"Examining the Impact of Publishing Restaurant Inspection Reports Online: Opinion Survey among Public Health Inspectors/Operators"

by

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A Project Submitted in Partial Fulfillment of the Requirement for the Degree of Bachelor of Technology in Environmental Health

British Columbia Institute of Technology
May, 2006

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ABSTRACT

Purpose: The Vancouver Coastal Health (VCH) agency began putting restaurant inspection reports online in April of 2002. Sufficient time has passed to examine how effective the change has been on both Public Health Inspectors (PHIs) and restaurant operators in the region. Results of the research may influence how the online system is handled in the future.

Methods: A survey addressing the impact of restaurant inspections online was either electronically mailed or done over the telephone/fax to PHIs in British Columbia, and to restaurant operators randomly chosen within the VCH region.

Results: A total of 138 out of 411, or 34% respondents completed the survey from both groups. The two groups were found to have similar opinions with regards to online inspection reports with PHIs scoring slightly higher at 79% versus operators at 74%. Individual survey question scores on the whole were similar to what the total survey scores showed. Each survey question score from both groups were similar with operators scoring only four percent lower on average versus PHI scores. Correlation/regression analysis showed fair to good correlation with PHIs and Operator survey scores decreasing with increasing years in profession. Mean survey scores differed significantly between PHIs with online inspection reports in their health region (82.1%), versus regions without (76.7%).

Conclusions: Survey results showed no difference of opinions between PHIs in BC and restaurant operators in the VCH region with respect to the impact of online inspection reports. Since both groups scored in the 74-79% range for the survey, one can suggest they feel there is a fair to major impact of online inspection reports on the public and their respective professions. From the survey question results, both groups felt the following if reports were online: They would slightly change their inspections/business operations. They somewhat agreed it enables the public to make informed dining choices. They would somewhat support an online reporting system if none was in their region. They somewhat agreed that other inspected public facilities should be posted online. It was somewhat important to post inspection reports online. PHIs definitely agreed the public had a right to see this information in this manner, whereas the operators somewhat agreed. A fair to good correlation was found for a decreasing survey score with increasing years of experience in their profession for both groups. Since age is usually tied with years in profession, this may indicate a greater reliance on the internet as a source of information for younger generations.

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1. INTRODUCTION

The advent of the Internet has vastly changed the way we communicate and is comparable to the advancement of communication from Morse code to the telephone. Similar analogies can be extended to what many Public Health agencies are doing now; putting inspection reports online for public access, instead of the obstacle-laden method of requesting reports at the general office. A move of this magnitude effects all the parties involved. Two of the most heavily impacted groups are the Public Health Inspectors (PHIs) and the restaurants being inspected. Therefore, this study will focus on determining the impact/effectiveness of publishing inspection reports online.

1.1 BACKGROUND AND LITERATURE REVIEW

This topic became of interest over the summer during a practicum in Richmond. It was seen that PHIs were spending inordinate amounts of time (one to two hours daily) processing information from inspection reports taken that day, and inputting them into a database where the reports could be accessed by the public. Originally the protocol was that PHIs would bring tablet laptop computers with them during their inspections. There, they would type inspection reports onsite, and print them out for the operator. The problem in Richmond was lack of printer accessibility, so inspectors were handwriting the reports via the old method on carbon paper forms, giving a copy to the operator, then at the office they would type the reports verbatim into the internet public database.

The entire Vancouver Coastal Health (VCH) region has been participating in this public database since April of 2002 (Lancaster, 2002). North Vancouver, so far, has been able to adopt the original protocol and circumvent the problem of printer availability (S. Obi, personal communication, October 15, 2005). In Vancouver, some inspectors bring the laptop out as in

North Vancouver while others follow Richmond's example (J. Lim, personal communication, October 15, 2005).

1.2 THE VALUE OF THE INSPECTION REPORT

The contents of inspection reports typically follows the guidelines provided in the Food Code as it pertains to food borne illnesses and poor food handler practices (Almanza, 2003). More modern inspections now incorporate Hazard Analysis Critical Control Point (HACCP) systems for scoring and evaluating. The use of HACCP focuses on potentially hazardous foods and their flow from receiving to serving, in a food establishment (Almanza, 2003). It is assumed that an inspection method that was consistent, uniform and addressed features that put food safety at risk is the template to follow (Jones, 2004). Therefore, the inspection report would have pertinent data on the conditions and practices of food operators.

Inputting inspection reports online enables information dissemination to a wide audience through the click of a button. However, what is the content's value to the public? The original intensions of all inspection reports are for feedback to the food service establishment, for information exchange, and to regulate food services (Almanza, 2003). By meeting these objectives means lowering the likelihood of the public contracting food borne illnesses (FBIs). Therefore, inspection reports are not designed to give food safety information to the public (puts their value online into question) (Almanza, 2003).

Inspection reports may delineate facility improvements needed but may not necessarily indicate the likelihood of a FBI (Koeune, 2000). In fact, studies on predicting FBIs/outbreaks in relation to restaurant inspection evaluations showed poor correlation (Cruz, 2001; Jones, 2004). One credible argument versus inspection reporting in general stated "...that if an operator makes people sick, the word will spread and people won't eat there." (Pallaske, 2005, p.60) Still, other

studies have shown the exact opposite with inspection scores shown to be inversely related to FBIs (Fielding, 2001).

The bottom line is that inspections and regulation enforcement are the best means that the government has to protect public health, and keep operators in line regarding adequate food safety (Bryan, 2002; Fielding, 2001). Poor food safety through improper sanitary practices and food handling leads to higher susceptibility to more infectious agents like campylobacter and salmonella (Fielding, 2001). Since food safety is the primary stressor in inspections, it is therefore an important way to reduce FBIs and possible outbreaks. The facts are there; in the US alone FBIs annually account for seventy-six million people getting sick, three million become hospitalized and 5000-9000 deaths (Pallaske, 2005). It would be reprehensible if governments did not do their due diligence in combating these alarming statistics. Public information regarding food borne illnesses is already highly limited due to the unreporting of FBIs by the public. Those FBIs reported serve as only the tip of the iceberg of what is reality (Bryan, 2002). Therefore, inspection reports have value in informing the public of restaurant practices and conditions, thereby assisting them to make informed dining choices (Berry, 2000). As well, the public has the "right" to these reports under the Freedom of Information Act both provincially and federally (Officialdom, 2005; Boehnke, 2000).

1.3 TYPES OF REPORT DISSEMINATION

A myriad of inspection report dissemination exists from one health agency to another. Each method has their merits and downfalls and is dependent on a number of factors for success.

Common report disclosures to the public include the following: (Web, 2000)

- Reports available at the general office as per request
- Reports posted within the restaurant or available as per request
- Grade cards posted in a conspicuous place
- Reports posted for employees only

- Reports edited or non-edited, posted on web site
- An "800" number for inspection information
- Inspection reports to the media
- Television exposure of an inspection (usually of a surprise inspection)

The Internet designs of restaurant inspections range from punishment based for non-complying operators to being educational and informative to the public (Boehnke, 2000). The online reports are often in conjunction with other disclosures such as a colour code system; posting either a green (good), yellow (marginal), or red (failure) inspection card in a conspicuous place, such as the front door of a restaurant (as they do in Toronto) (Public, 2001). These multiple dissemination methods help to broadcast the information to the public more effectively.

Reporting of information is dependent on the type of inspection performed. For example, inspections can evaluate for critical and non-critical violations as they do in the VCH region, or they can utilize grades for evaluation (like the colour code system) (Officialdom, 2005). Depending on the number and type of violation, VCH inspectors assess the restaurant as low, medium or high risk (Koeune, 2000). Some health units evaluate through allocating scores from past inspections as part of a rolling grading system (Officialdom, 2005). The variety of different report disclosures at various health agencies is mainly due to demands by the public/media and what they can benefit from information in the reports (La Vigne, 2002).

1.4 BENEFITS OF DISCLOSING REPORTS

The positive aspects of increased public availability of inspection reports primarily stem from four major reasons; informed public choices, better compliance by operators and therefore better inspection results, more eyes/ears for the Health Units in terms of knowing what to look for and who to contact if a problem exists, and facilitating access to the reports (Almanza, 2003).

Providing objective information to the public where they can make informed decisions is typically the primary reason for adopting online reporting exposure (Koeune, 2000; Berry,

2000). The media, in one survey, showed they favoured wide dissemination of the reports because it increased the public's awareness of food sanitation (Almanza, 2003). The importance of broadcasting all inspections, not just closures (as they do in Fraser Health (Robb, 2004)) has ramifications as well. Even if marginal restaurant evaluations were issued and were relatively safe to go, the information could still be useful for immunocompromised individuals, or the elderly (Boehnke, 2000). Many health units use the web sites to not only broadcast inspection reports but for other health related reports, and as educational centers as well. For example, the Los Angeles County web site also puts information on closures, and beach warnings (Strassburg, 2002). There is information for operators on educating the industry to work for compliance, and educational forums for the public pertaining to food safety and other health information, such as contact numbers, FAQs, links, newsletters, and interactive resources (Strassburg, 2002; Boehnke, 2000). An added incentive can be made, because public inspections are done through tax dollars, therefore, the public has a right to know (Koeune, 2000).

Economic pressure on non-compliant operators is a driving force behind increased public exposure (Boehnke, 2000). Here, the intension is that diners would preferably support good standing operators. This gives incentive for operators to abide the regulations, have well maintained facilities, and properly trained employees practicing safe food handling. In one study, the public need for higher scoring evaluations caused food service establishments to pay closer attention to better food safe practices (Fielding, 2001). Operators evaluated under the grading system that had letter grades of "B" or "C" and were then published in newsprint, were more apt to work harder to achieve an "A" grade for the next inspection (Koeune, 2000) (See Figure 1).

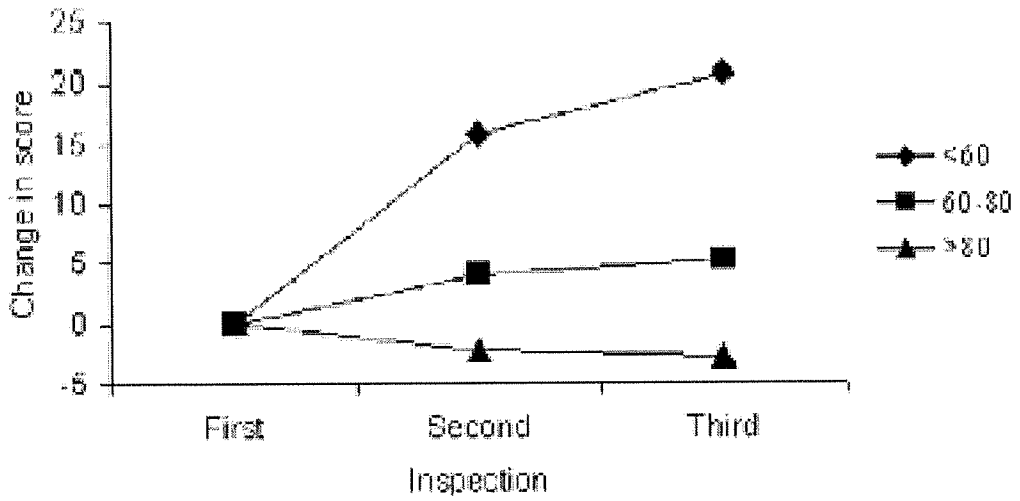


Figure 1: Mean change in scores in subsequent two inspections, for restaurants with an initial score on routine inspection of <60, 60–80, or >80.

(Jones, 2004, p.691)

One study showed that strong incentives for operators to improve their facilities showed markedly increased scores from years past (Fielding, 2001). These characteristics were major selling points for VCH to adopt the online system as told by Dominic Losito- Chief Public Health Inspector, " …(onsite system will) help board of health clean up marginal restaurants and close places who don't comply."(Berry, 2000, p.3)

Increasing the eyes/ears for Health Units through the public online system is not a problem. When the New York version of inspections online commenced, there were over a million hits on the web site in the first forty-eight hours (Berry, 2000). Similarly, in the L.A. County, their online inspection web site has garnered huge growth and expansion since its inception. In the first six months of operation their web site viewership has had a six-fold increase (Strassburg, 2002). Primary reasons for the success of these online systems recently are the ease of its use and a reduced cost. Advancements in computing technology enabled health

agencies in the L.A. County to adopt cheaper, less complex systems (using Microsoft NT over the old UNIX system) (Strassburg, 2002). This caused rapid expansion (staff no longer required formal web training), popularity, and funding to the projects (Strassburg, 2002). As a result of these evolutions in using online web sites, many other health agencies have followed suit such as VCH, Toronto, Waterloo, and Vancouver Island Health Authority (V IHA) (Web, 2000; Toronto, 2001; Lancaster, 2002; Food, 2003).

Facilitating access to the reports has grown exponentially by posting them online. Putting inspections online is mainly due to the demand by the public/media (Toronto, 2001). A poll in the US stated that 70% of Americans want tax money allocated to improving access to services provided by the government (La Vigne, 2002). Usually, inspection reports are derived from the Health Agency office, as per request under the Freedom of Information Act. However, as a media study has shown, Canadian public information requests on government documents is commonly rejected at all public offices (Officialdom, 2005). Common rejections included: (Cribb, 2005; Officialdom, 2005)

- Outright denials of information
- High fees; for example, in Ottawa, reporters under cover as citizens were told to fork over $1000 for obtaining reports (these documents should be free, or within reason)
- Bureaucratic obstacles: no answers, unhelpful officials
- Government agency incompetence regarding public disclosure rights
- Requesting identity/purpose of the request (illegal) (Ministry, 2005)
- Commonly, the most difficult government requests were restaurant reports.

