

INTERNATIONAL STUDY OF ASTHMA AND ALLERGIES IN CHILDHOOD

CORRESPONDENCE TO:

Professor Innes Asher

ISAAC International Data Centre
Dept of Paediatrics: Child and Youth
Health.
Faculty of Medical & Health Sciences.
The University of Auckland
Private Bag 92 019
Auckland
NEW ZEALAND

Ph: 64 9 373 7599 ext 86451
Fax: 64 9 373 7602
Email: mi.asher@auckland.ac.nz
Website: <http://isaac.auckland.ac.nz>

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Sub editor - P Ellwood

NEWSLETTER – MAY 2011

Dear ISAAC colleagues and friends,

Since our last newsletter in September 2010 a lot has happened. At our [Steering Committee meeting](#) and [Symposium](#) in Auckland in late January we had a chance to reflect on progress made over the last 20 years.

The focus in the early part of 2010 was strongly on attempts to raise funds for the Auckland ISAAC International Data Centre (IIDC). In May 2010 we had no funds available for salaries from the end of October that year. There was also uncertainty in Ulm regarding the final appointment of a new director. Fortunately events took a happy turn and we were able to secure funds from New Zealand funding sources (The Auckland Medical Research Foundation [AMRF] and Lottery Health Research) until the end of November 2011. The new director who has replaced Stephan Weiland in Ulm (Professor Dietrich Rothenbacher) is supportive of ISAAC activities. We can thus feel positive about the year ahead.

We have made great progress on preparation and submission of publications <http://isaac.auckland.ac.nz/publications/publicationsintro.html>. (and see [publications](#)). We do have a challenge to complete all of the worldwide publications in process within our existing resources. The ISAAC web site has progressed enormously due to the work of Eamon Ellwood. Development of the web-based [ISAAC Story](#) is now nearly finished. We would like to add contributions from the remaining 263 Principal Investigators and 64 National Coordinators who have yet to send us further information for their centre or country pages (<http://isaac.auckland.ac.nz/story/>). We will announce publicly the ISAAC Story at the end of June, and hope that last gaps will be filled by then.

[Archiving of the data](#) has been completed for the Phase One and Phase Three data. The individual level Phase One data is now available to ISAAC Phase One collaborators in password protected form on the ISAAC website. <http://isaac.auckland.ac.nz/>. In the coming months we will explore a similar process for Phase Three data, and will contact Principal Investigators for permission. We will be putting [Phase Three summary data](#) on the ISAAC website on 1st June and would appreciate PI's reading page 12 last paragraph.

Late last year we received a proposal to collaborate with The International Union Against Tuberculosis and Lung Disease ("The Union") to help in the preparation of a [Global Asthma Report](#). This will complete ISAAC Phase Four with a flourish and provide some further funds for the IIDC.

Unfortunately we have not been successful in raising funds for [ISAAC Phase Five](#). It is anticipated that ISAAC Phases Two, Three and Four will be completed by the end of 2012. Thus the ISAAC Steering Committee decided reluctantly that ISAAC will not continue beyond that date.

It is important that we continue to work together to finish the ISAAC work we started. Thank you for your valuable contributions.

Warmest wishes *Innes*

Professor Innes Asher ONZM
Chair of ISAAC

Congratulations to:

Dr Manuel Baeza-Bacab
ISAAC National Coordinator Mexico
ISAAC Phase Three Principal Investigator Mérida

Promotion within the University Autónoma de Yucatán



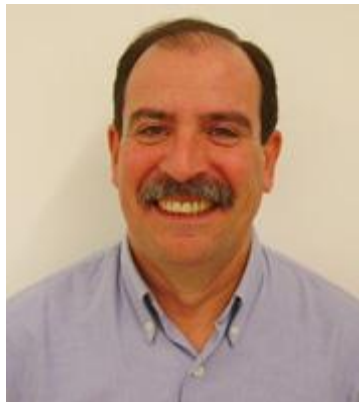
Manuel Baeza-Bacab in January 2011 was appointed Coordinator of the Postgraduate and Research System of the Universidad Autónoma de Yucatán

Congratulations Manuel

Congratulations to:

**Professor Luis García-Marcos
ISAAC Steering Committee
ISAAC National Coordinator Spain**

Special award from the University of Murcia, Spain, 2011



Luis García-Marcos is Professor of Paediatrics and Director of the Institute of Respiratory Health at the University of Murcia. Professor García-Marcos' research interests include asthma epidemiology and genetics as well as inflammatory markers in exhaled breath condensate. This award is for his dedication to his clinical and research work over the past 25 years.

