

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	A Descriptive Analysis of Notifiable Gastrointestinal Illness in the Northwest Territories, Canada, 1991-2008
AUTHORS	Aliya Pardhan-Ali, Jeff Wilson, Victoria L. Edge, Chris Furgal, Richard Reid-Smith, Maria Santos and Scott A. McEwen

VERSION 1 - REVIEW

REVIEWER	Song Liang, PhD Assistant Professor College of Public Health The Ohio State University
REVIEW RETURNED	23/02/2012

THE STUDY	The authors aim to describe demographical characteristics, temporal and spatial distribution and risk factors of reported enteric, food- and waterborne diseases. However, this very simple descriptive analysis is not sufficient to address the research questions. The reviewer would suggest to add further spatial and temporal analyses based on the available data.
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REVIEWER	Marsha Taylor Epidemiologist BC Centre for Disease Control Canada
REVIEW RETURNED	05/03/2012

RESULTS & CONCLUSIONS	Further work to strengthen the format of the results and review of the discussion and conclusions would strengthen the interpretation, conclusions and main messages.
GENERAL COMMENTS	<p>Thank you for the opportunity to read, review and provide feedback on this interesting paper. Please see further comments/suggestions attached for your consideration.</p> <p>Overall this is a good epidemiological review focussed on a single territory and their notifiable enteric disease data. The authors have presented information on basic demographic features. In order to strengthen this current manuscript I would recommend using the discussion to highlight issues more specific to the population of the NWT in greater detail and how this initial work could make improvements to further surveillance and research in this area.</p> <p>Abstract/key messages:</p> <p>1. In the abstract you indicate higher increased risk in late summer/fall but in key messages (and paper) you indicate seasonal peaks in spring and fall months. Please clarify and ensure consistent</p>

messaging.

Background:

1. In the first few sentences you lead into the fact that the population of the NWT (specifically Aboriginal) may engage in tradition activities but the way they are currently described does not appear unique. Is it possible to provide more specific examples of the harvesting, processing, consumption, economic, dietary issues that this population faces?

Data sources:

2. The diseases are listed in the tables but it might be easier for the reader to have them presented/listed in the first paragraph of the data sources as a reference point.

3. In the procedures for notification: what is the definition of symptomatic presentation? Is there a standard practice? Is it a number of symptoms, a single symptom? Does the practitioner have discretion on what is sent for testing or are their standard guidelines? If there are guidelines for testing please state; if there are not then the procedures may be consistent but the variation from practitioner to practitioner may be significant which may warrant further discussion.

4. Is the illness investigation form entered into the disease registry or is this information maintained only on paper forms and required you to re-enter or extract it from another system?

Results:

1. What were the cases of illness for "food poisoning"? Typically a term like this would suggest that no known agent was identified but it is not missing data according to Table 1. If the pathogen is known is there a reason why they were not included under the appropriate pathogen for analysis vs. a general category?

2. In the incidence over time graph there is a large spike in NGI in 2001 and incidence drops after that and remains low. I expected a comment on this in the discussion. Was there a change that lead to this decrease?

3. You state the highest rates for each disease by age group but do not present the incidence in the other age ranges. It is hard to assess how much higher the rates were for the age groups you have specified. Is there a way to provide an indication of the magnitude?

4. For the description of incidence by geography I wonder if there is an easier way to present this data to help inform the reader. I naturally wanted to determine if there were any that were consistently high or low and ended up making a table for myself. You have shown NGI in Figure 3, did you consider visually representing the other diseases?

Discussion:

1. Is there a reason why you compared this data to ON and BC? This reason for comparison could be stated in the methods.

2. Ideally I would like for more of the discussion to focus on what your findings mean for this unique population. For *Salmonella*, *Giardia* and *Campylobacter* you spend time discussing each pathogen and findings separately but it reads somewhat repetitive at times and it would be interesting for the readers to also have comment on the impacts and specific risks or consideration for the population of the NWT.

3. Some studies in other jurisdictions have also identified higher rates of enteric illness in urban settings. Some hypothesis of this has been due to travel related illness. Did you explore either of these or would the inclusion of travel have any impact on your findings?