Therefore, the proactive stance by some health agencies in Canada like VCH, and VIHA have eliminated these obstacles, and put the onus on the public to do the searching of documents online.

There is no question these arguments for online report disclosure is strong. However, there are many reasons why not all Health Agencies have immediately adopted the online systems.

1.5 PROBLEMS WITH DISCLOSING REPORTS

There are a number of problems that arise with the increased online viewership of the inspection reports.

A major problem with inspections is interpretation of the results by the public (Boehnke, 2000). A large majority of the public have a basic understanding of food safety knowledge. Health agencies provide public forums to educate them for food safety. However, this accounts for only a fraction of the public (Bryan, 2002). The media usually only provides crises situations, (promotes panic rather then education) and occasional educational pieces to improve food safety (Bryan, 2002). However, is this enough to make educated interpretations of the inspection reports? There are implications of inspections that evaluate with critical versus non-critical violations (Boehnke, 2000; Koeune, 2000). The VCH region does not distinguish the two violations on their restaurant web site, and refers to both as "observations" (Berry, 2000). One case in point: There may be a large number of non-critical violations for one operator, and is therefore (usually) deemed as low or medium risk by a PHI. However, not knowing the distinction of violations, the public may deem the operator as high risk, due to the sheer number of "observations". As a result, the public interpretation of the report may be flawed (Koeune, 2000).

Another problem of the reports is that they may misrepresent the restaurant. Inspection reports are just a snapshot of the food establishment, and may not be representative of the whole picture (Koeune, 2000; Bryan, 2002). As well, the media may misrepresent report information in the newspapers due to the driving force of "sensational journalism" (Koeune, 2000; Almanza, 2003). Effects of restaurant media coverage are well known, as in the case of the "Jack in the Box" E. coli 0157 scare, which resulted in three dead and over 300 sick (Almanza, 2003). The

result was a 22.3% chain wide decrease of sales (Almanza, 2003). The accuracy of reports also comes into question. Errors may occur in various stages of the inspection; errors in inspector judgment, in information transfer to the online database, in computer software, and web site security all should come under heavy scrutiny by the health agencies (Boehnke, 2000). As a result, there may be more lawsuits and liability issues to newspapers, media and health units (Almanza, 2003; Boehnke, 2000).

The subjectivity and inconsistency of inspectors can also be negative factors. Biases in inspection reports, where different inspectors may have altering opinions of what is a violation, may unfairly treat operators listed on the restaurant web site (Dundes, 2001). The VCH region has somewhat overcome this problem by randomly rotating their district inspectors every few years, and including access on the web site to the past three inspections of an operator (Berry, 2000). Further improvements could include a rolling standard used when evaluating a restaurant by averaging out past inspections with the present one (Koeune, 2000).

The added stresses of achieving a good evaluation may put inspectors at greater risks from bribery or threats by operators (Fielding, 2001).

The extra costs towards implementing the web site and maintaining it, may have taken away from other areas in need for the Health Agency (example more PHIs) (Boehnke, 2000).

The additional strains could further decimate relationships between health units and the restaurant industry that is already on thin ice, due to the nature of the regulating business.

These problems substantiate reasons why many health agencies have not climbed aboard the online reporting trend. The Fraser Health region is a prime example, having only adopted posting closures on web sites. In one statement by David Plug, a Fraser Health spokesman, said "(regarding onsite closure notices)... but it's a first step... and as we go forward, we will be

looking into making it user-friendly and providing more information, but that would require a little more investigation (on web site report access)" (Robb, 2004, p.9). Media and public complaints have been putting pressure on the Fraser Health region to being more accessible as in the VCH region. However, just how valuable is posting reports online? Do all of these pros and cons apply when surveying restaurant owners and PHIs?

1.6 PURPOSE OF THE STUDY

A number of questions have to be assessed when online inspections are considered or are in use already. A survey was made for both inspectors (who do restaurant inspections) and operators to examine the impact of inspection reports online (an email survey). Some points that were covered were:

- Comparisons can be made between PHIs/operators for those regions who use the internet system (VCH, VIHA regions) and those who do not (Fraser, Interior and Northern Health regions).
- Is it important for inspection reports to be posted on the Internet?
- If inspection reports are posted online, would this change how you conduct your inspections or business operations?
- Are you concerned how the public/media may interpret the reports that appear online?

Overall, the purpose of the study will focus on examining the impact of publishing inspection reports online using an opinion survey among PHIs and operators

2. METHODS AND MATERIALS

2.1 COMPLETE DESCRIPTION OF MATERIALS/COSTS

The survey was emailed, telephoned or faxed for both PHIs and restaurant operators chosen for the study. Equipment that were used included: computer(s) for word processing,

spreadsheets, phones, fax machines, statistical software, world wide web; online phone books (White and Yellow Pages); necessary printing and binding costs of the project; drafts/final hand-in copies, and presentation material that were necessary for completion of the project.

2.2 DESCRIPTION OF STANDARD METHODS/ALTERNATE METHODS:

The survey was based on questions concerning how much of an impact online inspection reports are having on PHIs and restaurant operators.

The first section of the survey consisted of general information of age, time in profession, and highest level of education completed. These categories were used to assess if there was any relevancy of the participant's answers to the research questions.

The second section of the survey consisted of questions related to the research question. The survey was distributed via electronic mail or done by telephone/fax if no email could be found. Surveys done through electronic mail had pre-notifications and follow-ups every two weeks to a maximum of four follow-ups, to increase response rates (Heacock, 2005). Respondents that completed surveys over the phone were given options of completing the survey now, or at a later more convenient date and time. Phone surveys for restaurant operators were concentrated between the times of 10 to 11 AM or 1:30 to 3PM. These are the times most restaurants are more apt to be less busy, therefore increasing the likelihood of a successfully completed survey.

Alternate methods include mail or in-person surveys.

2.3 JUSTIFICATION FOR METHODS SELECTED:

Due to limitations in resources and time for submittal of the research, an email survey was chosen as the first option due to expediency and practicality. Phone/fax surveys were the second option if emails could not be located and if respondents preferred this method only.

Typically, telephone surveys have shown lesser response rates than electronic mail surveys, therefore there is the possibility of biased results (Heacock, 2005). This may be of some significance since the majority of restaurant operators did not have emails, and preferred to complete the survey over the phone, whereas virtually all PHIs preferred email surveys. Time constraints would hamper mailed surveys for this research project, and in-person surveys would be unfeasible due to increased costs and time allotted for data collection. Limitations of email surveys include favouring individuals with access to the internet/electronic mail, reliability of the samples (Is the true targeted respondent replying?), and privacy/confidentiality issues (Schonlau, 2002). Limitations of telephone surveys include time to dwell and ponder on the questions being asked versus email/mail-in surveys.

PHIs in British Columbia and restaurant operators in the VCH region were the groups chosen for this study.

All the PHIs were first contacted by email using an updated contact list provided by the Land and Water British Columbia Inc. (LWBC) website: http://lwbc.bc.ca/03water/licencing/wuc/eholist.pdf. This list was verified by the president of the Canadian Institute of Public Health Inspectors as being the most recently updated contact list of PHIs in the province (Public, 2004; S. Chong, personal communication, November 24, 2005). Email as the first option for means of communication was chosen because PHIs and restaurant operators are less likely to do surveys over the phone due to time constraints, and email allows them to do the survey at their own leisure. Selection bias may occur if the PHI contact list is not updated, or inspectors are left off the list accidentally or purposely. Therefore, in this case, the results and analysis will be slightly different then the "true values". Those inspectors that were actively inspecting restaurants such as District Inspectors, or have had considerable experience

inspecting restaurants such as managers, were selected for contact. Specialist PHIs such as Communicable Disease Control Officers, Tobacco Enforcement Officers or Land Use Officers were not selected since they may have little to no experience dealing with restaurant inspection reports. District inspectors and managers are affected the most from inspection reports posted online.

Restaurant operators included any workers for the restaurant. Restaurant workers are directly affected from inspection reports posted online in terms of economic revenue. Inspection reports are a reflection of worker's food handling practices, and the sanitary conditions of the facility. Operators over the age of nineteen were selected for the study (to avoid age of consent purposes). Due to privacy concerns, VCH was unwilling to divulge restaurant operator contact lists (D. Molder, personal communication, November 24-29) therefore, food establishments were randomly selected from the updated list provided on the Vancouver Coastal Health (VCH) inspection website: http://www.foodinspectionweb.vcha.ca/Nav-Main.htm. (Vancouver, 2005). As of November 30, 2005 there were a total of 5017 food establishments listed on the website (Vancouver, 2005). Of these food establishments, a total of 138 were chosen for contact through random numbers generated between 1 and 5017 by Microsoft Office's Excel 2003 ® random number generator tool. Email contact information was determined by the contact list given on the VCH website, Internet search on the facility, and/or phoning the operation. If no email was found the survey was done by telephone/fax as the second option. Telephone numbers were found either through the contact listings from the VCH website or an Internet search on the facility. As with PHIs, operator selection bias will occur for those restaurants without email. The VCH region has been posting inspection reports online since April of 2002 (Lancaster,

2002). Restaurants in this region are highly relevant to the study to determine possible effects from online inspection postings.

To determine the most pertinent questions related to this research topic, the survey questions were based on a literature review, and were then evaluated by PHIs in, or recently in the field (D. Molder, personal communication, November 3-4, 2005; N. Potter, personal communication, November 3-8, 2005). A survey geared for both PHIs and restaurant operators was made. A minimum of thirty samples from each group were required to have statistically significant results and to be able to generalize to other similar population sets (Heacock, 2005).

All participation by respondents was voluntary and their responses were guaranteed confidential and anonymous. Contact information of the principal investigator was given for any concerns raised by the participants (Heacock, 2005). Instructors at the British Columbia Institute of Technology (BCIT) reviewed the cover letter, and survey to cover BCIT's policy on ethics

Pilot studies were performed on PHIs, and a randomized sample of restaurant operators in the city of Vancouver. Currently, two PHIs have evaluated and determined that the survey is more than adequate to address, and assess how online inspection reports impact PHIs and restaurant operators (D. Molder, personal communication, November 3-4, 2005; N. Potter, personal communication, November 3-8, 2005)

- See Appendix B for Covering letter, script and survey

3. STATISTICAL ANALYSIS

Statistical analysis of the data was applied by using the Likert technique (Hale, 2002; Heacock, 2005). Points were allocated to specific answers for each question. Point determination was relative to the answer's relevancy to the research question; whether or not there was an impact of online inspection reports on PHIs or the public (See Appendix C). With a

maximum score of thirty-nine, the scores of PHI and restaurant operator respondents were analyzed to determine whether or not online inspection reports are having any impact. Therefore, the alternative hypothesis was if there was statistical significant difference between opinions of PHIs, and restaurant operators, pertaining to the impact of online restaurant inspections. Alternatively, the null hypothesis was if there was no difference of opinion between PHIs and restaurant operators. A minimum total of thirty respondents of each group were necessary to statistically validate the results (Heacock, 2005).

3.1 DESCRIPTION OF DATA: The data was ordinal/numerical and discrete, since the survey questions are categorical data, and there was logical ordering of the groupings (Kleinbaum, 1998).

3.2 STATISTICAL PACKAGE USED: NCSS 2004 and PASS Trial (Hintze, 2001)

3.3 DESCRIPTIVE STATISTICS: Statistical estimates of means, modes medians, ranges and standard deviations were used to analyze the data.

3.4 INFERENTIAL STATISTICS:

Correlation/regression analysis was used to determine if there is relevancy between years in profession, age of respondent and level of education versus the corresponding survey scores.

A two-sample test was run with "scoring" being the response, and "Inspector_Operator" being the variable (See NCSS statistical results). "0" is assigned to restaurant operators and "1" is assigned to PHIs in the analysis. A two tailed test was chosen because there is no scientific basis whether or not PHI or restaurant operator scores will tend to be higher or lower on the scale used.

Two-sample tests for each survey question were run to analyze differences of opinion between the groups.

PHI survey scores between health regions that have online inspection reports (VCH, and VIHA) versus regions without (Fraser, Interior and Northern Health) was also assessed via a two-sample T-test.

4. RESULTS

4.1 STUDY GROUP POPULATIONS:

Overall both sets of groups had a 34% response rate (see Figure 2). Restaurant Operators had a 25% response rate and PHI respondents had a 44 % response success rate. The majority of non-respondents gave no reason (after multiple attempts), or were ineligible for the survey (little to no experience to restaurant inspections) (see Figure 2). Participant age distribution was between 19 to 60+ years (see Figure 3).

4.2 SURVEY SCORES:

The average survey score for all respondents was 30.15 out of 39 or 77.3%. Operator respondents scored an average of 28.85 out of 39 or 74.0%. PHI respondents scored an average of 30.58 out of 39 or 78.5%. Figure 4 has a survey/respondent breakdown according to the five health units of BC, and restaurant operators of the VCH region. Not all geographic locations of the health units were equally represented by respondents.