Congratulations Luis.

Congratulations to:

**Professor Ed Mitchell
ISAAC Steering Committee**

Fellow of the Royal Society of New Zealand



At the end of 2009 Ed was elected a Fellow of the Royal Society of New Zealand in recognition of distinction in research and the advancement of science. He was one of ten New Zealand pure and applied science and humanities researchers that were elected.

“Being elected as a Fellow is an honour given to our top scientists for showing distinction in pure or applied research or in the advancement of science and technology.”

The citation stated that Ed “has played a leading role in child health research particularly the identification of risk factors for SIDS and the promotion of prevention strategies.”

Congratulations Ed.

Congratulations to:

Professor Heather Zar
ISAAC National Coordinator South Africa
ISAAC Principal Investigator Cape Town

Chair of the Department of Paediatrics and Child Health at the University of Cape Town and Red Cross War Memorial Children's Hospital (RCH), where she is also Director of the Division of Paediatric Pulmonology.

Heather received a special award at the 2010 International Paediatric Pulmonology Congress for "Paediatric outstanding leadership in Africa and distinguished service to the children with the greatest need".



A profile on Heather was included in the September 2010 issue of The Lancet.
www.thelancet.com **Vol 376 September 4, 2010**

Heather has spent more than a decade developing strategies to tackle respiratory illnesses, such as pneumonia, tuberculosis, and asthma, which are leading causes of mortality and morbidity in children worldwide, but especially for children in Africa and advocating for better access to health for African children.

"Heather's contributions to the underserved nationally and internationally, are well known and exemplify her commitment to social justice", says Robert Mellins, Emeritus Professor and former Director of the Pediatric Pulmonary Division at Columbia University, and a past President of the American Thoracic Society. He adds that: "She has contributed to our understanding of the prevention, prevalence, diagnosis, and treatment of respiratory disease and has made a real contribution to child health."

Congratulations Heather

ISAAC Steering Committee meeting, Waiheke Island, New Zealand 25th and 26th January 2011



Participants at the ISAAC Steering Committee Meeting, The Dunes, Waiheke Island Resort, Waiheke Island, New Zealand, 25-26 January 2011

- | | | |
|---------------------|---------------------|------------------------|
| 1. Innes Asher | 2. Alistair Stewart | 3. Colin Robertson |
| 4. Ross Anderson | 5. Neil Pearce | 6. Bert Brunekreef |
| 7. Nadia Ait-Khaled | 8. Chris Lai | 9. Stephen Montefort |
| 10. Ed Mitchell | 11. Richard Beasley | 12. Julian Crane |
| 13. David Strachan | 14. Javier Mallol | 15. Gudrun Weinmayr |
| 16. Hywel Williams | 17. Tadd Clayton | 18. Philippa Ellwood |
| 19. Joseph Odhiambo | 20. Eamon Ellwood | 21. Luis García-Marcos |
| 22. Carsten Flohr | 23. Sunia Foliaki | |

ISAAC 20 Year Symposium, Auckland New Zealand 27th January 2011

The International Study of Asthma and Allergies in Childhood (ISAAC) celebrated its 20 year anniversary with a one day international symposium on asthma, eczema, rhinitis and the environment on 27 Jan 2011, in Auckland, New Zealand. About 300 people attended, with presentations from 15 ISAAC Steering Committee members and associates. You can find the speakers, and download their presentations from <http://isaac.auckland.ac.nz/news/symposium2011.html>

You can read a brief report http://www.auckland.ac.nz/webdav/site/central/shared/for/the-media/publications/university-news/2011-issues/uo_a_news_issue_1_2011.pdf



Innes Asher greeting the Associate Minister of Health Tariana Turia

ISAAC will finish at the end of 2012.

In November 2004 the ISAAC Steering Committee made a decision to proceed with plans for Phase Five 2010—2012. The concept was a repeat of ISAAC Phase Three after 5-10 years, including repeating the environmental questionnaire – the first time trends of individual level risk factors. There has been great interest in Phase Five, with 159 centres in 79 countries expressing an interest.

