Implementing Smarter Lunchroom Makeovers in New York State Middle Schools: Results of Process Evaluation

Presented by Alisha Gaines, PhD, Cornell University, Division of Nutritional Sciences

Welcome, thank you for joining!

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During the last 10 minutes of this presentation Alisha will address as many questions as time allows. To ask a question please use the Q & A feature.

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Smarter Lunchrooms:
# Does Changing Environments Really Give More Nutritional Bang for the Buck?

The Smarter Lunchrooms Movement (SLM)

- Cornell University Food & Brand Lab, Center for Behavioral Economics in Child Nutrition Programs (BEN Center)
- Easy no- or low-cost changes to encourage students to select, eat, and enjoy healthier foods in school without eliminating their choice.
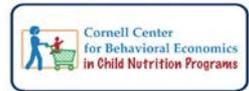
The Food and Nutrition Education in Communities group (FNEC)

- Cornell University Division of Nutritional Sciences
- Vision of healthy people and food secure communities through research- and issue-based programming with a focus on low-income individuals and families.
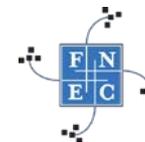
Agriculture and Food Research Initiative (AFRI)

- 2011 call for research-extension studies focused on middle-school-aged youth
- BEN-FNEC-Cooperative Extension project awarded in 2012 (grant no. 2012-68001-19604)

Study Objective & Design

Overall Objective

- Examine how low- or no-cost changes in New York State middle school cafeterias impact students' <u>fruit,</u> <u>vegetables,</u> and <u>unsweetened milk</u> selection and consumption, measured by plate waste.

A series of randomized controlled trials over 5 years

| Year 1 | Plan | Year 2 | Test single changes | Year 3 | Test combined changes | Year 4 | Test selected, combined changes | Year 5 | Disseminate results |

Year 2 Study Design

Random assignment of 13 schools

Intervention Schools
(n= 2 milk, 3 vegetable, 4 fruit)

Control Schools
(n= 4)

