

INTERNATIONAL STUDY OF ASTHMA AND ALLERGIES IN CHILDHOOD

NEWSLETTER – DECEMBER 2012



Dear ISAAC colleagues and friends,

A warm welcome to you all to this - the very last ISAAC newsletter. The ISAAC programme started in 1991, and our story has been told by ourselves in [The ISAAC Story](#). New ISAAC worldwide publications are still appearing, often accompanied by editorials. The ISAAC Executive, Steering Committee and IIDC, join me in thanking you for your important and excellent contributions to the ISAAC programme over the past 21 years. We have had a wonderful association with you all and sincerely hope that this may be continued with the start of the new [Global Asthma Network](#) launched last month. We include an expression of interest form (EOI) for this new network on page 7 for those of you who would like to connect to this new network and who have not already done so. The EOI form is now also conveniently available for you on line at www.globalasthmanetwork.org/surveillance/expression.php

Sadly, this year we have seen the death of two of our treasured ISAAC Steering Committee members. Professor Michael Burr, who died in June in Cardiff, in the UK and Professor Joseph Odhiambo who was killed at his home on the outskirts of Nairobi in October. Both have given enormous contributions to ISAAC and will be sorely missed. We have tributes to both of these great and humble people in this newsletter.

Our ISAAC EQ publications continue and as you will be aware there has been a flurry of activity on these in the past couple of months with papers being sent to the particular Phase Three study groups for input. We continue to value your contributions on these publications before they are submitted to the journals.

Although we are sad that ISAAC is winding down, we are excited at the opportunity to develop the Global Asthma Network, information on which has been widely circulated to the ISAAC collaboration many of whom are becoming collaborating centres.

The ISAAC website will be maintained and publications added intermittently. ISAAC data is being prepared for archiving at the UK data archive (see item later in newsletter).

With all good wishes on behalf of the ISAAC Executive and IIDC for a very happy Christmas and a prosperous New Year.

Innes

Professor Innes Asher ONZM
Chair of ISAAC

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Sub editor - P Ellwood

TRIBUTE TO PROFESSOR MICHAEL BURR



Michael Burr, member of the ISAAC Steering Committee from 1991 to his retirement in 2002, died at the end of June 2012. A quiet but effective scientific investigator, he was universally popular with his research collaborators and his death represents a sad loss to the epidemiological community, both within ISAAC and beyond.

After an early clinical career in general practice and public health, Michael joined the British Medical Research Council's Epidemiology Unit (based in South Wales) in 1970, under the directorship of Professor Archie Cochrane, and subsequently Professor Peter Ellwood. There he undertook a number of epidemiological surveys, mostly in relation to respiratory disease and nutrition. He also conducted randomized controlled trials on various topics, including mite eradication in the homes of mite-sensitive asthmatics and the effect of eating oily fish on risk of coronary heart disease.

Michael was one of the pioneers of asthma epidemiology and his early work using free-running exercise tests as an objective marker of asthma in population surveys laid the groundwork for the first standardised assessment of time trends in asthma prevalence (between 1973 and 1988 among 12-year-old children in South Wales). It also led to the first international comparison, which included an objective marker of asthma prevalence (involving four centres: South Wales, Sweden, New Zealand and South Africa²), which was in many ways a precursor for ISAAC.

In addition to his valued contributions as a member of the ISAAC Steering Committee, Michael coordinated the Welsh sector of ISAAC UK during Phases One and Three. He also initiated the link with Alfred Priftanji and colleagues in Tirana, Albania, who completed all three phases of ISAAC.

Outside of work, Michael was interested in history and theology and was a lay preacher in his local church. Despite a period of ill-health, he was still active and playing the organ until a few months before his death. He will be greatly missed by his wife Sheila, four married daughters, and their children.

TRIBUTE TO PROFESSOR JOSEPH ODHIAMBO

1954 – 2012



Dr. Joseph Odhiambo joined the ISAAC Steering Committee in 1999 following on from his position of Principal Investigator for ISAAC Phase One in Nairobi and was also Regional Coordinator for the ISAAC English speaking Africa region, and Principal Investigator for ISAAC Phase One in Nairobi. His death will be a huge loss to both his home country and the international community.

He was a board certified internist and specialist in respiratory diseases, serving previously as senior medical officer, and regional consultant physician (Provincial Physician) at the Rift Valley Provincial General Hospital in Nakuru, Kenya and as guest lecturer on respiratory medicine for both under-graduates and post-graduate medical students at the University of Nairobi, Kenyatta National Hospital. He worked for more than 2 decades in medical research, serving as senior medical research officer at the Centre for Respiratory Disease Research (CRDR) at Kenya Medical Research Institute (KEMRI) where he rose through the ranks to position of principal research officer & director, CRDR. During his tenure as centre director, he offered leadership to over 50 members of staff (technical, administrative and support staff) and was responsible to the KEMRI director for the conduct of research in priority lung diseases in Kenya, which witnessed remarkable growth in research capacity and out-put. He also served as the senior technical advisor on TB/HIV for the CDC/GAP program (US Centres for Disease Control & Prevention-Kenya / Global AIDS Program) and as Chair of the National TB/HIV steering committee at the Ministries of Health headquarters in Kenya since 2004, and member of the Tuberculosis Inter-Agency Coordinating Committee (TB-ICC) for the Kenyan Ministry of Health.

Joseph was an enthusiastic member of the ISAAC programme and his scientific and personal contributions to ISAAC will long be remembered. He was a humble and gentle man with a delightful sense of humour and was held in high regard by all members of the Steering Committee. In November 2003 he hosted the highly successful Fourteenth ISAAC Steering Committee meeting at Lake Naivasha Country Club in Kenya, where he introduced the members to his country and acted as a wonderful ambassador. We last spent time with him when he came to Auckland in January 2011 for the last ISAAC Steering Committee meeting (see photo) and ISAAC symposium. Joseph was a much loved friend and colleague of the ISAAC community. He will be greatly missed by us all.