Figure 2

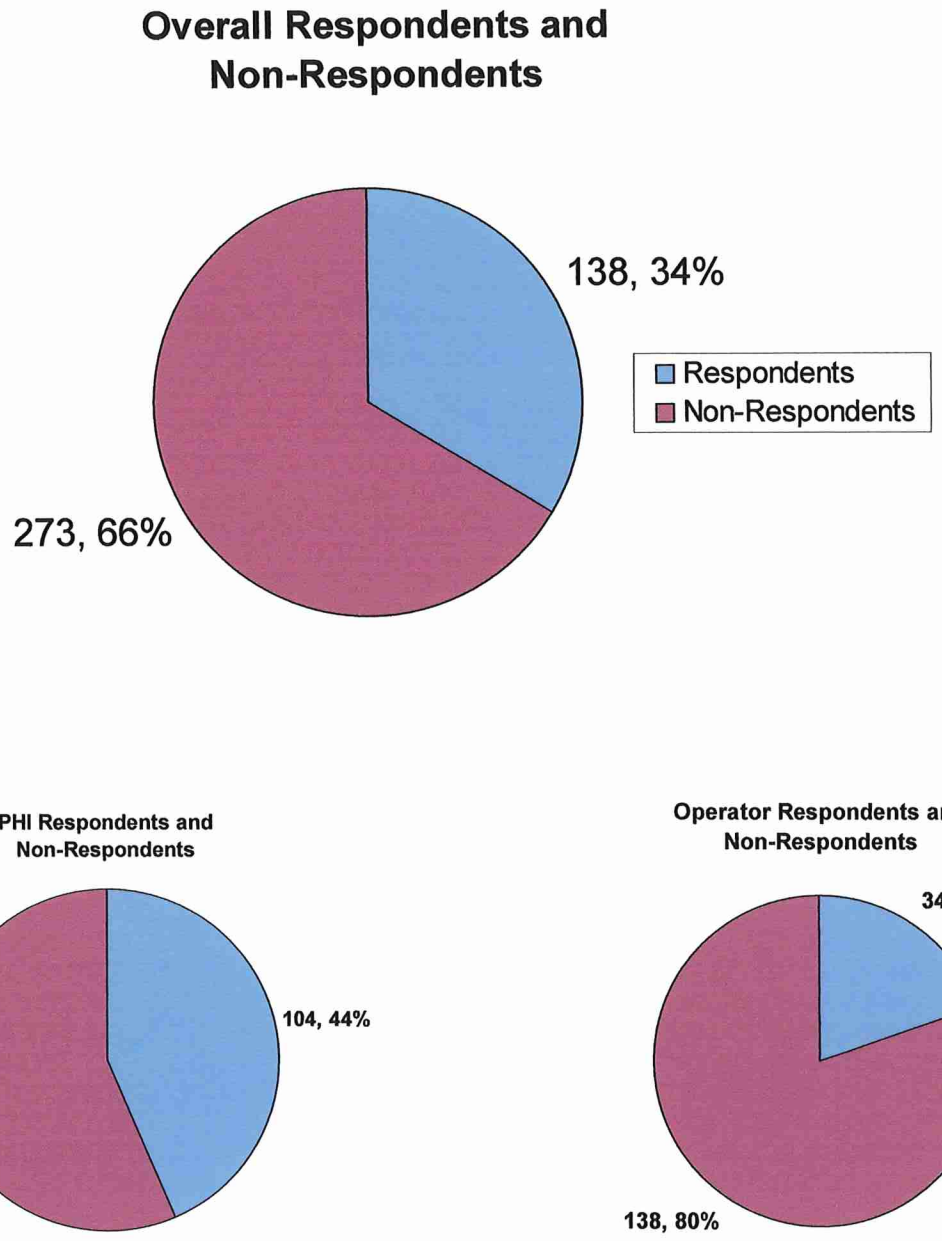

Overall Respondents and Non-Respondents
138, 34%
273, 66%
Respondents
Non-Respondents
PHI Respondents and Non-Respondents
104, 44%
135, 56%
Operator Respondents and Non-Respondents
34, 20%
138, 80%

Figure 3

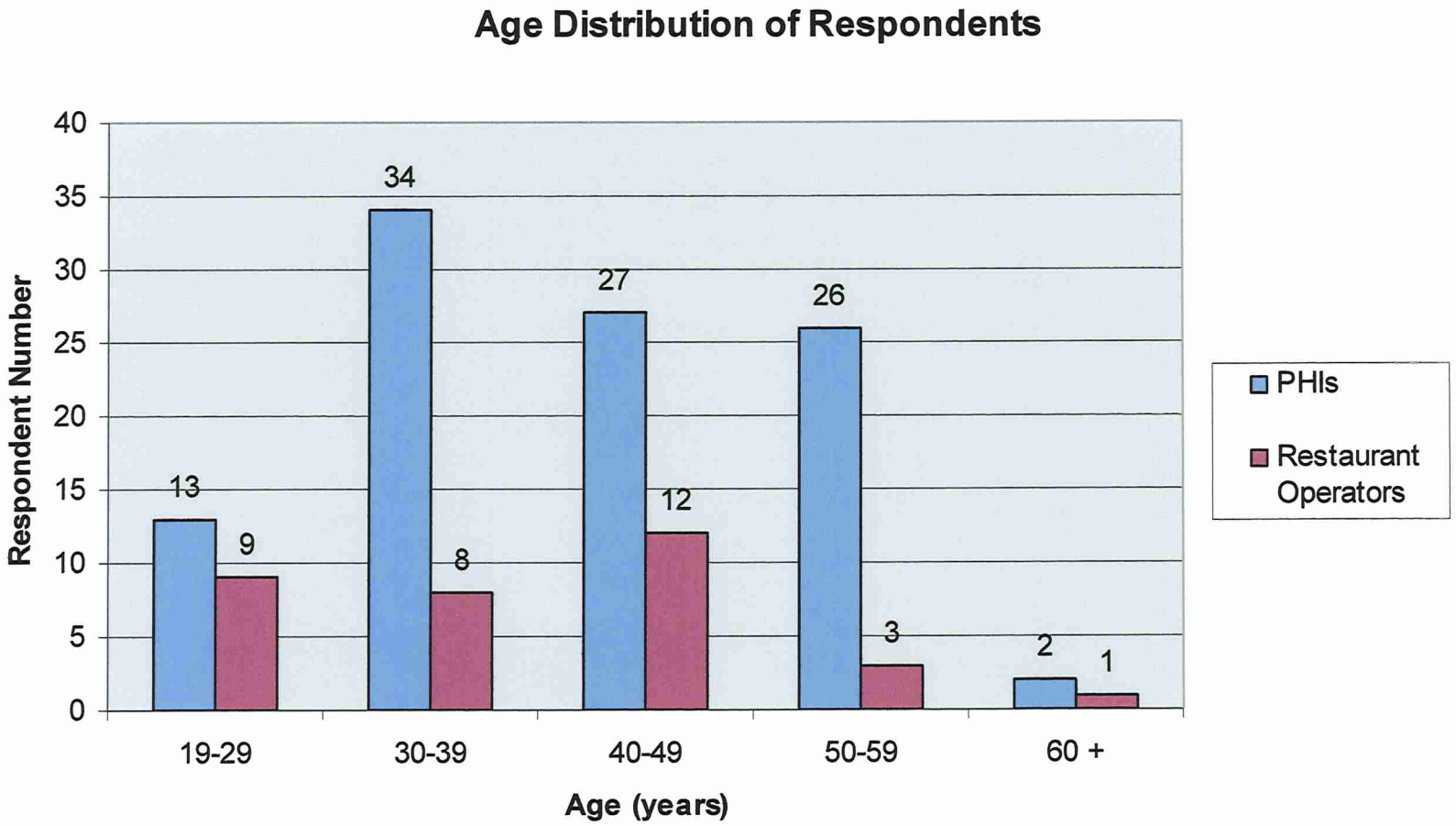
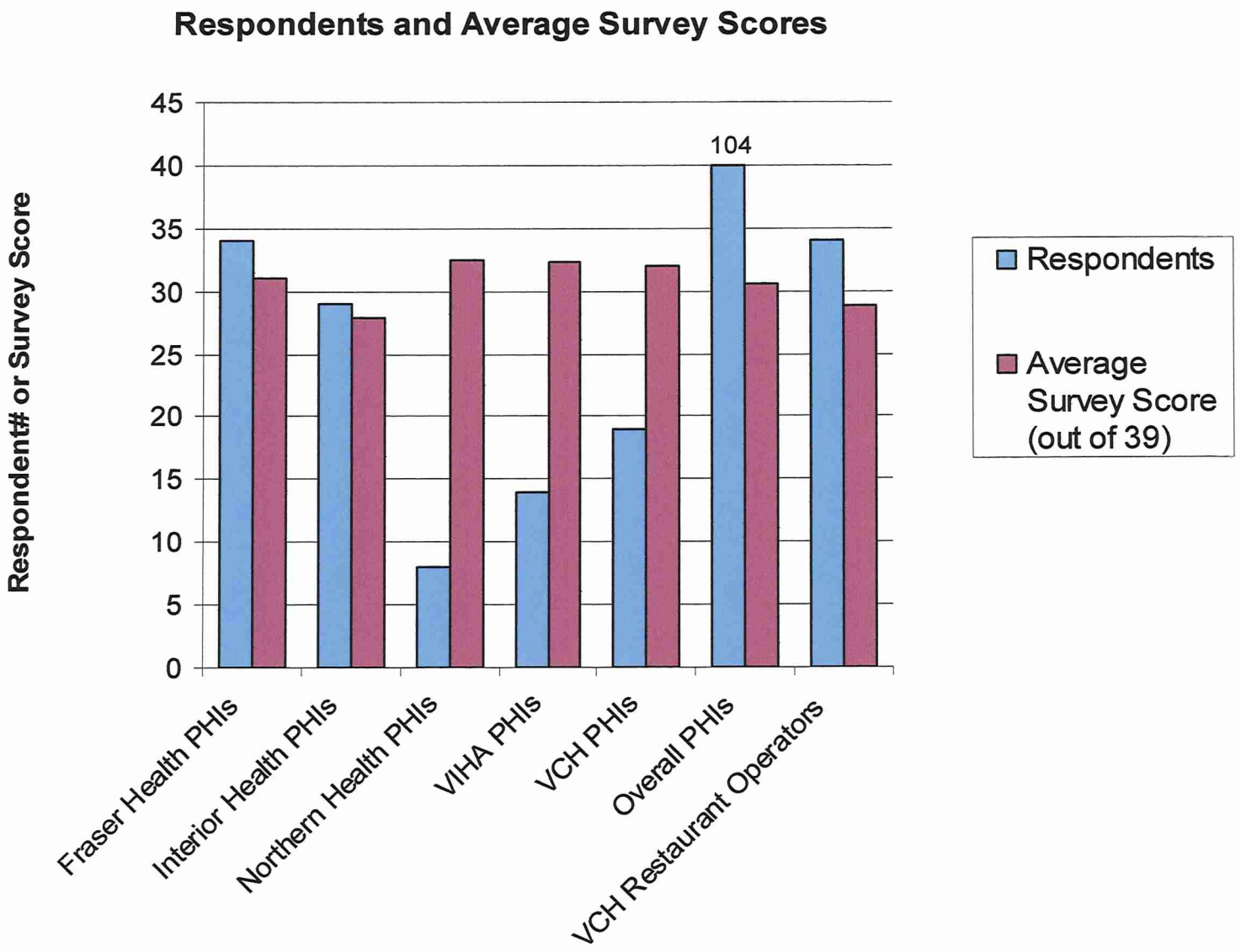

Age Distribution of Respondents
Respondent Number
40
35
30
25
20
15
10
5
0
34
27
26
13
9
8
12
3
2
1
19-29
30-39
40-49
50-59
60 +
Age (years)
PHIs
Restaurant Operators

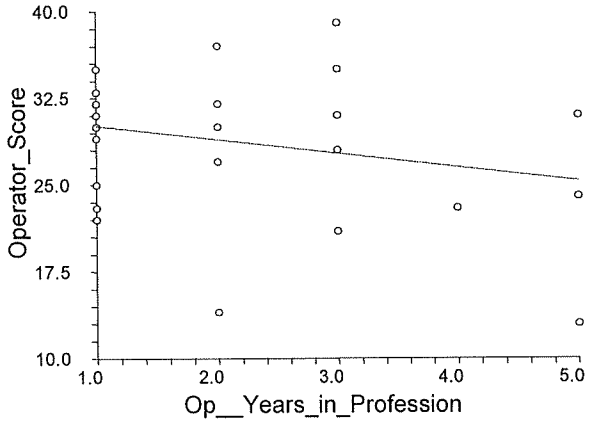
Figure 4


Respondents and Average Survey Scores
Respondent# or Survey Score
45
40
35
30
25
20
15
10
5
0
104
Fraser Health PHIs
Interior Health PHIs
Northern Health PHIs
VIHA PHIs
VCH PHIs
Overall PHIs
VCH Restaurant Operators
Respondents
Average Survey Score (out of 39)

4.3 CORRELATION/REGRESSION ANALYSIS:

- For Restaurant Operator Scores vs. Years in Profession, the survey scores decreased with increasing years in the profession. There was fair to good correlation between these variables with a value of -0.2974. For each age class interval the survey score decreased by -1.18 points. The equation for the relationship was:
    - Operator Survey Score = (-1.18) * (Years in Profession) + (31.26)