Process evaluation

Pre-intervention plate waste measures

Training from CE

6 weeks of lunchroom changes with CE support

Post-intervention plate waste measures

Process evaluation

Pre-intervention plate waste measures

Unrelated training from CE

No lunchroom changes, no CE support

Post-intervention plate waste measures
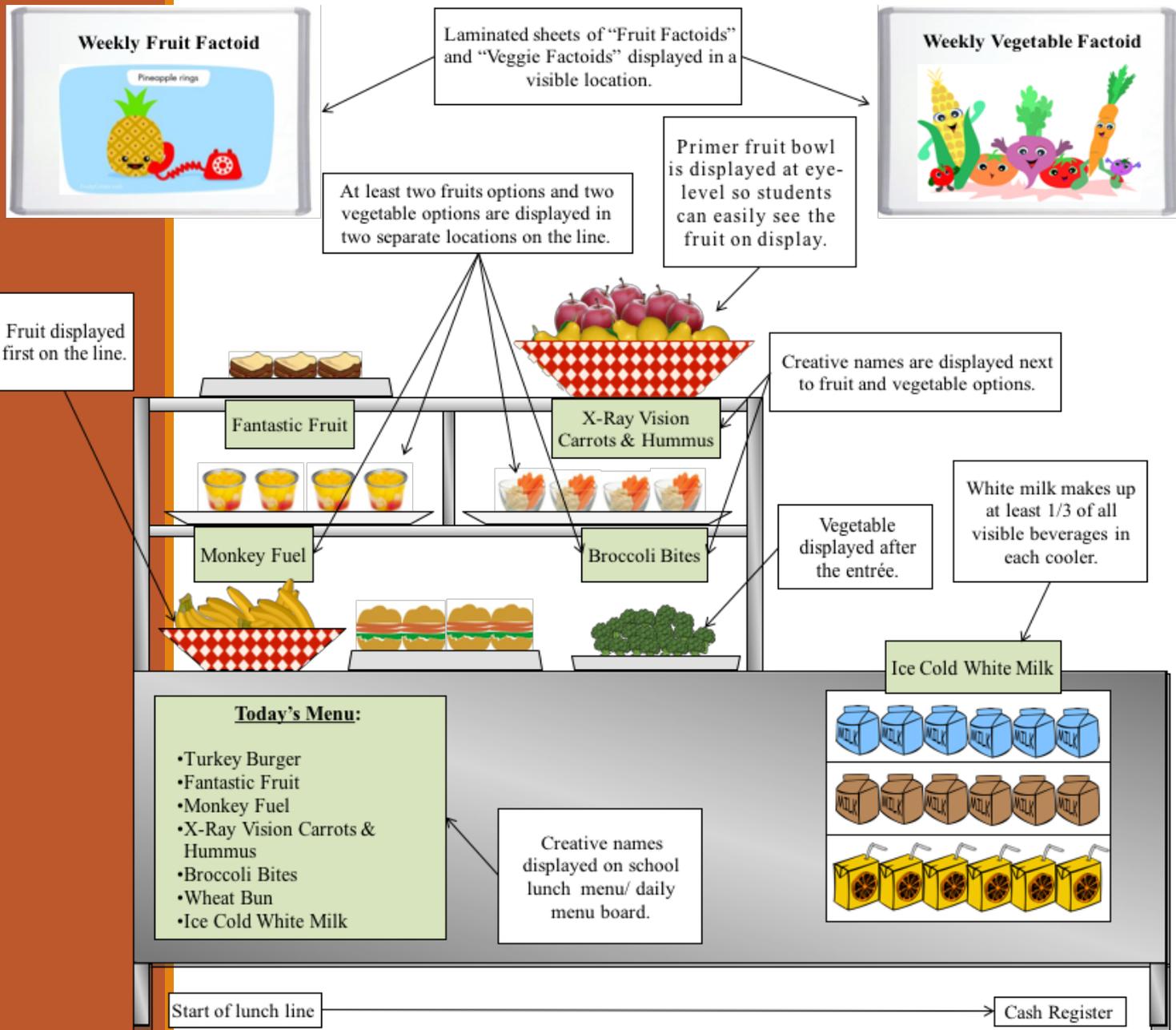
Changes introduced later with CE support

Roles of Cooperative Extension (CE)

1) Receive training from campus staff
2) Recruit schools
3) Train food service staff
4) Provide weekly support during intervention

Intervention Protocol

15 fruit, 13 vegetable, & 9 milk protocol items in categories:

1) Placement & display

2) Creative naming

3) Nutrition messaging

4) Variety (FV only)

Weekly Fruit Factoid

Pineapple rings

Laminated sheets of "Fruit Factoids" and "Veggie Factoids" displayed in a visible location.

Weekly Vegetable Factoid

Primer fruit bowl is displayed at eye-level so students can easily see the fruit on display.

At least two fruits options and two vegetable options are displayed in two separate locations on the line.

Fruit displayed first on the line.

Creative names are displayed next to fruit and vegetable options.

Fantastic Fruit

X-Ray Vision Carrots & Hummus

Monkey Fuel

Broccoli Bites

Vegetable displayed after the entrée.

White milk makes up at least 1/3 of all visible beverages in each cooler.

Ice Cold White Milk

Today's Menu:
- Turkey Burger
- Fantastic Fruit
- Monkey Fuel
- X-Ray Vision Carrots & Hummus
- Broccoli Bites
- Wheat Bun
- Ice Cold White Milk

Creative names displayed on school lunch menu/ daily menu board.

