

## A Qualitative Study of Restaurant Grading Systems: Understanding the Criteria and Impact



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*This project was 100% funded under the CDC/HHS cooperative agreement CDC-RFA-OT18-1802, The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.*



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## Abstract

Food safety inspections are vital for public health because they ensure restaurants follow proper hygiene practices, which reduce the risk of foodborne illnesses. This qualitative study examined food safety inspection and grading practices across ten environmental health programs in the United States, building upon findings from a 2020 nationwide survey which found grading systems were associated with fewer foodborne illness outbreaks.

Through in-depth interviews conducted between July and August 2021, the study investigated various aspects of food safety oversight, including inspection practices, grading methods, public disclosure approaches, and complaint handling systems. The participating jurisdictions represented a range of population sizes and geographic locations. The jurisdictions employed different grading schemes that ranged from letter grades to emoji-based, although some opted not to use formal grading systems. All jurisdictions provided inspection results online, with varying additional disclosure methods.

Representatives from the participating jurisdictions perceived that grading systems have led to increased public awareness but have also presented challenges, such as grade inflation and negative effects on small businesses. Effective oversight requires balancing transparency with business impacts, standardizing practices, and engaging the public. This research provides valuable insights for policymakers and environmental health programs to refine their approach to food safety oversight, emphasizing the need for thoughtful implementation and adaptation to local contexts.

## Introduction

In 2017, the Centers for Disease Control and Prevention (CDC) found that 64% of foodborne illness outbreaks were tied to restaurant-prepared food (CDC, 2019). Additionally, the U.S. Bureau of Labor Statistics reported that in 2018, 44% of all food expenditures went toward meals prepared outside the home (Paulin, 2020). By 2019, food-away-from-home (FAFH) spending accounted for 50% or more of total food expenditures in 36 states plus Washington, D.C., with the highest share in Washington, D.C., at 79.7% and the lowest in Maine at 44.7% (Zeballos & Sinclair, 2023). As more people rely on restaurant-prepared meals, food safety inspections are crucial in protecting public health by ensuring that food establishments adhere to proper hygiene and safety practices. This growing dependence on FAFH highlights the need for stringent inspections and transparent disclosure practices to mitigate the risks of foodborne illnesses.

Local environmental health programs have implemented various strategies to communicate inspection results to the public, ranging from simple disclosure of inspection reports to complex grading systems.



These approaches are designed to inform consumers about food safety practices at retail establishments, ensuring that they are aware and can make informed dining decisions. A 2020 survey of food establishment inspection programs across various government levels (state, county, city, and district) offered key insights into nationwide inspection practices (Kim et al., 2021).

This comprehensive study, which included responses from 767 agencies, revealed several key findings:

1. Agencies using grading systems for inspection results reported fewer mean numbers of foodborne illness outbreaks and Salmonella cases compared to agencies without grading systems.
2. Agencies specifically using letter grades had fewer foodborne illness outbreaks per 1,000 establishments than agencies with other grading measures, such as numerical scores.
3. Forty-five percent of responding agencies used some form of grading system, 23.0% used letter grades, 13.6% used numerical scores, and 8.2% used other measures like colors or symbols.
4. Agencies with grading systems were more likely to conduct inspections more frequently and have more staff dedicated to food safety inspections.

These findings suggest that the implementation of grading systems could significantly reduce the risk of foodborne illness outbreaks, offering hope for a safer dining experience for the public. However, they also raise questions about the specific practices, challenges, and effectiveness of these approaches in different jurisdictions.

To address these questions and gain a deeper understanding of the current practices and everyday applications, the National Environmental Health Association (NEHA) conducted a qualitative study with the following objectives:

1. Examine the various grading methods and public disclosure approaches used by different local environmental health programs.
2. Understand the rationale behind implementing or not implementing grading systems and public disclosures.
3. Identify perceived benefits, challenges, and recommended practices associated with restaurant grading and inspection result disclosure.
4. Assess public engagement with inspection results and grading information.
5. Gather insights on potential improvements or innovations in food safety communication to the public.