Congratulations to:

All of YOU!

To all our wonderful ISAAC Phases One Two and Three collaborators and associates, who have made ISAAC the success it has been. From the bottom of our hearts we thank you all

Best wishes from the ISAAC Steering Committee and the IDC



Congratulations to:

Professor Gary Wong

ISAAC Steering Committee

ISAAC Phase Two Study Group

ISAAC Phase Three Principal Investigator for Hong Kong



European Academy of
Allergy and Clinical Immunology
Congress 2012



Abstract Prize

**for an outstanding abstract presentation
has been awarded to**

Gary W.H. Wong

162 – Relationship of cooking fuels and symptoms of asthma and allergic diseases: a global analysis in international study of asthma and allergies in childhood phase 3

**at the
EAACI Congress 2012
16 – 20 June, Geneva, Switzerland**

Philippe Eigenmann
EAACI Congress 2012 Chair

Cezmi Akdis
EAACI President

The International Study of Apples and Alcohol in Cider

If you have been fortunate to visit the ISAAC International Data Centre in Auckland, you may have noticed that they share their acronym with a local brand of cider...!

We named it after Sir ISAAC Newton, a man who had all his best ideas sitting under apple trees



(when he did not have a cold or the 'flu)

If you think that ISAAC has gone a bit pear-shaped recently ...



... then you would be absolutely right!

Thanks to David Strachan for the above - he has revealed his talents as a humourist!

Global Asthma Network – Expression of Interest

My centre is interested in the Global Asthma Network	Yes	No	Don't know
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Centre name:	
Country:	
Lead Investigator Name: (one per centre)	
Designation: (Professor, Dr (PhD), Dr (Medical), Medical Professional, Researcher, Other eg Mr) Please list all that are relevant to your position.	
Institution: (University/Hospital etc)	
Phone:	
Fax:	
Email:	
Postal Address: (Street address for courier deliveries)	
COMMENTS:	

Date: _____

Name of person completing this form. _____

Signature _____

Thank you very much, your reply will be acknowledged.

Philippa Ellwood
 For the Global Asthma Network
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Data archiving and data sharing

David Strachan is liaising on behalf of ISAAC with the UK Data Archive (UKDA) about depositing with them the data from ISAAC Phases One, Two and Three there during 2013. There has been a positive response from the UKDA to our preliminary enquiry. The UKDA were complimentary about the level of ISAAC documentation already available (thanks to Tadd), so we envisage the deposit process will be relatively straightforward. David met with Tadd Clayton in Auckland recently to discuss practical aspects of the data archiving. The deposit forms were reviewed briefly and David will liaise further with Innes Asher and Gudrun Weinmayr about the formalities.

A provisional target is to complete the UKDA deposit by mid-2013. From that time, all the ISAAC data (except for exact dates of birth and the Phase Two genetic data, to avoid confidentiality issues) will be accessible to *bona fide* scientists for non-commercial research and teaching purposes. We will explore whether the ISAAC Executive can be routinely informed when the data are used, so that we can monitor usage and possible overlaps.

ISAAC website

The ISAAC website is still being updated with the publications. These are added to the database as they are published along with a brief news item. The website is still seeing steady usage of 2000-3000 visitors per month. The final item to complete on the site is to modify the content to indicate its status as an archive site.

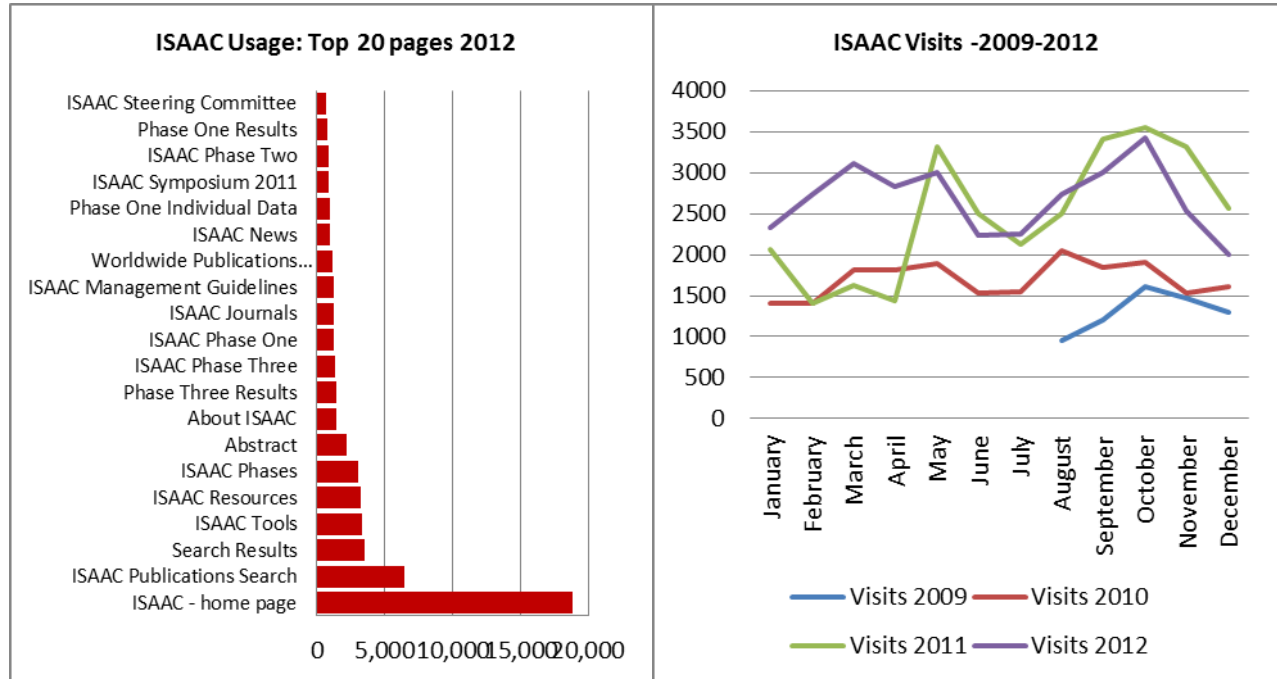
Eamon Ellwood will provide a link from the ISAAC website to the Global Asthma Network website. Innes will draft an explanatory note for inclusion on the ISAAC home page, concerning the “end of ISAAC”, and the relationship of ISAAC to GAN.

