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Food Service Guidelines Policies on Local Government Controlled Properties

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Abstract

Purpose—Local governments can implement food service guidelines (FSG) policies, which potentially, for large cities, can reach millions of people. This study identified FSG policies among the 20 largest U.S. cities and analyzed them for key FSG policy attributes.

Design—Quantitative research.

Setting—Local government facilities.

Subjects—20 largest U.S. cities.

Measures—Frequency of FSG policies and percent alignment to tool.

Analysis—Using municipal legal code libraries and other data sources, FSG policies enacted as of December 31, 2016 were identified. Full-text reviews were conducted of identified policies to determine if they met inclusion criteria. Included policies were analyzed for key policy attributes specific to nutrition, behavioral design, implementation, and facility efficiency.

Results—Searches identified 469 potential FSG policies, of which six policies across five cities met inclusion criteria. Five policies met a majority of criteria assessed by the classification tool. Overall alignment to the tool ranged from 17% to 88%. Five of the six policies met a majority of

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the nutrition attributes and five met at least 50% of attributes associated with implementation. No policies met the attributes associated with facility efficiency.

Conclusion—FSG policies were identified in five of the 20 U.S. cities. Policy alignment was high for nutrition and implementation attributes. This analysis suggests that when cities adopt FSG policies, many develop policies that align with key policy attributes. These policies can serve as models for other jurisdictions to create healthier food access through FSG.

Keywords

Nutrition guidelines; nutrition policy; healthy eating policy; food and beverage environment; healthy food procurement; food service guidelines

PURPOSE

Most Americans' diets exceed recommended levels of added sugar, saturated fat, and sodium, and lack adequate amounts of fruits, vegetables, and whole grains.¹ Given the role of a healthy diet in reducing adverse health outcomes, such as hypertension, type 2 diabetes, overweight, obesity, and various cancers,^{2–5} emphasis has been placed on policy and environmental strategies to help improve diet and food quality.^{6–8} Among such strategies is the use of institutional food service guidelines (FSG).^{9–11} FSG aim to create a food environment where healthier options are more readily available for consumers to choose. This is achieved by defining food or nutrition standards for foods and beverages sold or offered in settings such as worksites, universities, public agency or government buildings, and parks. FSG may also include behavioral strategies to encourage selection of healthier choices such as pricing and placement; encourage ecologically and ethically responsible practices such as waste diversion practices; treat workers fairly; and support a robust food system capable of producing nutritious foods for future generations.

Using FSG to improve food environments is not a new approach. The United States military and public school systems were among the first public institutions to adopt nutrition standards to support the consumption of foods and beverages necessary to maintain a healthy weight.^{12, 13} Nonetheless, FSG policy implementation is a relatively new, but growing, trend across government entities.^{9, 11} Uptake of FSG by governments may be driven by the increasing prevalence of unhealthy weight and its health and economic burden on society,¹⁴ which research suggests may be most effectively addressed by policy and regulatory actions.¹⁵ Furthermore, the release of guidelines by federal agencies and public health organizations to facilitate FSG implementation may have also contributed to the recent rise of FSG policies among government entities.^{16–18}

The potential reach of FSG use in the government sector is in part because federal, state, and local government entities combined employ nearly 22 million people.^{19, 20} This number does not include populations served by government agencies and programs, thus increasing the potential reach and benefits of FSG adoption. For example, every year New York City serves an estimated 260 million meals and snacks.²¹ The potential reach of FSG laws and policies also makes them a strategy to potentially reduce the costs governments face to treat diet-related diseases. Recent cardiovascular disease and diabetes costs to the nation were

estimated to be about \$316 billion and \$245 billion, respectively.^{22, 23} Such high costs may make implementing FSG favorable among government entities.

Monitoring FSG laws and policies over time can help us better understand their impact on public health and health care costs. While the presence of state FSG laws and policies was recently examined, studies to date have not examined local FSG policies in detail. Because research indicates that FSG policies are more prevalent in larger municipalities²⁴ and urban areas represent a significant portion of the U.S. population,²⁵ focusing initial analysis of FSG policies on large U.S. municipalities is a logical first step. In this study, we build on our previous research that assessed state FSG policies¹¹ to identify FSG policies in the 20 largest cities in the United States and assess for key FSG policy attributes.