Start of lunch line

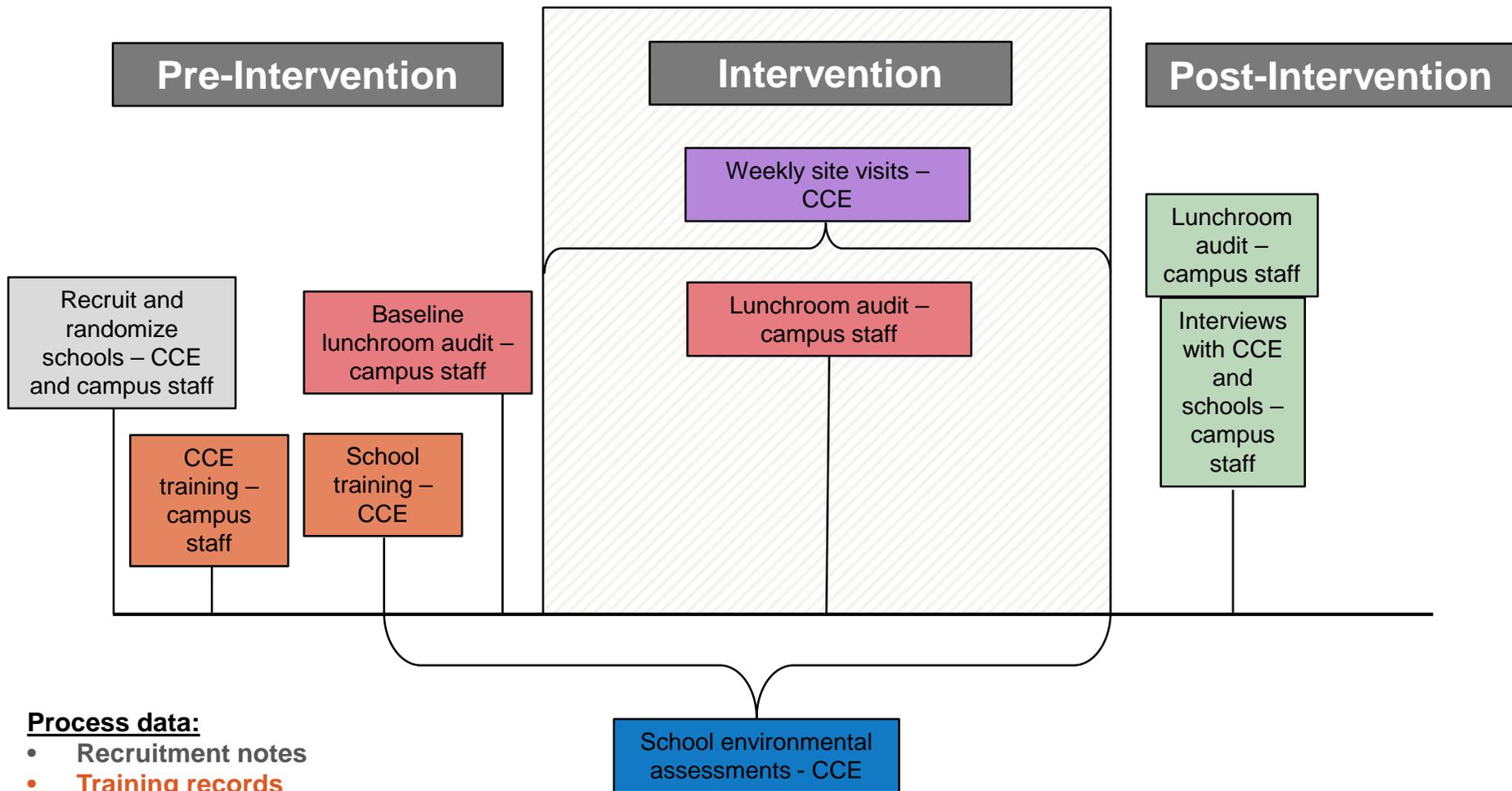Cash Register

Process Evaluation Overview

What is process evaluation?