Figure 5: Operator Score vs. Operator Years in Profession



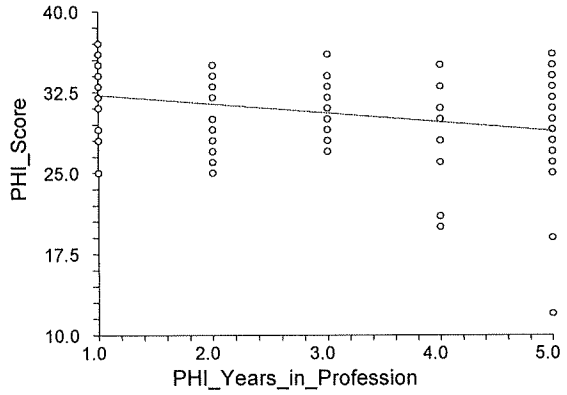
Note- years in profession class intervals:
- 1 = 0-5 years
- 2 = 6-10 years
- 3 = 11-15 years
- 4 = 16-20 years
- 5 = 21 years or over

(See Appendix D)

- For Operator Scores vs. Highest Level of Education, there was little to no relationship between these variables with a correlation value of 0.0638 (see Appendix D).
- For Inspector Scores vs. Highest Level of Education, the analysis was omitted since the highest level of education for Inspectors were virtually the same throughout.
- For Inspector Scores vs. Years in Profession, the survey scores decreased with increasing years in the profession. For each age class interval the survey score decreased by -0.83 points. There was fair to good correlation between these variables with a value of -0.3190. The equation for the relationship was:

- PHI Survey Score = (-0.83) * (PHI Years in Profession) + (33.05)

Figure 6: PHI Score vs. PHI Years in Profession



Note- years in profession age class intervals:
- 1 = 0-5 years
- 2 = 6-10 years
- 3 = 11-15 years
- 4 = 16-20 years
- 5 = 21 years or over

(See Appendix D)

4.4 TWO SAMPLE TEST ANALYSES BETWEEN PHI AND RESTAURANT OPERATOR SURVEY SCORES

A two-tailed test was selected because it is not scientifically known whether or not PHI and restaurant operator scores will be higher or lower, therefore:

- The null hypothesis: H_0: $\mu_1 = \mu_2$, where "μ" is the mean
- The alternative hypothesis: H_A: $\mu_1 \neq \mu_2$

Analysis of the assumptions with the statistical software:

- Values are independent (respondents are different people)
- Overall the data was found not be normally distributed for five out of the six normality tests. (H. Heacock, personal communication, March 1, 2006). Equal variances are also rejected in the analysis; therefore, results from the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians were analyzed. The two-tailed test had a probability value (p-value) of 0.11; therefore, the difference between the two groups in terms of perception of impact is not statistically significant and the null hypothesis was accepted (see Appendix E).
- Power analysis of the experiment was found at 24.0% with a Beta error of 0.76 therefore the study is not powerful. Increasing the number of respondents could decrease beta error. Only 34 operator respondents completed the survey (see Appendix E).

4.5 INDIVIDUAL SURVEY QUESTION TWO SAMPLE TEST ANALYSIS

With reference to the survey each question was individually analyzed using a two sample test to compare the study groups of PHIs and Restaurant Operators.

Figure 7: Individual Question Analysis

	Maximum Score	PHI Mean Scores	Operator Mean Scores	Power (%)	P-Value	Reject Null Hypoth.	Comment
All Questions	39	30.58	28.85	24	0.11	No	PHIs and restaurant operators have similar opinions with regards to this survey. However the power of this assumption was weak & the sample size/efficiency should be increased.
Question 1	5	4.19	4.03	4	0.27	No	Both operators and PHIs felt it was somewhat important to post inspection reports on the internet.
Question 2	4	1.94	1.87	1	0.4	No	Both operators and PHIs would slightly change their business operations or inspections if the the inspection reports were posted online
Question 3	5	3.77	3.9	2	0.26	No	Both operators and PHIs were somewhat concerned how the public / media may interpret the reports that appeared online.
Question 4	5	4.12	3.9	4	0.97	No	Both operators & PHIs somewhat agreed that posting inspection scores online enables the public to make more informed choices of where to dine/eat in the city.
Question 5	5	3.29	2.73	36	0	Yes	Statistically significant difference of the means. However, the difference is minimal and rounds to the same answer: Both operators and PHIs found it rare that the public or other restaurant operators were aware that restaurant inspection results are posted online in Vcr., Richmond, North Shore, or Vcr. Island.
Question 6	5	4.54	4.33	4	0.68	No	PHIs definitely agreed that the public has the right to see this information in this manner, whereas operators somewhat agreed.
Question 7	5	4.33	3.76	38	0	Yes	Both operators and PHIs would somewhat support/advocate an online restaurant inspection system if there is/was none in their health region.
Question 8	5	4.4	4.4	1	0.52	No	Both operators & PHIs somewhat agreed that other inspected public facilities like pools and food stores (ex. Save-On-Foods, Safeway) should have reports posted online as well.

4.6 PHI HEALTH REGION TWO SAMPLE TEST ANALYSIS: REPORTS ONLINE (VCH, VIHA) VS. NO REPORTS ONLINE (FRASER, INTERIOR, NORTHERN HEALTH)

Analysis of the assumptions with the statistical software:

- Overall the data was found not be normally distributed for three out of the six normality tests. (H. Heacock, personal communication, March 1, 2006). One of the two Equal variance tests was also rejected in the analysis; therefore, results from the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians were analyzed. The two-tailed test had a probability value (p-value) of 0.01; therefore, the difference between the two groups in terms of perception of impact was statistically significant and the null hypothesis was rejected. PHIs with online inspections in their region (VCH, and VIHA) scored 32.1 out of 39 on the survey or 82.1%, whereas PHIs without online inspections in their region (Fraser, Interior and Northern Health) scored 29.9 out of 39 on the survey or 76.7% (see Appendix F)
- Power analysis of the experiment was found at 52.9% with a Beta error of 0.47 therefore the power should be increased to at least 80% to verify the assumption. Beta error could be decreased by increasing the number of respondents (see Appendix F).

4.7 SURVEY RESPONDENT COMMENTS

Comments from PHI and Restaurant Operator respondents found in Appendix G.

5. DISCUSSION

5.1 SURVEY SCORE SIGNIFICANCE

Overall, average survey scores between PHIs (78.5%) and restaurant operators (74.0%) were not statistically significantly different (P-value = 0.11). Hence, the null hypothesis was accepted; no difference between the means of the two study groups. This result states that both groups have similar opinions with regards to publishing inspection reports online. Since both groups scored in the mid to high seventy percentage range one can suggest that both groups feel there is a fair to major impact of online inspection reports on the public and their respective professions.

As with the total survey score for each group, each question score was on the whole similar (see Figure 7). Operators scored about five percent lower for each survey question on average versus PHI scores. Interesting conclusions to the individual questions were:

- Both operators and PHIs felt it was somewhat important to post inspection reports on the Internet. A further analysis would be to determine just how the online inspection reports are deemed important by these two groups (could be positive or negative with this issue).
- Both operators and PHIs would slightly change their business operations or inspections if the inspection reports were posted online. Again, a further analysis would be to determine just how they would change. Would PHIs change how they write the reports? Would the operators be more compliant to the regulations?
- The two groups somewhat agreed that posting inspection scores online enables the public to make more informed choices of where to dine/eat in the city. Both groups would support/advocate an online inspection system if there is/was none in their health region. As well, the two groups agreed that online inspection reports should be expanded to other inspected public facilities such as pools and food stores.
- Both operators and PHIs found it rare that the public or other restaurant operators were aware that restaurant inspection results are posted online in Vancouver, Richmond, North Shore and/or Vancouver Island. The obvious discrepancy was that PHIs that inspected districts not inclusive of these online areas were more prone to lower score results since the people they serve likely do not live in these areas. However, looking at the results for those PHIs with districts that have online inspections showed only a slight increase. In these online areas, operators and PHIs found only occasionally that the public or other restaurant operators were aware that the online inspection report system existed.

5.2 FACTORS CONTRIBUTING TO SURVEY SCORES

PHI survey scores were found to be statistically different (p-value = 0.01) between health regions that had online inspection reports- 82.1% score for VCH, VIHA and regions without the system-76.7% score for Fraser, Interior and Northern Health. Possible biases between PHI responses may have occurred as a result of whether or not their Health Region published inspection reports online. One can suggest that PHIs stand by their system, since it is the one they are more accustomed and knowledgeable of. However, the sample size should be increased to verify this result since the power analysis of the test showed only 52.9%.

Differences in years in profession versus survey scores for both restaurant operators and PHIs, showed a fair to good correlation for a decreasing score with increasing years of experience (see figure 5 and 6). Since years in profession is usually tied to age of the individual, this result may reflect dependence on the Internet as a source of information that is more apparent in younger generations than older ones.

5.3 COMPARISONS TO OTHER SIMILAR STUDIES

There were few comparisons of this type of survey to other research already done. This survey was probably one of the first of its kind, particularly for the VCH and British Columbia regions. As a result, it's a snapshot of perceptions at this point of time that should help, for example in recommending a more detailed survey in the future. One somewhat similar research report surveyed ninety-four Indiana health departments in the U.S., asking whether or not inspection results should be reported to the media. Results showed favourable results for media reporting with over half (53.5%) of the health inspectors supporting it. The remaining inspectors were split between individuals unsupportive of media reporting and those that were indifferent

on the matter (Almanza, 2003). This outcome was comparable to this project's result in terms of a majority of the respondents in favour for facilitating public access to inspection reports.

6. LIMITATIONS

On the whole, the power in the statistical tests was weak (< 80%). This was mainly attributable to the low number of successful food operator responses. It was very difficult for the surveyor to get responses from food operators. The surveyor either emailed or phoned 168 operators, sometimes multiple times and only had thirty-four (20% success rate) successful respondents to the survey. Therefore, generalizing ability and validity were highly limited for this group due to the poor participation rate, and low number of responses. Many attempts were tried to increase respondent success rates such as using alternate methods of communication such as email, telephone and fax. Contact by phone was done during off-peak hours typical of food operators, and if it still was an inconvenient time the surveyor asked the operator what would be a more suitable time, or if preferred, an alternate form of communication was suggested. However, even after multiple attempts the majority of non-responses were still either too busy, concerned about confidentiality, gave other excuses, language issues, dead line or hung up on the surveyor.

Originally, emails were the preferred method of communication for the surveyor due to time constraints and ease of information transfer. This was facilitated for PHIs since they all have an email address, regularly utilize it, and the PHI email list for BC is publicly accessible. For food operators, there were no such assurances for email correspondence. Extensive web searches for food operator contact information yielded little more then an address and phone number, therefore the vast majority of food operator respondents were via telephone surveys. This discrepancy between the two groups is a confounding factor for analysis of the results since

emails enabled respondents to ponder their responses, read over the information carefully and answer at their own leisure, whereas telephone calls do not.

Biases were likely, particularly between PHIs that have an online inspection reporting system in their region, versus those PHIs that do not, as explained in Section 5.2. The same could be said for VCH operators who would likely be more aware of the online system, since they work/live in the region, versus another region's operators without the online reporting system. These biases would affect the results and further limit the generalizing ability of the study.

7. CONCLUSIONS

No difference was found between opinions ($p = 0.11$) of PHIs in BC and restaurant operators in the VCH region with respect to the impact of online inspection reports. The power of this assumption was weak (24%), therefore weakly generalizable with limited validity. A fair to major impact of online inspection reports on both study group's professions and the public can be suggested since both groups scored in the mid to high seventy percentage range for the survey. This shows that online inspection reports are having an effect and appears to be a useful tool for the public impacting both PHI's and Food Operator professions.

Individual survey question analyses on the whole echoed what the total survey scores showed. Each question score from both groups were similar with operators scoring only four percent lower on average versus PHI scores.

PHIs in regions with online inspections scored higher on the survey (p-value = 0.01) versus those PHIs in regions without it, however the power of the assumption was weak (52.9%).

A fair to good correlation was found for a decreasing survey score with increasing years of experience in their profession for both the operators and the PHIs. This may suggest an increasing reliance on the Internet as a source of information.

8. RECOMMENDATIONS

The Restaurant Operators and PHIs were by and large in positive agreement throughout the survey with regards to the impact of online inspection reporting. Therefore, the online system should be continued in regions where it is currently in use, and be expanded in regions that do not have inspection reports online. As well, the online system should be expanded to all facilities that are publicly inspected such as pools and food stores. Greater promotion and publicity of the online inspection reports are suggested since both groups found it rare, or at best occasionally that the public were even aware this system existed.

Future research includes a more exhaustive data collection in improving response rates from Food Operators in the VCH region to either refute or substantiate results found in this study. A probable method of achieving this is in-person communication with food operators at off peak hours. Surveys could then be directly given and either be mailed back, or picked up on a later date. This method would verify that the person is an employee/operator of the facility and variability between communication methods is eliminated between the two groups of the study.

Quantifying effects from online inspection reports in for example producing lower health related restaurant infractions and/or closures would also be a possible study for research. This study may further substantiate the need of online inspection reports to further protect the public from health hazards. One comment from a PHI respondent suggested:

> *"Could be an interesting project if you've managed to determine whether or not conditions in restaurants have improved (i.e. fewer critical violations, fewer repeat*

violations, lower hazard ratings, higher perceived voluntary compliance etc) since Internet posting started."

A major future recommendation is to survey the public, as they are the final and most important users of the online information. This was reflected in a number of respondents from the survey:

"...in order to gauge the success of online reporting, you need to also consider responses from the general public as they are the end users of the information."