This study aimed to provide a comprehensive overview of current practices, challenges, and successes in restaurant inspection grading and public disclosure by conducting in-depth interviews with representatives from 10 local environmental health programs nationwide. The findings from this qualitative analysis will contribute to the ongoing discussion among environmental health professionals and policymakers regarding effective strategies for communicating food safety information to the public and potentially improving food safety outcomes in retail food establishments.

## Methods

NEHA reached out to 50 Local Public Health Agencies (LPHAs) from the original 149 respondents in the Kim et al. survey (2021) who met two specific criteria: (1) overseeing more than 1,000 food establishments within their jurisdiction and (2) having reported at least one outbreak (regardless of setting) to the National Outbreak Reporting System (NORS). LPHAs were contacted via email and invited to voluntarily participate in a key informant interview. The final sample included 10 participants representing various local jurisdictions, selected to ensure diversity in population size, geographic location, and inspection practices.

In-depth, semi-structured interviews were conducted via Zoom with each participant between July-August 2021. Interviews lasted up to 50 minutes and were audio-recorded and transcribed using Otter.ai.

The interview guide covered the following topics:

1. Types of inspections conducted
2. Grading/scoring methods used
3. Public disclosure practices
4. Complaint investigation processes
5. Perceived pros and cons of current restaurant grading systems
6. Considerations for implementing or changing grading systems
7. Best practices and lessons learned

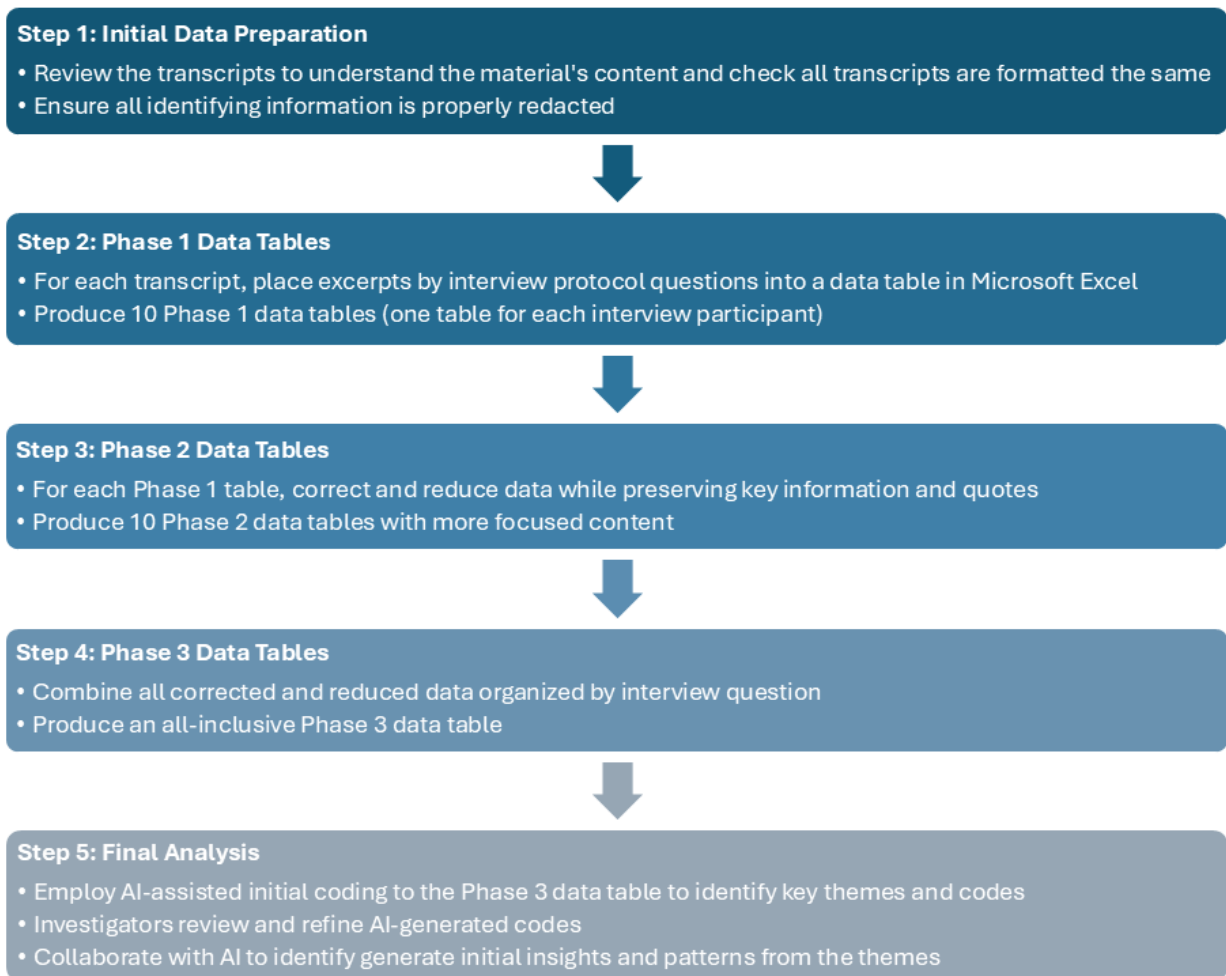
The analysis combined traditional qualitative methods with AI assistance (Claude.ai) and a modified Rigorous and Accelerated Data Reduction (RADaR) technique. AI is used in qualitative research to automate data analysis, primarily through tools like ChatGPT and Natural Language Processing (NLP).



