

# Process Evaluation of the Smarter Lunchrooms Randomized Controlled Trial: Year 3

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## Introduction and Purpose

- A Smarter Lunchroom randomized controlled trial (RCT) was redesigned to examine effectiveness of environmental strategies promoting fruit, vegetable, and unsweetened milk consumption in New York State (NYS) middle schools that self-selected intervention components, compared with schools that were assigned an intervention protocol.
- The purpose of this study was to conduct process evaluation in order to: 1) monitor protocol fidelity, 2) determine maintenance post-intervention, and 3) identify facilitators and barriers to implementation.

## Intervention Description

- 12 NYS public middle were randomized into 1 of 3 groups:
  - Self-selection (n=3): chose 6 protocol items (2 fruit, 2 vegetable, 2 milk)
  - Assigned (n=5): assigned the 6-item protocol of a matched self-selection school
  - Control (n=4): no intervention
- With weekly support from Cooperative Extension, schools implemented the 6-week long intervention in Spring 2016.
- Figure 1 includes a description of protocol items, including the number of 8 treatment schools implementing each item.

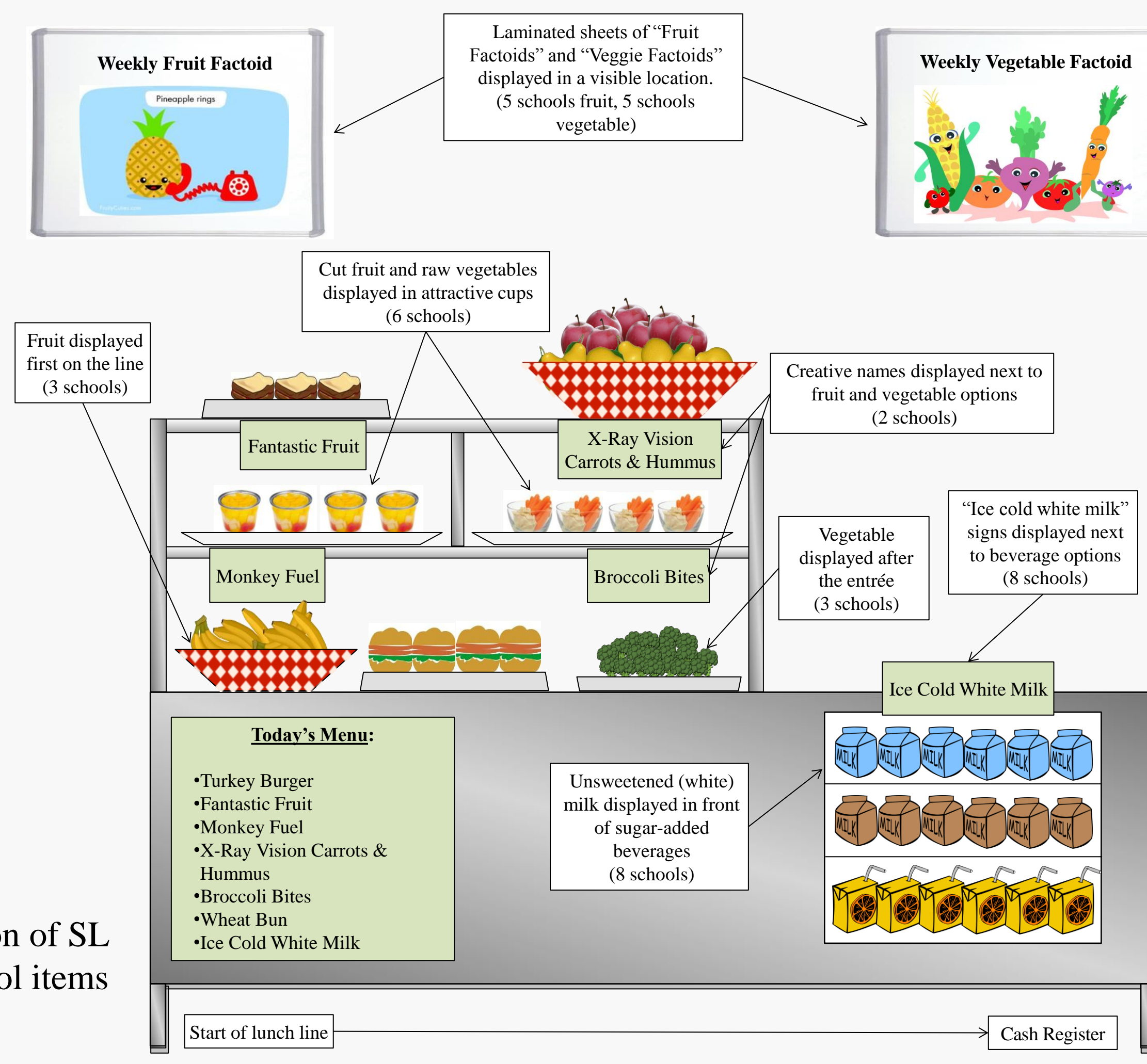
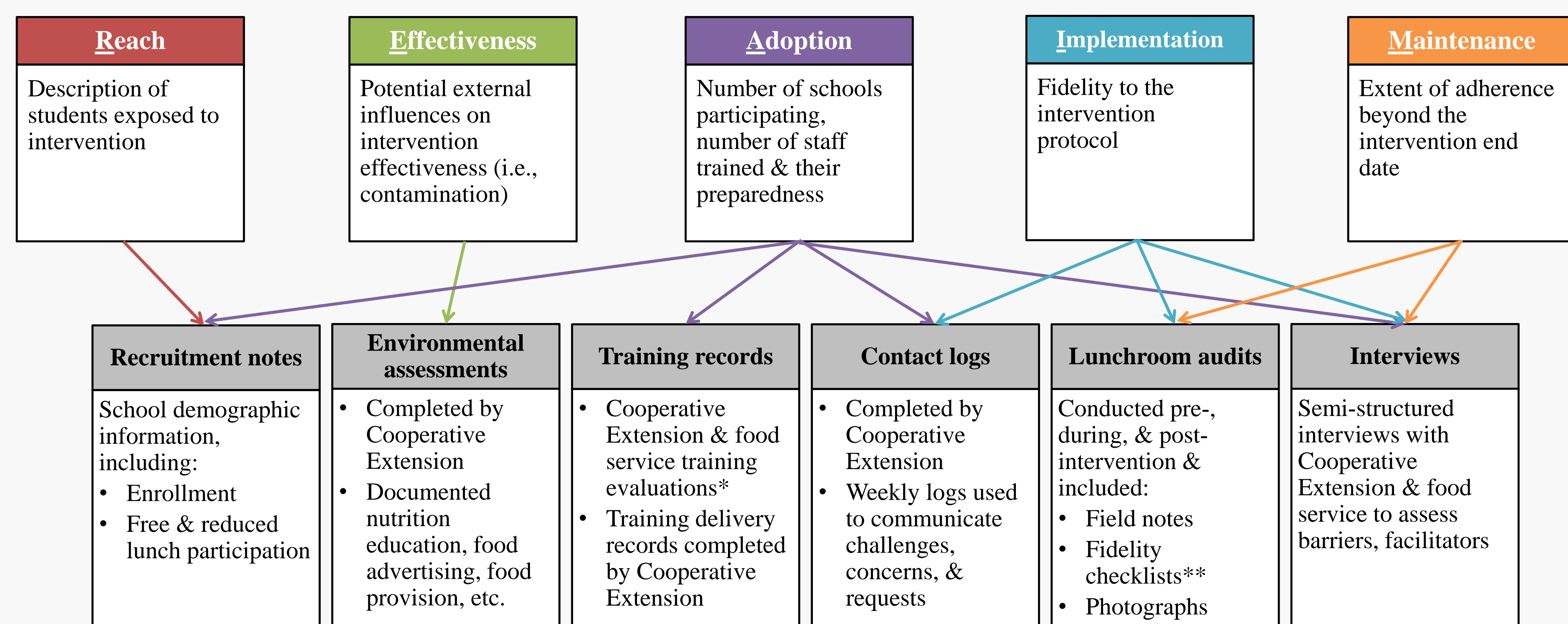


Figure 1. Illustration of SL treatment protocol items

## Process Evaluation Methods

Figure 2. Adaptation and application of RE-AIM dimensions to process evaluation measures



- \*Training evaluations included Likert scales; scores averaged within Cooperative Extension and food service groups
- \*\*Fidelity checklist data converted into compliance scores. Compliance with each protocol item scored 0-2 (0 for non-, 1 for partial, and 2 for full compliance). Scores summed (0-12) for each treatment school after each lunchroom audit, then averaged across schools of the same treatment type (self-selection or assigned).
- Qualitative data were analyzed thematically using ATLAS.ti software.