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APPENDIX A-
Raw Data

Respondent ID #	Age Class (1-5)	Years in Profession Class (1-5)	Highest Level of Education Completed Class (1-5)	Question 1: out of 5	Question 2: out of 4	Question 3: out of 5	Question 4: out of 5	Question 5: out of 5	Question 6: out of 5	Question 7: out of 5	Question 8: out of 5	SURVEY SCORE out of 39
Operators												
Operator 1	3	3	5	3	1	3	3	2	3	3	3	21
Operator 2	3	5	2	4	1	5	4	4	4	4	5	31
Operator 3	3	4	4	5	1	5	1	3	2	1	5	23
Operator 4	5	1	2	3	1	1	3	3	5	3	3	22
Operator 5	1	1	4	4	1	4	4	3	5	4	5	30
Operator 6	-	-	5	5	4	4	5	5	5	4	5	37
Operator 7	2	1	5	5	3	4	5	1	5	5	5	33
Operator 8	1	2	2	4	1	4	4	3	4	3	4	27
Operator 9	2	2	2	5	3	2	5	3	5	4	5	32
Operator 10	4	5	2	4	2	1	4	1	4	4	4	24
Operator 11	3	2	5	2	1	5	1	2	1	1	1	14
Operator 12	3	3	4	5	4	5	5	5	5	5	5	39
Operator 13	3	5	5	4	1	5	4	3	5	4	5	31
Operator 14	4	2	5	4	1	3	5	3	5	4	5	30
Operator 15	2	3	5	-	-	-	-	-	-	-	-	28
Operator 16	1	1	5	4	1	4	4	3	5	5	5	31
Operator 17	1	1	5	4	2	4	4	3	4	4	4	29
Operator 18	3	1	5	-	-	-	-	-	-	-	-	23
Operator 19	1	1	4	5	3	4	5	1	5	5	3	31
Operator 20	1	1	5	-	-	-	-	-	-	-	-	31
Operator 21	3	5	5	2	1	5	1	1	1	1	1	13
Operator 22	3	1	5	5	1	5	5	4	5	5	5	35

Operator 23	3	1	5	-	-	-	-	-	-	-	-	32
Operator 24	2	3	4	4	3	5	5	3	5	5	5	35
Operator 25	1	2	5	5	4	5	5	4	5	4	5	37
Operator 26	3	3	5	4	3	4	5	2	4	4	5	31
Operator 27	3	2	2	4	1	1	5	1	5	5	5	27
Operator 28	2	5	4	5	1	4	1	1	4	3	5	24
Operator 29	2	1	2	3	1	4	1	2	5	4	5	25
Operator 30	1	1	5	4	3	5	4	2	4	3	4	29
Operator 31	2	1	5	4	1	4	4	4	5	3	5	30
Operator 32	2	3	4	3	1	3	5	3	5	3	5	28
Operator 33	1	1	2	4	2	5	5	4	5	5	5	35
Operator 34	4	1	5	4	3	4	4	3	5	5	5	33

PHI Respondents

PHI 1	1	1	5	5	1	5	5	5	4	5	5	35
PHI 2	2	1	5	4	4	4	3	2	4	5	5	31
PHI 3	2	1	5	5	2	5	4	4	5	5	5	35
PHI 4	2	1	5	4	1	4	5	4	5	4	5	32
PHI 5	4	3	5	4	3	4	5	4	5	3	4	32
PHI 6	2	-	5	5	1	3	3	5	5	5	5	32
PHI 7	2	3	5	5	1	1	5	1	5	5	5	28
PHI 8	2	2	5	5	2	4	5	1	5	5	5	32
PHI 9	1	1	5	5	1	4	4	3	4	5	5	31
PHI 10	3	2	5	4	2	4	4	4	5	4	5	32
PHI 11	3	1	5	5	2	4	5	4	5	4	4	33
PHI 12	3	-	-	4	1	2	4	4	5	4	5	29
PHI 13	4	5	5	4	1	3	4	3	5	3	4	27
PHI 14	4	-	5	4	2	4	4	4	5	3	4	30
PHI 15	2	3	5	3	2	4	4	4	4	3	3	27

PHI 16	3	3	5	5	3	4	4	4	5	5	4	34
PHI 17	4	5	4	4	2	2	4	3	4	5	5	29
PHI 18	1	-	-	5	2	4	4	2	5	4	5	31
PHI 19	3	3	5	5	3	4	5	4	5	5	5	36
PHI 20	3	3	5	5	1	4	4	4	5	5	3	31
PHI 21	4	-	5	5	2	4	5	4	5	5	5	35
PHI 22	2	1	5	4	3	4	5	3	5	5	5	34
PHI 23	2	2	5	4	1	4	4	4	4	3	4	28
PHI 24	1	1	5	5	2	3	4	3	5	5	5	32
PHI 25	2	-	5	4	2	4	5	4	5	5	5	34
PHI 26	4	-	5	5	1	4	5	1	5	5	5	31
PHI 27	-	-	-	4	1	5	1	3	1	4	3	22
PHI 28	2	2	5	4	1	4	3	1	4	4	4	25
PHI 29	2	2	5	5	2	3	4	4	5	5	5	33
PHI 30	4	3	5	5	3	5	5	4	4	5	5	36
PHI 31	4	5	5	1	1	5	1	1	5	3	2	19
PHI 32	2	1	5	5	2	4	4	3	5	5	5	33
PHI 33	1	-	5	4	3	5	4	3	4	5	5	33
PHI 34	2	1	5	5	1	4	5	1	5	5	5	31
PHI 35	1	1	5	5	1	4	4	4	5	5	5	33
PHI 36	3	5	5	5	1	3	4	4	5	4	5	31
PHI 37	3	3	5	5	2	1	4	4	5	4	5	30
PHI 38	4	5	4	5	2	4	5	4	5	5	5	35
PHI 39	3	3	4	4	1	1	4	4	4	5	5	28
PHI 40	3	-	-	4	3	4	4	4	5	4	5	33
PHI 41	2	1	5	5	4	4	5	4	5	5	5	37
PHI 42	4	5	5	5	2	3	5	4	5	5	5	34
PHI 43	4	5	5	4	1	5	4	4	4	3	3	28
PHI 44	2	1	5	4	3	4	4	4	4	5	5	33
PHI 45	5	5	5	3	1	1	3	4	5	4	4	25

PHI 46	3	3	5	5	1	4	5	4	5	5	5	34
PHI 47	2	2	5	5	2	4	4	3	5	5	5	33
PHI 48	2	2	5	4	1	3	4	3	5	5	5	30
PHI 49	2	-	5	4	2	4	4	4	4	4	4	30
PHI 50	3	5	5	3	1	4	4	4	4	5	5	30
PHI 51	1	1	5	5	3	4	5	4	5	5	4	35
PHI 52	2	3	5	5	1	4	5	4	5	5	5	34
PHI 53	3	2	5	4	3	4	4	4	5	5	5	34
PHI 54	2	1	5	4	2	5	4	1	5	4	4	29
PHI 55	3	3	5	4	3	4	5	3	5	4	4	32
PHI 56	3	4	5	4	3	5	4	4	5	5	5	35
PHI 57	3	4	5	4	1	4	4	3	4	4	4	28
PHI 58	1	1	5	4	2	4	4	1	4	4	2	25
PHI 59	2	2	5	3	4	4	4	3	4	2	3	27
PHI 60	3	2	5	4	2	4	3	4	4	4	4	29
PHI 61	1	1	5	4	2	4	5	4	5	5	5	34
PHI 62	3	4	4	4	3	4	4	1	4	4	4	28
PHI 63	4	5	5	5	1	1	5	1	5	4	5	27
PHI 64	4	5	5	4	1	1	4	4	4	4	4	26
PHI 65	3	4	5	2	2	4	2	3	3	2	2	20
PHI 66	2	1	5	3	2	5	4	2	4	4	4	28
PHI 67	3	4	5	3	1	3	4	3	4	3	5	26
PHI 68	3	4	5	2	2	4	4	3	2	2	2	21
PHI 69	3	4	5	4	2	4	4	4	4	4	4	30
PHI 70	2	1	5	5	1	5	5	1	5	4	3	29
PHI 71	3	2	5	4	1	4	4	3	4	3	3	26
PHI 72	4	5	5	2	2	5	2	3	2	1	2	19
PHI 73	4	5	5	4	2	5	4	1	5	5	4	30
PHI 74	2	3	5	4	2	5	3	3	5	4	4	30
PHI 75	3	5	4	4	2	4	4	3	4	4	5	30

PHI 76	2	3	4	5	1	4	5	4	5	5	5	34
PHI 77	2	2	5	4	2	4	4	4	5	4	5	32
PHI 78	2	3	5	5	2	2	4	1	5	5	5	29
PHI 79	3	5	5	5	4	2	3	1	5	5	5	30
PHI 80	1	1	5	4	1	4	5	2	5	5	5	31
PHI 81	4	4	5	4	2	4	3	3	5	5	5	31
PHI 82	3	5	4	1	1	5	1	1	1	1	1	12
PHI 83	4	5	5	3	1	4	4	4	4	4	5	29
PHI 84	4	5	5	4	2	2	4	4	5	5	4	30
PHI 85	1	1	5	4	2	4	4	3	5	5	5	32
PHI 86	4	5	5	4	1	5	4	4	5	5	5	33
PHI 87	1	1	5	5	1	4	5	4	5	5	5	34
PHI 88	4	5	5	5	2	3	5	4	5	5	5	34
PHI 89	2	1	5	5	3	2	4	5	5	5	5	34
PHI 90	1	1	5	5	1	4	5	4	5	5	4	33
PHI 91	4	4	5	4	2	5	4	4	5	5	4	33
PHI 92	2	2	5	5	2	4	5	4	5	5	5	35
PHI 93	3	5	5	4	3	4	4	4	4	4	5	32
PHI 94	4	5	5	4	2	4	4	3	4	4	5	30
PHI 95	4	5	5	4	3	5	5	4	5	4	4	34
PHI 96	3	5	5	5	3	4	5	4	5	5	5	36
PHI 97	4	5	5	3	1	4	4	4	4	4	4	28
PHI 98	4	5	5	3	3	4	4	4	4	4	3	29
PHI 99	2	3	5	5	2	2	5	4	5	5	5	33
PHI 100	2	3	5	4	3	4	4	3	4	4	4	30
PHI 101	4	5	4	5	2	1	5	4	5	5	5	32
PHI 102	2	2	5	3	2	5	2	4	5	4	5	30
PHI 103	2	1	5	5	4	4	5	4	4	5	5	36
PHI 104	5	5	4	4	4	5	5	4	5	4	4	35

APPENDIX B-
Covering Letter, Script and Survey

Covering Letter

Sending Date

Dear Respondent,

Hello my name is Eric, and I am a student at the British Columbia Institute of Technology in the Environmental Health program. In partial fulfillment of my course work, I am conducting a survey on the impact of publishing restaurant inspection reports on the Internet. You are invited to participate in this survey that should take about 5 minutes to complete.

Purpose of Proposed Research:

The posting of restaurant inspections online for public access has recently been implemented as of April 2002 in the Vancouver Coastal Health region: http://www.foodinspectionweb.vcha.ca/. Sufficient time has passed to determine how effective the change has been on both Public Health Inspectors and restaurant operators in the region. This research will be done through an opinion survey on these respective groups. The data collected is vital for the study, and its usefulness may influence how the online system will be handled in the future.

Participants:

BC Public Health Inspectors and randomly selected restaurant operators over the age of nineteen will be surveyed. Regardless of whether you choose to participate, please let me know if you would like a summary of my findings. To receive a summary please indicate so in the comment section at the end of the questionnaire.

Confidentiality:

All responses are guaranteed to remain confidential and anonymous. No information disclosing you or the restaurant's identity will be released or published without your specific consent to the disclosure. You can withdraw at any time.

Contact Information:
Eric de Castro, BSc.
Phone: 604-275-9567
E-mail: edecastro3@my.bcit.ca

(Weisberg, 1996; Heacock, 2005)

Script:

Surveyor: Hello, May I speak with Mr./Mrs. (name shown in the telephone book)?
(If a child answers and says parents are out, ask his/her age. If the child is over the age of 19, proceed with the survey.)

(For permission and participation)
Surveyor: Hello my name is Eric, I am a student at BCIT in the Environmental Health program. As part of my course work, I am conducting a survey for restaurant operators on the impact of publishing restaurant inspection reports on the Internet. You are invited to participate in this survey that should take about 5 minutes to complete. Your facility was chosen at random from the Vancouver Coastal Health website. All names, places will remain strictly confidential. If you choose would you like to do the survey verbally, through email or another time that is convenient for you? Do you have any questions?

Surveyor: May I continue with the survey?
(If "no"… "Is there a reason I can write down for why you do not wish to participate? … Thank you")

Continue with survey…

Survey:

Determining the Impact of Publishing Inspection Reports Online: Opinion Survey among Public Health Inspectors/Operators"

(Please complete the survey below by double clicking in the appropriate box.)

