

Special Event Digital Inspection Pilot

To: Chair and Members of the Board of Health

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Recommendations

It is recommended that the Board of Health receive this report for information.

Key Points

- In 2023, Wellington-Dufferin-Guelph Public Health (WDGPH) piloted the use of mobile devices to conduct Special Event Food Vendor inspections to improve processes and data analysis. Improvement opportunities had been reported earlier in the 2022 BOH report entitled “An interim report on the status and progress of food safety risk mitigation efforts at Special Events”.
- The Digital Inspection Pilot involved 246 inspections of 175 vendors using mobile devices. Inspections occurred at 22 special events and were conducted by 18 Public Health Inspectors between April and November 2023.
- The pilot demonstrated benefits in inspection efficiency and data management. PHI feedback revealed some needed improvements, but overall, PHI acceptance was high.
- WDGPH has moved to using mobile devices for all special event vendor inspections.

Background

Special Events in Wellington-Dufferin-Guelph Public Health

Special events play an important role within the Wellington-Dufferin Guelph (WDG) community. Special events provide affordable and accessible community connection that fosters social cohesion and economic growth. Special events contribute to the quality of life by providing unique activities, building awareness of diverse cultures and identities, and acting as a source of community pride. However, special events pose unique food safety challenges. The combination of large-scale food production, often in challenging outdoor and summer conditions, can create an environment conducive to foodborne illnesses. Inexperienced food handlers may not fully understand or adhere to necessary food safety protocols, especially during high service volumes, increasing the risk of cross-contamination or improper food storage. Additionally, the diverse attendees at these events often include high-risk populations such as the elderly, young children, or individuals with compromised immune systems, who are more susceptible to foodborne illnesses making special events a significant focus for WDGPH.

In 2023, WDGPH was notified of 148 special events. Of those, 21 were considered large (Class A) events with 127 considered smaller (Class B) events. These numbers represent a 5-year high in Special Events and WDGPH is on track to exceed these numbers in 2024. Although the size, scope, and duration of each special event differs the goal remains the same; to reduce the burden of foodborne illness associated with special events. Public Health Inspectors manage risks through onsite inspections, communication, education, and enforcement activities.

Current Program Limitations

Field inspections of special events present unique challenges compared to regular inspections. Special event inspection reports are not part of the mandatory public disclosure system associated with regularly inspected facilities. Due to the cumbersome nature of using a laptop on-site to complete special event inspection reports, paper-based inspection reports are traditionally used. Paper-based inspection reports are convenient but are subject to becoming damaged or lost. Further, they do not easily allow for data collection, analysis, and reporting. Having the ability to analyze and collect data is a crucial component in capturing trends, targeted education, and implementing process changes.

Pilot Methodology

The pilot goal was to investigate and test alternative options to improve the inspection data collection and management processes. Planning started in the fall of 2022 with a review of potential online software solutions. Software options were assessed for their ability to improve inspection processes and data collection. Additionally, any software selected would have to be able to generate an inspection report to capture critical enforcement data including:

- Demographic Information (Event & Vendor)
- Functionality of Inspection Questions (site infractions, provide education, note taking)
- Photograph Uploads
- Signature & Email Function

Microsoft Forms (MF) and REDCap were selected among others as the best options to explore for the pilot. The use of MF was an attractive option due to its functionality within Microsoft Teams but was ruled out quickly as it did not sufficiently meet inspection program requirements. REDCap met requirements and thus was selected for beta testing with a small working group. The agency's quality performance specialist served as the group's REDCap expert and created a preliminary inspection report (i.e. inspection checklist) to assess the functionality of REDCap. The inspection report was created using questions from existing food safety compliance and paper inspection reports, designed to capture critical food safety parameters and the unique circumstances of special events. In December of 2022, the beta test inspection report was successfully field tested.

In January 2023, the REDCap inspection report was shared with the full Food Safety Working Group (FSWG) to review and discuss the inspection report and usability of the program in the field. The FSWG identified possible barriers around connectivity, screen size & glare, and documentation during complex inspections. To help address some of the barriers identified, the PHIs received training in the early spring of 2023 on how to use REDCap on their mobile devices. The training included hands-on practice, involving a range of inspection scenarios to provide practice with completing reports and navigating the program software. After training, PHIs used the REDCap software during at least one special event inspection in 2023 to provide feedback on what went well, what could be improved, and any significant barriers.