These technologies assist in identifying themes, summarizing content, and analyzing sentiment, reducing the time required for manual coding (Morgan, 2023). The RADaR technique is a systematic approach for rapidly analyzing qualitative data using software like Microsoft Word and Excel. It involves creating a series of increasingly condensed data tables, progressing from raw data to focused themes through team-based review, coding, and reduction (Watkins, 2017). This iterative process, combining human expertise with AI capabilities, allowed for a deep and comprehensive analysis of the interview data. See Figure 1 for the steps followed for this study.

**Figure 1.**

*Modified RADar Process*



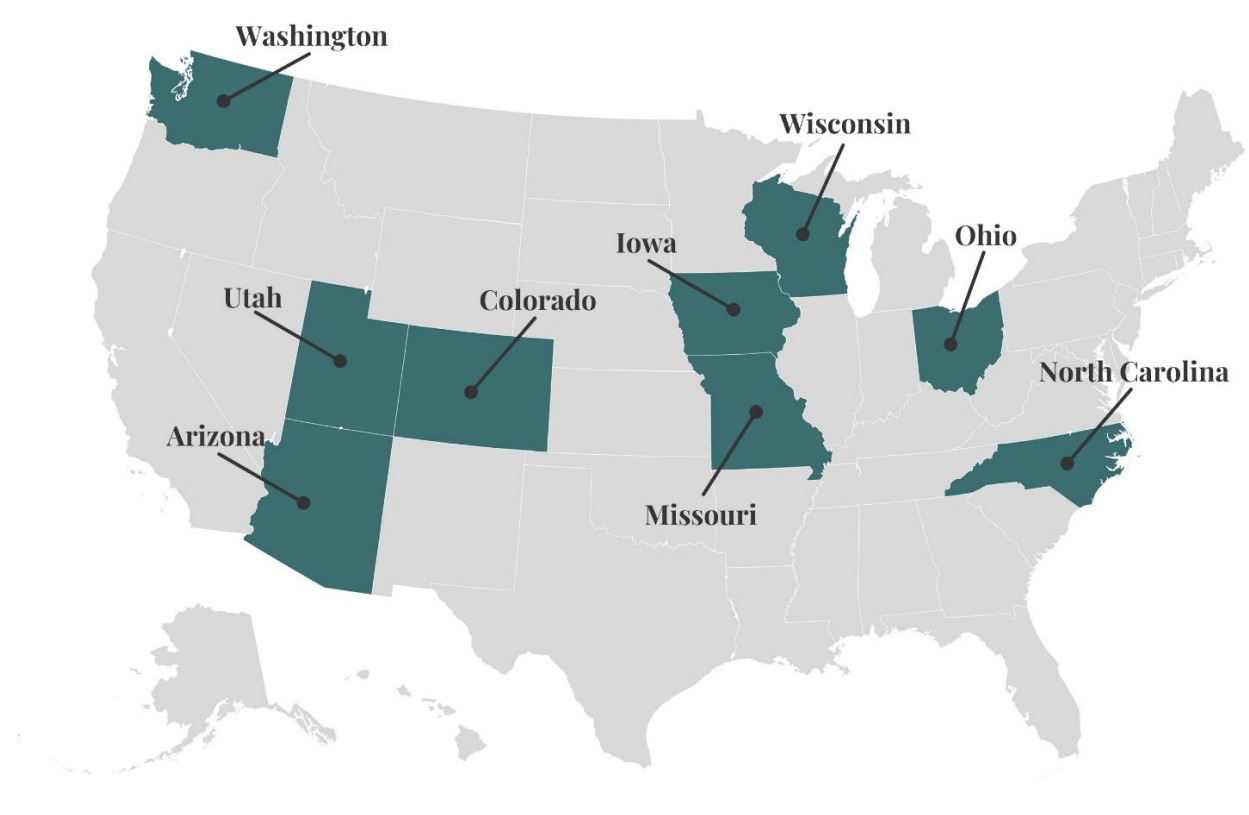
## Results

### Sample Characteristics

This study encompassed a range of representatives from jurisdictions of varying population sizes and geographic regions. The sample included participants that worked for health departments who were located across 10 counties: three large counties with over 1 million residents (the largest having 4,420,568 inhabitants), four medium-sized counties with populations between 500,000 and 1 million, and three smaller counties with fewer than 500,000 residents (the smallest having 174,669 inhabitants). See Figure 2.

**Figure 2.**

*Geographic Distribution of Participating Environmental Health Program Representatives*



### Inspection Practices

Nine jurisdictions conducted a core set of inspections, including routine, follow-up, outbreak, complaint, and preoperational inspections. One jurisdiction specified that they are responsible for



inspecting any food service facilities within their county except state-run facilities and those not requiring permits, implying they conduct the core set of inspections.

