. USDA: 2006-55215-16730
250+ Food Banks

36,000 Community Agencies, Including 26,000 Pantries

40+ Million Individual Recipients
Disseminating Orphan Innovations

The social sector invests a great deal of time and money trying to create social innovations, but pays scant attention to the challenges of spreading successful ones to other locations. Disseminating innovations takes a distinct, sophisticated skill set, one that often requires customizing the program to new circumstances, not replicating.

By Susan H. Evans & Peter Clarke

Illustration by Brett Ryder
VeggieBook
Quick Help for Meals

Select VeggieBook

- Carrots
- Cauliflower
- Green Beans
- Onions
- Potatoes
- Root Vegetables
- Sweet Potatoes
- Zucchini
Zucchini

I want recipes for zucchini that use...

- Microwave
- Crock Pot
- Steamer
- Blender or Food Processor

I want recipes...

- That are kid-friendly
- That combine zucchini with chicken or meat
- For soup containing zucchini
- With Latino flavors
- With Asian flavors
- With Soul Food flavors

I want information on...

- Making snacks with zucchini
- Preparing zucchini for one or two people
- Making baby food with zucchini for babies six months or older
- Preparing zucchini for someone with diabetes
I want nutritional tips about zucchini...

CHECK ALL THAT APPLY

- In general
- For children under 16
- For adults and seniors

I want information on...

CHECK ALL THAT APPLY

- Storing zucchini
- Freezing zucchini
- Preventing spoilage of zucchini
**Broccoli Burritos**

**Ingredients**

1. head broccoli, chopped
2. bell pepper, cut into chunks (optional)
3. clove garlic, chopped (optional)
4. tortillas (9 inch tortilla)

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You can print an EXTRA COPY of any recipe to give to family or friends.

Just touch a recipe for an EXTRA COPY.

**Recipes**

- Zucchini Soup
- Sweet and Sour Zucchini Salad
- Baked Zucchini and Chicken
- Zucchini and Fruit Smoothie
- Zucchini Pancakes
- Chicken and Vegetable Enchilada Casserole
Clients’ Customized Covers from Printed VeggieBooks

VeggieBook
Quick Help for Meals

Zucchiní
Recipes and Tips Chosen by Carmen

A service of Our Saviour Center

VeggieBook
¡Sabroso! Recetas y Sugerencias

Camotes
Recetas y Sugerencias Elegidas por Elizabeth

Un servicio de Our Saviour Center
Zucchini with Noodles

**Summary**

- Preparation Time: 10 minutes
- Cooking Time: 20 minutes
- Servings: 4-6
- Can be made ahead: Yes
- Can be frozen: Yes
- Good for leftovers: Yes

**Ingredients**

- 1 package (12 ounce) noodles
- 3 zucchini, ends trimmed
- 2 cloves garlic, finely chopped (optional)
- 2 large spoons vegetable oil
- \( \frac{1}{2} \) of 14 \( \frac{1}{2} \) ounce can diced tomatoes, undrained
- salt and pepper, to taste
- \( \frac{1}{2} \) cup grated Parmesan cheese

**Instructions**

1. Cut zucchini lengthwise. Then cut crosswise into pieces that are pencil-wide.
2. Cook noodles according to directions on the package.
3. While noodles are cooking, heat a frying pan. Add vegetable oil, garlic, and zucchini and cook until tender, about 10 minutes. Stir occasionally.
4. Add tomatoes, salt, and pepper to zucchini and stir.
5. Bring to a boil, reduce heat, and simmer for 5 minutes, stirring often.
6. Once the noodles are cooked, drain, and stir into the zucchini tomato mixture.
7. Top with cheese.
Measure food into one-serving portion sizes.

You might be surprised at what one serving actually is! Look at the label on the package. Try measuring out cereal into one-serving portions and put each one into a baggie. Then you and your family will know how much you are really eating.

**Why It Works:**

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My kids used to pour their cereal into their bowls without stopping! So I figured out that I should put one serving size of cereal into a baggie. What a surprise when my kids saw what one serving really was! Now the kids have learned to get just one bowl.
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Be an alert shopper.

Look for deals on the shelves above or below eye-level. You'll save money by looking for brands in less visible locations.

**Why It Works:**

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Because we're more likely to buy the first thing we see. Supermarkets put the items where they make the most money right at your eye level. Look above and below for brands on other shelves. These items may be less promoted, but they are often just as good and often cost less.
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Prepare weekend breakfasts with your kids.

