

INTERNATIONAL STUDY OF ASTHMA AND ALLERGIES IN CHILDHOOD

NEWSLETTER – MAY 2012

Dear ISAAC colleagues and friends,

Welcome to the first Newsletter for 2012.

The ISAAC Executive and IIDC, join me in hoping that the year has started well for you and that it is promising to be a good year. The time has already passed very quickly and it is surprising that it is already May. I guess this year will go as quickly as last year, and is always a challenge to complete everything we set ourselves to do.

As mentioned in the November 2011 Newsletter, ISAAC will finish at the end of this year. This is a sad time for us all, especially those of us at the IIDC. We are especially sad to see Tadd leave. He has begun his new job as Data Manager with the Section of Epidemiology and Biostatistics, Population Health at The University of Auckland, and finished up with ISAAC on the 8th May. The IIDC has celebrated his achievements and have given him appropriate farewells over the past few weeks. We wish Tadd well in his new position.

You will be aware of a new initiative - The Global Asthma Network, which has been created by some members of the ISAAC Steering Committee and some members of The Union. Many of you have already sent back to the IIDC via Philippa, an expression of interest form for the Global Asthma Network, which will keep you up to date with the progress of this group. The Steering Group of the Global Asthma Network are busy setting the foundations and goals and plan to increase awareness of asthma as an important non-communicable disease.

It is now 5 years since the death of Professor Stephan Weiland, a founding member of ISAAC and a vital member of the ISAAC Steering Committee particularly for the role he played in Phase Two. We have a tribute to Stephan in this newsletter.

The ISAAC worldwide papers still seem to be coming out thick and fast which is a delight to see. In particular it has become common for our papers last year and this year to attract the attention of the journal editors with editorials or 'Editor's choice.' You can keep up to date with these editorials on the ISAAC website <http://isaac.auckland.ac.nz/publications/editorials.php> In particular, Stephan would have been proud of the productivity of ISAAC Phase Two.

We will prepare and send out a final ISAAC newsletter later in the year. We have had a wonderful association with you all through our ISAAC activities and look forward to further communication with you.

With all good wishes on behalf of the ISAAC Executive

Innes

Professor Innes Asher ONZM
Chair of ISAAC

CORRESPONDENCE TO:

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NEWSLETTER CONTENT:

- ◆ Editorial: Innes Asher
- ◆ Congratulations to:
Luis García-Marcos
- ◆ Tribute to Stephan Weiland
- ◆ Asthma Drug Facility (ADF)
- ◆ Farewell from Tadd Clayton
- ◆ Farewell to Tadd from Innes
- ◆ Data Sharing responses update
- ◆ ISAAC website Report
- ◆ New Editorials on ISAAC papers
- ◆ Publication check
 - ◆ ISAAC Phase One Publications
 - ◆ ISAAC Phase Two Publications
 - ◆ ISAAC Phase Three Publications

Sub editor - P Ellwood

Congratulations to:

Professor Luis García-Marcos



ISAAC Executive member
ISAAC Steering Committee member
ISAAC National Coordinator for Spain
ISAAC Phases One, Two and Three Principal Investigator for Cartagena

Prof. Luis García-Marcos has been recently registered as full Professor of Pediatrics by the Spanish “Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA)” (National Agency for Quality Assessment and Accreditation). This agency, which is considerably demanding, takes into consideration all achievements of candidates in the field of teaching and research during their professional careers. Professor Luis García-Marcos’ accomplishment is the highest academic position which can be attained in Spain. He has been Professor of Pediatrics at the University of Murcia since 1989 and has been involved in the ISAAC collaboration almost from its beginning. As coordinator for Spain he organized and maintained one of the most numerous ISAAC networks within a single country from Phases One through Three. He was appointed member of the ISAAC steering committee in 2006 and has been a member of the ISAAC Executive committee since 2007.

Apart from the epidemiology of asthma and allergic diseases in children, Professor García-Marcos’ research interests include lung physiology in infants; and the lung function laboratory at the “Virgen de la Arrixaca” university children’s hospital is top in his country. Furthermore, he is the editor of the international journal “Allergologia et Immunopathologia”.

Professor García-Marcos recognizes that this new achievement would not have been possible without his involvement in the ISAAC collaboration.

CONGRATULATIONS LUIS!!!!

