PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Surveys of the salt content in UK bread – Progress made and further reductions possible
AUTHORS	He, Feng; Brinsden, Hannah; Jenner, Katharine; MacGregor, Graham

VERSION 1 - REVIEW

REVIEWER	Simon Capewell. University of Liverpool
REVIEW RETURNED	08-Apr-2013

THE STUDY	This is an excellent study addressing a very important topic. In the spirit of wishing to help make it as good as possible (and thus minimise vulnerability to future criticism from commercial vested interests) one might ask two questions. Firstly, is it not better to major on the trends in the 18 products available in all three surveys? This permits comparison of like with like. And also underlines an similarly large 20% fall, from 1.24 down to 1.03g/100g. The trends in the total products can then be used as supporting evidence. Secondly, the distributions & statistical comparisons are all reported as means & SDs along with p values. Is it not more conventional to quote 95% confidence intervals for mean values, and for key differences?
GENERAL COMMENTS	A potentially valuable paper.

REVIEWER	Carley Grimes, Lecturer in Applied Food Science, Deakin University, Australia I have no competing interests to declare.
REVIEW RETURNED	15-Apr-2013

GENERAL COMMENTS	The paper by Brinsden et al. presents findings relating to the change in the salt content of bread available for purchase in the UK from 2001 to 2011. The paper is well written and demonstrates a reduction in salt within UK bread which is attributable to the UK salt reduction programme. I have outlined minor suggestions below that should be considered before publication. 1. Methods. An explanation of why there is such a large difference in the number of breads sampled across the 3 time points would b useful i.e. n=39 in 2001 and n= 203 in 2011. Is this reflective of more bread types available on the market? What statistical

	package was used for analysis? Results 1. The data presented in text describing the mean salt content of bread for each survey year by brand and type etc is repetitive of exact data presented in table 1. 2. Table 1 and Table 2. If would be helpful to the reader if a footnote was used to indicate the significant differences 3. Do you have information on how many bread products were available on the market at these 3 time points i.e. are the 40 in 2001 a good reflection of all breads that were available? Discussion 1.Page 11. Line 48. It would be helpful to inform the reader when the UK salt reduction program commenced to help put time line of bread results within context of this. 2. Page 12, line 22 do you have any supporting evidence to back this statement up i.e. no impact on sales / consumer behaviour. 3. Page 13, line 25. Clarify results in line with whole of UK, where have you shown that bread consumption has remained unchanged with reduced salt consumption? 4. Page 15, line 44. ? reference for 2007 introduction of 400 mg target set for Australian bread. The food and Health Dialogue released the target of 400 mg for bread in 2010 and it is to be achieved by Dec 2013 see: http://www.foodhealthdialogue.gov.au/internet/foodandhealth/publishing.nsf/Content/summary_food_categories 5. To discuss - the 18 products that had salt information for all 3 time points and included in analysis, some discussion on what these products were would be useful i.e. were they white ? brown ? branded etc. Are these 18 products very representative of the biggest bread sellers in the UK? References 1. The link for no 13 is broken

REVIEWER	Dr Jacqui Webster, Head of Food Policy, George Institute for Global Health, Australia Conflicts of Interest Statement Current appointments: Director of the WHO Collaborating Centre on Population Sodium Reduction Co-ordinator of the Australian Division of World Action on Salt and Health at the George Institute for Global Health. Previous appointments 2003-2007: Head of Nutrition Strategy Branch at UK Food Standards Agency with responsibility for implementing UK government salt reduction programme Current sources of funding: I am currently supported in my work through a National Heart Foundation and Stroke Foundation Research Fellowship and grants from the National Health and Medical Research Council, the World Health Organization and Bupa Australia and contributions to an NHMRC partnership grant from the Australian Food and Grocery Council, New South Wales Health and New South Wales Food Authority.
REVIEW RETURNED	19-Apr-2013

