



Australian Government

**Australian Institute of
Health and Welfare**

*Better information and statistics
for better health and wellbeing*

Asthma in Australian children

**Findings from *Growing Up in Australia*, the
Longitudinal Study of Australian Children**

October 2009

Australian Institute of Health and Welfare
Canberra

Cat. no. ACM 17

The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is better information and statistics for better health and wellbeing.

© Australian Institute of Health and Welfare 2009

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced without prior written permission from the Australian Institute of Health and Welfare. Requests and enquiries concerning reproduction and rights should be directed to the Head, Media and Communications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.

A complete list of the Institute's publications is available from the Institute's website <www.aihw.gov.au>.

ISBN 978 1 74024 960 7

Suggested citation

Australian Centre for Asthma Monitoring 2009. Asthma in Australian children: findings from *Growing Up in Australia*, the Longitudinal Study of Australian Children. Cat. no. ACM 17. Canberra: AIHW.

Australian Institute of Health and Welfare

Board Chair

Hon. Peter Collins, AM, QC

Director

Penny Allbon

Any enquiries about or comments on this publication should be directed to:

Australian Centre for Asthma Monitoring (ACAM)

PO Box M77

Missenden Road NSW 2050

Phone: (02) 9114 0467

Email: acam@asthmamonitoring.org

Published by the Australian Institute of Health and Welfare

Printed by Blue Star Print Group

Please note that there is the potential for minor revisions of data in this report. Please check the online version at <www.aihw.gov.au> for any amendments.

Contents

Acknowledgments.....	v
Abbreviations.....	vi
Summary	vii
1 Introduction.....	1
Study aims.....	3
Structure of this report	3
2 Methods	5
Data source.....	5
Study data	6
Analysis methods.....	7
3 Risk factors for the development of wheeze or asthma among infants in the first three years of life.....	10
Methods.....	10
Results.....	11
Discussion	15
4 Risk factors for the development of asthma during childhood	19
Methods.....	19
Results.....	19
Discussion	22
5 Risk factors for the persistence of wheeze during childhood	25
Methods.....	25
Results.....	25
Discussion	29
6 Use of health services and medication for asthma.....	30
Methods.....	30
Results.....	31
Discussion	33
7 Outcomes for children with wheeze or asthma.....	35
Methods.....	35
Results.....	35
Discussion	37
8 Conclusions	39
Summary of findings	39
Some limitations of LSAC	39
Further study	41
Conclusion.....	41

Appendix 1: Statistical tables.....42
Glossary.....52
References.....56
List of tables64
List of figures65

Acknowledgments

The authors of this report are Guy Marks, Antoinette Zinoviev, Leanne Poulos, Rosario Ampon and Anne-Marie Waters of the Australian Centre for Asthma Monitoring.

The contribution of all those involved in the Longitudinal Study of Australian Children is greatly acknowledged. The authors specifically acknowledge the assistance provided by Sebastian Misson and Mark Siphthorp.

Helen Reddel provided valuable input throughout the planning and drafting of this report.

Statistical advice was obtained from Wei Xuan.

The members of the Steering Committee of the Australian System for Monitoring Asthma are also acknowledged for their very helpful comments and guidance in the interpretation and implications of these findings. In particular, we are grateful for the feedback provided by Craig Mellis and Paul Magnus.

Further reviewing of the draft was performed by Sebastian Misson of the Australian Institute of Family Studies and Deanna Eldridge from the Children, Youth and Families Unit, Australian Institute of Health and Welfare.

This publication was funded by the Australian Government Department of Health and Ageing through the National Asthma Management Program.

Abbreviations

ACAM	Australian Centre for Asthma Monitoring
CI	Confidence interval
FaHCSIA	Australian Government Department of Families, Housing, Community Services and Indigenous Affairs
GP	General practitioner
HR	Hazard ratio
ICS	Inhaled Corticosteroids
ISAAC	International Study of Asthma and Allergies in Childhood
LABA	Long-acting beta agonists
LSAC	Longitudinal Study of Australian Children
LSIC	Longitudinal Study of Indigenous Children
MBS	Medical Benefits Scheme
NHS	National Health Survey
OR	Odds ratio
PAF	Population attributable fraction
PBS	Pharmaceuticals Benefits Scheme
RR	Relative risk or Rate ratio
SABA	Short-acting beta agonists
SEIFA	Socio-Economic Indexes for Areas

Summary

The issues

The prevalence of asthma in Australian children is amongst the highest in the world. Improved understanding of the way asthma and related wheezing illnesses progress through early childhood may have important implications for practice and for policy.

This report presents findings about asthma and wheezing illness in infants (first year of life) and in kindergarten children (fifth year of life) who were followed over two years in the national Longitudinal Study of Australian Children. The report also links the children's data to the use of health services through the records of the Medical Benefits Schedule (MBS) and the Pharmaceutical Benefits Scheme (PBS).

Infants

- Asthma or wheeze during the first three years of life was more common among those who: were boys, had older siblings, attended child care, were born at an early gestational age, and were admitted to Neonatal Intensive Care Unit after birth.
- Asthma or wheeze during this period was also more common in infants whose mothers: had asthma, were relatively young, or smoked during pregnancy.
- Infants who were breastfed had a lower risk of having asthma or wheeze during this time.

Kindergarten children

- Asthma in kindergarten-aged children was more common among those who: were living in remote or very remote areas and had food or other allergies.
- Among kindergarten-age children with wheeze, those who use medications for asthma and those who had more than 3 episodes of wheezing which lasted for a week or more in the preceding year, were more likely than others to still experience wheeze 2 years later.
- Children who had wheeze or asthma in their fifth year, were more likely than other children to be hospitalised, to attend an emergency department, and to visit a general practitioner (GP) over the next two years, and were also more likely to be overweight or obese two years later.
- Parents of children with wheeze or asthma were more likely to report that their child had poorer health or disturbed sleeping patterns.

Conclusions

There are important differences between wheezing illness in infancy and kindergarten-aged children, both in the nature of the disease and in its risk factors. Wheezing illness is a common disorder that contributes to a range of important health problems in kindergarten-age children. Further study of this cohort will expand our knowledge about asthma and related problems in children.