METHODS

Design

This analysis of local FSG policies includes local ordinances, codes, executive orders, and administrative policies. An *ordinance* is an authoritative law or decree, at the municipal level, that forbids, authorizes, and/or regulates an activity.²⁶ Ordinances are typically incorporated into a jurisdiction's code. A municipal *code* is the systematic compilation or revision of ordinances, laws, rules, or regulations of a town, city, or other local government unit.²⁶ A law is "codified" when it is included in this systematic compilation process. A local *executive order* is a mayor's declaration that has the force of law and typically requires no action by the city council; however, its impact can be limited because it only applies to property or activities that are within the mayor's scope of authority, and because it may become invalid with a leadership change. We also identified *administrative policies* which occur in city agencies that have authority to develop their own policies, such as health departments or departments of parks and recreation.

Sample

We systematically identified policies for the 20 U.S. cities with the largest populations based on 2015 population data available at the time of our analysis.²⁷ (Appendix 1) We used two municipal legal code libraries, Municode and American Legal Publishing (ALP), as primary sources to identify policies adopted by December 31, 2016. Because there are no specific Boolean key word searches for FSG and these key word searches are unique to each library, we developed comparable Boolean searches for both libraries to identify potential FSG policies. Because Phoenix, AZ and San Diego, CA do not use either library for codification but do provide their codes on their websites, we also searched these jurisdiction's online codes for identifying policies for these cities. These secondary data collection methods used Boolean and natural language searches of each jurisdiction's online code to replicate the searches conducted in the ALP and Municode libraries as closely as possible. Finally, because executive orders are not codified and thus typically not included in these libraries, we also conducted searches of each of the 20 jurisdictions' official websites using Boolean and natural language to capture any executive orders or related policy documents that would be available on the municipality's website.

Measures and Analysis

The policy review was broken down into two phases. The first phase consisted of a full-text review of each policy identified from both primary and secondary sources, which was conducted separately by two trained reviewers (first [H.Z.] and second authors [K.B.K.]) to determine which policies met our inclusion criteria. To meet inclusion criteria and therefore be included in the second phase of review, the policy had to specify the development of, or reference operationalized nutritional guidelines that apply to foods and beverages served and/or sold to adult populations in local government-owned or -controlled facilities, including conferences and on-site or off-site events, or had to specify the development of task forces or other committees delegated to develop FSG. Data were excluded from review if they were resolutions, meeting minutes, food service contracts, requests for proposals, or policies adopted after December 31, 2016.

Once all policies that met our criteria were identified, we began the second phase of analysis. We analyzed the text of each policy for the presence or absence of key FSG policy attributes using a classification tool we previously developed based upon National Cancer Institute's Classification of Laws Associated with School Students (CLASS) system. CLASS is a validated tool used to score state-level codified laws for physical education and nutrition in schools.^(REF) Using the CLASS tool as a foundation, we then incorporated relevant FSG related attributes from the *Health and Sustainability Guidelines for Federal Concessions and Vending Operations*, which translate the Dietary Guidelines for Americans into practical guidelines that can be implemented in concession and vending operations. A detailed description of the development of the classification tool is described elsewhere.¹¹ For the current analysis, the original tool was modified slightly to reflect the recently updated federal food service guidelines, *Food Service Guidelines for Federal Facilities*.¹⁸ (See Appendix 2). As part of this update, we included food-based components (e.g. offered protein products include non-fried, lean options) as a part of applicable variables and we included the facility efficiency attribute to incorporate the *Facility Efficiency, Environmental Support, and Community Development Standards* of these guidelines.