- What happened? How? Why?
- Informs outcome results (plate waste)

Process evaluation objectives

- Monitor protocol fidelity
- Determine maintenance post-intervention
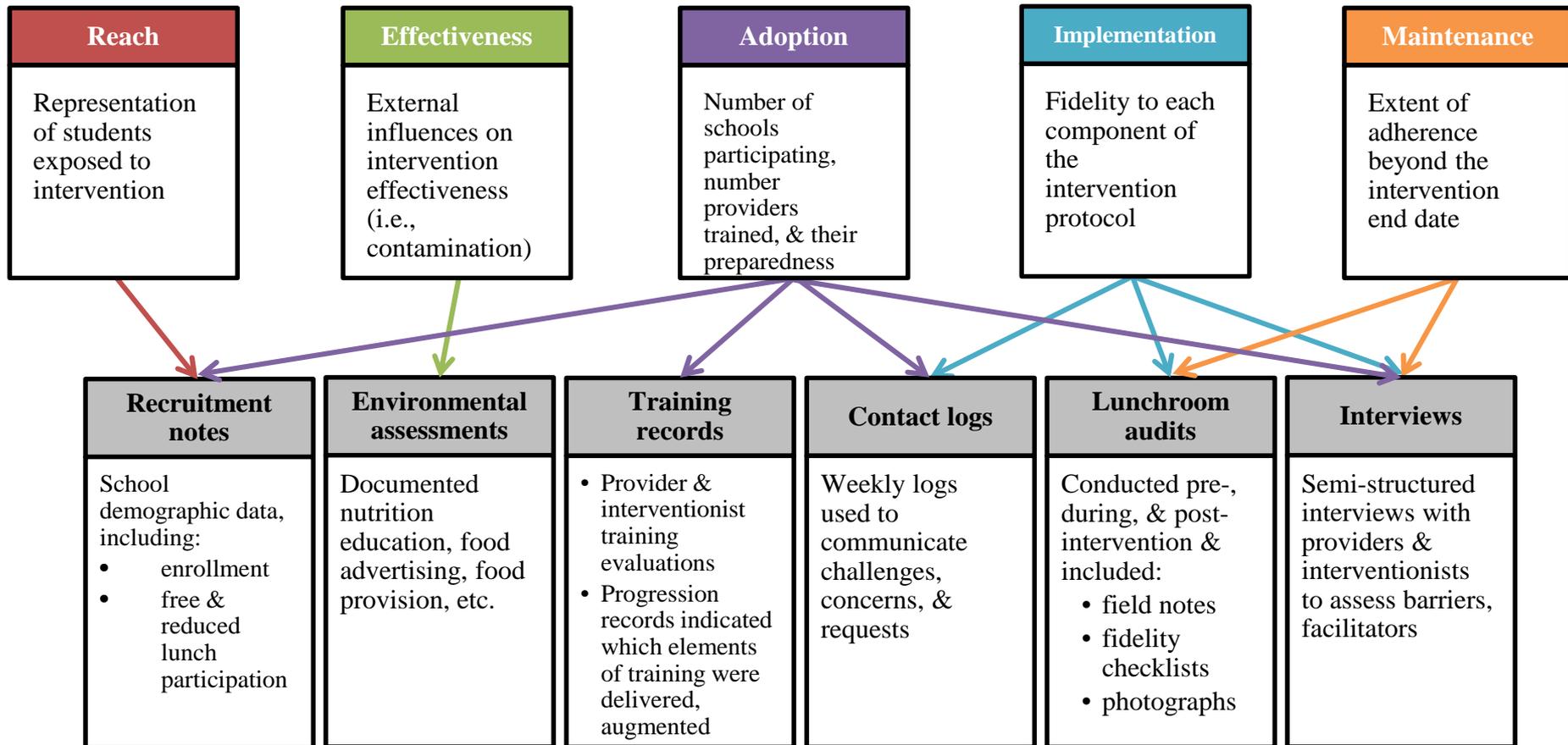- Identify facilitators and barriers to implementation