Eamon will continue to service the ISAAC website on an occasional basis from next year.

ISAAC Website Report – Eamon Ellwood (e.ellwood@auckland.ac.nz)

The main ISAAC website

The ISAAC website has seen consistent usage and growth since its re launch in 2009. It is designed to be a repository of all ISAAC information.



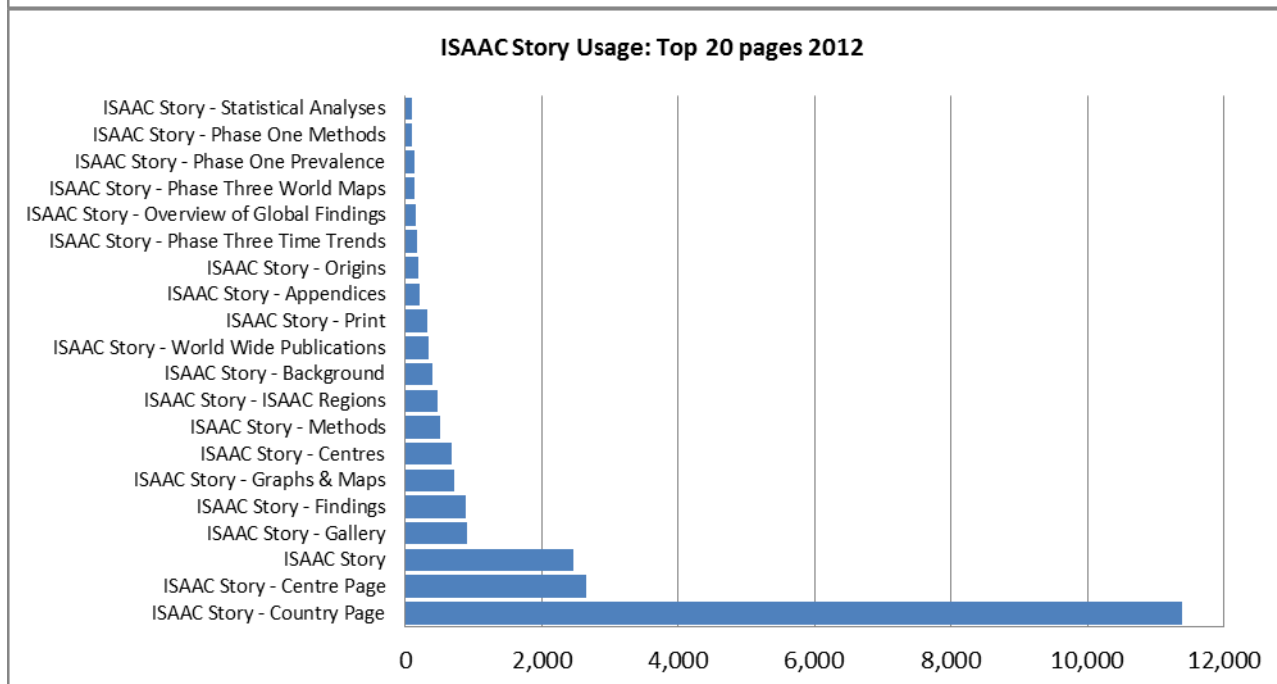
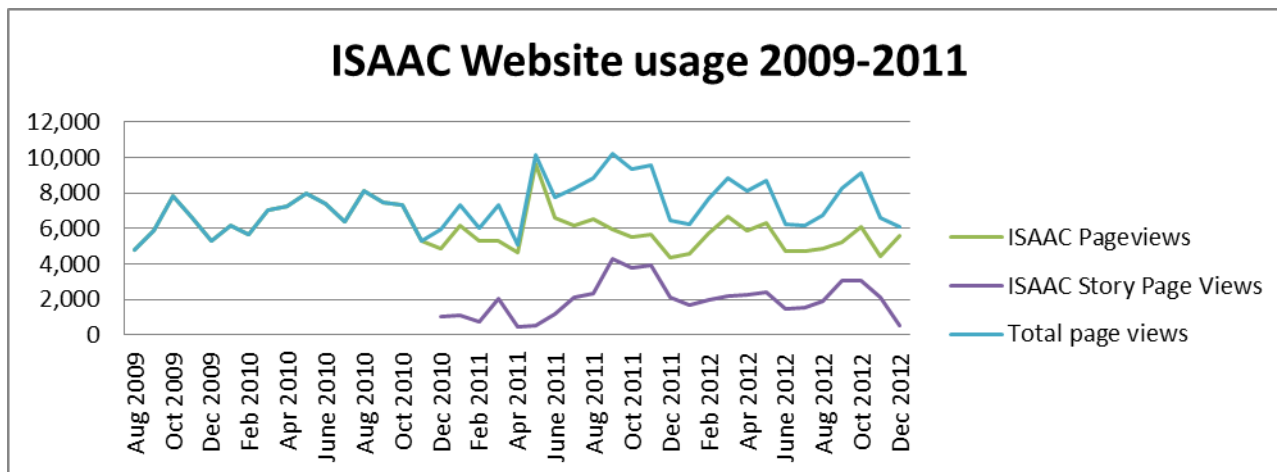
Although ISAAC is winding down, the ISAAC website will still be maintained. It continues to be a resource for you, the collaborators. The website will continue to host the Phase One and Three data pages and the ISAAC Story, a 20 year history of ISAAC. Much of the information on the ISAAC website will be available on the Global Asthma Network website (www.globalasthmanetwork.org). This information will be updated as new data comes to hand.