The Steering Committee has strenuously sought funding for Phase Five, but we regret to report that we have been turned down by all potential funding bodies. The major reasons for the rejections have been the perception of incompatibility between the funding proposals and the aims of the funding bodies, and unwillingness of funding bodies to send funds directly to New Zealand.

However, while the location of the IIDC has been a disadvantage for some applications, we would not of course have the recent funds from the New Zealand AMRF and Lottery Health Research (complete Phase Three) if the IIDC was in another location.

We are searching for continuation funding until the end of December 2012. The many tasks remaining for the Auckland International Data Centre to finish ISAAC Phases Three and Four include: completion of 11 worldwide publications, completion of the ISAAC Story, data archiving, making data available to ISAAC collaborators and others, maintenance of the ISAAC website including additions of publications, newsletters and other communications with the ISAAC collaborators.

Archiving ISAAC Phase One, Phase Two and Phase Three Data

The ISAAC Steering Committee decided in 2009 that it was important to develop a plan for archiving Phase One, Phase Two and Phase Three data. Archiving of the ISAAC data means that copies of the data would be securely stored in at least two locations, separated by a long distance. The main reason for archiving the data is to be certain that the ISAAC data would not be lost if there was a major disaster or major computer failure in one of the locations. Recent events have shown that such disasters can occur anywhere. The overall aim of the archiving process is therefore to safeguard the data against any unforeseen events.

The ISAAC Steering Committee decided that copies of the Phase One and Phase Three data should be stored at the ISAAC International Data Centre (IIDC) in Auckland, New Zealand, and at St Georges Hospital Medical School in London, UK. Copies of the Phase Two data will also be stored at the IIDC and St Georges, as well as Ulm, Germany.

The data will be archived as text files which are the simplest available file format. It is likely that it will always be possible to read data from this type of file. Standardised data structures and file names will be used so that the data can be read in an automated manner. The archive data files will be accompanied by text files which include information about how the data is organised (data about data, often known as ‘metadata’).

The archiving of ISAAC Phase One, Phase Two and Phase Three data will minimise the risk of loss of the data and ensure that the results of the fantastic work of ISAAC collaborators throughout the world will never be lost.

Tadd Clayton, IIDC Data Manager

Global Asthma Report 2011

In late 2010 ISAAC was approached by the International Union Against Tuberculosis and Lung Disease – now known as The Union to collaborate in preparing a Global Asthma Report (GAR) by mid 2011.

Dr Nils Billo, the Chief Executive of The Union explained, as follows, the concept of the GAR.

The Union is proposing a Global Asthma Report in **response to a need for:**

- increased government commitment to tackling asthma;
- improved asthma data collection and analysis (eg common methodologies, broader coverage);
- increased advocacy about asthma as a key non-communicable disease (NCD);
- funders for research (eg existing proposals such as ISAAC) and future surveillance activities;
- activity that will improve patient access to medicines in low income countries (LICs) and middle income countries (MICs) (e.g. through The Union's Asthma Drug Facility).

The **goal** of the GAR is to create increased awareness about asthma and build a strong movement towards better asthma management in all countries. The report will present and monitor the best available comparable country-level data that will help national governments to assess their efforts by comparisons with other countries. The ultimate goal of the GAR is to improve access to good quality asthma medicines and care worldwide.

Global Asthma Report 2011: A UN Summit on NCDs is being held on 19-20 September 2011. The UN Summit (and the time leading up to it) will be pivotal for placing asthma on the global agenda and for setting up long-term activity to improve global asthma. The GAR prior to this Summit would aim to raise awareness about asthma as an NCD, the need for increased funding for research and asthma information systems.

ISAAC Executive in December 2010 discussed and approved taking the proposal to the ISAAC Steering Committee in Auckland January 2011. Following lengthy discussion by the ISAAC Steering Committee and the concept was approved. We noted that this would be a significant piece of work (output) for ISAAC Phase Four – returning something – by raising the profile of asthma with world leaders using published ISAAC data. It would be a way of making the ISAAC data more valuable, and the centres (through their data) making a visible contribution; it could be an endpoint of ISAAC Phase Four. A formal link with The Union would be positive, as their ethos fits well with ISAAC. As ISAAC is not proceeding to Phase Five ISAAC collaborators could have a new home with The Union.