Process Evaluation Timeline and Measures

Pre-Intervention

Intervention

Post-Intervention

Recruit and randomize schools – CCE and campus staff

Baseline lunchroom audit – campus staff

CCE training – campus staff

School training – CCE

Weekly site visits – CCE

Lunchroom audit – campus staff

Lunchroom audit – campus staff

Interviews with CCE and schools – campus staff

School environmental assessments - CCE

Process data:
- Recruitment notes
- Training records
- School environmental assessments
- Contact logs
- Lunchroom audits with fidelity checklists for scoring, photos, and field notes
- Post-intervention interviews

RE-AIM Framework & Process Evaluation Measures

Reach	**Effectiveness**	**Adoption**	**Implementation**	**Maintenance**
Representation of students exposed to intervention	External influences on intervention effectiveness (i.e., contamination)	Number of schools participating, number providers trained, & their preparedness	Fidelity to each component of the intervention protocol	Extent of adherence beyond the intervention end date

Recruitment notes	**Environmental assessments**	**Training records**	**Contact logs**	**Lunchroom audits**	**Interviews**
School demographic data, including: • enrollment • free & reduced lunch participation	Documented nutrition education, food advertising, food provision, etc.	• Provider & interventionist training evaluations • Progression records indicated which elements of training were delivered, augmented	Weekly logs used to communicate challenges, concerns, & requests	Conducted pre-, during, & post-intervention & included: • field notes • fidelity checklists • photographs	Semi-structured interviews with providers & interventionists to assess barriers, facilitators

Results: Reach

- Data sources: Recruitment notes, NY State Dept. of Education (NYSED)

- 13 schools, ~2100 students
  - 75% of enrolled 6-8th graders
    - More in urban schools with Community Eligibility Provision
  - 455 low-income students

Results: Effectiveness

- Data source: Environmental assessments

- Sources of 'contamination'
  - Wellness policies
  - Extracurricular food and nutrition programming
  - New cafeteria practices

Results: Adoption

School
- Data sources: Recruitment notes, NYSED data
- 13 schools (6 urban, 7 rural)
- Randomization generated 4 control, 2 milk, 3 vegetable, 4 fruit schools

Cooperative Extension
- Data sources: training records, contact logs, interviews
- 16 staff trained by research staff; high evaluation ratings
- Reported comfort with training materials, but needed them earlier
- Experienced unanticipated time restraints for food service staff training
- Requested guidance for food service staffs' concerns

Food service staff
- Data sources: training records, contact logs, interviews
- 63 staff trained with high evaluation ratings
- Limited suggestions for training improvement

Results: Implementation & Maintenance

| Implementation	Maintenance
Fidelity to each component of the intervention protocol	Extent of adherence beyond the intervention end date

Fruit

- ~70% compliance during intervention
  - Highest: Variety, placement and display
  - Lowest: Nutrition messaging

Vegetable

- ~50% compliance during intervention
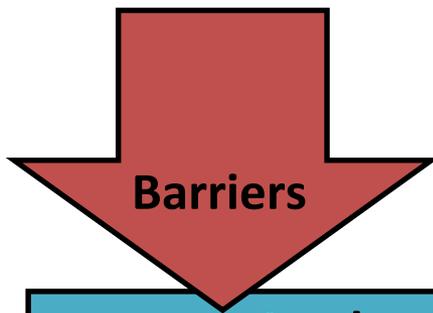 - Highest: Variety, placement and display
  - Lowest: Nutrition messaging

Milk

- ~45% compliance during intervention
  - Highest: Placement and display
  - Lowest: Creative naming