## Results

### Reach

- 5811 6th-8th graders enrolled in treatment schools
- ~40% (2499 students) receiving free or reduced-price meals

Table 1. School demographic characteristics

Treatment (n schools)	Enrollment (n students)	Reach (enrollment x % free/reduced lunch participation)	Sex (% of enrollment)		Race/Ethnicity (% of enrollment)			
			Female	Male	Black	White	Hispanic	Other
Self-selection (n=3)	2392	1029	50.9	49.1	5.4	78.3	5.7	10.7
Assigned (n=5)	3419	1470	51.1	48.9	3.6	85.7	3.6	7.1
Control (n=4)	3433	None	51.6	48.4	3.4	87.6	3.3	5.7

### Effectiveness

- School environmental assessments revealed potential sources of contamination among participating schools (e.g., education department courses, wellness policy activities, and other food service department efforts like promotional signage).

### Adoption

- School
- 12 schools (9 urban, 3 rural) in 4 New York State counties (Figure 3)
- Recruitment notes highlighted factors impacting participation decisions: previous research experience, administrator buy-in, internal and external reviews
- Cooperative Extension and food service staff
- Training records indicated 4 interventionists and 125 providers received training throughout the year.
- Training records indicated both Cooperative Extension and food service staff were satisfied with trainings and prepared to execute changes