Discussion

Pilot Results

Special Event Inspection Findings

During the 2023 special event season, a total of 22 special events were inspected using REDCap as the inspection report format. A total of 18 PHIs used REDCap to complete their inspections which resulted in 246 inspections across 175 different food vendors. See Figure 1.

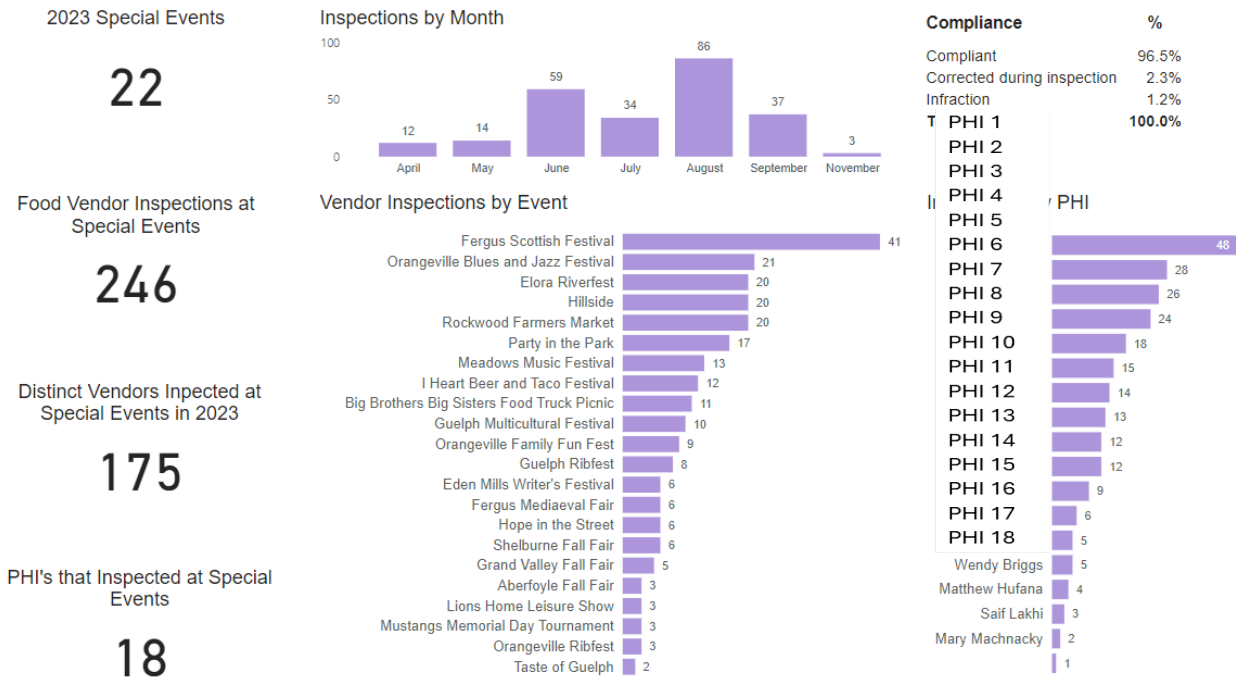


Figure 1: Special Event Inspections via REDCap Summary

In general, there was a high inspection compliance rate of 96.5% across all events. 2.3% of inspections saw infractions that were able to be corrected during the inspection. 1.2% of the inspections revealed an infraction that could not be corrected at the time of inspection but could and would be corrected afterward. Overall, issues around hand washing were the most common non-compliance items noted at special events. However, most of these infractions were corrected on-site. This was followed by noncompliance around storage temperatures of hazardous foods (cold holding, hot holding, internal cooking temperatures). These infractions are considered critical infractions that resulted in the most non-corrected infractions (See Fig 2).