Mean Fidelity Scores*
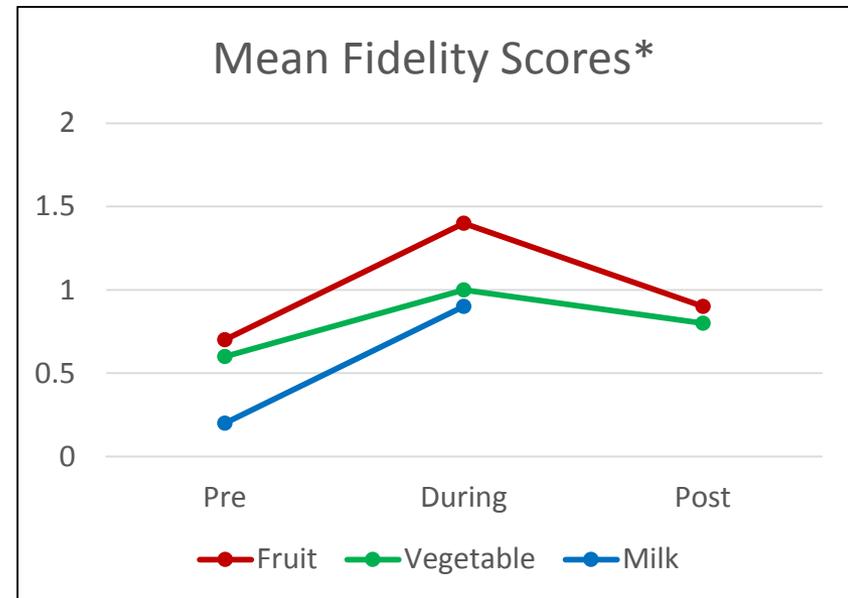
*All data from lunchroom audits/fidelity checklists

Results: Facilitators & Barriers

Barriers

- NSLP changes
- Health department regulations
- Kitchen structure
- Time restraints
- Provider perceived ineffectiveness, lack of buy-in

Implementation Fidelity

- SLM recognition
- Staff dedication to student health
- Potential benefits for bottom line
- Satisfactory training efforts
- Weekly support from interventionists

Facilitators

Addressing Barriers for Future Study Iterations

Lack of buy-in

- Provided guidance for involving food service staff and addressing resistance
- Adapted training to highlighting prestige and benefits of participation
- Provided pre- and post-intervention incentives for food service staff
- Redesigned the intervention to allow staff to select intervention components

Lack of time for changing routines and materials

- Modified materials to better suit school staff needs
- Enhanced training to include practicing making changes

Takeaways

- Process evaluation is essential, and RE-AIM is a helpful framework.
  - Determine methods for monitoring progress and gathering feedback.
  - Increased monitoring for our research project was warranted.

- Involve food service staff in all aspects of SLM endeavors, including planning and evaluation.
  - Talk about benefits to student health, to bottom lines.
  - Build in opportunities for constructive feedback and praise.
  - CE can facilitate this dialogue.

- Partnerships can be mutually beneficial.
  - For some schools, external support is great! For those that want to work with schools, like CE, the cafeteria may be a place to start!
  - Designate point persons for communication.
  - Seek SLM training opportunities for school staff and non-school partners.

Resources

Implementing Smarter Lunchrooms Makeovers in New York state middle schools: an initial process evaluation
- https://archpublichealth.biomedcentral.com/articles/10.1186/s13690-016-0153-9
- Contact Alisha Gaines (againes@cornell.edu) with questions

SLM
- http://smarterlunchrooms.org/
  - See Our Ideas>Best Practices, Resources, and Training
- Other SLM webinars
  - Measuring the Long-Term Impact of Behavioral Interventions in School Cafeterias https://learn.extension.org/events/2856

Food and Nutrition Education in Communities (FNEC)
- http://fnec.cornell.edu/

SNAP-Ed Toolkit
- https://snaped.fns.usda.gov/national-snap-ed/snap-ed-plan-guidance-and-templates

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- **Develop Healthy Eating Dialogues content group members**

- **FNEC group**

Thank you for attending!

We hope you found the presentation informative and useful!

A recording of this webinar will be available shortly at:
https://learn.extension.org/events/2857

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