Beyond these core inspections, several jurisdictions performed additional specialized inspections:

- HACCP inspections (3 jurisdictions)
- License renewal inspections (3 jurisdictions)
- Active managerial control assessments (1 jurisdiction)
- Pre-submittal consultations (1 jurisdiction)

Inspection frequency varied based on the perceived risk level of the establishment, with high-risk establishments typically inspected 3-4 times per year, medium-risk twice yearly, and low-risk annually. Most jurisdictions (8 out of 10) conducted primarily unannounced routine inspections, although some noted adaptations due to the COVID-19 pandemic. As one participant stated, "They're unannounced. We did have a little bit of a change and updated inspection protocol with COVID."

On-site correction policies varied among the jurisdictions. Of the four that specifically addressed this practice in their interview, two documented corrections without changing the final score or grade, while two allowed for score improvements with on-site corrections. One participant explained their approach: " We make every attempt possible to correct any violations that are noted at the time of inspection. The letter score does not change based on the corrections that are made."

Reinspection processes showed some commonalities across jurisdictions, with priority violations not corrected during the initial inspection being a primary trigger (mentioned by three jurisdictions). Other triggers included specific violation thresholds, risk-based assessments, and complaint-driven reinspection. One jurisdiction described a unique "inspection upon request" system: "If an establishment receives a low grade on their routine inspection, they can pay for another additional inspection."