We will continue to update the publications section with new papers as they are published. We had 18 papers published in 2012 and more remain to be published. When you publish a new article could you please send me (e.ellwood@auckland.ac.nz) the details, and preferably a pdf so that it can be added to the database. Currently we have over 550 articles in the database (as well as various manuals and other publications) and full text access for most of these. All other articles are linked to the abstract on the journals website (where the journal has a website). The ISAAC publications can be found at <http://isaac.auckland.ac.nz/publications/publicationsintro.html>.

The ISAAC Story

The ISAAC Story website is now complete. This includes a modified print layout that can be viewed using the print preview function in your web browser, and an accompanying pdf version of the website. This can be downloaded in sections or complete, and is available in low resolution and high resolution versions from <http://isaac.auckland.ac.nz/story/print.php>.

The ISAAC Story website has seen consistent use since its launch and will continue to be a lasting testament to ISAAC.



To view your centre, go to <http://isaac.auckland.ac.nz/story/centres/centres.html> and select it from the menu. To add your contribution, please send a word document with your information and any photographs you may have to Eamon Ellwood (e.ellwood@auckland.ac.nz). While these contributions can still be added to the website, it is unfortunately too late to add them to the pdf version.

Kind regards

Eamon Ellwood

ISAAC Webmaster

e.ellwood@auckland.ac.nz

ISAAC Publications of worldwide analyses (updated December 2012)

ISAAC Phase One Publications (worldwide)

1.0 Preliminary Papers

- 1.1 ISAAC, ISAAC Manual (2nd Edition). Auckland/Münster. December 1993.
- 1.2 Pearce N, Weiland S, Keil U, Langridge P, Anderson HR, Strachan D, Bauman A, Young L, Gluyas P, Ruffin D, Crane J, Beasley R. Self-reported prevalence of asthma symptoms in children in Australia, England, Germany and New Zealand: an international comparison using the ISAAC protocol. *Eur Respir J* 1993; 6: 1455-61. [271 citations]
- 1.3 Asher MI, Keil U, Anderson HR, Beasley R, Crane J, Martinez F, Mitchell EA, Pearce N, Sibbald B, Stewart AW, Strachan D, Weiland SK, Williams HC. International study of asthma and allergies in childhood (ISAAC): rationale and methods. *Eur Respir J* 1995; 8: 483-91. [1240 citations]

2.0 Main Findings

- 2.1 Strachan D, Sibbald B, Weiland S, Ait-Khaled N, Anabwani G, Anderson HR, Asher MI, Beasley R, Björkstén B, Burr M, Clayton T, Crane J, Ellwood P, Keil U, Lai C, Mallol J, Martinez F, Mitchell E, Montefort S, Pearce N, Robertson C, Shah J, Stewart A, von Mutius E, Williams H. Worldwide Variations in prevalence of symptoms of allergic rhinoconjunctivitis in children: the International Study of Asthma and Allergies in Childhood (ISAAC). *Pediatr Allergy Immunol* 1997; 8(4): 161-76. [306 citations]
- 2.2 The International Study of Asthma and Allergies in Childhood (ISAAC) Steering Committee. Worldwide variation in the prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and atopic eczema: ISAAC. *The Lancet* 1998; 351(9111): 1225-32. [1800 citations]
- 2.3 Williams H, Robertson C, Stewart A, Ait-Khaled N, Anabwani G, Anderson HR, Asher MI, Beasley R, Björkstén B, Burr M, Clayton T, Crane J, Ellwood P, Keil U, Lai C, Mallol J, Martinez F, Mitchell E, Montefort S, Pearce N, Shah J, Sibbald B, Strachan D, von Mutius E and Weiland S. Worldwide variations in the prevalence of symptoms of atopic eczema in the international study of asthma and allergies in childhood. *J Allergy Clin Immunol* 1999; 103(1 Pt 1): 125-38. [393 citations]
- 2.4 The International Study of Asthma and Allergies in Childhood (ISAAC) Steering Committee. Worldwide variations in the prevalence of asthma symptoms: the International Study of Asthma and Allergies in Childhood (ISAAC). *Eur Respir J* 1998; 12(2): 315-335. [613 citations]

3.0 Other Overview Papers

- 3.1 Asher MI, Weiland SK on behalf of the ISAAC Steering Committee. The International Study of Asthma and Allergies in Childhood (ISAAC). *Clin Exp Allergy* 1998; 28 Suppl 5: 52-66. [125 citations]
- 3.2 Beasley R, Ellwood P, Asher I. International patterns of the prevalence of pediatric asthma the ISAAC program. *Pediatr Clin North Am* 2003; 50(3): 539-53. Copyright© Elsevier 2003 [44 citations]
- 3.3 Lai C, Pearce N. The contribution of ISAAC to the understanding of asthma. *Leukotriene Res & Clin Rev* 2001; 2: 1-4.