THE STUDY	Strengths and Limitations Line 44: This statement would be more accurate if it read: "This is the first UK study of this kind." A study by Dunford et al, (2011) assessed the changes in Australian and New Zealand bread

	products over a similar time period using very similar methodology. This study is later referred to in the manuscript (Page 7, Line 9-10). Dunford, Elizabeth K., et al. "Changes in the sodium content of bread in Australia and New Zealand between 2007 and 2010: implications for policy." Med J Aust 195.6 (2011): 346-349. Abstract Page 2 line 23-26. It is not clear from this whether the first two sentence reporting the results are refering to just the identical products or the whole sample. This needs clarification. It would be helpful to report both and provide the p values for both the sample overall and just the identical products. Introduction Page 6, Line 44 - would be good to add the amount for Australia for consistency. Page 7, Line 15: "…and exploring the potential". This statement is vague and should be further developed. Exploring the potential for…? Are the authors here referring to technical feasibility of reformulation in general or the potential for alternate means of reducing salt in processed foods? Methods Page 8, Line 10-25: Some information is needed on where specifically the salt content of each product was extracted, i.e. on the mandatory nutritional information panel. Currently the authors state only that "data were collected from each of the major UK supermarkets". It would also be useful to know how the bread products were selected - was the objective to collect all bread products on the shelves or a sample? Referencing There are a number of instances throughout the manuscript where statements made by the authors have not been properly followed by the necessary reference: Page 7 Line 15, Page 12, line 23., Page 12, line 56., Page 13, line 25., Page 12, line 32., Page 15, lines 44 and 49. Reference 14 refers to a web-site link that since seems to have been removed. It would be better to replace with Webster J (2011) Salt Reduction Initiatives around the world. Contextual/Grammatical issues: Page 5 and 6 lines 46 and 41, respectively: Replace "America" with the "United States" or "US" Page 15, line 56: Replace comma with period before "To highlight"
RESULTS & CONCLUSIONS	Results Page 9-11: The authors found 40 bread products met the inclusion criteria in 2001 versus 203 in 2011. It is hard to know whether this is the result of sampling methodology between years or some other factor. Perhaps some explanation for this accelerated product

	growth (i.e introduction of new product ranges, new manufactures in this sector) should be made in the discussion as well as providing further information on sampling in the methodology. Page 11, line 12-25: In the paragraph “Changes in salt levels in bread over the years” the authors report only differences in persisting products but state a 20% reduction across all products in the study period, later in the discussion. This analysis should also be reported in this section (if not somewhere else within the results) and the p value should be included so that we know whether or not it is significant. Table 1. I would have thought that as the main objective of the paper is to report changes in the salt content of bread over the years, Table 1 should include an additional column with the calculated changes and the p values to indicate whether the values are significant based on appropriate statistical analysis. Page 13, line 50-53: This statement is repetitive (Discussion Para. 1), consider removing. Page 16, line 51: “In order to track changes in salt levels over time the same products need to be used for analysis”. This is not necessarily true particularly if one is concerned with the amount of sodium in products available for purchase and therefore the potential public health benefits afforded to consumers. Analysis of the same (persisting) products over the study period gives a better picture in regards to rate of reformulation and thus commitments by manufactures to reduce salt levels but doesn't necessarily reflect the products on the market. Further clarification might be helpful. Page 17, line 48- 52: The authors state the need for “FOP labelling… so that consumers can identify lower salt products”. It would be useful to explain this concept somewhere as it has not previously been introduced.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Simon Capewell. University of Liverpool, UK

Comment 1.1 Is it not better to major on the trends in the 18 products available in all three surveys? This permits comparison of like with like. And also underlines an similarly large 20% fall, from 1.24 down to 1.03g/100g. The trends in the total products can then be used as supporting evidence.

A: We agree that this is very good point. The trend analysis provides important information and, more importantly, the findings are consistent for all products and for the small number of products which were surveyed in all three years. Because the sample size for the trend analysis is small, we did not make this suggested change.

Comment 1.2 The distributions & statistical comparisons are all reported as means & SDs along with p values. Is it not more conventional to quote 95% confidence intervals for mean values, and for key differences?

A: In our paper, we reported mean, SD, range and number of products. We feel that it is important to provide the range of salt content, and as such, the readers can see what lowest salt content available for breads on the market. We could add 95% CI, however, it is very likely to cause confusion to the readers with both the range and 95% CI. If the readers want to know the 95% CI, it would not be difficult to them work out the figures using the data we provided.
Reviewer2: Carley Grimes, Deakin University, Australia

Comment 2.1 An explanation of why there is such a large difference in the number of breads sampled across the 3 time points would b useful i.e. n=39 in 2001 and n= 203 in 2011. Is this reflective of more bread types available on the market?

A: An explanation for this has been added to the text. The difference is due to method differences (it may also be due to products available on the market, the trend generally has been for increasing product choice, but we do not have access to this data). The earlier study was less comprehensive than the later ones, however, the types of bread selected are likely to be a reflection of the situation in time. This does not effect that trend data calculated for identical products.