4. On page 11 you state that higher disease rates could be an artefact of differential reporting or data collection. In the methods you state the procedure was consistent over time. Are you

	<p>suggesting changes between areas/practitioners vs. time please clarify?</p> <p>5. On page 13 you note lack of protective immunity related to age differences. Could you include a reference for this or expand on this further?</p> <p>6. You state the limitation related to suspected source. Do you have any recommendations on how this data could be improved or should this data be used for analysis?</p> <p>7. Do you have any other recommendations (more specific) about how this data could be improved or used? Did this analysis lead to any changes in surveillance in the NWT? Was this data used for any further programs or shared with the community?</p> <p>Overall:</p> <p>5. Throughout the paper you switch between “notifiable gastrointestinal illness (NGI) and “cases of enteric, food- and waterborne diseases”. I recommend you select one of these terms and use it consistently throughout the manuscript. If they are 2 distinct terms then they should be clearly defined previously to using the terms.</p>
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VERSION 1 – AUTHOR RESPONSE

APA: I have used line numbers and track changes in the document.

Reviewer: Song Liang, PhD
Assistant Professor
College of Public Health
The Ohio State University

The authors aim to describe demographical characteristics, temporal and spatial distribution and risk factors of reported enteric, food- and waterborne diseases. However, this very simple descriptive analysis is not sufficient to address the research questions. The reviewer would suggest to add further spatial and temporal analyses based on the available data.

APA: I agree with you. This article does not fully address the research question; therefore, I have revised my research question as well as the objectives (Please see lines 22-23, 55-57 and 117-122) so that it accurately reflects the contents of the paper. The aim of this paper was to provide an overview of the major characteristics of NGI over the 18 years. I have done a very technical paper on spatial, temporal and spatio-temporal analysis but I have submitted it to the International Journal of Health Geographics. However, I have added to the results (Please see Table 2, Figures 5,6 and 7) and expanded on the discussion (Please see lines 235-258, 267-271, 349-365, and 375-401) to strengthen the interpretation and conclusions (also suggested by Reviewer 2).

Reviewer: 2

Abstract/key messages:

1. In the abstract you indicate higher increased risk in late summer/fall but in key messages (and paper) you indicate seasonal peaks in spring and fall months. Please clarify and ensure consistent messaging.

APA: It is seasonal peaks. Please see corrections in lines 33-34.

Background:

1. In the first few sentences you lead into the fact that the population of the NWT (specifically Aboriginal) may engage in tradition activities but the way they are currently described does not appear unique. Is it possible to provide more specific examples of the harvesting, processing, consumption, economic, dietary issues that this population faces?

APA: Please see lines 79-106.

Data sources:

2. The diseases are listed in the tables but it might be easier for the reader to have them presented/listed in the first paragraph of the data sources as a reference point.

APA: Please see lines 135-139.

3. In the procedures for notification: what is the definition of symptomatic presentation? Is there a standard practice? Is it a number of symptoms, a single symptom? Does the practitioner have discretion on what is sent for testing or are their standard guidelines? If there are guidelines for testing please state; if there are not then the procedures may be consistent but the variation from practitioner to practitioner may be significant which may warrant further discussion.

APA: Please see lines 142-145.

4. Is the illness investigation form entered into the disease registry or is this information maintained only on paper forms and required you to re-enter or extract it from another system?

APA: Please see lines 152-156.

Results:

1. What were the cases of illness for "food poisoning"? Typically a term like this would suggest that no known agent was identified but it is not missing data according to Table 1. If the pathogen is known is there a reason why they were not included under the appropriate pathogen for analysis vs. a general category?

APA: Food poisoning includes 5 cases of clostridium and 5 cases of bacillus. Infections from these agents are not notifiable in NWT unless they are from food poisoning. I have added a footnote in Table 1.

2. In the incidence over time graph there is a large spike in NGI in 2001 and incidence drops after that and remains low. I expected a comment on this in the discussion. Was there a change that lead to this decrease?

APA: Please see lines 259-261

3. You state the highest rates for each disease by age group but do not present the incidence in the other age ranges. It is hard to assess how much higher the rates were for the age groups you have specified. Is there a way to provide an indication of the magnitude?

APA: Please see Figure 2

4. For the description of incidence by geography I wonder if there is an easier way to present this data

to help inform the reader. I naturally wanted to determine if there were any that were consistently high or low and ended up making a table for myself. You have shown NGI in Figure 3, did you consider visually representing the other diseases?

APA: I think you are referring to Figure 4. The other diseases are represented in Figures 5, 6, and 7.

