**Example 1: Epidemiological Assessment Template**

**Lead public health authority:** *Quebec Example Health Authority*

**Version Date:** *2010-09-22*

**Version Time:** *19:30 EST*

**Outbreak number and title:***2010-15 Multi-region E. coli O157:H7 outbreak*

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| **Brief Epidemiological Summary** (Refer to section of guide noted in the column at left)**:** | | |
| A.1 | Has a line list been provided to investigative team members including Health Canada (e.g., case ID, case confirmation status, age, sex, onset, food exposure and purchase details)? | Yes  No |
| A.2 | Has an epidemiological summary been provided to investigative team members including Health Canada ? | Yes  No |
| A.3 | How strong is the evidence indicating that cases represent a common source outbreak?  *Provide supporting evidence:*   * *Outbreak pathogen is E. coli O157:H7 with pulsed field gel electrophoresis pattern combination ECXAI.0003/ECBNI.0036.* * *10 cases of this strain of E. coli reported in Canada in the last 3 years; only 1 of these 10 in Quebec in 2009.* * *Very unusual to see 8 cases of this strain in Quebec within a 1 month period.* | Strong  Moderate  Weak |
| **Food Under Assessment:** | |  |
| B.1 | Suspect food:  *Veal Liver* | |
| B.2 | Other levels of specificity if applicable/information available (e.g., common product details, purchase location, purchase dates, package type, brand, packager/distributor/manufacturer, lot code/best before date, etc.):   * *Brand X Veal Liver* | |
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| **Epidemiological Assessment Criteria and Considerations** | | |
| --- | --- | --- |
| C.1 | **Plausibility: The food is a plausible vehicle of infection.**  *Provide supporting evidence:* | **Strong**  **Moderate**  **Weak** |
| * Is the food a known vehicle of infection for the outbreak pathogen? | Yes  No |
| * Is there literature to indicate that the pathogen has been previously identified in the food type? | Yes  No |
|  | |
| C.2 | **Temporality: Cases report eating the food within their period of exposure.**  *Provide supporting evidence:* | **Strong**  **Moderate**  **Weak** |
| * What was the time period used to assess case exposures during interviews? | \_\_\_10 days\_\_\_\_ |
| * Do any cases only report eating the suspect food outside of this time period? | Yes  No |
| *If Yes, please explain.* | |
| C.3 | **Consistency: The distribution of cases in time and place is consistent with the shelf life and distribution of the food.** | **Strong**  **Moderate**  **Weak** |
| *Provide supporting evidence:*   * *Shelf life estimated to be 3-4 days, extended by freezer storage; veal liver consumption likely doesn’t vary significantly over time; therefore, unlikely to see tight temporal clustering of cases if veal liver is the vehicle of infection, although this depends on how the veal liver may have been contaminated.* * *Case distribution is relatively spread out over one month, consistent with the above information.* * *Limited information available regarding origin/producer and geographic distribution of veal liver as traceback investigation is ongoing.* | |
| C.4 | **Consistency: The food exposure is consistently reported among cases.** | **Strong**  **Moderate**  **Weak** |
| *Provide supporting evidence:*   * *A total of 8 cases were identified; 7 of the 7 cases with information available reported eating veal liver in their exposure period; 3 of these 7 cases reported consuming Brand X veal liver and Brand X has been confirmed by shopper loyalty cards for 2 of these individuals. Brand information is pending for the remaining 4 cases who ate veal liver.* * *There is one case for whom exposure information will not be available (lost to follow up).* | |

| C.5 | **Strength of association: A higher than expected proportion of cases report the food exposure.**  *Provide supporting evidence:*   * Has an analytical study been conducted? * Do data exist that estimate the proportion of the general population who eat the food or similar foods (e.g., Foodbook, FoodNet Canada, FoodNet USA, other)? | **Strong**  **Moderate**  **Weak** |
| --- | --- | --- |
| Yes  No  Yes  No |
| * *No data are avaible on the proportion of Canadians consuming veal liver, however it is estimated that a relatively small proportion of Canadians would consume veal liver over a 10 day period.* * *The CDC Food Atlas (2007) reported 2.9% of respondents consumed veal in the 7 days prior to onset.* * *0.2% of Canadians reported consuming “liver-non-poultry” in the last 24 hours (National Single day food consumption report, 2012).* | |
| C.6 | **Consideration of alternate explanations: Have other plausible hypotheses been adequately ruled out?** | **Strong**  **Moderate**  **Weak** |
| *Provide supporting evidence:*   * *Seven of the eight cases were interviewed with E. coli follow up questionnaires addressing water, animal and 15 high risk food exposures (e.g., various forms of beef, leafy greens, nuts, sprouts).* * *Detailed open-ended food histories were obtained from 4 cases reported in one region using a single interviewer approach.* * *Among other frequently commonly consumed food items (e.g., lettuce, beef), a variety of different types of the food (e.g., iceberg, romaine) and/or brands were reported.* * *See Epidemiological Summary for a more detailed summary of food exposure frequencies.* | |
| **Conclusion** | | |
| D | **Is there strong epidemiological evidence that the [suspect food] is the vehicle of infection for this outbreak?** | **Yes**  **Additional evidence needed** |
| **State any additional conclusions that can be made regarding specific details of the suspect food (e.g., product, purchase locations, purchase time periods, origin of the food):**  *There is limited information available to date regarding brand. Four of the cases, including 2 of the 3 individuals who reported eating brand X veal liver, purchased their veal liver from the same grocery store chain. All purchase location and date details have been supplied to the appropriate food safety authorities to inform the traceback investigation.* | |
| **Briefly highlight any important gaps in the evidence:** | |
| E | **Additional considerations:**   * *E. coli O157:H7 with PFGE results pending was detected by the provincial laboratory in one open sample of veal liver collected by an inspector from the freezer in the home of a confirmed case. The well parent of the case handled and cooked the veal liver and placed the leftover veal liver in the freezer prior to the case’s symptom onset. Further details are available from the provincial laboratory. PFGE results are expected by end of day tomorrow.* | |