## Grading and Disclosure Systems

The study revealed a wide variety of grading schemes across the jurisdictions, reflecting diverse approaches to communicating food safety information to the public:

- Letter grade systems (A, B, C, D): 3 jurisdictions
- Emoji-based ratings: 1 jurisdiction
- Percentile ranking system: 1 jurisdiction
- No formal grading system: 5 jurisdictions



Letter grade systems, the most common formal grading approach, showed variations in implementation. One jurisdiction operated a voluntary program where establishments could opt-in to receive a grade. Another based their system on the 2009 FDA Model *Food Code*, using A, B, and C grades corresponding to specific numerical ranges (e.g., A: 90-100, B: 80-89, C: 79-70). In this system, establishments scoring below 70 had their permits revoked. One participant from the third jurisdiction with a letter grade system explained, "Ratings are assigned as A, B, or C, with no Ds or Fs issued. An A typically corresponds to a score between 90 and 100, a B ranges from 80 to 89, and a C is assigned to scores below 79." Two jurisdictions stated that they use a deduction system whereby violations are assigned point values, with critical violations receiving higher point deductions.

The emoji-based system offered a novel approach, using descriptive terms like "excellent," "good," "okay," and "needs improvement." This system was developed based on stakeholder feedback indicating that such terms were more intuitive than letter grades for a broad audience. A unique feature of this system was its use of averaging: "Ratings are based on the average of the current inspection and the previous few inspections, rather than a single inspection. This helps provide a more accurate reflection of an establishment's overall performance over time, rather than one-off occurrences." They adjusted thresholds for what is considered excellent or good based on a ZIP code adjustment to account for inspector variability.

The restaurant inspection system that used percentile divides restaurants into four risk levels (1-4), with 1 being the lowest risk (e.g., coffee shops) and 4 being the highest risk (e.g., buffets). Rankings are updated weekly based on new inspections, creating a dynamic, competitive system. Violations are categorized into three severity levels (1, 3, and 6 points), with more severe violations significantly lowering a restaurant's percentile rank. A restaurant's rank can change without a new inspection due to other establishments' performance in the same risk category.

Five jurisdictions employed alternative approaches to formal grading systems for food safety inspections. Instead of traditional letter grades or numerical scores, they focused on detailed reporting and specific violation tracking. The systems generally emphasize critical or priority violations, with outcomes often categorized (e.g., "In Compliance" or "Out of Compliance") rather than graded. Detailed reports are provided, typically including inspection dates and type, violation lists with descriptions, and, in some cases, tallies of total and repeat violations. With slight modifications, several jurisdictions base their approach on FDA guidelines or forms.

Despite the differences in reporting style, public disclosure methods were consistent because all jurisdictions provided inspection results online. However, additional disclosure methods varied:



- On-site posting of grades/results (required by 3, voluntary in 2 jurisdictions)
- Mobile apps (under development in 1 jurisdiction)
- Third-party platform integration (1 jurisdiction using Yelp)
- QR codes on permits. When scanned, these codes link to a website displaying the restaurant's inspection results (1 jurisdiction is already using and 1 is considering implementing a similar QR code system)
- Media and communication such as tweets and blogs (1 jurisdiction using)

The extent of inspection information available to the public varied in detail, with seven jurisdictions providing full inspection reports online, one providing the full report upon request, and two offering violation summaries. One jurisdiction highlighted its comprehensive disclosure strategy: "We promise that we'll disclose all outbreaks and will disclose all closures... we've created a disclosure. When we disclose on our website, we send out a tweet and blog, and it goes to all of the media."

This diversity in grading and disclosure approaches underscores the lack of standardization across jurisdictions and the ongoing challenge of effectively communicating food safety information to the public. Public demand for restaurant grading or disclosure systems varies across jurisdictions but generally appears moderate to low. While three jurisdictions reported limited public demand, two with existing systems noted good public engagement. Several interviewees mentioned that although direct demand might be low, the public appreciates having access to inspection information, with online systems receiving significant traffic. Some interviewees suggested that the public might not fully understand or care about complex grading systems. While there isn't overwhelming demand for new grading systems, existing ones are generally well-received according to interviewees.