During this second phase of analysis, we used the tool to identify alignment to the following four attribute areas: nutrition, behavioral design, implementation, and facility efficiency. To better correspond with the type of FSG policies encountered, each attribute area includes separate modules specific to each policy category: vending machines ("vending"), cafeteria-style venues ("meals"), "all foods" (policy pertains to all foods and beverages sold or provided by the government entity or on government property), task force development ("task force"), and foods served at meetings ("healthy meetings"). A total of 35 vending module variables, 23 meals module variables, 23 all foods module variables, 24 task force development module variables, and 22 healthy meeting module variables are included in the classification tool. After policies were classified into one of the five policy type categories, they were analyzed using the module and corresponding variables for that policy category. For example, a policy specific to vending machines was analyzed using the "vending module" and the 35 corresponding vending module variables only. We also captured basic policy characteristics specific to the locality, year, setting, and policy type. In cases where a policy referenced nutrition guidelines/standards not included as part of the actual policy text,

the reviewers identified the referenced guidelines/standards and reviewed them for alignment to our tool. Agreement between reviewers was assessed using proportion of agreement. Once agreement was determined between reviewers for each relevant variable, we calculated scores for each policy. Using the overall proportion of variables present out of the total number possible for a policy category, we calculated an overall score for each policy. For example, if a vending policy had 15 of the 35 variables present, a score of 43% would be given to the policy. Each policy also had sub-scores calculated for each attribute area in the same manner as the overall score to help assess what attribute areas across policies better align to our classification tool. For example, if a vending policy met 12 of the 13 variables specific to vending nutrition, 3 of the 4 of the behavioral design variables, and 0 of the X implementation variables, it would be given a nutrition score of 92%, a behavioral design score of 75%, and an implementation score of 0. Certain variables did not count against a policy score if they were addressed by default. For example, policies that required 100% of food/beverage items to meet the FSG nutrition standards did not assess pricing, placement, and promotion to encourage the selection of healthier foods because all the available items in such venues meet the same nutrition guidelines by default. We also decided not to count *Facility Efficiency, Environmental Support, and Community Development Standards* variables against a policy's score. Although these elements are included as part of *Food Service Guidelines for Federal Facilities*, our previous examination of state FSG policies suggests that these issues may be addressed in government facilities through separate policies unrelated to FSG. Because we did not want to penalize policies where these elements were potentially covered by another policy, we merely coded the variables as yes or no for presence or absence without their contribution to the score.

RESULTS

Our search of primary and secondary data sources identified 469 policies with six policies meeting inclusion criteria (Figure 1). The vast majority of these policies were excluded from the analysis as not being FSG policies because they focused solely on food safety, handling, permitting, and licensing processes for food vendors, and zoning for food establishments. Table 1 presents the six policies that met inclusion criteria and the characteristics of the policies. During the initial phase of analysis, our reviewers had 100% agreement identifying policies that met inclusion criteria. Prior to reconciliation, they had 95% agreement when coding policies in the second phase.

The six policies we identified included executive orders for “all foods” in New York City, NY and Philadelphia, PA; ordinances for “vending” in San Francisco, CA and Seattle, WA; an executive order for an FSG “task force” in San Francisco, CA; and an administrative “vending” policy for the Health and Human Service Department in Austin, TX. The earliest policy identified was New York City's 2008 Executive Order 122 and the most recent was a 2016 healthy vending ordinance in San Francisco. All of the policies applied to city agencies, of which three policies noted exceptions where the policy did not apply to all city agencies.

Displayed in Table 1 are policy characteristics and attribute-specific scores based on alignment to our classification tool. Overall alignment to our classification tool ranged from

17% to 88%, with five of six policies meeting a majority of overall criteria (51% or greater). Policies tended to better align with the nutrition attribute than other attribute areas. Table 2 provides a breakdown of the variables addressed by all policies based on policy scope. “All foods” policies included the most variables among the three attribute areas that counted toward their scores. Both “all foods” policies addressed calories, whole grains, fruits and vegetables, sodium, trans fat, low-fat dairy, lean protein, healthier beverage availability, and water availability, which accounted for 90% of their nutrition scores. Both “all foods” policies also addressed at least half of the behavioral design and implementation attributes, which accounted for 75% and 50% of their scores, respectively. The three vending policies were less consistent with respect to the specific variables included. The vending policies addressed calories, sugar content, sodium, and saturated fat, which accounts for 33% of their nutrition scores. These policies did not consistently address behavioral design and implementation variables. All policies provided language that addressed at least some of the implementation attributes. No policy addressed facility efficiency.