Comment 2.2- What statistical package was used for analysis?

A: SPSS programme was used. This point has been added to the text.

Comment 2.3 The data presented in text describing the mean salt content of bread for each survey year by brand and type etc is repetitive of exact data presented in table 1

A: We have shortened the text and referred to the table for details.

Comment 2.4 Table 1 and Table 2. If would be helpful to the reader if a footnote was used to indicate the significant differences
A: The significant levels have been reported in the text. It would make the table messy and difficult to read if all p values are added as footnote, because there were two different comparisons for each year, i.e. comparison between different types of bread and comparison of branded with supermarket.

Comment 2.5 Do you have information on how many bread products were available on the market at these 3 time points i.e. are the 40 in 2001 a good reflection of all breads that were available?

A: Unfortunately we do not have access to this data. While the 40 products included in 2001 may be less representative of all products available compared to the data collected in other years, the inclusion of 'standard' white and wholemeal loaves from the leading retailers and manufacturers suggest that the data will be indicative/reflective of the overall market trends at this time.

Comment 2.6 Page 11. Line 48. It would be helpful to inform the reader when the UK salt reduction program commenced to help put time line of bread results within
context of this.

A: Amended in text

Comment 2.8 Page 13, line 25. Clarify results in line with whole of UK, where have you shown that bread consumption has remained unchanged with reduced salt
consumption?

A: The last part of this sentence has been deleted.

Comment 2.9 Page 15, line 44. ? reference for 2007 introduction of 400 mg target set for Australian bread. The food and Health Dialogue released the target of 400 mg for
bread in 2010 and it is to be achieved by Dec 2013 see:
http://www.foodhealthdialogue.gov.au/internet/foodandhealth/publishing.nsf/Content/summary_food_categories

A: Many thanks for this reference, it is now included.

Comment 2.10 To discuss - the 18 products that had salt information for all 3 time points and included in analysis, some discussion on what these products were would be useful i.e. were they white ? brown ? branded etc. Are these 18 products very
representative of the biggest bread sellers in the UK?

A: A description of the products has been added to text. Unfortunately we cannot comment on how

representative this particular sample is of all breads, although we have commented on the number of different companies covered is the same (9).

Comment 2.11- The link for no 13 is broken

A: Amended in text

Reviewer 3: Dr Jacqui Webster, George Institute for Global Health, Australia

Comment 3.1 Line 44: This statement would be more accurate if it read: "This is the first UK study of this kind." A study by Dunford et al, (2011) assessed the changes in Australian and New Zealand bread products over a similar time period using very similar methodology. This study is later referred to in the manuscript (Page 7, Line 9-10). Dunford, Elizabeth K., et al. "Changes in the sodium content of bread in Australia and New Zealand between 2007 and 2010: implications for policy." Med J Aust 195.6 (2011): 346-349.

A: Amended in text

Comment 3.2 Page 2 line 23-26. It is not clear from this whether the first two sentence reporting the results are refering to just the identical products or the whole sample. This needs clarification. It would be helpful to report both and provide the p values for both the sample overall and just the identical products.

A: We have clarified this in the text. The statistical test was only performed for identical products available for all three surveys.

Comment 3.3 Page 6, Line 44 - would be good to add the amount for Australia for consistency.

A: This has been added to the text

Comment 3.4 Page 7, Line 15: "…and exploring the potential". This statement is vague and should be further developed. Exploring the potential for…? Are the authors here referring to technical feasibility of reformulation in general or the potential for alternate means of reducing salt in processed foods?

A: Amended in text

Comment 3.5 Page 8, Line 10-25: Some information is needed on where specifically the salt content of each product was extracted, i.e. on the mandatory nutritional information panel. Currently the authors state only that "data were collected from each of the major UK supermarkets".

A: See text – page 7, methods P1.

Comment 3.6 It would also be useful to know how the bread products were selected - was the objective to collect all bread products on the shelves or a sample?

A: This has been addressed in the text.

Comment 3.7 There are a number of instances throughout the manuscript where statements made by the authors have not been properly followed by the necessary reference: Page 7 Line 15, Page 12, line 23., Page 12, line 56., Page 13, line 25., Page 13, line 32., Page 15, lines 44 and 49.