TRIBUTE TO:

STEPHAN WEILAND

25 December 1958 to 19 March 2007

Professor Dr Med Stephan KM Weiland. Professor of Epidemiology, Head of the Institute of Epidemiology, University of Ulm, Coordinator of Phase Two of the International Study of Asthma and Allergies in Childhood (ISAAC) and Executive member of the ISAAC Steering Committee

It is 5 years since Stephan passed away. Stephan, our much loved friend and colleague, died suddenly and unexpectedly on the 19th March 2007. Stephan was one of the founding members of ISAAC and made an enormous contribution to the scientific development of the study through his long service on the ISAAC Executive and as Phase Two Coordinator. Indeed, without Stephan's leadership, stamina and diplomatic skills, there would probably have been no ISAAC Phase Two. Above all, he cared about people and dedicated his life to health prevention and health promotion, especially asthma and allergies in children. Our love and thoughts go to his family at this time.



25th May 2012

ASTHMA DRUG FACILITY (ADF)

Update

The Union established the Asthma Drug Facility (ADF) to provide affordable access to quality-assured, essential asthma medicines for low- and middle-income countries and to promote a quality improvement package for the diagnosis, treatment and management of asthma.

The ADF has been fully operational since 2009. It has performed two rounds of qualification followed by restricted tenders to establish contracts with manufacturers for inhaled corticosteroids and inhaled salbutamol – the asthma medicines on the WHO Essential Medicines List. ADF's quality-assurance system is based on WHO norms and standards. Countries, organisations and programmes in low- and middle-income countries can use ADF services to purchase the medicines they need to implement asthma programmes or integrated approaches to respiratory health such as the Practical Approach to Lung health (PAL). Clients need to commit to criteria designed to promote affordable access for patients and rational medicine procurement and use.

The ADF has already supplied essential asthma medicines to Benin, El Salvador, Kenya, Sudan, Burundi and Vietnam. Through the ADF, these countries have seen the cost of inhalers fall by as much as 50%, making one year of treatment with Beclometasone and Salbutamol for a patient with severe asthma cost less than 40 USD. However, the ADF services have only been used by a very limited number of countries. Millions of people with asthma in low- and middle-income countries currently have no treatment, or inappropriate treatment.

For further information, please contact adf@theunion.org or consult www.GlobalADF.org

ADF, International Union Against Tuberculosis and Lung Disease, (The Union)
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As Innes mentioned in the November 2011 Newsletter, the ISAAC programme is drawing to a close. I will soon be moving to full time work on another research programme and would like to express my sincere thanks to all the ISAAC collaborators I have worked with since 1993. Although it will be sad to finally finish, I have enjoyed my time with ISAAC immensely and am proud of what we have achieved.

When I began with ISAAC all those years ago, I certainly didn't consider the possibility that I would be involved for nearly 2 decades – after all, my first contract was for only 2 years! Fortunately we have had a great run of success over the years in obtaining research funding and I am very grateful to all of the funding organisations which have provided support for the ISAAC International Data Centre.

My early years with ISAAC were busy with learning about the ISAAC Phase One data (and even helping in a minor way with data collection in Auckland), developing methods for checking the data, and helping ISAAC collaborators from around the world to improve the quality of their data.

Communication with the ISAAC collaborators at that time was generally by letter and fax only. Most of the data I received from ISAAC centres around the world arrived on floppy disks or diskettes – it was quite an event to receive a CD! As you can imagine, the pace of the data checking process was a bit slower at that time, as weeks would pass while I received an initial version of the data, carried out the data checks and returned my comments and suggestions to the collaborator and then waited for a revised version of the data (or a list of changes to be made). This is quite a contrast with the present – we all now expect instantaneous responses to email messages.

The Phase One data checks were generally completed by 1996 and the next few years were busy with analyses of the data and preparation of the Phase One global and ecological papers. During this period I learned a lot about analysis and presentation of data, and my training in Geography proved to be useful as we developed the maps which are a striking feature of the global papers.

By 2000, Phase Three was getting underway and I was again carrying out data checks and helping collaborators to improve the quality of their data. However there were differences – Phase Three was much larger than Phase One (237 vs. 156 centres) and also included the optional environmental questionnaire. I was therefore busy with Phase Three data checks through to 2005, and have been involved with analyses and preparation of publications through to the present.

One of the benefits of working with ISAAC has been the opportunity to learn new skills and gain valuable experience of the research process. The unique experience and skills I gained during my time with ISAAC was certainly important in my success in applying for my new role. I will be managing and analysing data concerning cardiovascular disease in New Zealand – a slight change from asthma, rhinitis and eczema in children.