If your kids help make the meal, they're more likely to eat it. Weekends are a good time to invite kids to develop cooking skills and food interests.

Being able to cook is a great life skill. And who knows? Your child could grow up to be the next "Top Chef" or a featured chef on the Food Network.

**Why It Works:**

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Food study researchers learned that kids are more likely to eat food they help make.
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“Nudges” in the App

1. Invite users’ choices to help compose the message
   - Customize the content to satisfy users’ choices
   - Affirm that personalization has taken place
   - Decorate the message with treasured symbols

2. Engage users’ social networks via sharing

3. Illustrate by showing the actions that are sought
Experimental Cooks' Use of Quick Help For Meals

Cooks' Self Ratings of VeggieBook Use, Scale Values

Cooks' Self Ratings of SecretsBooks Use, Scale Values

Cooks' Number of VeggieBooks Created, Occasions Electronically Captured

Cooks' Number of SecretsBooks Created, Occasions Electronically Captured
Children’s Use of *Quick Help For Meals*

**Left Diagram:**
- Title: Children’s Number of VeggieBooks Created, Occasions Electronically Captured
- Y-axis: Percent
- X-axis: Children’s Number of VeggieBooks

**Right Diagram:**
- Title: Children’s Number of SecretsBooks Created, Occasions Electronically Captured
- Y-axis: Percent
- X-axis: Children’s Number of SecretsBooks
Unique Vegetable Servings

Control Pantries  Quick Help For Meals Pantries

+38%
Average Number of Unique Preparations, by Pantries

○ = Control Pantries
● = Quick Help for Meals Pantries

Control median = 3.03
Quick Help for Meals median = 4.17
Mann-Whitney z=1.83; p=.03 (one-tailed)
## Conversations with Family Cooks at Weekly Pantry Distributions

<table>
<thead>
<tr>
<th></th>
<th>Control Pantries</th>
<th>App Pantries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooks say they are gaining confidence in the kitchen</td>
<td>4%</td>
<td>66%</td>
</tr>
<tr>
<td>Cooks mention that family is eating/enjoying vegetables more</td>
<td>1%</td>
<td>29%</td>
</tr>
<tr>
<td>Child involved in meal preparations</td>
<td>7%</td>
<td>39%</td>
</tr>
</tbody>
</table>
Mean Residual Scores for Servings of 24 Vegetables, Baseline to End of Study (6 control and 9 experimental pantries)
“VeggieBook helped me so much. One of the biggest things was the confidence it gave me to prepare food. Now, when I get something I don’t know from the pantry, I know I can find a way to use it.” -Imelda

“We’re eating dinner as a family and talking about our day.” -Georgette

“The sugar calculator helped us cut down on soft drinks.” -Priscilla
“I love the recipes. It helped get me back on track with my HbA1c. I’m eating healthy. Everyone should download the app.” -Tammy

“I knew he liked to make sandwiches but now he likes to cook with so many things! When we go to the grocery store he says mom, we should get this and that. I say Ok, sure because it’s healthy food. Before, all he wanted was junk food.” -Norma talking about her 11-year-old son
Disseminating Quick Help
Get new, tasty recipes
Download the VeggieBook app NOW
We’ll help you

Obtenga recetas nuevas y sabrosas
Descargar la aplicación VeggieBook
Te ayudaremos

Make the most of mealtime
Download the Veggiebook app NOW
We’ll help you

Aproveche al máximo las comidas
Descargar la aplicación VeggieBook
Te ayudaremos
‘Triggers’ that Amplify *Quick Help*

- Availability of fresh vegetables
- Outreach by socially-supportive ambassadors
- Printing of *Quick Help*’s output
- Enlisting kids as well as household cooks
Outcomes of Interest

- High rates of downloading the app
- Early and repeated use of VeggieBooks and/or SecretsBooks
- Healthy impacts on household preparations of meals and snacks
- Healthy impacts on household food behaviors
Potential Dissemination Partners

- SNAP-Ed programs
- Food banks and their pantries
- School districts
- Associations of community health workers (Promotoras)
- Culinary training programs in high schools
- Grocery stores, small scale or supermarkets
Thank You

Susan Evans: shevans@usc.edu
Peter Clarke: chmc@usc.edu