- 3.4 Mallol J, Asher MI, Williams H, Clayton T, Beasley R. ISAAC findings in children aged 14 years: an overview. *Allergy Clin Immunol Int* 1999; 11: 176-82.
- 3.5 von Mutius E. Epidemiology of asthma: ISAAC--International Study of Asthma and Allergies in Childhood. *Pediatr Allergy Immunol* 1996; 7(9 Suppl): 54-6. [6 citations]

4.0 Ecological Analyses

- 4.1 Anderson HR, Gupta R, Kapetanakis V, Asher MI, Clayton T, Robertson CF, Strachan DP and the ISAAC Steering Committee. International correlations between indicators of prevalence, hospital admissions and mortality for asthma in children. *Int J Epidemiol* 2008; 37(3):573-82. [12 citations]
- 4.2 Anderson HR, Poloniecki JD, Strachan DP, Beasley R, Björkstén B, Asher MI and the ISAAC Phase One Study Group. Immunization and symptoms of atopic disease in children: Results from the International Study of Asthma and Allergies in Childhood. *Am J Publ Health* 2001; 91(7): 1126-9. [72 citations]
- 4.3 Burr ML, Emberlin JC, Treu R, Cheng S, Pearce NE and the ISAAC Phase One Study Group. Pollen counts in relation to the prevalence of allergic rhinoconjunctivitis, asthma and atopic eczema in the International Study of Asthma and Allergies in Childhood (ISAAC). *Clin Exp Allergy* 2003; 33(12): 1675-80. [35 citations]
- 4.4 Ellwood P, Asher MI, Björkstén B, Burr M, Pearce N, Robertson CF, and the ISAAC Phase One Study Group. Diet and asthma, allergic rhinoconjunctivitis and atopic eczema symptom prevalence: An ecological analysis of the International Study of Asthma and Allergies in Childhood (ISAAC) data. *Eur Respir J* 2001; 17(3): 436-443. [103 citations]
- 4.5 Foliaki S, Kildegaard Nielsen S, Björkstén B, von Mutius E, Cheng S, Pearce N, and the ISAAC Phase I Study Group. Antibiotic sales and the prevalence of symptoms of asthma, rhinitis, and eczema: The International Study of Asthma and Allergies in Childhood (ISAAC). *Int J Epidemiol* 2004; 33(3): 558-63. [28 citations]
- 4.6 Mitchell EA, Stewart AW, on behalf of the ISAAC Phase One Study Group. The ecological relationship of tobacco smoking to the prevalence of symptoms of asthma and other atopic diseases in children: The International Study of Asthma and Allergies in Childhood (ISAAC). *Eur J Epidemiol* 2001; 17(7): 667-73. [22 citations]
- 4.7 Shirtcliffe P, Weatherall M, Beasley R on behalf of the ISAAC Phase One Study Group. An inverse correlation between estimated tuberculosis notification rates and asthma symptoms. *Respirology* 2002; 7(2): 153-5. [20 citations]
- 4.8 Stewart AW, Mitchell EA, Pearce N, Strachan DP, Weiland SK on behalf of the ISAAC Steering Committee. The relationship of per capita gross national product to the prevalence of symptoms of asthma and other atopic diseases in children (ISAAC). *Int J Epidemiol* 2001; 30: 173-9. [71 citations]
- 4.9 von Mutius E, Pearce N, Beasley R, Cheng S, von Ehrenstein O, Björkstén B, Weiland S, on behalf of the ISAAC Steering Committee. International patterns of tuberculosis and the prevalence of symptoms of asthma, rhinitis and eczema. *Thorax* 2000; 55(6): 449-453. [120 citations]
- 4.10 Weiland SK, von Mutius E, Hüsing A, Asher MI, on behalf of the ISAAC Steering Committee. Intake of trans fatty acids and prevalence of childhood asthma and allergies in Europe. *Lancet* 1999; 353(9169): 2040-1. [94 citations]
- 4.11 Weiland SK, Hüsing A, Strachan, Rzehak P, Pearce N, and the ISAAC Phase One Study Group. Climate and the prevalence of symptoms of asthma, allergic rhinitis and atopic eczema in children. *Occup Environ Med* 2004; 61(7): 609-15. [83 citations]
- 4.12 Anderson HR, Ruggles R, Pandey KD, Kapetanakis V, Brunekreef B, Lai CKW, Strachan DP, Weiland SK. Ambient particulate pollution and the world-wide prevalence of asthma, rhinoconjunctivitis and eczema in children: Phase One of the International Study of Asthma and Allergies in Childhood (ISAAC). *Occup Environ Med* 2010; 67(5): 293-300.

doi:10.1136/oem.2009.048785. epub: 9 October 2009. [6 citations]

- 4.13 Asher MI, Stewart AW, Mallol J, Montefort M, Lai CKW, Ait-Khaled N, Odhiambo J, and the ISAAC Phase One Study Group. Which population level environmental factors are associated with asthma, rhinoconjunctivitis and eczema? A review of the ecological analyses of ISAAC Phase One. *Respiratory Research*. 2010; 11(8) [11 citations]

5.0 Other Papers

- 5.1 Crane J, Mallol J, Beasley R, Stewart A, Asher MI, on behalf of the International Study of Asthma and Allergies in Childhood (ISAAC) Phase I study group. Agreement between written and video questions for comparing asthma symptoms in ISAAC. *Eur Respir J* 2003; 21(3): 455-61. [50 citations]
- 5.2 Pearce N, Sunyer J, Cheng S, Chinn S, Björkstén B, Burr M, Keil U, Anderson HR, Burney P, on behalf of the ISAAC Steering Committee and the European Community Respiratory Health Survey. Comparison of asthma prevalence in the ISAAC and the ECRHS. *Eur Respir J* 2000; 16(3): 420-6. [102 citations]