A highlight of my time with ISAAC has been the wonderful opportunities to visit other parts of the world. Some ISAAC collaborators may struggle to identify exactly where New Zealand is in the world but I can give you a clue – it's a long way from everywhere else! Travelling from New Zealand to Europe, Africa, Asia, North America or South America takes a long time and is very costly. I was therefore very privileged to be able to travel to many ISAAC Steering Committee meetings and was able to spend time in many countries which I could not have hoped to visit without ISAAC. I was also particularly glad to have the opportunity to meet some of the wonderful researchers from throughout the world who have contributed to ISAAC.

Thank you to all the collaborators who have helped me with data throughout my time with ISAAC. It has been a privilege and a pleasure to work with you all, and I hope that you have forgiven me if any of my questions and comments were difficult to understand or respond to. ISAAC has been an extraordinary programme and I am always astonished when I consider how ISAAC studies were carried out to a wonderful high standard by so many researchers in so many different countries around the world.

Good luck and best wishes for the future to all ISAAC collaborators and their families.



Tadd

<http://isaac.auckland.ac.nz/news/newsletters/news200112.pdf> This is a link to the December 2001 Newsletter which profiled Tadd



To Tadd, from Innes Asher

There is a Māori proverb which says: “Ehara tāku toa i te toa takitahi ēngari he toa takimano e” (My strength is not mine alone, but that of many).

For me, as Chair of ISAAC Tadd has been one of the many who have given me and the whole research programme great strength.

I have worked with Tadd for 19 years, all with ISAAC. Although his original appointment was for only two years, we have been delighted that he continued to work with us throughout the ISAAC journey. Indeed having the same Data Manager throughout and having Tadd in the role have been key success factors for ISAAC.

At the time Tadd joined the ISAAC team only 4 centres from 2 countries were involved. Although an international study was envisaged, no one had anticipated the extraordinary growth of ISAAC which is captured in the [ISAAC story](#). Everyone involved in ISAAC stepped up to the growth and development and ensured communication, processes and expertise rose to the challenges.

Tadd came to us with an MSc in Geography and quickly developed the processes for data management required of our study as it expanded like wildfire. This resulted in him communicating with more than 250 principal investigators in centres more than 100 countries. He developed processes for data checks and data analyses under the direction of Senior Biostatistician Alistair Stewart of our institution and the ISAAC Steering Committee.

Tadd has been integrally involved in all of the worldwide publications for Phase One and Phase Three, and several other related publications – in total 54 listed on the ISAAC website. His expertise has enhanced the preparation of these manuscripts, contributing significantly to their successful publication.

Tadd’s expertise, skills, intelligence, tolerance and loyalty will be sorely missed, not only by the ISAAC community but especially by me!

I am delighted for him that he has a new position in our Faculty where his expertise, skills and other excellent qualities will be of value. I am glad he has not gone far so that we keep in close contact.

“Haere rā Tadd, Kei runga noa atu. Ka kite anō au i a koe.”
(Goodbye Tadd. You’ve been great. I’ll see you again)

DATA SHARING

Dear Phase Three Principal Investigator

As discussed in the November 2011 Newsletter, the Steering Committee made arrangements for wider sharing of the ISAAC datasets to facilitate the maximum potential of the ISAAC data to be realised. The full ISAAC Phase One and Phase Three data sets are now available on the ISAAC website in a secure password protected section. They are available only to those Principal Investigators (see list next page) who have given permission to share their data (Phase One data are available for those centres that gave permission). These datasets are shared within study groups; Phase One Investigators may access Phase One data, Phase Three Investigators may access Phase Three data.

If you participated in both Phase One and Phase Three, your password will access both datasets, but you will need to enter them separately.

The data can be accessed at: <https://isaac.auckland.ac.nz> (please note the 's' in the https). There will also be a link on the ISAAC website in the Phase Three section. <http://isaac.auckland.ac.nz/phases/phasethree/phasethree.html>

Individual emails with login details have been sent to consenting Principal Investigators. If you experience any difficulties please contact me at e.ellwood@auckland.ac.nz