Age (years):
- ☐ **19-29**
- ☐ **30-39**
- ☐ **40-49**
- ☐ **50-59**
- ☐ **60 or over**

Years in Profession:
- ☐ **0-5**
- ☐ **6-10**
- ☐ **11-15**
- ☐ **16-20**
- ☐ **21 or over**

Highest Level of Education Completed:
- ☐ **Completed grade 8**
- ☐ **Completed high school**
- ☐ **Completed or currently enrolled in vocational training**
- ☐ **Some college/university**
- ☐ **Completed college/university**
- ☐ **Other:"[Specify and type here]"**

1. Do you feel it is important for inspection reports to be posted on the Internet? *(check one)*
   - ☐ **Definitely important**
   - ☐ **Somewhat important**
   - ☐ **Doesn't matter**
   - ☐ **Somewhat unimportant**
   - ☐ **Definitely unimportant**

2. If inspection reports are posted online, would this change how you conduct your inspections or business operations? *(check one)*
   - ☐ **Significant change**
   - ☐ **Moderate change**
   - ☐ **Slight change**
   - ☐ **No change**

3. Are you concerned how the public / media may interpret the reports that appear online? *(check one)*
   - ☐ **Definitely concerned**
   - ☐ **Somewhat concerned**
   - ☐ **Doesn't matter**
   - ☐ **Somewhat unconcerned**
   - ☐ **Doesn't matter**

4. Do you think that posting inspection scores online enables the public to make more informed choices of where to dine/eat in the city? *(check one)*
   - ☐ **Definitely agree**
   - ☐ **Somewhat agree**
   - ☐ **Doesn't matter**
   - ☐ **Somewhat disagree**
   - ☐ **Definitely disagree**

Continued…

5. From your experience, do you find that the public or restaurant operators are aware that restaurant inspection results are posted online in certain locations such as Vancouver, Richmond, North Shore/Coast Garibaldi or Vancouver Island? *(check one)*
   - ☐ **Always**
   - ☐ **Occasionally**
   - ☐ **Rarely**
   - ☐ **Never**
   - ☐ **I don't know**

6. Do you think the public has a right to see this information in this manner? *(check one)*
   - ☐ **Definitely yes**
   - ☐ **Somewhat yes**
   - ☐ **Doesn't matter**
   - ☐ **Somewhat no**
   - ☐ **Definitely no**

7. If there is/was no online restaurant inspection system in your health region, would you support/advocate for one? *(check one)*
   - ☐ **Definitely support/advocate**
   - ☐ **Somewhat support/advocate**
   - ☐ **Doesn't matter**
   - ☐ **Somewhat opposed**
   - ☐ **Definitely opposed**

8. Should other inspected public facilities like pools and food stores (ex. Save-On-Foods, Safeway) have reports posted online as well? *(check one)*
   - ☐ **Definitely yes**
   - ☐ **Somewhat yes**
   - ☐ **Doesn't matter**
   - ☐ **Somewhat no**
   - ☐ **Definitely no**

Please include any additional comments you have in regards to these questions or any related material:

"[Click here and type comment(s)]"

Please save the completed form and re-attach the document to the reply mail:
edecastro3@my.bcit.ca

Thank you for your participation!

Appendix C: Survey Scoring Tally

Survey Scoring Breakdown	Scoring Tally
1. Do you feel it is important for inspection reports to be posted on the Internet? (check one)	
Definitely important	5
Somewhat important	4
Doesn't matter	3
Somewhat unimportant	2
Definitely unimportant	1
2. If inspection reports are posted online, would this change how you conduct your inspections or business operations? (check one)	
Significant change	4
Moderate change	3
Slight change	2
No change	1
3. Are you concerned how the public / media may interpret the reports that appear online? (check one)	
Definitely concerned	5
Somewhat concerned	4
Doesn't matter	3
Somewhat unconcerned	2
Definitely unconcerned	1
4. Do you think that posting inspection scores online enables the public to make more informed choices of where to dine/eat in the city? (check one)	
Definitely agree	5
Somewhat agree	4
Doesn't matter	3
Somewhat disagree	2
Definitely disagree	1

5. From your experience, do you find that the public or restaurant operators are aware that restaurant inspection results are posted online in certain locations such as Vancouver, Richmond, North Shore/Coast Garibaldi or Vancouver Island? (check one)

Always	5
Occasionally	4
Rarely	3
Never	2
I don't know	1

6. Do you think the public has a right to see this information in this manner? (check one)

Definitely yes	5
Somewhat yes	4
Doesn't matter	3
Somewhat no	2
Definitely no	1

7. If there is/was no online restaurant inspection system in your health region, would you support/advocate for one? (check one)

Definitely support/advocate	5
Somewhat support/advocate	4
Doesn't matter	3
Somewhat opposed	2
Definitely opposed	1

8. Should other inspected public facilities like pools and food stores (ex. Save-On-Foods,) have reports posted online as well? (check one)

Definitely yes	5
Somewhat yes	4
Doesn't matter	3
Somewhat no	2
Definitely no	1

Minimum / Maximum Score: **8 / 39**

Appendix D: Correlation/Regression Statistical Analysis

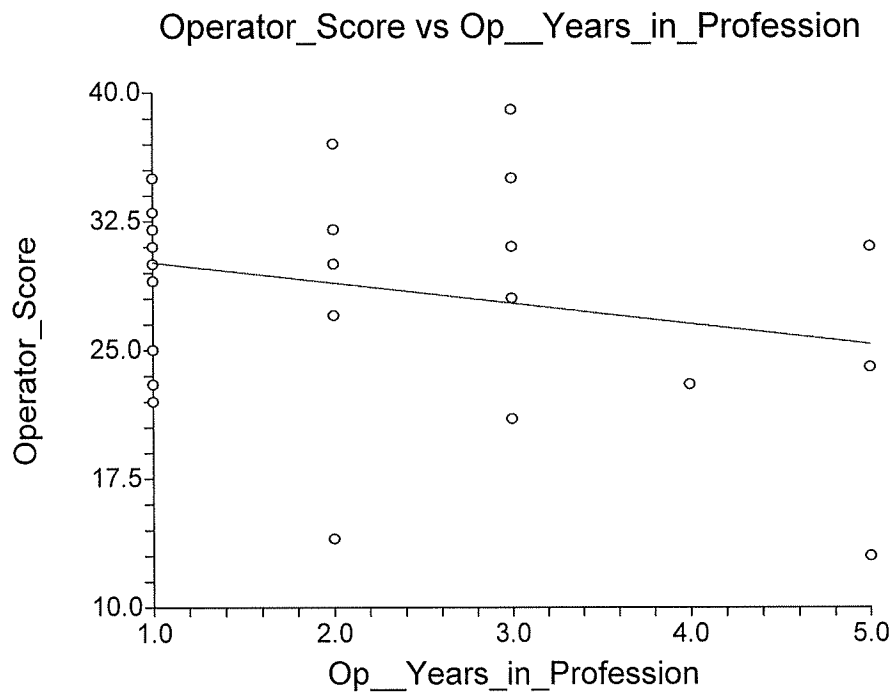
- Operator Scores vs. Years in Profession

Linear Regression Report

Page/Date/Time 1 24/02/2006 3:19:37 PM
Database
Y = Operator_Score X = Op__Years_in_Profession

Linear Regression Plot Section

Operator Score = (-1.18) * (Years in Profession) + (31.26)



Run Summary Section

Parameter	Value	Parameter	Value
Dependent Variable	Operator_Score	Rows Processed	138
Independent Variable	Op__Years_in_Profession	Rows Used in Estimation	33
Frequency Variable	None	Rows with X Missing	105
Weight Variable	None	Rows with Freq Missing	0
Intercept	31.2698	Rows Prediction Only	0
Slope	-1.1879	Sum of Frequencies	33
R-Squared	0.0884	Sum of Weights	33.0000
Correlation	-0.2974	Coefficient of Variation	0.1975
Mean Square Error	31.93031	Square Root of MSE	5.650692

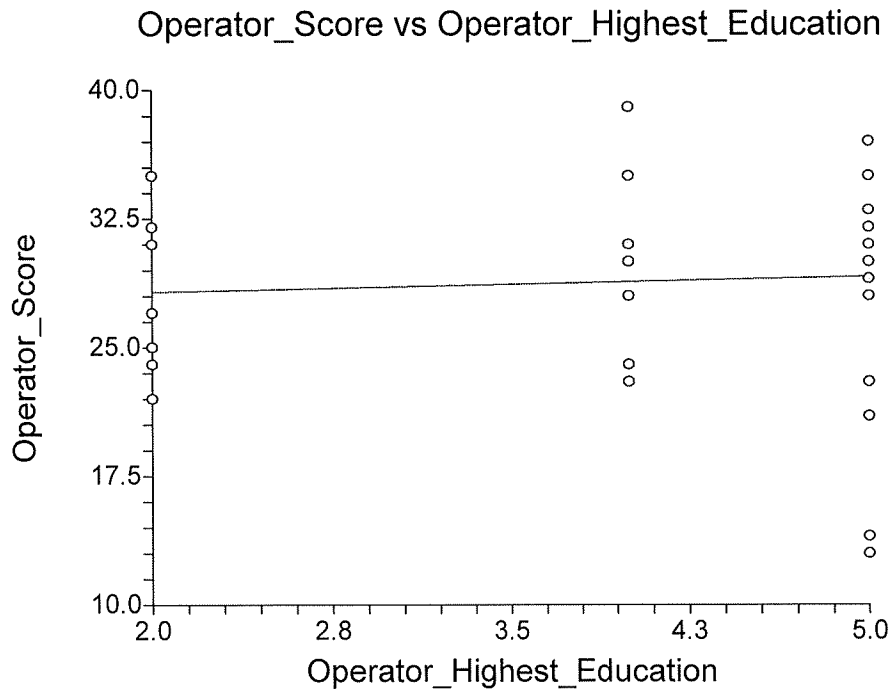
- Operator Scores vs. Highest level of Education

Linear Regression Report

Page/Date/Time 1 24/02/2006 3:36:05 PM
Database
Y = Operator_Score X = Operator_Highest_Education

Linear Regression Plot Section

Operator Score = (0.30) * (Operator Highest Education) + (27.60)



Run Summary Section

Parameter	Value	Parameter	Value
Dependent Variable	Operator_Score	Rows Processed	138
Independent Variable	Operator_Highest_Education		Rows Used in
Estimation	34		
Frequency Variable	None	Rows with X Missing	104
Weight Variable	None	Rows with Freq Missing	0
Intercept	27.6087	Rows Prediction Only	0
Slope	0.3043	Sum of Frequencies	34
R-Squared	0.0041	Sum of Weights	34.0000
Correlation	0.0638	Coefficient of Variation	0.2077
Mean Square Error	35.92391	Square Root of MSE	5.993656

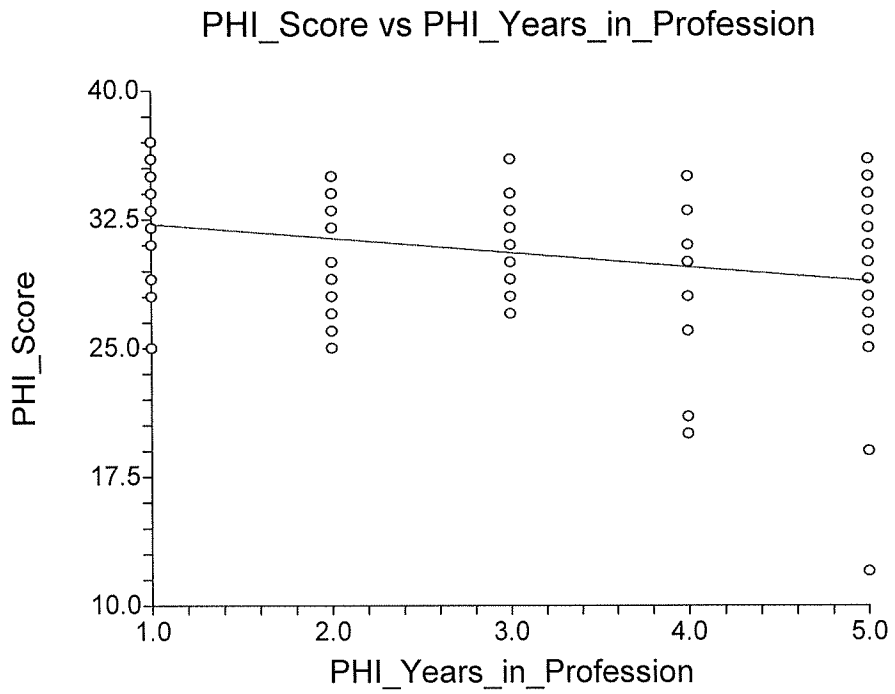
- PHI Scores vs. Years in Profession

Linear Regression Report

Page/Date/Time 1 24/02/2006 3:53:53 PM
Database
Y = PHI_Score X = PHI_Years_in_Profession

Linear Regression Plot Section

PHI Survey Score = (-0.83) * (PHI Years in Profession) + (33.05)



Run Summary Section

Parameter	Value	Parameter	Value
Dependent Variable	PHI_Score	Rows Processed	138
Independent Variable	PHI_Years_in_Profession	Rows Used in Estimation	93
Frequency Variable	None	Rows with X Missing	45
Weight Variable	None	Rows with Freq Missing	0
Intercept	33.0557	Rows Prediction Only	0
Slope	-0.8364	Sum of Frequencies	93
R-Squared	0.1018	Sum of Weights	93.0000
Correlation	-0.3190	Coefficient of Variation	0.1307
Mean Square Error	15.9422	Square Root of MSE	3.992769

Appendix E: Two Sample Test Analysis: PHI and Restaurant Operator Survey Scores

- T-Test Overall: Operator and PHI Scores

Two-Sample Test Report

Page/Date/Time 1 24/02/2006 2:51:29 PM
Database
Variable Survey_Score

Descriptive Statistics Section

Variable	Count	Mean	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
Operator_PHI=1	34	28.85294	5.914196	1.014276	26.78938	30.9165
Operator_PHI=2	104	30.57692	4.107044	0.4027288	29.77821	31.37564