In March 2011 a contract was signed by The Union and ISAAC through the University of Auckland, covering the deliverables, and providing funding for the Auckland data centre to assist with the preparation of the publication.

Central in the report will be existing ISAAC Phase Three data including prevalence and severity of asthma, [237 centres in 98 countries], time trends [106 centres from 56 countries, involving 2 age groups [13-14 and 6-7 years]. Included will be information concerning the availability of national asthma guidelines for both children and adults as this information will be informative. Many National Coordinators and some Principal Investigators have already been contacted and we appreciate the prompt replies. All ISAAC Principal Investigators, National coordinators and ISAAC Steering Committee will be acknowledged in this publication.

ISAAC Editorials

Holgate ST. University of Southampton, United Kingdom. *The Acetaminophen Enigma in Asthma [Editorial]*. Am J Respir Crit Care Med 2011; 183: 147-151.

In response to

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 Respi Crit Care Med. 2011; 183(2): 171-178.

Town GI, Fitzgerald JM. *Asthma: improved understanding and insights into the challenges of achieving asthma control [Editorial]* Thorax 2010; 65:758-759

In response to

Pearce N, Ait-Khaled N, Beasley R, Mallol 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.

Williams HC. *The future of atopic eczema research [Editorial]*, Allergologie 2010; 33: 239-241

In response to

Flohr C. *International Study of Asthma and Allergies in Childhood (ISAAC): Neue Erkenntnisse über Neurodermatitis*. Allergologie 2010; 33 242-250

Asher MI. ISAAC Steering Committee Chair. *World Asthma Day: reflections on ISAAC [Editorial]*. Int J Tuberc Lung Dis 2011; 15 (5); 569

Williams HC *Eczema across the World: The Missing Piece of the Jigsaw Revealed [Editorial]* J Invest Dermatol 2011; 131 :12-14.

Website Report

The ISAAC Story

The main structure of 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. The website follows the structure that was sent out in the last newsletter (<http://isaac.auckland.ac.nz/news/newsletters/news201009.pdf>) and the main content has been completed by the Steering Committee and numerous other contributors.

We are awaiting content from centres, including images to make it a really collaborative experience. The intent of the ISAAC Story is to recognize the entire ISAAC collaboration, as it is this collaboration that has made ISAAC the huge success that it is. This is the ideal opportunity for the ISAAC collaborators who are not Principal Investigators to be properly acknowledged. We wish to include photographs, and anecdotes from fieldwork and other matters of interest from behind-the-scenes. It is time to dust off those old boxes of ISAAC records!

Examples of centre pages can be found at

<http://isaac.auckland.ac.nz/story/centres/centres.php?cen=1001> (Auckland centre) or

<http://isaac.auckland.ac.nz/story/centres/centres.php?cen=3001> (Surrey/Sussex centre).

To view your centre, select it from the menu at <http://isaac.auckland.ac.nz/story/centres/centres.html>.

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). An email request for contributions will also be sent shortly.

Current responses

Centres: 30/306

Countries: 15/81 (National Coordinators)

Regions: 9/9

The ISAAC Story can be viewed at:

<http://isaac.auckland.ac.nz/story/index.html>

To ensure a comprehensive document we need to have up to date contact details for all the ISAAC collaborators. If you know of any collaborators whose emails have changed, particularly those listed below, please send these to Eamon Ellwood (e.ellwood@auckland.ac.nz).

Dr Mao Bao-Shan - Shanghai, China

Dr Marco Biocca - Emilia-Romagna, Italy

Dr Keng Hwang Teh - Alor Setar, Malaysia

Dr Turku Koivikko – Turku, Finland

Professor Abdelkrim Bennis – Rabat, Morocco

Professor Putu Konthen – Bali, Indonesia

Dr Lim Wee Yeong – Ipoh, Malaysia

Kind regards

Eamon Ellwood

ISAAC Webmaster

e.ellwood@auckland.ac.nz

ISAAC Publications

We are continually updating the publications database with new ISAAC papers as they are published or located, and continuing to search for full text articles (see below). Currently we have 474 journal articles in the database (as well as various manuals and other publications) and full text access for 339 of these. All other articles are linked to the abstract on the journals website (where the journal has a website).