ISAAC Phase Two Publications (worldwide)

1.0 Preliminary Papers

- 1.1 ISAAC, ISAAC Phase II Modules. Münster, Germany. May 1998.
- 1.2 von Mutius E, Weiland SK, Keil U and the ISAAC Steering Committee. The International Study of Asthma and Allergies in Childhood (ISAAC): study design and methods of phase II. *Allergologie* 1999; 22(5):283-288 [1 citations]
- 1.3 Weiland SK, von Mutius E, Keil U and the ISAAC Steering Committee. The International Study of Asthma and Allergies in Childhood (ISAAC): rational methods and outlook. *Allergologie* 1999; 22(5):275-282 [3 citations]
- 1.4 Weiland SK, Björkstén B, Brunekreef B, Cookson WO, von Mutius E, Strachan DP and the International Study of Asthma and Allergies in Childhood Phase II Study Group. Phase II of the International Study of Asthma and Allergies in Childhood (ISAAC II): rationale and methods. *Eur Resp J* 2004; 24(3): 406-12. [147 citations]

2 Main Findings

- 2.1 Weinmayr G, Weiland SK, Björkstén B, Brunekreef B, Büchele G, Cookson WO, García-Marcos L, Gotua M, Gratziau C, van Hage M, von Mutius E, Riikjärv MA, Rzehak P, Stein RT, Strachan DP, Tsanakas J, Wickens K, Wong GW and the ISAAC Phase Two Study Group. Atopic sensitization and the international variation of asthma symptom prevalence in children. *Am J Respir Crit Care Med* 2007; 176(6): 565-74. [110 citations]
- 2.2 Flohr C, Weiland SK, Weinmayr G, Björkstén B, Bråbäck L, Brunekreef B, Büchele G, Clausen M, Cookson WOC, von Mutius E, Strachan DP, Williams HC, and the ISAAC Phase Two Study Group. The role of atopic sensitization in flexural eczema: Findings from the International Study of Asthma and Allergies in Childhood Phase Two. *J Allergy Clin Immunol* 2008; 121(1): 141-7. [38 citations]
- 2.3 Weinmayr G, Forastiere F, Weiland SK, Rzehak P, Abramidze T, Annesi-Maesano I, Björkstén B, Brunekreef B, Büchele G, Cookson WO, von Mutius E, Pistelli R, Strachan DP; the ISAAC Phase Two Study Group*. International variation in prevalence of rhinitis and its relation with

- sensitization to perennial and seasonal allergens. *Eur Respir J* 2008; 32: 1250–1261 [28 citations]
- 2.4 Gehring U, Strikwold M, Schram-Bijkerk D, Weinmayr G, Genuneit J, Nagel G, Wickens K, Siebers R, Crane J, Doekes G, Di Domenicantonio R, Nilsson L, Priftanji A, Sandin A, El-Sharif N, Strachan D, van Hage M, von Mutius E, Brunekreef B, and the ISAAC Phase Two Study Group. Asthma and allergic symptoms in relation to house dust endotoxin: Phase Two of the International Study on Asthma and Allergies in Childhood (ISAAC II). *Clin Exp Allergy* 2008; 38: 1911–1920 [27 citations]
 - 2.5 Flohr C, Weinmayr G, Weiland SK (deceased), Addo-Yobo E, Annesi-Maesano I, Björkstén B, Bråbäck L, Büchele G, Chico M, Cooper P, Clausen M, El-Sharif N, Martínez Gimeno M, Mathur RS, von Mutius E, Morales Suárez-Varela MM, Pearce N, Svabe V, Wong GWK, Yu M, Zhong NS, Williams HC. How well do questionnaires perform compared with physical examination in detecting flexural eczema? Findings from the International Study of Asthma and Allergies in Childhood (ISAAC) Phase Two. *Br J Dermatol* 2009; 161(4): 846-853. Epub 27 May. [15 citations]
 - 2.6 Nagel G, Büchele G, Weinmayr G, Björkstén B, Chen Y-Z, Wang H, Nystad W, Saraçlar Y, Bråbäck L, Batllés-Garrido J, García-Hernández G, Weiland SK, the ISAAC Phase Two Study Group. Effect of Breastfeeding on Asthma, Lung function, and Bronchial Hyperreactivity in ISAAC-Phase-Two. *Eur Resp J.* 2009; 33: 993–1002; Epub 2009 Jan22. [20 citations]
 - 2.7 Genuneit J, Cantelmo JL, Weinmayr G, Wong GWK, Cooper PJ, Riiikjäv MA, Gotua M, Kabesch M, von Mutius E, Forastiere F, Crane J, Nystad W, El Sharif N, Batllés-Garrido J, García-Marcos L, García-Hernández G, Morales Suárez-Varela MM, Nilsson L, Bråbäck L, Saraçlar Y, Weiland SK, Cookson WOC, Strachan DP, Moffatt MF, ISAAC Phase Two Study Group. A multi-centre study of candidate genes for wheeze and allergy. *The International Study of Asthma and Allergies in Childhood Phase Two. Clin Exp Allergy* 2009 Dec; 39(12): 1875-1888 [14 citations]
 - 2.8 Weinmayr G, Genuneit J, Nagel G, Björkstén B, van Hage M, Priftanji A, Cooper P, Rijkjäv M-A, von Mutius E, Tsanakas J, Forastiere F, Doekes G, Garrido JB, Morales Suárez-Varela MM, Bråbäck L, Strachan DP, the ISAAC Phase Two Study Group. International variations in associations of allergic markers and diseases in children: ISAAC Phase Two. *Allergy* 2010; 65(6): 766–775. Epub 21 Dec 2009. DOI:10.1111/j.1398-9995.2009.02283.x [15 citations]
 - 2.9 Nagel G, Weinmayr G, Kleiner A, Garcia-Marcos L, Strachan DP, the ISAAC Phase Two Study Group. Effect of diet on asthma and allergic sensitisation in the International Study on Allergies and Asthma in Childhood (ISAAC) Phase Two. *Thorax* 2010; 65(6): 516-522 doi:10.1136/thx.2009.128256 [31 citations]
 - 2.10 Büchele G, Genuneit J, Weinmayr G, Björkstén B, Gehring U, von Mutius E, Priftanji A, Stein RT, Addo-Yobo EO, Priftis KN, Shah JR, Forastiere F, Svabe V, Crane J, Nystad W, García-Marcos L, Saraçlar Y, El-Sharif N, Strachan DP and the ISAAC Phase Two Study Group. International Variations in Bronchial Responsiveness in Children: Findings From ISAAC Phase Two. *Pediatr Pulmonol* 2010; 45(8): 796–806 [5 citations]
 - 2.11 Flohr C, Nagel G, Weinmayr G, Kleiner A, Strachan DP, Williams HC and the ISAAC Phase Two Study Group. Lack of evidence for a protective effect of prolonged breastfeeding on childhood eczema: lessons from the International Study of Asthma and Allergies in Childhood (ISAAC) Phase Two. *Br J Dermatol* 2011; 165(6): 1280-1289 Epub 2 Nov. DOI: 10.1111/j.1365-2133.2011.10588.x [4 citations]
 - 2.12 Weinmayr G, Kleiner A, Genuneit J, Weiland S, Forastiere F. Relationship between rhinitis symptoms and allergic sensitization in phase 2 of the International Study of Asthma and Allergies in Childhood (ISAAC). *Allergologie* 2012; 35(1):11-19
 - 2.13 Flohr C, Nagel G, Weinmayr G, Kleiner A, Williams HC, Ait-Khaled N, Strachan DP, the ISAAC Phase Two Study Group. Tuberculosis, bacillus Calmette–Guérin vaccination, and allergic disease: Findings from the International Study of Asthma and Allergies in Childhood Phase Two. *Pediatric Allergy Immunology* 2012; 23: 324–331.