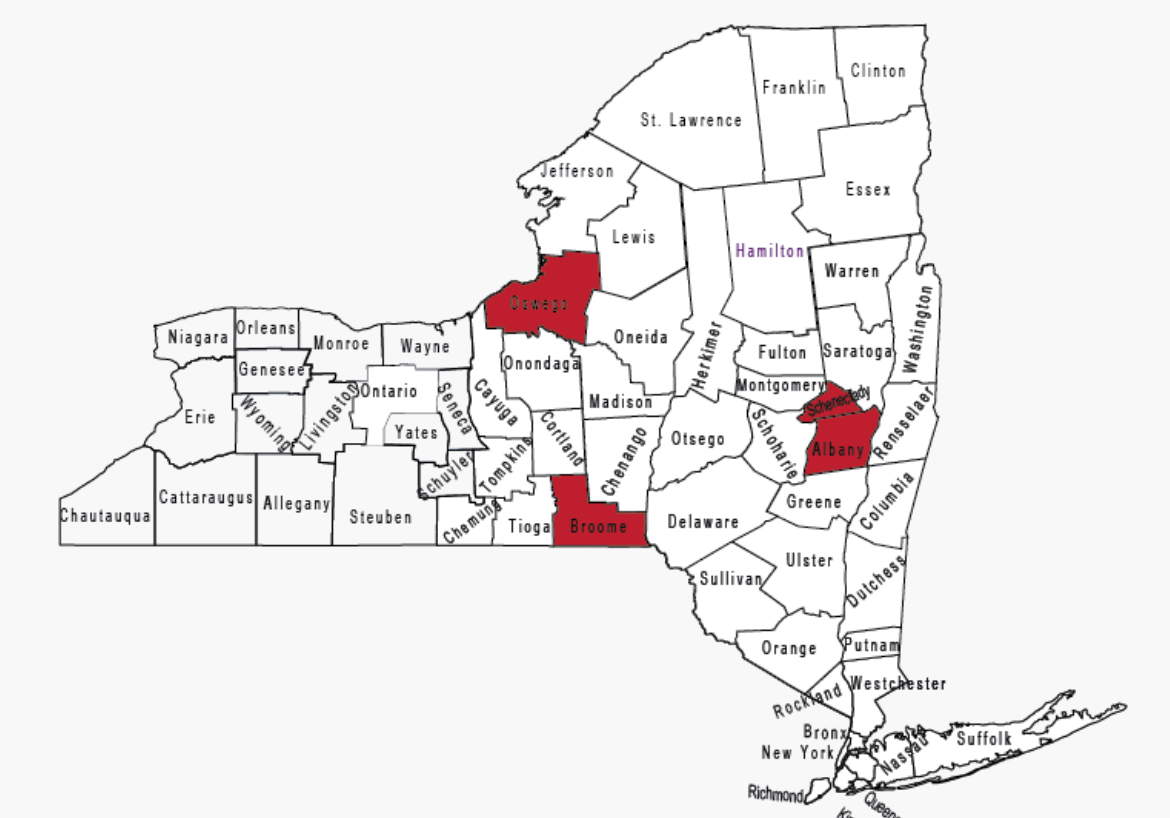


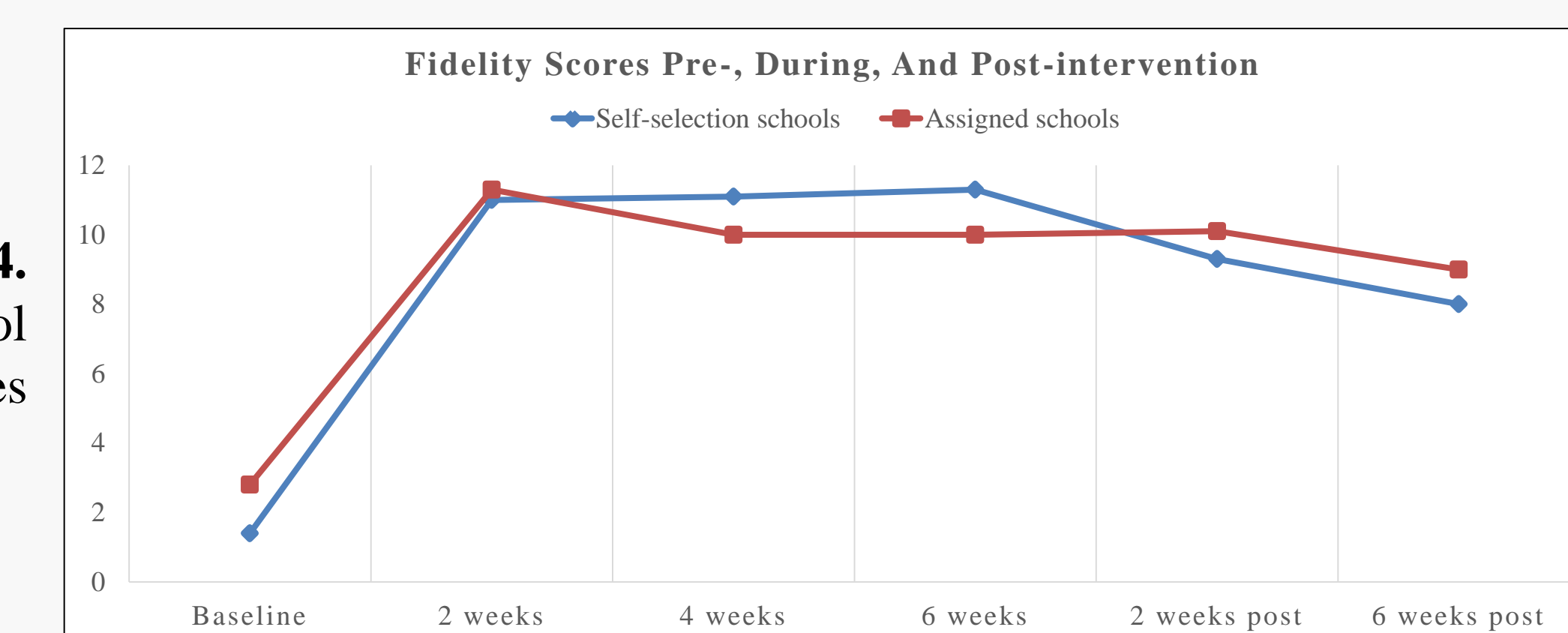
Figure 3. NYS counties represented by participating schools

### Implementation

### Maintenance

- Lunchroom audits revealed both self-selection and assigned schools implemented most protocol items. Compliance scores dropped following the intervention end date.

Figure 4. Treatment school fidelity scores



- Contact logs, lunchroom audits, and interviews highlighted barriers and facilitators to protocol implementation and maintenance (Figure 6).