We continue to search for missing pdf files of ISAAC articles. Currently we have 8 articles that we are unable to locate pdf files for. If you are able to assist in locating these, please contact me (e.ellwood@auckland.ac.nz).

Chereches-Panta P, Popa M, Iacob D, Muresan M, Dumitrascu D, Ichim G, Mirestean I, Nanulescu MV. [*Prevalence of bronchial asthma in 7 years -old children in Cluj-Napoca, an ISAAC study*], *Pneumologia*. 2003 Apr-Jun;52(2):134-40. Románian.

Cherecheş-Panţa P, Popa MD, Iacob D, Mureşan M, Man SC, Farcău M, Indolean C, Ichim GE, Mireştean I, David L, Nanulescu MV. [*Increase of the prevalence of bronchial asthma and related symptoms in students in Cluj-Napoca. Epidemiologic study with a five-years interval*] *Pneumologia*. 2004 Jan-Mar;53(1):47-52.

Charpin D, Penard-Morand C, Raheison C, Kopferschmitt C, Lavaud F, Caillaud D, Annesi-Maesano I. *Long-term exposure to urban air pollution measured through a dispersion model and the risk of asthma and allergy in children*. *Bull Acad Natl Med* 2009; 193(6): 1317-1328

Masjedi MR, Fadaizadeh L, Najafizadeh K, Dokouhaki P. *A Study of the Prevalence and Severity of Rhinitis in Children in Tehran: ISAAC Study*. *Journal of Isfahan Medical School (I.U.M.S)* Spring 2005; 23(76):36-41.

Fadaizadeh L, Keyvan S, Najafizadeh K, Masjedi MR. *Evaluation of Agreement between Video and Written Questionnaires for Asthma Symptoms Among Children of Tehran: ISAAC Study*. *Journal of Shahid Sadoughi University of Medical Sciences and Health Services*, summer 2008; 16(2):36-43.

Moghadam M, Jou S. *Prevalence of Asthma Symptoms among 13-14 years old Children in Birjand*. *TABIB-E-SHARGH* Fall 2004; 6(3):183-192.

Riedler J, Reade T, Dalton M, Holst D, Robertson CF. *Hypertonic saline challenge in an epidemiological survey of asthma in children*. *Am J Respir Crit Care Med* 1994; 150:1632-1639.

Eder W, A Gamper, G Oberfeld, J Riedler. *Clinical follow-up of an epidemiological study of asthma and allergies in children [Klinische Nachuntersuchung einer epidemiologischen Studie über Asthma und Allergien im Kindesalter.] (article in German)*. *Wien Klin Wochenschr* 1998; 110(19):678-685.

Our aim is for the ISAAC publications database to be the definitive record of articles produced by ISAAC collaborators including articles from centres published in local journals.

However, being based in New Zealand means that we can only find journals that are indexed by large journal services such as Medline. If you have published articles in local journals that are not indexed by these services, could you please check to see if your article is on the ISAAC website (the easiest way to do this is an author search publications search page), and if not, please send it to me. (e.ellwood@auckland.ac.nz)

Also, when you publish a new article could you please send me the details, and preferably a pdf.

As always, we encourage you to make use of the publications facility (<http://isaac.auckland.ac.nz/publications/publicationsintro.html>) Please check to see that your articles have been included. If not please contact me at e.ellwood@auckland.ac.nz.

ISAAC Resources

The ISAAC Resources' section (<http://isaac.auckland.ac.nz/resources/resources.php>) including the comprehensive list of management guidelines and 'ISAAC Tools' section- a collection of manuals and questionnaires for ease of use – has seen consistent use in the 6 months since its introduction. We still wish to increase the management guidelines in this section. We currently have 15 from various countries. It is important that these guidelines are NOT sponsored by the pharmaceutical industry. If you know of any such guideline, we would like to hear from you and receive the link or a pdf of the guideline, with permission to use it.

We aim for the Phase Four/Resources page to have a wide range of useful resources, so if you have any information that could be added to the website such as useful links to good research /resource sites, asthma information sites open journal sites etc, management recommendations or entry level 'information pages' about asthma, eczema and rhinitis, please forward them to me. (e.ellwood@auckland.ac.nz)

ISAAC News

As noted previously, the ISAAC Symposium talks are now on the website at <http://isaac.auckland.ac.nz/news/symposium2011.html>. This includes the presentation slides, and audio or video. There is also now a News Articles Page <http://isaac.auckland.ac.nz/news/media.html>. This contains links to ISAAC related news items in mainstream media.