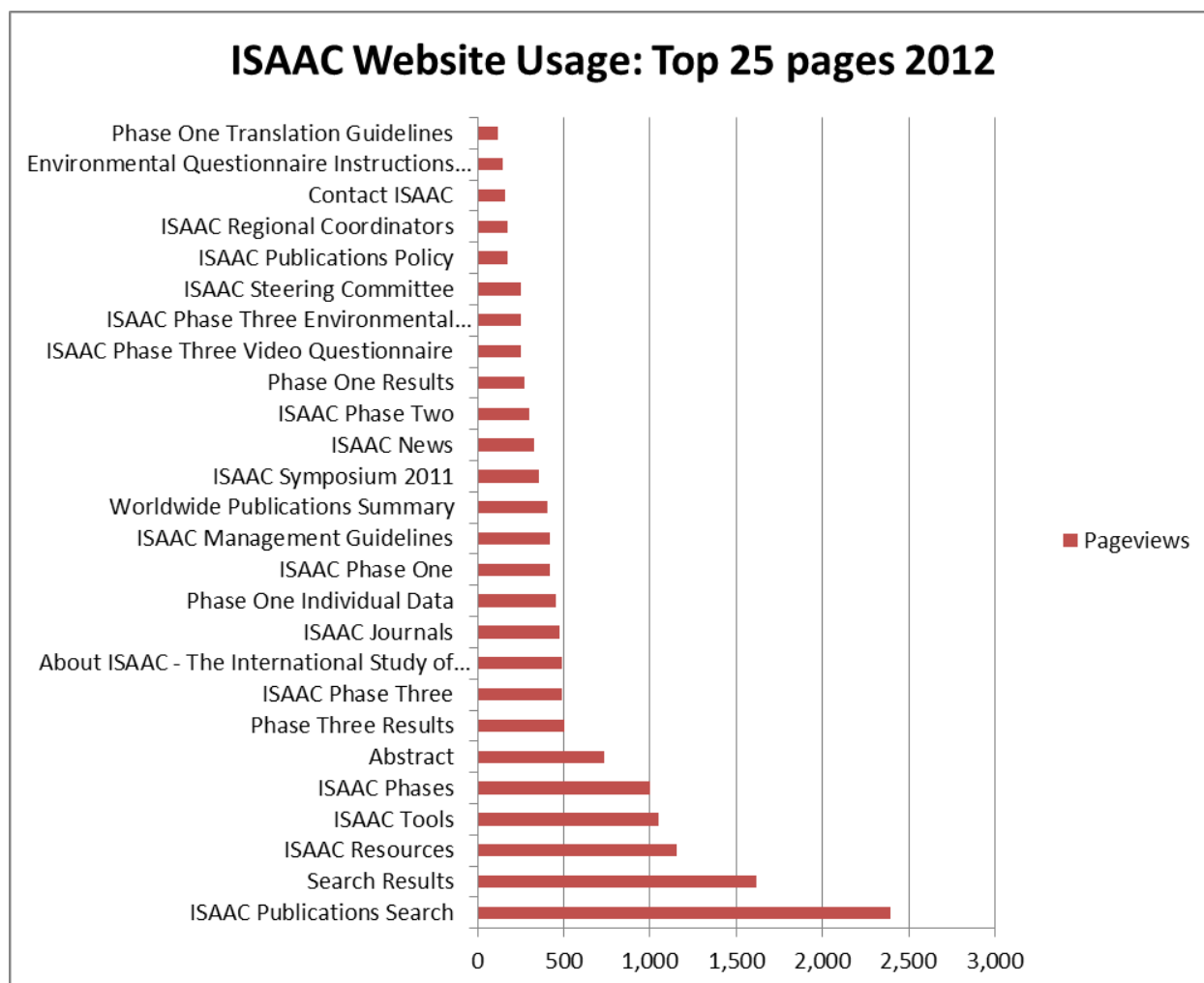
Kind regards
Eamon Ellwood, ISAAC webmaster

May 2012 DATA SHARING RESPONSES by Phase. Y = YES.

Centre	Phase	Response	Centre	Phase	Response
Aleppo	3	y	Montevideo	3	y
Al-Khod	3	y	Mumbai (18)	3	y
Auckland	3	y	New Delhi (7)	3	y
Bangalore	3	y	North Gaza	3	y
Barranquilla	3	y	Polokwane	3	y
Belgrade	3	y	Poznan	3	y
Belo Horizonte	3	y	Salvador	3	y
Bilbao	3	y	Scotland	3	y
Brasília	3	y	Surrey/Sussex	3	y
Cali	3	y	Szeged	3	y
Chandigarh	3	y	Trento	3	y
Eldoret	3	y	Vitória da Conquista	3	y
Feira de Santana	3	y	Wales	3	y
Guernsey	3	y	Cartagena	2&3	y
Kota Bharu	3	y	Hong Kong 13-14	2&3	y
Krakow (1995)	3	y	Linköping	2&3	y
Kuopio County	3	y	Ramallah	2&3	y
Lattakia	3	y	Tallinn	2&3	y
Lima	3	y	Hawke's Bay	2	y
Lisbon	3	y	Östersund	2	y
Maceió	3	y	Utrecht	2	y
Managua	3	y	West Sussex	2	y