## Complaint Systems

Complaint systems are critical to food safety oversight across all 10 jurisdictions studied. These systems are designed to be accessible and responsive, utilizing multiple intake methods, including phone lines, online forms, and email. One jurisdiction adopted innovative approaches, such as monitoring social media platforms and [iwaspoisoned.com](http://iwaspoisoned.com) for potential complaints. Across most jurisdictions, priority is given to complaints that pose the greatest potential threat to public health. Specifically, foodborne illness reports, severe violations and issues presenting immediate health risks are typically addressed more urgently than general sanitation concerns. This risk-based approach allows environmental health departments to allocate resources effectively, focusing on the most critical food safety issues. Response times varied but typically ranged from 24 hours to 5 days, with urgent cases addressed more quickly. One person noted, "for something that's an imminent hazard," they will follow up immediately.



One participant highlighted the value of their inclusive approach: "We handle every complaint, whether it's anonymous or not. We feel like anonymous complaints are often the most rich, they give the most information, because someone feels concerned and they may work there or something, there may be some angle on it." This sentiment was echoed by several jurisdictions that accept anonymous complaints, recognizing their potential to uncover important food safety issues.

The volume of complaints handled annually varied significantly. To manage this workload effectively, environmental health departments have implemented various strategies:

- Triage systems to assess urgency and determine appropriate responses
- Integration of complaint data into regular inspection processes
- Use of complaints to identify trends or recurring issues at establishments

A few (2) jurisdictions view complaint handling as an opportunity for public education. As one participant noted, "Unfortunately, the public believes they're epidemiologists, and they know what made them sick. And often, they don't know what made them sick." This highlights the dual role of complaint systems in addressing immediate concerns and improving public understanding of food safety issues.

Complaint systems serve as a crucial link between the public and environmental health, allowing for rapid response to potential food safety issues and providing valuable data to inform inspection practices. As one participant aptly summarized, "We want to be accessible. They want to be known, they know to call us, which is really what a health department wants to be."

## Perceived Benefits and Challenges of Grading Systems

### Benefits

As reported by the participating jurisdiction representatives, implementing grading systems for food establishments presents a complex landscape of benefits and challenges. These systems have shown the potential to increase public awareness and engagement with food safety issues. One participant highlighted this benefit, noting, "It gives people an idea before they start consuming the product or what they're walking into. So, giving them the option if they want to dine there, and I let them know upfront how clean this restaurant is." This transparency informs consumer choices. As one interviewee noted, it keeps food safety "in the public's eye" rather than being "out of sight, out of mind."

Public scores motivate some restaurants to improve their practices, with lower scores driving operators to address issues. One participant observed, "It creates a little bit more of a competitive nature for food safety." Another said, "[Operators] are a lot more serious about inspections... they



recognize the consequence, and they also recognize that it has a financial impact... in a way it has created an incentive for them to do well.”

One jurisdiction reported increased public engagement due to their grading system, stating, "We're getting so many more complaints, which is good." This increased interaction between the public and environmental health can contribute to a more robust food safety culture in the community. Another interviewee shared, "It is not passive, it's almost brand, the work that we do. It used to be behind the scenes; they never even knew that food inspections were happening, and the government is doing this; well, this became a way to brand the work that we do."

Public education is a key benefit of restaurant grading systems and public disclosure of inspection results. These systems help communicate complex food safety information to the public in an understandable way, with some jurisdictions including educational components to help consumers interpret results. As one interviewee noted, "We feel like providing the whole inspection report...you can read everything, the inspector told the manager that [they] have wrong, and so you can make an informed decision." Another shared, "I would say when we talk about improvements in the system, one of the things we have talked about is using it as an opportunity to educate the public and maybe adding some information there. What does it mean when we say priority violation? And how does that directly relate to foodborne illness... So, they understand what causes foodborne illness when they're reading those reports."