We are always looking for noteworthy information to go on our news and announcements page. This is intended to keep the ISAAC community up to date with what is happening in the ISAAC study more frequently than the bi-annual newsletter. If you have any noteworthy events or announcements, please let me know and I will add them to the webpage.

Phase One Individual Data

Last year we started to request permission from Principal Investigators to display the individual level Phase One Data. We have now received a response from 131 centres. At the time a 12 month embargo was proposed. **This embargo will expire at the end of June 2011 and the Phase One Individual data will be moved to the public section of the ISAAC website. We are still seeking permission from the remaining centres to display this data.** If you have not yet done so, please fill out the Phase One permission form on the next page and return it to me at e.ellwood@auckland.ac.nz.

Phase Three Results

Last year we added the Phase Three Results page (<http://isaac.auckland.ac.nz/phases/phasethree/results/results.php>) to accompany the Phase One Results page. This includes the summary centre level results as well as selected information about the study centre. Currently we have received permission from 172 centres. As this is a collation of summary level data that has already been published in the worldwide publications, we are proposing to display the data on the website unless the centre specifically requests that we do not. ***Please contact Eamon if you have any concerns or comments regarding this.*** This data will be made available on the 1st of June unless we are notified otherwise.

Summary of Permission results

Phase One Individual Data Release Results

	No	%
Centres	166	100
Permission replies	131	78.9
Negative	1	0

Phase Three Summary Data Release Results

	No	%
Centres	238	100
Permission replies	172	72.2
Negative	0	0

PLEASE COMPLETE THE FORM BELOW AND RETURN TO e.ellwood@auckland.ac.nz IF YOU HAVE NOT ALREADY DONE SO

ISAAC PHASE ONE Individual data release

Your Name (printed): _____

ISAAC Phase One Centre Name(s): _____

Please indicate whether you agree or not to presentation of the **ISAAC Phase One individual level data** from your centre on the ISAAC web site (<http://isaac.auckland.ac.nz>) by ticking the appropriate box:

I consent to presentation of ISAAC Phase One individual level data from my centre(s) on the ISAAC web site which will be password protected for the ISAAC Phase One collaborators for a period of 12 months from June 2010 until June 2011. The age of participants will be presented in months to ensure anonymity.

I do not consent to presentation of ISAAC Phase One individual level data from my centre(s) on the ISAAC web site.

Signature: _____ Date: _____

Email address: _____ Fax: _____

Please complete this form and fax it to +64 9 373 7602 by 30 August 2010.

THANKYOU

ISAAC Publications of worldwide analyses (updated May 2011)

ISAAC Phase One Publications (worldwide)

1.0 Preliminary Papers

- 1.1 ISAAC Phase One Manual. 2nd ed. Auckland and Münster: ISAAC Steering Committee, 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. [259 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. [1058 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. [252 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. [1675 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. [340 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. [570 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. [107 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 [40 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. [8 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. [68 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. [31 citations]
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5.0 Other Papers

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- 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. [86 citations]

ISAAC Phase Two Publications (worldwide)

1.0 Preliminary Papers

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- 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. [111 citations]

2 Main Findings

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- 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. [25 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 [14 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 [12 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. [5 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. [5 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 [7 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 [4 citations]
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 - 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

ISAAC Phase Three Publications (worldwide)

1.0 Preliminary Papers

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- 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. [77 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. [533 citations]
- 2.2 Pearce N, Ait-Khaled N, Beasley R, Mallol 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. [131 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. [41 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. [34 citations]
- 2.5 Aït-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 [20 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 Feb22. [32 citations]
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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. [64 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. [8 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. [9 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 [1 citations]

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 [7 citations]
- 4.2 Asher MI. Recent perspectives on global epidemiology of asthma in childhood. *Allergol Immunopathol(Madr)*.2010;38(2):83-7. epub Jan [2 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.

Professor Neil Pearce
ISAAC Publications Coordinator
ISAAC Executive
E-mail: n.e.pearce@massey.ac.nz