Discussion:

1. Is there a reason why you compared this data to ON and BC?

APA: I was interested in making a north-south comparison. Please see lines 228-230

2. Ideally I would like for more of the discussion to focus on what your findings mean for this unique population. For Salmonella, Giardia and Campylobacter you spend time discussing each pathogen and findings separately but it reads somewhat repetitive at times and it would be interesting for the readers to also have comment on the impacts and specific risks or consideration for the population of the NWT.

APA: I tried to rephrase a little so that it wouldn't sound repetitive. I have added to the discussion. Please see lines 235-258, 267-271, 349-365, and 375-401

3. Some studies in other jurisdictions have also identified higher rates of enteric illness in urban settings. Some hypothesis of this has been due to travel related illness. Did you explore either of these or would the inclusion of travel have any impact on your findings?

APA: Please see lines 276-283

4. On page 11 you state that higher disease rates could be an artefact of differential reporting or data collection. In the methods you state the procedure was consistent over time. Are you suggesting changes between areas/practitioners vs. time please clarify?

APA: Please see lines 286-287.

5. On page 13 you note lack of protective immunity related to age differences. Could you include a reference for this or expand on this further?

APA: I am referring to protection induced by natural exposure. Please see reference 41.

6. You state the limitation related to suspected source. Do you have any recommendations on how this data could be improved or should this data be used for analysis?

APA: Please see lines 375-385.

7. Do you have any other recommendations (more specific) about how this data could be improved or used? Did this analysis lead to any changes in surveillance in the NWT? Was this data used for any further programs or shared with the community?

APA: Please see lines 386-407.

Overall:

1. Throughout the paper you switch between "notifiable gastrointestinal illness (NGI) and "cases of

enteric, food- and waterborne diseases”. I recommend you select one of these terms and use it consistently throughout the manuscript. If they are 2 distinct terms then they should be clearly defined previously to using the terms.

APA: I have selected NGI and clearly defined it in lines 135-139.

VERSION 2 – REVIEW

REVIEWER	Marsha Taylor Epidemiologist BC Centre for Disease Control, Canada
REVIEW RETURNED	19/04/2012

GENERAL COMMENTS	<p>I appreciate the time the authors have taken to review and address my earlier feedback. I think the additions, in particular to the discussion, have made the manuscript more interesting and will be of use to a broader audience. I have a few final comments/questions for their consideration.</p> <p>My earlier comment about seasonal peaks has not been fully addressed in lines 33-34 and 206-209 the authors indicate late summer and autumn peaks but in lines 61-62 they note spring and fall peaks. I believe lines 61 and 62 should be edited for consistency and accuracy.</p> <p>Line 142-is there a reference (even online) for the NWT CD Manual?</p> <p>Line 155 and throughout-I could not find a definition of NWT CDR. Please indicate what the acronym is and my apologies if it is noted earlier and I missed it.</p> <p>Lines 267-271. I think the note about pursuing further study around temperature change and GI illness is interesting but these sentences are unclear. Do you have a reference that indicates that temperature has increased in NWT over this time period? Would it be more appropriate to reword that these factors should be explored?</p> <p>Thank you.</p>
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REVIEWER	Song Liang, PhD Assistant Professor College of Public Health The Ohio State University
REVIEW RETURNED	15/05/2012

GENERAL COMMENTS	The revision reflects a much improved version which has appropriately addressed the reviewer's concerns/comments.
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VERSION 2 – AUTHOR RESPONSE

APA: I have used line numbers and track changes in the document.

Reviewer(s)' Comments to Author:

Reviewer: Marsha Taylor
Epidemiologist
BC Centre for Disease Control, Canada

Reviewer: My earlier comment about seasonal peaks has not been fully addressed in lines 33-34 and 206-209 the authors indicate late summer and autumn peaks but in lines 61-62 they note spring and fall peaks. I believe lines 61 and 62 should be edited for consistency and accuracy.

APA: I apologize – I have corrected lines 61-62.

Reviewer: Line 142-is there a reference (even online) for the NWT CD Manual?

APA: Please see reference 13

Reviewer: Line 155 and throughout-I could not find a definition of NWT CDR. Please indicate what the acronym is and my apologies if it is noted earlier and I missed it.

APA: Please see line 24 in abstract, line 67 in key messages and line 117 in background.

Reviewer: Lines 267-271. I think the note about pursuing further study around temperature change and GI illness is interesting but these sentences are unclear. Do you have a reference that indicates that temperature has increased in NWT over this time period? Would it be more appropriate to reword that these factors should be explored?

APA: I have rephrased for clarity in lines 265-270.

Thank you for your feedback.

Aliya