Percent of Inspections by Inspection Item and Compliance

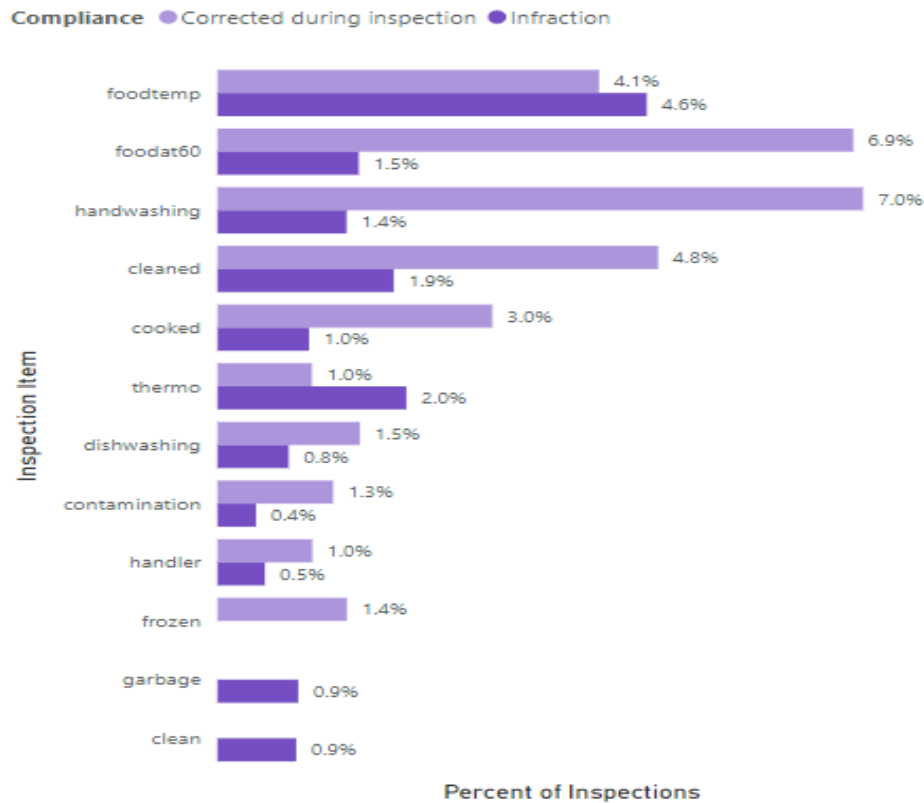


Figure 2: Non-Compliance Summary

PHI Feedback Survey

PHI feedback was gathered through an online survey from those who used REDCap for special event inspections. The survey aimed to identify the perceived benefits and limitations, and to provide suggestions for improvement. Survey results would be factored into the decision to continue to use REDCap for special event inspections. Key survey results included:

- 88% would prefer REDCap if paper-based reports can be used as a backup.
- 88% would prefer REDCap if continuous improvement occurs with the program.
- 88% enjoyed the compact nature of using a mobile device.
- 63% felt the inspection process was more efficient.

In terms of limitations, the use of a mobile phone presented challenges with the small screen size, and with entering comments efficiently. The small device screens also presented challenges when sending reports. Often the operator and inspector emails would be entered

incorrectly causing the email to bounce back. Lastly, connectivity was sometimes an issue depending on the location of the event and the available cellular service or Wi-Fi connection.

Implemented Improvements

To address identified limitations with screen size, seven iPads were requisitioned for use at special events. iPads should provide significant improvement to the program for the 2024 season. Refer to Figure 3 of the inspection report on an iPad vs a mobile phone.

Additionally, to improve report functionality, the Quality Performance Specialist was able to pre-populate the inspector's email and enlarge the operator's email text box to prevent bounce-back emails. To enhance the primary components of the inspection report, format changes occurred to emphasize any reported infractions at the beginning of the report compared to those distributed throughout the report.