## Challenges

One perceived issue reported was the tendency for grade inflation over time. As one participant noted, "Food safety rating systems for counties have a tendency to migrate toward grade inflation. All of a sudden, after 5-10 years of implementation, 99.9% of the establishments have excellent, but the reality is not true." This can undermine the system's effectiveness in distinguishing between establishments with varying levels of compliance.

Another challenge is the potential oversimplification of complex inspection results. Grades may not accurately reflect the nuances of food safety practices, leading to public misunderstanding. One participant noted, "98 doesn't mean anything to me, as a general consumer. I would need to get a look at the inspection sheet to see what it did."

Maintaining consistency across different inspectors emerged as another challenge. The subjective nature of some inspection aspects can lead to grading variations, potentially undermining the system's credibility. The time, money, and personnel required for training inspectors to ensure consistency was



also cited as a major challenge, with one participant explaining, 'The biggest cost to food safety rating is the ongoing training and the reality that your inspectors are not consistent, and they will never be consistent to the point where you like to meet a gold standard.'

Some jurisdictions expressed concerns about the potential negative impact on small businesses. There is a risk that grading systems may disproportionately affect smaller establishments that may not have the resources to address all issues quickly. As one participant cautioned, "Without knowing it, you don't want to financially disadvantage smaller mom-and-pop businesses because McDonald's and Starbucks will get excellent and then the other ones will get 'okay' or 'needs to improve'."

One jurisdiction found it challenging to balance maintaining positive relationships with food establishments while enforcing a strict grading system. One participant reflected, "One of the reasons why we felt strongly about not grading is because we really believe that we have better outcomes with our operators being compliant when we have quality relationships...to keep that trust with the operator...versus it being more regulatory, policing, and punitive. We really find that the quality relationships and trust is the key to having long term compliance."

## Lessons Learned

Drawing from the experiences of the interviewed jurisdiction representatives, several key lessons for food safety grading systems emerge. Public understanding, ensuring that the food safety grading systems are applied uniformly and impartially, regardless of the size, type, or location of the establishment across establishment types, alignment with food safety goals, and comprehensive inspector training are crucial considerations. The study revealed recommended practices, including securing stakeholder buy-in for grade systems, conducting multiple inspections based on establishment risk level, and adopting a risk-based approach to prioritize high-risk establishments.

Other recommendations include:

- Developing easily interpretable systems for the public with public education campaigns
- Leveraging technology to enhance accessibility
- Ensuring equity in system design
  - Grading criteria account for different operational realities (e.g., a small family-owned restaurant may have different resources than a corporate chain, but both must meet the same safety benchmarks).
  - No particular type of establishment is disproportionately impacted by the grading system due to biases or structural differences.
- Improving grading systems to reflect consistent standard food safety priorities.
- Providing comprehensive inspector training for consistency



## Discussion

This study reinforces prior quantitative findings that grading systems can enhance public awareness, incentivize compliance, and potentially reduce foodborne illness outbreaks. However, unlike prior research, this study examines the nuances of different grading models—letter grades, numerical scores, emoji-based ratings, and percentile rankings—highlighting variations in perceived effectiveness and practical implementation. It explores the rationale behind choices such as letter grades, numerical scores, emoji-based ratings, and percentile ranking systems, providing a richer understanding of their perceived effectiveness and implementation challenges.

While the survey primarily focused on the presence or absence of disclosure, this study expands the exploration to include disclosure methods (online posting, point-of-service display, mobile apps, and integration with third-party platforms), offering a more detailed view of how agencies communicate food safety information to the public. The interviews' focus on complaint systems, an aspect not previously addressed in the original survey, further enhanced this insight.

One limitation of this study is the relatively small sample size of ten jurisdictions, which may not fully represent the diversity of food safety inspection and grading practices across the United States. Additionally, the study relies on self-reported data from environmental health officials, which may introduce response bias or selective reporting. Another key limitation is the variation in grading criteria and inspection processes among jurisdictions, making direct comparisons challenging. Lastly, while the study provides valuable qualitative insights, it does not include quantitative outcome measures such as foodborne illness rates before and after implementing grading systems, which could strengthen conclusions about effectiveness.