DISCUSSION

Among the twenty largest municipalities in the United States, we identified six FSG policies across five municipalities that met our inclusion criteria. This is in line with expectations given that FSG policies are a recent occurrence based on previous analysis of state-level policies.¹¹ A survey of municipal governments found the overall prevalence of FSG policies among U.S. municipalities with at least 1,000 residents in 2014 was 3.2%, and 12.8% for municipalities with a population greater than 50,000.²⁴ Although we only identified six policies meeting our inclusion criteria, five aligned with the majority of the classification tool criteria. Overall, we found that local level policies consistently included nutrition and implementation attributes, suggesting such attributes can be incorporated into policies and such policies may be a model for other government entities.

One of our most interesting findings is that New York City (NYC) adopted a comprehensive FSG policy well before other localities and prior to the release of the federal FSG in 2011. These standards most closely aligned with our classification tool. NYC has shown its potential to promote nutrition-related policies influencing public health and set precedents for related policies adopted by state or federal governments such as adopting laws restricting industrially-produced *trans* fats in restaurant foods and requiring menu labeling in chain food retailers and restaurants preceding similar state and federal laws.^{28, 29}

Disease, disability, and increased healthcare costs due to diet-related diseases may be a key motivation for FSG adoption in cities. For example, NYC’s FSG policy highlights preventing obesity, diabetes, and cardiovascular disease as rationale for its policy.³⁰ In 2003, New York State adult obesity-related medical costs were estimated to be nearly \$6.1 billion of which about 81% was publicly funded by Medicaid and Medicare.³¹ Philadelphia and San Francisco also noted health as motivation for adopting their FSG policy.^{32, 33} Large cities possess several characteristics that may help make FSG policies a practical solution to addressing chronic disease burden and costs. Their large population sizes and geographically concentrated municipal food service programs and venues allow FSG efforts to impact a large number of residents and may also present centralized and efficient distribution systems

through which to implement changes. For example, New York City, the largest city in our analysis, serves over a million meals a day through its city agencies and programs.³⁰ The limited number of policies we identified across the 20 largest U.S. suggests that several barriers may be impeding FSG adoption in these cities. Previous research of barriers to FSG policy adoption at the state level identified prioritization of other policies, perceived high cost of implementation, perceived difficulty with compliance, and initial lack of support and collaboration between stakeholders.^(REF) Further research may help to elucidate barriers and facilitators to FSG policy development at the local level.

Our analysis of local FSG policies expands on our previous work examining state policies, although at the state level only two of 15 adopted policies met a majority of criteria. Similar to tobacco control policy efforts, cities may have more ability to adopt FSG policies, which may drive change at the state level. Language used in local policies and any pursuant guidelines may inform decision makers on feasible attributes to address in future policies. When we compared state level findings from our previous research to those in this analysis, we found differences in the attributes addressed. Nearly all of the local level policies addressed a majority of the nutrition variables. Key nutrition variables such as calories, sugar content, sodium, and saturated fat were addressed in five of the local policies. When it came to the nutrition component in adopted state policies, only three policies met a majority of nutrition variables. Most striking was language around the implementation attribute, which is important because research suggests that lack of clear implementation provisions may effectively nullify a policy.^{34, 35} None of the adopted state policies met a majority of implementation variables compared to five policies in our current analysis. This local level analysis raises the possibility that when an FSG policy approach is new, there may be an opportunity in local level policies to incorporate language to align with federal dietary guidance and language supporting effective and enforceable implementation.

Limitations

This analysis was limited to adopted local ordinances, executive orders, and administrative policies in the 20 largest cities in the United States, including cities that are co-extensive with counties: Denver, Indianapolis, Jacksonville, Philadelphia, and San Francisco. Although we are aware of several policies adopted by county governments, those policies were excluded unless the city and county government were consolidated because this study focused on city policies. Future studies could consider identifying and analyzing other types of municipal policies. Although we used two municipal legal code libraries in addition to other primary and secondary data sources, it is possible that some existing FSG policies were not captured due to variations in municipal website search engines. Another limitation is the data sources available to examine local policies. The legal code libraries we used are designed primarily to be used as a resource to disseminate current policies and not necessarily to be an archive of all historic policies. As such, although we have high certainty that our search encompassed all active and current codified policies for the 20 cities, it is possible that older policies were not included in the data sources we utilized. In addition, although the policy variables we examined were based on current federal dietary guidance and on our previous research, it is possible we did not consider all variables relevant to an effective policy. Finally, although we identified several policies that dealt with only the

facility efficiency attributes, they were excluded from our analysis because they were not specific to FSG. Future studies can consider analyzing these policies; more work could be done to understand how to incorporate facility efficiency to complement existing FSG policies.