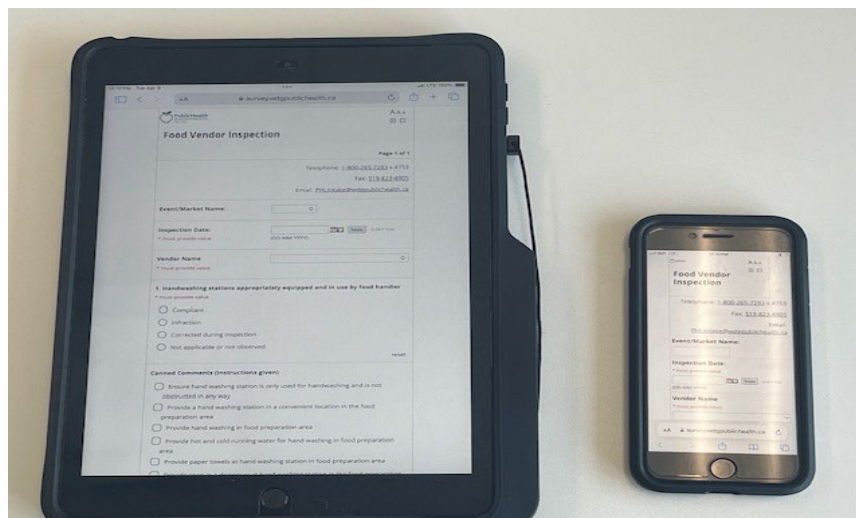


Figure 3: Remote Device Comparison iPad vs Mobile Phone

The use of REDCap has allowed for data analysis of infraction trends as noted above. This data provides a snapshot of the special event season which emphasizes key areas for inspection and education emphasis with operators. Additionally, this data sheds light on the increased workload of inspectors during the special event season including after-hours and weekend work.

Implementation & Continuous Improvement

Mobile devices for special event inspections were made compulsory for 2024. Exceptions apply for special events where there is no cellular service. At the time of this report writing, PHIs are scheduled to receive training in April on the use of iPads, the updated inspection report, and enhanced REDCap functionality. Mobile phones will still be available for use, but each office will be equipped with iPads for use by Inspectors. Health Analytics has created a PowerBI Dashboard (see Figure 4) to allow for immediate access to special event inspection data and to facilitate analysis of inspection trends. This creates opportunities for targeted education with special event organizers and operators.



Figure 4: Interim PowerBI Special Event Dashboard

Additional Feedback Planned

Public Health Inspectors will continue to provide feedback related to the use of their mobile devices on an ongoing basis. Feedback will be collected and used to continuously improve the process and tool functionality. Further, special event vendors will be surveyed in the field and through an online questionnaire to obtain feedback on the inspection and reporting processes and to suggest further potential improvements.

Conclusion

Special events play an important role in maintaining community connections. As the number of events continues to rise, it is increasingly necessary to refine internal processes to ensure operational efficiency while upholding the health and safety of the WDG community. The ongoing utilization of the REDCap online inspection report serves as a cornerstone in driving continuous improvement efforts and community protection.

Ontario Public Health Standards

Foundational Standards

- Population Health Assessment
- Health Equity
- Effective Public Health Practice
- Emergency Management

Program Standards

- Chronic Disease Prevention and Well-Being
- Food Safety
- Healthy Environments
- Healthy Growth and Development
- Immunization
- Infectious and Communicable Diseases Prevention and Control
- Safe Water
- School Health
- Substance Use and Injury Prevention

2024-2028 WDGPH Strategic Goals

More details about these strategic goals can be found in [WDGPH's 2024-2028 Strategic Plan](#).

- Improve health outcomes
- Focus on children's health
- Build strong partnerships
- Innovate our programs and services
- Lead the way toward a sustainable Public Health system

References

1. Government of Canada. Sanitation and/or decontamination of mobile devices for routine operations. [Internet]. 2018. [cited April 4, 2024]. Available from: <https://inspection.canada.ca/inspection-and-enforcement/guidance-for-food-inspection-activities/sample-collection/sanitation-decontamination-of-mobile-devices/eng/1543250752218/1543250911678>
2. Wendy White. Advanced Technology for Improving Virtual Audits and Inspections. [Internet]. 2022. [Cited April 4, 2024]. Available from: [Advanced Technology for Improving Virtual Audits and Inspections | Food Safety \(food-safety.com\)](#)

Appendices

N/A