ISAAC Phase Three Publications (worldwide)

1.0 Preliminary Papers

- 1.1 Ellwood P, Asher MI, Beasley R, Clayton TO, Stewart AW on behalf of the ISAAC Steering Committee and the ISAAC Phase Three Study Group. ISAAC Phase Three Manual. Auckland. July 2000. ISBN 0-473-06910-5.
- 1.2 Ellwood P, Asher MI, Beasley R, Clayton TO, Stewart AW and the ISAAC Steering Committee. The International Study of Asthma and Allergies in Childhood (ISAAC): Phase Three rationale and methods. *Int J Tuberc Lung Dis* 2005; 9(1): 10-6. [98 citations]

2 Main Findings

- 2.1 Asher MI, Montefort S, Björkstén B, Lai CKW, Strachan DP, Weiland SK, Williams H, and the ISAAC Phase Three Study Group. Worldwide time trends in the prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and eczema in childhood: ISAAC Phases One and Three repeat multicountry cross-sectional surveys. *The Lancet* 2006; 368(9537): 733-743. [786 citations]
- 2.2 Pearce N, Ait-Khaled N, Beasley R, Mallo J, Keil U, Mitchell E, Robertson C, and the ISAAC Phase Three Study Group. Worldwide trends in the prevalence of asthma symptoms: phase III of the International Study of Asthma and Allergies in Childhood (ISAAC). *Thorax* 2007; 62(9): 758-66. [217 citations]
- 2.3 Björkstén B, Clayton T, Ellwood P, Stewart A, Strachan D, and the ISAAC Phase Three Study Group. Worldwide time trends for symptoms of rhinitis and conjunctivitis: Phase III of the International Study of Asthma and Allergies in Childhood. *Pediatr Allergy Immunol* 2008; 19(2): 110-24. [76 citations]
- 2.4 Williams H, Stewart A, von Mutius E, Cookson B, Anderson HR and the International Study of Asthma and Allergies in Childhood (ISAAC) Phase One and Three Study groups. Is eczema really on the increase worldwide? *J Allergy Clin Immunol* 2008; 121(4): 947-54. [65 citations]
- 2.5 Ait-Khaled N, Pearce N, Anderson HR, Ellwood P, Montefort S, Shah J, and the ISAAC Phase Three Study Group. Global map of the prevalence of symptoms of rhinoconjunctivitis in children: The International Study of Asthma and Allergies in Childhood (ISAAC) Phase Three. *Allergy* 2009; 64: 123-148 [49 citations]
- 2.6 Lai CKW, Beasley R, Crane J, Foliaki S, Shah J, Weiland S, and the ISAAC Phase Three Study Group. Global variation in the prevalence and severity of asthma symptoms: Phase Three of the International Study of Asthma and Allergies in Childhood (ISAAC). *Thorax* 2009; 64: 476-483. Epub 2009 Feb 22. [77 citations]
- 2.7 Odhiambo J, Williams H, Clayton T, Robertson C, Asher MI, and the ISAAC Phase Three Study group. Global variations in prevalence of eczema symptoms in children from ISAAC Phase Three. *J Allergy Clin Immunol*. 2009;124(6):1251-8. [35 citations]
- 2.8 Asher MI, Stewart AW, Wong G, Strachan DP, García-Marcos L, Anderson HR; the ISAAC Phase Three Study Group. Changes over time in the relationship between symptoms of asthma, rhinoconjunctivitis and eczema: A global perspective from the International Study of Asthma and Allergies in Childhood (ISAAC). *Allergol Immunopathol (Madr)*. 2012; 40(5):267-74
- 2.9 Mallo J, Crane J, von Mutius E, Odhiambo J, Keil U, Stewart A and the ISAAC Phase Three Study Group. The International Study of Asthma and Allergies in Childhood (ISAAC) Phase Three: A global synthesis. *Allergol Immunopathol (Madr)* 2012 Jul 6; Epub ahead of print.