In conclusion, although use of FSG is becoming recognized as a policy approach to make healthier options more readily available across a variety of settings where foods are served or sold, our analysis identified FSG policies for only five of the 20 largest U.S. cities. Our analysis offers baseline data for FSG policies adopted at the local level and indicates that localities incorporated more comprehensive language into their policies across nearly all attribute areas when compared to state level FSG policies. State and local decision makers that are considering comprehensive FSG policies could use the findings of this study to inform their efforts.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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SO WHAT?

What is Already Known About This Topic?

Food service guidelines policies have the potential to impact the health of millions of Americans by ensuring healthy foods are available in food venues like cafeterias, vending machines, and snack bars in government, educational, and worksites settings.

What Does This Article Add?

This study is the first systematic examination at the municipal-level for FSG policies and the extent to which these policies meet key FSG policy attributes.

What are the Implications for Health Promotion and Practice?

This study offers baseline data on local-level FSG policies for the 20 largest U.S. cities and can be used to help inform future FSG policy efforts. Only five of these cities had adopted an FSG policy at the time of this analysis. Efforts to increase FSG policy adoption in the largest U.S. localities may help ensure more consumers have access to healthier foods in places they work, learn, play, and receive care.

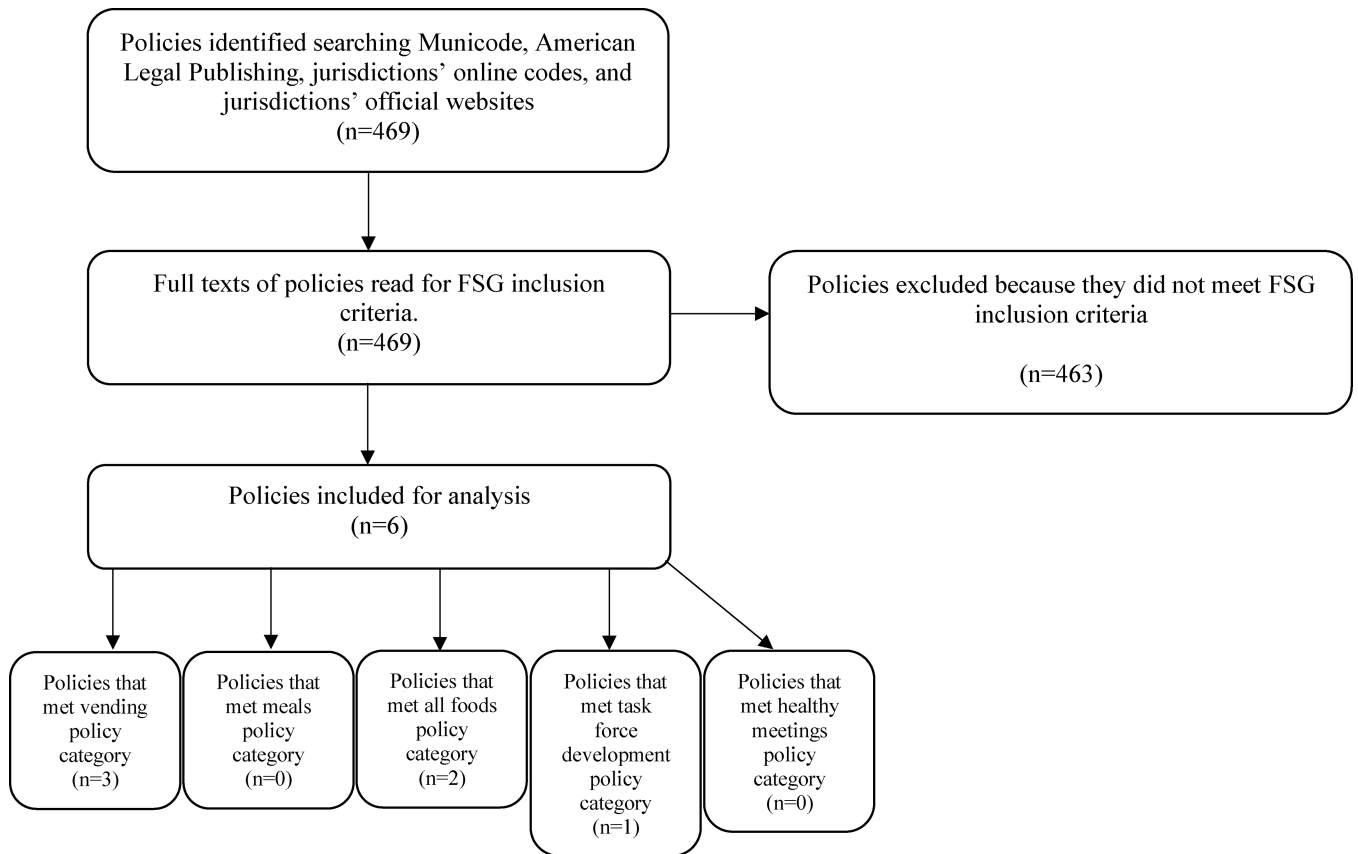


Figure 1.
Flow diagram for food service guidelines (FSG) policy inclusion.

Table 1. Characteristics of FSG Policies Identified and Percentage Alignment to Classification Tool

| City ^a | Year | Title | Policy Type | Setting | Scope | Overall Score, % | Nutrition Score, % | Behavioral Design Score, % | Implementation Score, % |
|-------------------|------|--------------------------------|-----------------|---|------------|------------------|--------------------|----------------------------|-------------------------|
| New York City, NY | 2008 | Order No.122 | Executive Order | City agencies | All foods | 88% | 100% | 100% | 67% |
| Philadelphia, PA | 2014 | Order No. 4–14 | Executive Order | City agencies ^b | All foods | 75% | 90% | 75% | 50% |