Website Report Eamon Ellwood May 2012

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 is still being maintained. It continues to be a resource for you, the collaborators. We will continue to update the publications section Phase Four, which is the resources section of the ISAAC website, and the News section with all new developments. The website will also continue to host the Phase One and Three data pages and the ISAAC Story, a 20 year history of ISAAC.

ISAAC Publications

It is now 20 years on and new ISAAC papers are still being published or located, and added to our database. We already have 7 papers published in 2012. When you publish a new article could you please send me the details, and preferably a pdf so that it can be added to the database.

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.

Currently we have over 500 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>.

Missing PDF's for the ISAAC library

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).

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.

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.

Khaitov RM, Luss LV, Aripova TU, Lysikova IV, Ilyina NI. *Prevalence of bronchial asthma, allergic rhinitis and allergodermatitis symptoms in children by ISAAC criteria*. *Allergy, asthma and clinical immunology* 1998; 9: 58-69.

Luss LV, Aripova TU, Ilyina NI, Lysikova IV. *Prevalence of bronchial asthma symptoms (ISAAC programme result)*. *Asthma* 2000; 1(1): 52–59.

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 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.

Also in the resources section, there are links to talks given by Steering committee members at various symposiums. This includes the presentation slides, and audio or video.

ISAAC News

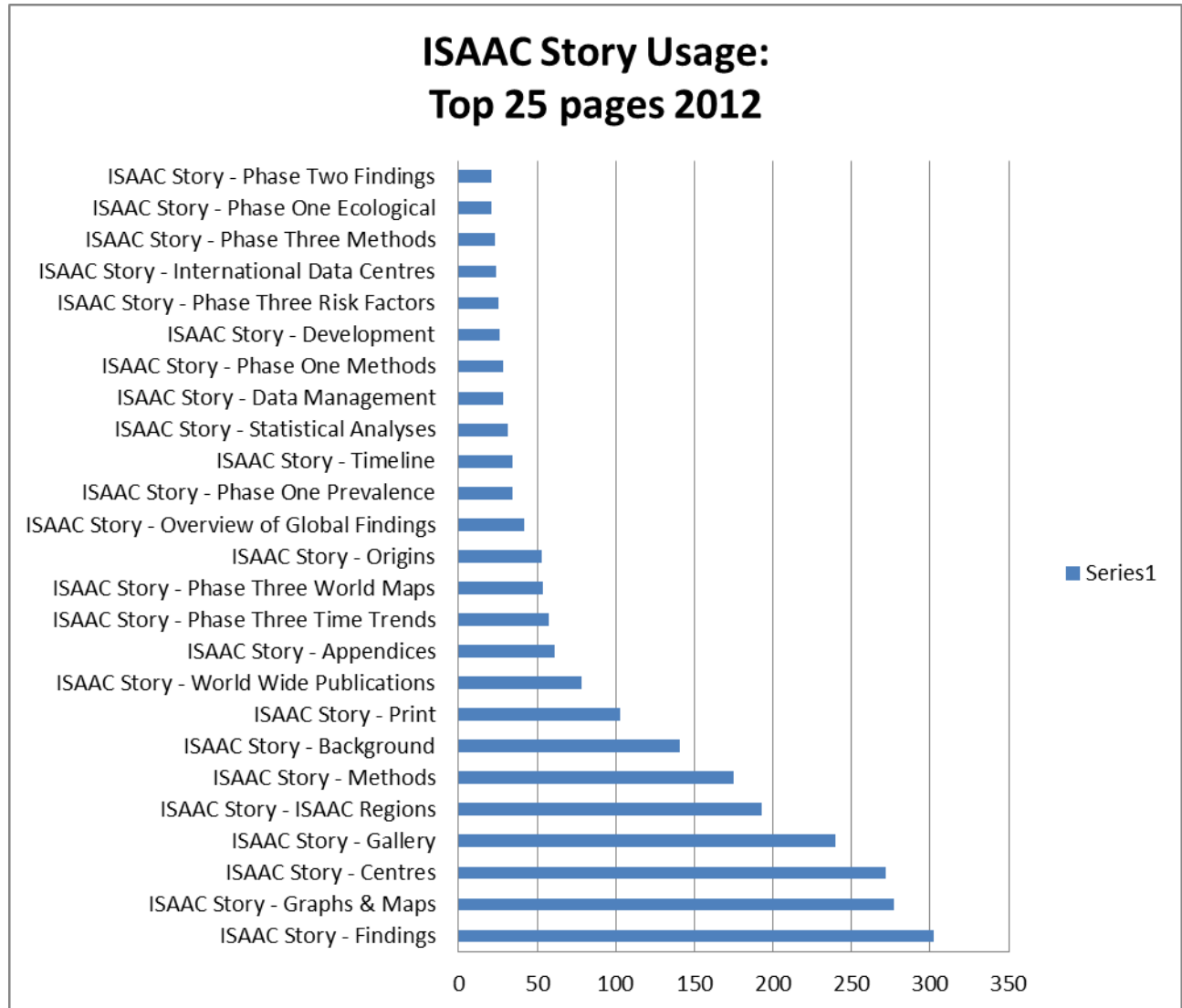
The News page contains the latest ISAAC papers published and other noteworthy events. There is also now a News Articles Page <http://isaac.auckland.ac.nz/news/media.html>. This contains links to ISAAC related news items in mainstream media.