3 Environmental Questionnaire Analyses

- 3.1 Beasley R, Clayton T, Crane J, von Mutius E, Lai CKW, Montefort S, Stewart A, for the ISAAC Phase Three Study Group. Association between paracetamol use in infancy and childhood, and risk of asthma, rhinoconjunctivitis, and eczema in children aged 6-7 years: analysis from Phase Three of the ISAAC programme. *Lancet* 2008; 372(9643): 1039-48. [100 citations]
- 3.2 Brunekreef B, Stewart AW, Anderson HR, Lai CKW, Pearce NE, and the Phase Three Study Group. Self Reported Truck Traffic on the Street of Residence and Symptoms of Asthma and Allergic Disease: A Global Relationship in ISAAC Phase Three. *Environ Health Perspect* 2009; 117(11): 1791-98. Epub July 2009. doi:10.1289/ehp.0800467. [15 citations]
- 3.3 Foliaki S, Pearce N, Björkstén B, Mallol J, Montefort S, von Mutius E and the ISAAC Phase Three Study Group. Antibiotic use in infancy and risk of symptoms of asthma, rhinoconjunctivitis and eczema in 6 to 7 year old children: ISAAC Phase Three. *J Allergy Clin Immunol* 2009;124(5):982-9. [18 citations]
- 3.4 Beasley RW, Clayton TO, Crane J, Lai CKW, Montefort SR, von Mutius E, Stewart AW, and the ISAAC Phase Three Study Group. Acetaminophen Use and Risk of Asthma, Rhinoconjunctivitis and Eczema in Adolescents: ISAAC Phase Three. *Am J Resp Crit Care Med*. 2011; 183(2): 171-178. epub 13 August 2010 [15 citations]
- 3.5 Björkstén B, Aït-Khaled N, Asher MI, Clayton TO, Robertson C, the ISAAC Phase Three Study Group. Global analysis of breast feeding and risk of symptoms of asthma, rhinoconjunctivitis and eczema in 6—7 year old children: ISAAC Phase Three. *Allergol Immunopathol (Madr)*. 2011;39(6):318-25. doi:10.1016/j.aller.2011.02.005 (Epub: <http://www.elsevier.es/sites/default/files/elsevier/eop/S0301-0546%2811%2900122-4.pdf>)
- 3.6 Brunekreef B, von Mutius E, Wong GK, Odhiambo JA, Clayton TO, the ISAAC Phase Three Study Group. Early life exposure to farm animals and symptoms of asthma, rhinoconjunctivitis and eczema: an ISAAC Phase Three Study. *Int J Epidemiol* 2012; 41(3): 753-761 Epub 27 Jan
- 3.7 Brunekreef B, Von Mutius E, Wong G, Odhiambo J, García-Marcos L, and Foliaki S; The ISAAC Phase Three Study Group. Exposure to Cats and Dogs, and Symptoms of Asthma, Rhinoconjunctivitis, and Eczema. *Epidemiology* 2012;23(5): 742–750
- 3.8 Anderson HR, Butland BK, van Donkelaar A, Brauer M, Strachan DP, Clayton T, et al. Satellite-based Estimates of Ambient Air Pollution and Global Variations in Childhood Asthma Prevalence. *Environ Health Perspect* 2012; Epub ahead of print May 1
- 3.9 Mitchell EA, Beasley R, Keil U, Montefort S, Odhiambo J, and the ISAAC Phase Three Study Group. The association between tobacco and the risk of asthma, rhinoconjunctivitis and eczema in children and adolescents: analyses from Phase Three of the ISAAC programme. *Thorax* 2012; Epub ahead of print

4 Other papers

- 4.1 Ellwood P, Williams H, Aït-Khaled N, Björkstén B, Robertson C, ISAAC Phase III Study Group. Translation of questions: The International Study of Asthma and Allergies in Childhood (ISAAC) experience. *Int J Tuberc Lung Dis*. September 2009; 13(9): 1174-1182 [14 citations]
- 4.2 Asher MI. Recent perspectives on global epidemiology of asthma in childhood. *Allergol Immunopathol(Madr)*.2010;38(2):83-7. Epub Jan [10 citations]
- 4.3 Flohr C. What can we learn about eczema from the International Study of Asthma and Allergies in Childhood (ISAAC)? *Allergologie* 2010; 33(6): 242–250 [1 citations]
- 4.4 Ellwood P, Asher MI, Stewart AW and the ISAAC Phase III Study Group. The impact of the method of consent on response rates in the ISAAC time trends study. *Int J Tuberc Lung Dis*. 2010 Aug;14(8):1059-65. [5 citations]
- 4.5 Flohr C. Recent perspectives on the global epidemiology of childhood eczema. *Allergol Immunopathol (Madr)*. 2011;39(3):174-182 [3 citations]

- 4.6 Ellwood P, Asher MI, Stewart AW, Ait-Khaled N, Mallol J, Strachan D, and the ISAAC Phase III Time Trends Study Group. The challenges of replicating the methodology between Phases I and III of the ISAAC programme. *Int J Tuberc Lung Dis.* May 2012; 16(5):687-693

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