| Austin, TX | 2012 | Healthy Vending Machine Policy | Administrative | City agency—health department buildings | Vending | 54% | 67% | 0% | 50% |
| San Francisco, CA | 2016 | Code § 4.9–1 | Ordinance | City agencies ^b | Vending | 62% | 67% | 100% | 50% |
| San Francisco, CA | 2009 | Directive 09–03 | Executive Order | City agencies which serve food | Task Force | 17% | 0% | 0% | 38% |
| Seattle, WA | 2013 | Ordinance No.124128 | Ordinance | City agencies ^b | Vending | 72% | 75% | 25% | 100% |

^aCities are in order of population n size.

^bWith exceptions of agencies that the policy applies to.

Table 2.

Nutrition, Behavioral Design, Implementation, and Facility Efficiency Attributes Addressed^a by Policies According to Policy Scope

| Scope | Nutrition | Behavioral Design | Implementation | Facility Efficiency |
|-------------------------------------|---|--|---|---------------------|
| All Foods ^b (2 policies) | Address the following: <ul style="list-style-type: none"> • Calories • Whole grains • Fruits and vegetables • Sodium • Trans fat • Low-fat dairy • Lean protein • Healthier beverage availability • Water availability | <ul style="list-style-type: none"> • Requires calorie information posting • Requires promotion of healthier items • Requires that items meeting nutrition standards receive favorable placement | <ul style="list-style-type: none"> • Identifies party responsible for policy implementation • Requires review of standards • Requires that a certain percentage of items meet specified nutrition standards | None |
| Vending ^c (3 policies) | Address the following: <ul style="list-style-type: none"> • Calories • Sugar content • Sodium • Saturated fat | <ul style="list-style-type: none"> • Requires promotion of healthier items | <ul style="list-style-type: none"> • Addresses policy compliance • Requires that a certain percentage of items meet specified nutrition standards | None |
| Task Force ^d (1 policy) | None | None | <ul style="list-style-type: none"> • Requires that a certain percentage of items meet specified nutrition standards • Specifies what venues the policy will apply to • Requires task force to develop standards in a specified time frame • Identifies who must participate in the task force | None |

^aFor each scope, the listed attributes were all identified in all policies

^bAll foods policies pertain to all foods and beverages sold or provided by the government entity or on government property.

^cVending policies pertain to foods in vending machines only.

^dTask force policies pertain to the development of a task force to create an FSG policy.