Importantly, this qualitative approach reveals potential challenges associated with grading systems that were not captured in the quantitative survey. Issues such as grade inflation over time, oversimplification of complex inspection results, and potential negative impacts on small businesses provide a more balanced view of these systems' implementation and long-term effectiveness. A particularly notable challenge is striking a balance between simplicity and transparency in food safety grading systems. If the public reads through an entire inspection report, there may be a risk of misunderstanding the information. While grading systems should be easy to interpret, oversimplification can obscure important food safety risks and fail to provide the necessary context. This underscores the need for a thoughtful approach to grading that ensures clarity while still conveying meaningful food safety information.



This study provides important insights into best practices and key lessons learned, offering actionable recommendations for the effective implementation and maintenance of grading and disclosure systems. These recommendations include incorporating multiple inspections into grading criteria, prioritizing critical risk factors, and ensuring thorough inspector training—elements not explored in the original survey. Establishing consensus among public health agencies and stakeholders on the value of grading systems would enable the strategic allocation of resources to develop systems that strike a balance between public accessibility and accurate risk communication.

## Conclusion

This study highlights the diverse approaches to food safety grading systems across U.S. jurisdictions and the ongoing challenge of balancing public transparency with business considerations. While grading systems can enhance consumer awareness and regulatory compliance, their effectiveness depends on thoughtful implementation, addressing concerns like grade inflation, oversimplification, and variability in enforcement.

Future efforts should prioritize refining grading criteria, improving public understanding of disclosed information, and integrating technology to enhance accessibility. Standardization remains a key consideration, but flexibility is essential to accommodate local needs. Establishing best practices through shared learning among jurisdictions can help create more effective, transparent, and equitable food safety oversight systems.

## Recommendations for Future Research and Practice

Several key areas warrant further investigation based on the information learned to advance our understanding and effectiveness in food safety practices. These research directions aim to address current gaps in knowledge and provide evidence-based solutions for improving food safety outcomes.

1. Examine the long-term impacts of various grading and disclosure systems on food safety outcomes. This research could identify the most effective grading and disclosure approaches for sustainable improvement in food safety practices and reduction of foodborne illness outbreaks.
2. Investigate how the public interprets and uses food safety information. This could inform the development of more effective public education campaigns and disclosure methods, ensuring that the provided information is both accessible and meaningful to consumers.
3. Research innovative approaches to maintain inspector consistency and prevent grade inflation. This might include exploring using technology, such as artificial intelligence, to support inspectors and standardize assessments (such as the U.S. Food and Drug Administration's



(FDA) Retail Food Program Standards, which provide uniform guidelines for food safety inspections and regulatory programs).

4. If available, analyze specific data on public use of inspection information (e.g., website traffic and app downloads) to provide insights into the effectiveness of different disclosure methods.

While research provides the foundation for evidence-based improvements, practical measures are essential for immediate and tangible progress. The following recommendations are aimed at parties directly implementing and managing food safety systems.

1. Strive for standardization while maintaining local flexibility.
2. Ensure adequate resources for effective implementation.
3. Assist small businesses in meeting standards without undue burden.
4. Promote technology use and cross-jurisdictional data sharing.
5. Provide comprehensive public education on food safety systems.
6. Conduct thorough and consistent inspector training programs.
7. Incorporate outbreak data into grading systems for a more comprehensive view.
8. Conduct ongoing system and process evaluations to maintain effectiveness.

## Policy Considerations

While grading and disclosure systems aim to improve food safety outcomes, their effectiveness hinges on thoughtful implementation, ongoing management, and adaptation to local contexts. By addressing identified challenges and leveraging strengths, environmental health programs can work towards more effective, equitable, and impactful food safety oversight systems.

Policymakers should consider developing national guidelines or best practices for food safety grading and disclosure systems. While allowing for local adaptation, these guidelines could promote more consistent and effective approaches across jurisdictions, ultimately enhancing food safety and public health protection nationwide.



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