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.

The ISAAC Story

The ISAAC Story on the ISAAC 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 the ISAAC study.



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). 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

NEW EDITORIALS ON ISAAC PAPERS

<http://isaac.auckland.ac.nz/publications/editorials.php>

Svanes C *Commentary: A step towards understanding asthma in low- and middle-income countries [Editorial]* Int J Epidemiol 2012 Epub ahead of print.

In response to: 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 Epub ahead of print.

Cohen RT, Celedón JC. *Breastfeeding and asthma: Where are we? [Editorial]* Allergol Immunopathol (Madr). 2011;39(6):315-7

In response to: Björkstén B, Ait-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.

EDITORS CHOICE

The Editor recommends this issue article to the reader

Pediatric Allergy and Immunology

Flohr C, Nagel G, Weinmayr G, Kleiner A, Williams HC, Ait-Khaled N, Strachan DP, the ISAAC Phase Two Study Group. Tuberculosis, bacillus Calmette–Gue´rin vaccination, and allergic disease: Findings from the International Study of Asthma and Allergies in Childhood Phase Two. Pediatr Allergy Immunol 2012; 23: 324–331.

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. [267 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. [1152 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. [284 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. [1756 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. [369 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. [596 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. [118 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 [43 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. [9 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. [70 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. [33 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. [94 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. [26 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. [20 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. [19 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. [68 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. [114 citations]
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- 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) [8 citations]

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. [96 citations]

ISAAC Phase Two Publications (worldwide)

1.0 Preliminary Papers

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- 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. [136 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. [31 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 [20 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 [20 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. [8 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. [17 citations]

- 2.7 Genuneit J, Cantelmo JL, Weinmayr G, Wong GWK, Cooper PJ, Riikjäär 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 [11 citations]
- 2.8 Weinmayr G, Genuneit J, Nagel G, Björkstén B, van Hage M, Priftanji A, Cooper P, Rijkjäär 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 [9 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 [4 citations]
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- 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)

- 1.1 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. [87 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. [689 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. [177 citations]
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- International Study of Asthma and Allergies in Childhood. *Pediatr Allergy Immunol* 2008; 19(2): 110-24. [60 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. [49 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 [36 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. [52 citations]
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 - 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 Jan 30. [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. [91 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. [10 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. [17 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 [11 citations]
- 3.5 Björkstén B, Ait-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. doi:10.1016/j.aller.2011.02.005
- 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 Epub ahead of print

4 Other papers

- 4.1 Ellwood P, Williams H, Ait-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 [9 citations]
- 4.2 Asher MI. Recent perspectives on global epidemiology of asthma in childhood. *Allergol Immunopathol(Madr)*.2010;38(2):83-7. epub Jan [5 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

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- 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
- 4.7 Anderson HR, Butland BK, van Donkelaar A, Brauer M, Strachan DP, Clayton T, van Dingenen R, Amann M, Brunekreef B, Cohen A, Dentener F, Lai C, Lamsal LN, Martin RV and the ISAAC Phase One and Phase Three study groups. Satellite-based Estimates of Ambient Air Pollution and Global Variations in Childhood Asthma Prevalence. *Environ Health Perspect* 2012; epub ahead of print May 1

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