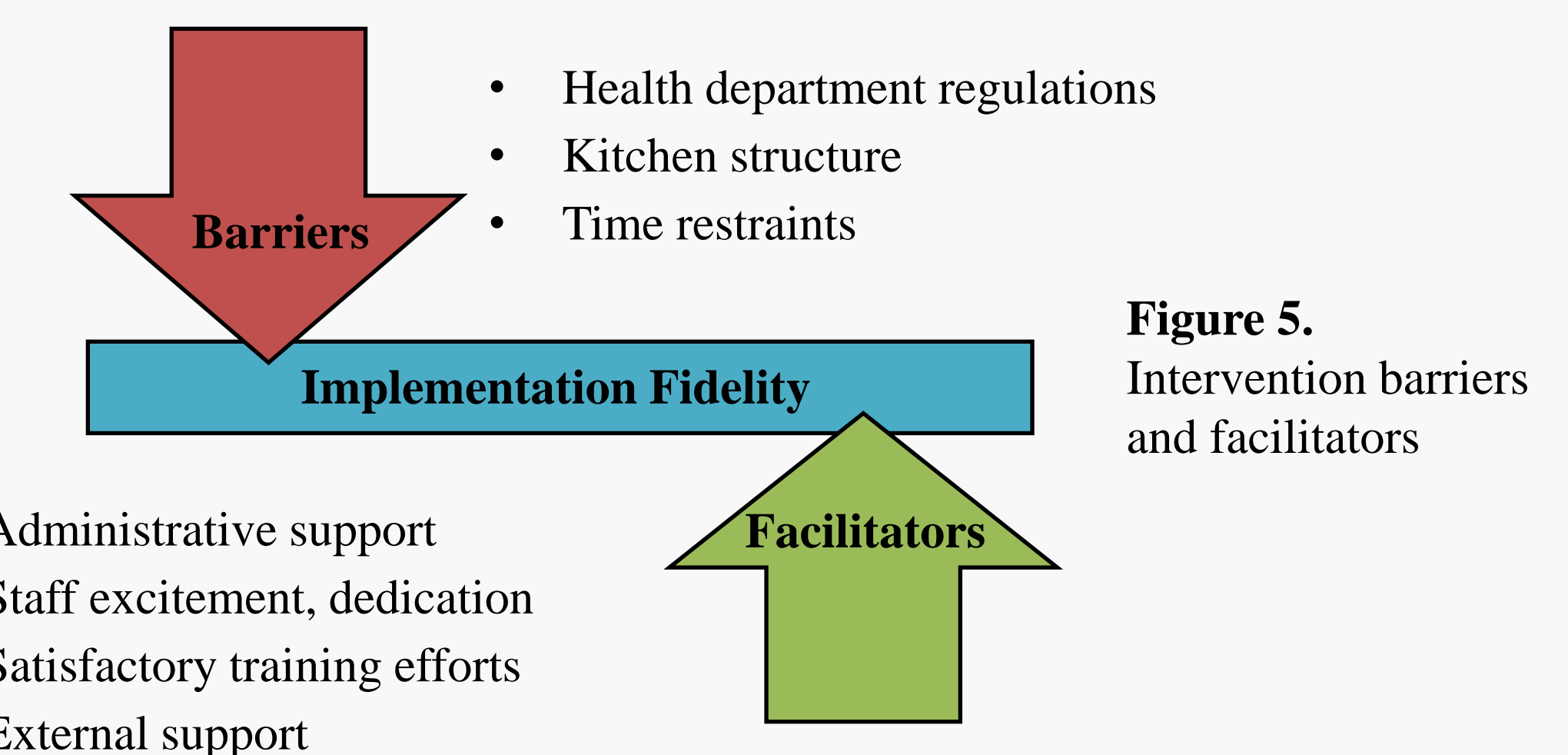


Figure 5. Intervention barriers and facilitators

## Conclusions and Implications

- Self-selection treatment did not guarantee substantially improved fidelity scores during or after the intervention
- Leveraging staff motivation and providing support to overcome barriers proved effective in enhancing implementation fidelity
- Data will inform analyses of intervention outcomes and may prove valuable for other environmentally-focused interventions in school cafeterias