Note: T-alpha (Operator_PHI=1) = 2.0345, T-alpha (Operator_PHI=2) = 1.9833

Confidence-Limits of Difference Section

Variance Assumption	DF	Mean Difference	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
Equal	136	-1.723982	4.611087	0.9109337	-3.525409	7.744487E-02
Unequal	43.88	-1.723982	7.200384	1.091305	-3.923538	0.4755744

Note: T-alpha (Equal) = 1.9776, T-alpha (Unequal) = 2.0155

Equal-Variance T-Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
Difference <> 0	-1.8925	0.060544	Accept Ho	0.467866	0.240002
Difference < 0	-1.8925	0.030272	Reject Ho	0.594162	0.325415
Difference > 0	-1.8925	0.969728	Accept Ho	0.000209	0.000013

Difference: (Operator_PHI=1)-(Operator_PHI=2)

Aspin-Welch Unequal-Variance Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
Difference <> 0	-1.5797	0.121349	Accept Ho	0.339388	0.145701
Difference < 0	-1.5797	0.060674	Accept Ho	0.464333	0.213309
Difference > 0	-1.5797	0.939326	Accept Ho	0.000686	0.000057

Difference: (Operator_PHI=1)-(Operator_PHI=2)

Tests of Assumptions Section

Assumption	Value	Probability	Decision(5%)
Skewness Normality (Operator_PHI=1)	-2.1339	0.032853	Reject normality
Kurtosis Normality (Operator_PHI=1)	1.3319	0.182905	Cannot reject normality
Omnibus Normality (Operator_PHI=1)	6.3273	0.042271	Reject normality
Skewness Normality (Operator_PHI=2)	-5.2419	0.000000	Reject normality
Kurtosis Normality (Operator_PHI=2)	3.9129	0.000091	Reject normality
Omnibus Normality (Operator_PHI=2)	42.7890	0.000000	Reject normality
Variance-Ratio Equal-Variance Test	2.0736	0.005765	Reject equal variances
Modified-Levene Equal-Variance Test	4.5934	0.033874	Reject equal variances

Two-Sample Test Report
Page/Date/Time 2 24/02/2006 2:51:29 PM
Database
Variable Survey_Score

Median Statistics

Variable	Count	Median	95% LCL of Median	95% UCL of Median
Operator_PHI=1	34	30	27	31
Operator_PHI=2	104	31	30	32

Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

Variable	Mann Whitney U	W Sum Ranks	Mean of W	Std Dev of W
Operator_PHI=1	1448.5	2043.5	2363	201.6471
Operator_PHI=2	2087.5	7547.5	7228	201.6471

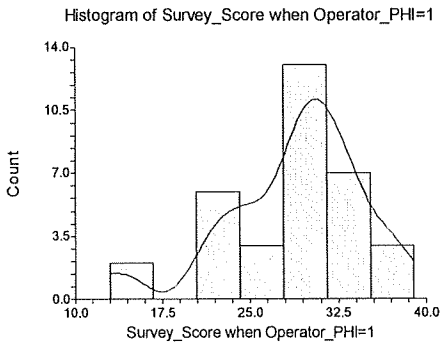
Number Sets of Ties = 18, Multiplicity Factor = 19062

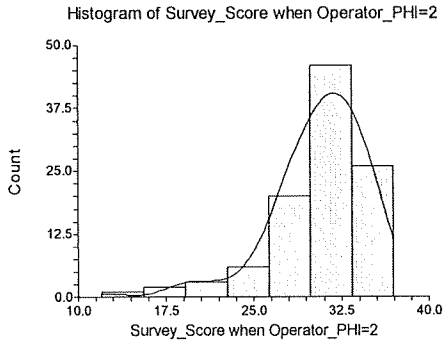
Alternative Hypothesis	Exact Probability Prob Level	Exact Probability Decision (5%)	Approximation Without Correction Z-Value	Approximation Without Correction Prob Level	Approximation Without Correction Decision (5%)	Approximation With Correctio Z-Value	Approximation With Correctio Prob Level	Approximation With Correctio Decision (5%)
Diff<>0			-1.5845	0.113091	Accept Ho	-1.5820	0.113656	Accept Ho
Diff<0			-1.5845	0.056546	Accept Ho	-1.5820	0.056828	Accept Ho
Diff>0			-1.5845	0.943454	Accept Ho	-1.5869	0.943736	Accept Ho

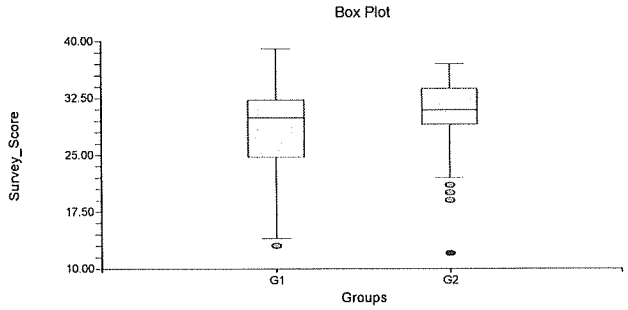
Kolmogorov-Smirnov Test For Different Distributions

Alternative Hypothesis	Dmn Criterion Value	Reject Ho if Greater Than	Test Alpha Level	Decision (Test Alpha)	Prob Level
D(1)<>D(2)	0.178167	0.2687	.050	Accept Ho	0.3444
D(1)<D(2)	0.178167	0.2687	.025	Accept Ho	
D(1)>D(2)	0.078620	0.2687	.025	Accept Ho	

Plots Section







G1= Restaurant Operator Scores
G2= PHI Scores

Appendix F: PHI Health Region Two Sample Test Analysis: Reports Online (VCH, VIHA) versus No Reports Online (Fraser, Interior, Northern Health)

Two-Sample Test Report
Page/Date/Time 1 04/03/2006 12:11:49 PM
Database
Variable Survey_Score

Descriptive Statistics Section

Variable	Count	Mean	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
Yes_No_Online=1	33	32.12121	2.814667	0.4899706	31.12317	33.11925
Yes_No_Online=2	71	29.85916	4.421686	0.5247576	28.81256	30.90575

Note: T-alpha (Yes_Online_No_Online=1) = 2.0369, T-alpha (Yes_Online_No_Online=2) = 1.9944

Confidence-Limits of Difference Section

Variance Assumption	DF	Mean Difference	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
Equal	102	2.262057	3.987857	0.8401757	0.5955725	3.928542
Unequal	92.11	2.262057	5.241532	0.7179427	0.836184	3.68793

Note: T-alpha (Equal) = 1.9835, T-alpha (Unequal) = 1.9861

Equal-Variance T-Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
Difference <> 0	2.6924	0.008294	Reject Ho	0.760209	0.528998
Difference < 0	2.6924	0.995853	Accept Ho	0.000008	0.000000
Difference > 0	2.6924	0.004147	Reject Ho	0.848397	0.629394

Difference: (Yes_Online_No_Online=1)-(Yes_Online_No_Online=2)

Aspin-Welch Unequal-Variance Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
Difference <> 0	3.1507	0.002197	Reject Ho	0.876521	0.697794
Difference < 0	3.1507	0.998902	Accept Ho	0.000001	0.000000
Difference > 0	3.1507	0.001098	Reject Ho	0.930913	0.781704

Difference: (Yes_Online_No_Online=1)-(Yes_Online_No_Online=2)

Tests of Assumptions Section

Assumption	Value	Probability	Decision(5%)
Skewness Normality (Yes_Online_No_Online=1)		-1.1481	0.250919 Cannot reject normality
Kurtosis Normality (Yes_Online_No_Online=1)		-0.1847	0.853461 Cannot reject normality
Omnibus Normality (Yes_Online_No_Online=1)		1.3523	0.508572 Cannot reject normality
Skewness Normality (Yes_Online_No_Online=2)		-4.4020	0.000011 Reject normality
Kurtosis Normality (Yes_Online_No_Online=2)		3.1995	0.001377 Reject normality
Omnibus Normality (Yes_Online_No_Online=2)		29.6144	0.000000 Reject normality
Variance-Ratio Equal-Variance Test	2.4679	0.005988	Reject equal variances
Modified-Levene Equal-Variance Test	1.9925	0.161118	Cannot reject equal variances

Two-Sample Test Report
Page/Date/Time 2 04/03/2006 12:11:49 PM
Database
Variable Survey_Score

Median Statistics

Variable	Count	Median	95% LCL of Median	95% UCL of Median
Yes_Online_No_Online=1	33	33	30	34
Yes_Online_No_Online=2	71	31	29	32

Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

Variable	Mann Whitney U	W Sum Ranks	Mean of W	Std Dev of W
Yes_Online_No_Online=1	1535.5	2096.5	1732.5	142.5219
Yes_Online_No_Online=2	807.5	3363.5	3727.5	142.5219

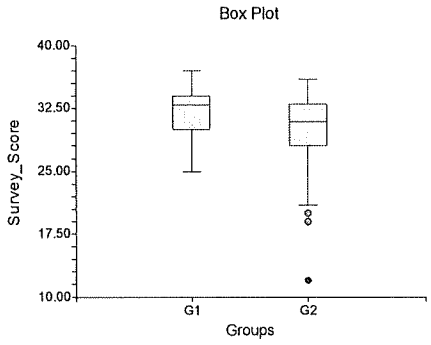
Number Sets of Ties = 13, Multiplicity Factor = 10356

	Exact Probability		Approximation Without Correction			Approximation With Correctio		
Alternative Hypothesis	Prob Level	Decision (5%)	Z-Value	Prob Level	Decision (5%)	Z-Value	Prob Level	Decision (5%)
Diff<>0			2.5540	0.010650	Reject Ho	2.5505	0.010757	Reject Ho
Diff<0			2.5540	0.994675	Accept Ho	2.5575	0.994729	Accept Ho
Diff>0			2.5540	0.005325	Reject Ho	2.5505	0.005379	Reject Ho

Kolmogorov-Smirnov Test For Different Distributions

Alternative Hypothesis	Dmn Criterion Value	Reject Ho if Greater Than	Test Alpha Level	Decision (Test Alpha)	Prob Level
D(1)<>D(2)	0.263764	0.2865	.050	Accept Ho	0.0697
D(1)<D(2)	0.000000	0.2865	.025	Accept Ho	
D(1)>D(2)	0.263764	0.2865	.025	Accept Ho	

Plots Section



G1= VCH, VIHA
G2= Fraser, Interior, Northern Health

Appendix G: Comments Submitted

Respondent #	Comments Submitted
Operator Respondent #	
Operator 2	The main concern is how reports are being interpreted by the public. For example if an entire building was infested with rodents and the restaurant just happened to be attached would the onus be on the restaurant only?
Operator 3	Harmful to post it online, question 1 can be interpreted as negative but still important, food inspections on the newspaper-very harmful, interpretations, be very specific, given warning, follow-up inspections
Operator 5	Posting online is a good idea, the public has right to know, but this info should be made more common knowledge I believe half the restaurants don't know it's posted online.
Operator 8	Online reporting is okay as long as its user friendly and if all risks (high or low are disclosed), facilities should be given the opportunity to get better, but the health units should correct any deficiencies they have found in facilities
Operator 11	The biggest concern is public interpretation, they don't know what to make of the reports
Operator 13	Definitely see the value in the online inspection system- valuable info that is informative to the public who want to know about the place where they eat.
Operator 14	Not everyone has a computer people are put in a disadvantage, I like the fact that closures or restaurants closed are put in the media and those places are shut down
Operator 18	Concerned with public interpretation of reports, only serious health hazards should be reported not small whimsical things.
Operator 21	I understand and abide by the Haelth Act and follow the rules and regulations. I just oppose the posting on the web, since the information could be misinterpreted and be costly to the businesses.
Operator 22	Yes, I think posting online is a valuable service. I've had instances where I found many problems in food stores and restaurants. For example products expired, bugs in my food. I find word of mouth does a lot and posting online will help spread the word. I find that not many people utilize it because they don't know about it. Health authorities should print out the inspections yearly in some sort of booklet and have it for the interested public. Health authorities should publicize those eateries where they break the rules continuously so that more people know.
Operator 23	As long as the inspection reports are consistent and qualitative so there's lesser subjectivity between inspectors
Operator 24	If you post the restaurants that have bad inspection reports the ones that are always clean and sanitary should also be acknowledged.
Operator 28	Online reports are great. However, I strongly recommend that a proper explanation. Is giving with the reports including follow-ups.
Operator 31	Best reason for: a lot of restaurants don't take food safety seriously this is another compliance measure to keep those shoddy places in check through more exposure to force lesser complying places to clean up their act
Operator 32	I don't think most people (public) are aware of the postings on line. Personally I'm afraid to look at the reports of the places I eat, and would rather not know. This decision made after looking at the reports once. While I don't think the postings have a great effect on people's choices, I

	do think it may help keep food facilities in line. I think that any place which follows health standards and is inspected should be posted along with restaurants.
PHI Respondent #	
PHI 1	Further to question #3 in your survey, I think there will always be someone in the public who may have a different interpretation of inspection reports as opposed to an inspector's view. Sometimes an inspector may view a certain issue as a "low risk" matter, but from the public's point of view, some may see that same issue as having a higher risk. I believe most inspectors are aware of the differing perceptions in their day-to-day work. Media outlets for the most part are pretty good about disseminating the information we provide to them. However, sometimes the media's interpretation can be somewhat misleading if the news story is "sensationalized" to attract a viewer's attention. Therefore, there are two things that need to be kept in mind: 1. Inspectors should try to be as objective as possible in their reports and also aim to produce reports that attempt to provide the "entire picture" of what s/he saw during the inspection. 2. The public/media need to be made aware that the reports/ratings posted on websites are for FYI purposes only, and that different interpretations will exist. If anyone wishes for any clarification they need to contact their local health office. Lastly, I strongly support the idea of posting inspection reports/ratings of other facilities that are routinely inspected by public health inspectors. With changes in how facilities are operated these days and continued research we are finding more and more health concerns with the other facilities (i.e. grocery stores, personal service establishments, and recreational water facilities).
PHI 2	I believe that posting inspection reports online will be a big driving factor for increasing compliance with the regulations. I support this whole heartedly... but there has to be a discussion on what needs to be included in an online inspection data as public may not be able to interpret some of the comments/contents in a report.
PHI 4	The amount of disclosed information is also a key factor i.e. VCH posts comments (good and bad) as well as critical / non-critical violations. FHA, which is going live Feb/March '06, is going to post only violations and the overall hazard rating. Positive comments will not be posted on-line. This may result in the reader not fully understanding a facilities operation. FHA has decided to take this approach to standardize reporting i.e. some people write positive comments (or more detailed reports), while some inspectors do not.
PHI 9	Although inspection results should be posted, it is important that the information provided to the public is as accurate to minimize any misunderstandings.
PHI 13	Fulfills public's right to access to inspection records; initial flurry of interest from the public, but after a while very little public interest.
PHI 20	I have found that posting inspection results causes operators to correct deficiencies in a more timely fashion and request a re-inspection. With regards to the public, inspection results can be misleading, as the public do not know how to interpret some of the data.
PHI 22	Health Units need to do a better job of informing the public that records posted on line and that they are able to obtain inspection reports through FOI. It is a good tool for compliance.