A: References have been added in the text

Comment 3.8 Reference 14 refers to a web-site link that since seems to have been removed. It would be better to replace with Webster J (2011) Salt Reduction Initiatives around the world.

A: Changed in text

Comment 3.9 Page 5 and 6 lines 46 and 41, respectively: Replace “America” with the “United States” or “US”

A: Changed in text

Comment 3.10 Page 15, line 56: Replace comma with period before “To highlight”

A:Changed in text

Comment 3.11 Page 9-11: The authors found 40 bread products met the inclusion criteria in 2001 versus 203 in 2011. It is hard to know whether this is the result of sampling methodology between years or some other factor. Perhaps some explanation for this accelerated product growth (i.e introduction of new product ranges, new manufactures in this sector) should be made in the discussion as well as providing further information on sampling in the methodology.

A: This is due to a difference between the sampling methodology (CASH surveys compared to the 2001 FSA surveyed). Text has been expanded to explain the difference. Due to the selection of market leaders in the FSA survey, it is likely that the results are reflective of the market, and if not the market consumption.

Comment 3.12 Page 11, line 12-25: In the paragraph “Changes in salt levels in bread over the years” the authors report only differences in persisting products but state a 20% reduction across all products in the study period, later in the discussion.
This analysis should also be reported in this section (if not somewhere else within the results) and the p value should be included so that we know whether or not it is significant.

A: We agree that this is a very good point. In the result section, we have added a sentence to describe the reduction across all products. However, no statistical tests were performed because different products were surveyed in different years.

Comment 3.13 I would have thought that as the main objective of the paper is to report changes in the salt content of bread over the years, Table 1 should include an additional column with the calculated changes and the p values to indicate whether the values are significant based on appropriate statistical analysis.

A: We have added two columns showing the change (mean and percentage) in salt content of bread from 2001 to 2011. However, no statistical tests were performed because different products were surveyed in different years.

Comment 3.14 Page 13, line 50-53: This statement is repetitive (Discussion Para. 1), consider removing.

A: Removed, see text

Comment 3.15Page 16, line 51: “In order to track changes in salt levels over time the same products need to be used for analysis”. This is not necessarily true particularly if one is concerned with the amount of sodium in products available for purchase and therefore the potential public health benefits afforded to consumers. Analysis of the same (persisting) products over the study period gives a better picture in regards to rate of reformulation and thus commitments by manufactures to reduce salt levels but doesn't necessarily reflect the products on the market. Further clarification might be helpful.

A: This sentence has been changed to “In order to provide the most accurate information about the changes in salt levels over time, in particular the reformulation that has occurred, the same products need to be used for analysis.” We hope the addition of the reformulation comments helps indicate why such a method is important. Had this not been looked at, it would be difficult to know whether product ranges with lower salt had been added to the market (and thus shift averages) or whether products

had had salt reduced.

Comment 3.16 Page 17, line 48- 52: The authors state the need for “FOP labelling… so that consumers can identify lower salt products”. It would be useful to explain this concept somewhere as it has not previously been introduced.

A: This comment has been removed, see text. This decision was made as it was felt the point did not add to the paper’s objectives.

VERSION 2 – REVIEW

REVIEWER	Jacqui Webster Head of Food Policy The George Institute for Global Health Competing interests Dr Jacqui Webster is currently Director of the World Health Organization Collaborating Centre on Population Sodium Reduction and Coordinator of the Australian Division of Word Action on Salt and Health at the George Institute for Global Health. Dr Webster is supported in her work through a National Heart Foundation and Stroke Foundation Research Fellowship. She also receives grant funding from the National Health and Medical Research Council including two Global Alliance for Chronic Disease projects on cost effectiveness of salt reduction in the Pacific Islands and a partnership grant on salt reduction in Australia with New South Wales Health, New South Wales Food Authority and the Australian Food and Grocery Council. Dr Webster currently receives additional project funding from the World Health Organization and Bupa Australia. From 2003 -2007 Jacqui worked for the UK Food Standards Agency where she led the team responsible for developing and implementing the UK salt reduction strategy.
REVIEW RETURNED	07-May-2013

GENERAL COMMENTS	I am happy that the authors have adequately addressed previous comments. One final suggestion would be to include a comment in the conclusion that indicates the percent reduction in salt intake that has occured in the UK during the same period. The absolute values are mentioned earlier in the text but it might be helpful to include the overall per cent reduction in the conclusion as well.