PHI 23	In my opinion, posting of reports is a way to show that the Health Units are being accountable (money is being spent properly), and so the public has easier access to the info. I don't think the posting of reports improves or changes the way operators will/are running their premises. The well run premises will continue to do so, and the poorly run premises will frantically try to clean up the premises while the inspector conducts the inspection. Operators with bad habits and attitude towards food safety will not change just because reports are posted for the public to see. I also believe the public doesn't access the website as much as everyone thinks. I believe the only people that use it to help determine if they will eat at the restaurant are health inspectors as they know how to interpret the reports, make an informed decision, and actually follow through with their choice of eating at the premises or not. In short, I am NOT against the posting of inspection reports, but I do believe that it DOESN'T change food operator's habits and attitudes related to food safety, and the public doesn't use the info. in the reports to help them make a decision to eat at the restaurants.
PHI 26	I believe that this is just another tool and is only available to a group of the population that has access to the internet. It's a good thing!
PHI 27	Information from inspection reports (not scores) is manually entered into the computer program. This allows for misinterpreted data, information that should not have been posted in the first place, etc. A major concern for any organization posting data on the web. Clerical errors happen daily. A system to reduce these errors should be reviewed to have a standardized set of information for posting.
PHI 28	Is there a different questionnaire that you have given to health authorities who have inspections posted on the web? I hope so, because I don't see how the questions above support the purpose of your research (impact of publishing restaurant inspection reports on the Internet). Could be an interesting project if you've managed to determine whether or not conditions in restaurants have improved (i.e. fewer critical violations, fewer repeat violations, lower hazard ratings, higher perceived voluntary compliance etc) since internet posting started.
PHI 33	Rather than having the whole inspection report posted it will be useful to just assign scores or ranks to each restaurant/pool/salon and post the scores. This way the possibility of misinterpretation by the public and media is considerably reduced and the operators will strive to achieve a better rank/score rather than being put in a tight spot at all times.
PHI 34	I believe that all facilities that are inspected on a routine basis should be online – this way the public can make much more informed choice.
PHI 37	I like having restaurant reports online and have gotten one or two calls from public asking questions about specific reports or inspection frequency. The biggest change for me has been: my spelling and presentation has improved knowing that public will get the same report. I still find restaurant operators that do not know that their results are posted.
PHI 39	I find the inspection web postings to be quite handy when responding to media enquiries.
PHI 40	The biggest concern is misinterpretation by the public. of concerns noted in the inspection report. Most people would not realize the risks associated with a potential cross-contamination are likely higher than the evidence of mouse droppings in a dry storage area, although this issue noted on an inspection form would likely get higher attention by a layperson. There is also the fact that there is a greater chance of finding an issue in a large facility than a smaller one however 1 cooler slightly out of temp. range out of 10 in a large facility may be of a lesser risk than 1 out of 2 present in a smaller facility.

PHI 41	It is the public's right to know how these public facilities are being run for the eyes of an experienced professional. Transparency in this type of government function is essential.
PHI 42	The posting of inspection information to the web has brought about at least two other improvements – better consistency in how we report our inspection findings (the information system does this) and it provides the operator with a greater incentive to correct deficiencies in a hurry so they can "cancel out" the poor reports.
PHI 46	The hazard rating is not posted on the web site (#4). There is no consistency with inspection reporting – all areas different, subjective reporting by inspector.
PHI 47	Posting inspections on the web is one of the tools the public can use to make an informed decision. It is critical to ensure the information is presented in a similar manner; the use of scores as mentioned in one of the questions can have a wide meaning.
PHI 49	My main reservation about the posting of restaurant inspections stem from the potential for the results to be interpreted incorrectly. In addition to the potential for the public to misinterpret the reports that are posted, only the three most recent routine or follow-up inspections are posted. The lack of additional reports that can add to the overall picture of the restaurant from a historical perspective furthers the likelihood that the public may get the wrong impression of a restaurant (whether good or bad).
PHI 50	It's a public service and the public has a right to make an informed decision as to where to shop and eat.
PHI 52	In order to gauge the success of online reporting, you need to also consider responses from the general public, as they are the end users of the information.
PHI 54	There is some concern as to how the public would interpret the results due to ignorance in proper food handling practices. For example, an establishment might be spotlessly clean, but have very poor food handling knowledge. I'm not so sure that the inspection reports capture this clearly enough for the public to interpret. That is, many issues that PHI's intuitively know are greater hazard the public wouldn't know. This way the inspection reports may not clearly communicate the risk to the public. It may be best for the Health Authorities to post risk ratings – high, med & low, etc. That is, interpret the Inspection Reports for the public. Although, ultimately, I believe all the information is public.
PHI 56	The greatest concern with the public viewing inspection reports or even summarized contents is that the information will often be taken out of context by those with no experience in risk assessment.
PHI 57	Posting on the internet is only useful if inspections are done about twice per year and if the inspection report data is entered within a week or two
PHI 60	I think that the public needs good information on how to interpret the inspection reports that they see on-line. There needs to be adequate staffing to provide timely inspections should the system come into place. I think that it would provide better incentive for compliance than we have now.
PHI 62	My concern with posting of inspection reports is the ability of the organization and individual PHI to conduct follow-up inspections in a timely manner. On the other hand this could in turn also be used as an inspection scheduling tool. Perhaps easier for a municipal health department to use than a rural health department due to nature of the work.
PHI 65	"Restaurant inspections performed by a single observer are difficult to standardize and easily influenced by subjective interpretation. Further

	analyses can be performed that examine the variation in scores on the basis of such things as demographic characteristics of inspectors and time since last standardized training; these analyses can also be done prospective studies of interobserver variability at the same establishments." http://www.cdc.gov/ncidod/EID/vol10no4/03-0343.htm
PHI 66	I do not think the reports should be posted on-line, as the public is not trained in their interpretation. I would suggest posting a score or an overall risk rating on line. I think all the public really needs to know is, is the facility a high, medium or low risk facility.
PHI 67	For the sake of "equal treatment" if restaurants are posted then all other facilities should be posted as well.
PHI 71	The population of the city that I am in is (relatively small) and we are the hub city meaning we have all of the box stores for the area; Superstore, Wal-Mart etc... In a large city this would possibly be important but then people in the big city don't have the time to research restaurant inspection report prior to going out for supper. The public will always have their favorite restaurants and a bad report will not stop them from going to that restaurant. What exactly is the bad report going to say anyway, that potentially hazardous food is being stored at 6 degrees C and should be 4 degrees C, what is that telling the public besides almost nothing. I really do not think that posting restaurant inspections on the internet is that important, unless it is a super bad one and in that case, the restaurant would possibly be closed anyway. Who is going to post the inspections on the internet anyway because we and most other health agencies do not have the resources to do this? I have (a lot of Food operations, swimming pool places...)
PHI 72	Media except advertising revenue from the food industry and thus are in a conflict of interest. Public do have the right to know however that can be achieved by routine FOI requests and does not have to be by web posting as it happens rarely.
PHI 73	It is important that as much subjectivity as possible be removed from the reports that go online.
PHI 74	One of the concerns with they system is the interpretation by the public. Often what professionals consider health hazards vs. the public are different. I think posting inspections is a tool which can be used by health authorities but in fairness to operators, inspection frequencies and follow ups must be carried out in a timely manner which may challenge some areas especially those with very large districts and travel.
PHI 79	You should have given us a choice in the type of information / style of report put online. This may have given you more rich data
PHI 83	In advance of receiving your survey I would like to point out that the effectiveness of on line publishing (where I work) is limited, if we want to truly publish the scores get the newspapers involved. I firmly believe that the type of public scoring in Toronto would be more effective. I like the large public display at each restaurant indicating their hazard rating and think it would have a very significant effect on each facility. This type of display at each facility would force the facilities who like to walk the line between acceptable and good, to do a better job. Unfortunately we might need a fee schedule for additional inspections to make this type of system economically viable. I understand that most health units do not have enough inspectors to facilitate the number of inspections this might require. I am of the position that all information is good information, but getting people to read information is another problem. The internet is an excellent tool for passing information, but if you do not bombard the consumer with

	access data, there is little chance they will bother to read the data. Each geographical area has it own idiosyncrasies; in my area the results of inspections are published. They have had very little effect on where consumers eat. I believe that the public in many areas are a little complacent. If the Health inspection had to be posted In plain sight in the food premises, where the public could read on each visit to the premises, it might be read. I also like the idea of Posting the hazard rating in the front window or main door of the food premises.
PHI 85	Inspections are posted (in our health region) but here it is not very well advertised that these inspections are posted. The public and even most operators are not aware that these inspections go up on the web. It is nice that the public can see the results and it is also good because we can use it as an incentive for restaurants to keep a safer kitchen. Internet inspections don't really change how we do our inspections or what we tell the operators, but how we write up the report. Any comments we do not want the public to see are entered as a note to file or in a section that does not go to the public.
PHI 86	Only concern is that staffing does not always allow sufficient frequency of inspections. This could make it so that the info provided on the website is very out of date.
PHI 88	The Health Authority that I work for has a web site that allows the public to view the inspection reports online. This has had a beneficial effect by highlighting the premises with poor inspection records, and having a more informed consumer has lead to a positive response from the restaurant owners.
PHI 91	This service is currently being expanded to include all of Vancouver Island. This has been a positive tool for dissemination of info to the public, enhanced accountability of PHI's in regards to their inspection schedules, consistency of inspection reports, and enhanced compliance from premises operators. Also reduced FOI requests and the associated costs in human resources for the health authority.
PHI 92	I have found that when operators know our intent is to post inspections to the Web they comply much more quickly with our inspection comments/violation. They do not like the idea of their premises being posted as moderate or high and want to have the hazard reduced as soon as possible. (Inspectors) have not significantly changed the way they do their inspections although they pay some attention to ensure the facts are clearly stated without using overly sensational wording as the media does publish their findings routinely and will embellish some statements. Also we don't want to unintentionally damage the reputation of a business by tipping businesses off on up coming renovations or unfounded food borne illness complaints. Now that they are going to be posted EHO's are more aware to pay attention to the way sentences read to the public so that they make sense and are clear.
PHI 93	It has influenced the way that I write reports. I am interested to see if there will be an improvement in the marginal premises. Perhaps that topic might be examined in your next project.
PHI 95	Question # 2 should be expanded to ask if the recording of inspections would change. I.e. would the inspector record their observations differently knowing it would appear on the web?
PHI 100	On-line inspection reports are only slightly effective as a deterrent to operators and as an effective means of communicating to the Public. If our goal is to inform the Public of the conditions & violations related to particular premises, it would be much more effective to have a posting at the entrance to the facility. Such as an "A, B, C, or D" rating, or a "Good, satisfactory, unsatisfactory" rating; and these postings could have a

	reference cited on them to a specific website for further information. This way it would be a much better tool for PHIs and for informing the Public. The operator would be much more willing to cooperate to avoid more than a perfect rating for posting at their entrance, and the Public would be immediate aware of possible conditions/violations in the premises which they could investigate further on the clearly identified website which should be clearly marked on the posting at the entrance to the premises. As it stands now, the website postings are fairly useless as a deterrent to operators or as a means of informing the Public; most of the Public is unaware of the website or to inconvenienced to look it up, and the operators are aware of this situation.
PHI 101	It would have been interesting to find out if inspectors felt that there was a greater level of compliance once reports were posted online.
PHI 102	I find that the public doesn't interpret the information and inspector comments the same way that someone trained in this field would interpret it. The public doesn't always understand the finer points of disease control and proper food handling and would be more put out by a finding of a dirty floor than by a finding of severe temperature abuse because they don't always understand the implications of such. Having said that, it is important that the public have access to this information but they must also be guided to know what that information means.
PHI 103	REGARDING QUESTION #8, I WOULD SAY "DEFINITELY YES" FOR FOOD STORES BUT MY ANSWER WOULD BE DIFFERENT FOR POOLS