

WAO
WORLD ALLERGY ORGANIZATION

WAO Hyderabad 9.12.2012

Global Strategies to Combat the Allergic Diseases Burden
How to "Finnish" allergy?

REVIEW ARTICLE
Reduction of asthma burden is possible through National Asthma Plans
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Professor Tari Haastela
Skin and Allergy Hospital
Helsinki University Hospital

Hygiene hypothesis – microbial deprivation hypothesis – biodiversity hypothesis

Biodiversity hypothesis
Population growth (urbanization) → loss of biodiversity → poor human microbiome (dysbiosis) → immune dysfunction → inflammation → clinical disease

Non-communicable diseases (NCDs)
Asthma and allergy
IBD, coeliac disease
Neurological diseases
Obesity, diabetes, cancer, depression
Costs!

"A public health emergency in slow motion"
UN Secretary-General Ban Ki-moon

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Von Hertzen L, Haahtela T, Haastela T, EMBO Report 2011.
Haahtela T et al. PNAS 2012; Haastela T, et al. WAO, in preparation

Tolerance is an active process – we have to learn to be tolerant!

Acquired or adapted immunity
innovative, life saving

Innate immunity
for routine and balance

No permanent memory cells!

Human immune defence – a mixture of routine and innovation!

- Saprophytic bacteria
- Fungi
- Parasites
- Protozoas
- Mites

ALLERGY Net

No law of symptom escalation!

RHINASTHMA:
Quality-of-Life Index measured after 20 years:
SPT pos. = 17.4, SPT neg. = 20.7 (scale 0-100)

Mean subjective symptom score 20 years apart (scale 0-5)

Skin Prick Test pos.

Skin Prick Test neg.

Baseline 20 years

H. Teppo*, M. Revonta & T. Haastela

Hypersensitivity – Allergy – Atopy

allergy
– long-term immune dysfunction

Asthma
Atopic eczema
Insect allergy
Urticaria
Drug allergy
Allergic rhinitis
Anaphylaxis
Food allergy
Other allergies: contact dermatitis, allergic rhinitis, etc.

**Finnish Reference Programme:
The Early Steps**

16.12.2004. Initiative of Allergy & Asthma Federation (NGO) to Liisa Hyssälä, Minister of Social Welfare & Health
• Allergy experts: Haastela (resp.), Hannuksela (derm.), Mäkelä (ped.), Killström (NGO)

14.2008. Launch of the Programme and start of the educational effort.
28.03.2007. NTHW called a partly new Expert Group to plan a 10-year National Programme for 2008-2018.

Allergy Programme Secretariat of 10 members (chair:TH)

29.03.2008. Prof. Pekka Puska, Executive Director, National Institute for Health and Welfare (NIHW) nominated an Expert Group (chair: TH) to evaluate the evidence of allergy prevention and management.

21.12.2006. Expert Report: Immune tolerance and how to improve it in allergy to Prof. Puska. A suggestion to create a National Action Plan to combat the increasing allergy burden in Finland.

Finnish National Allergy Programme 2008 - 2018

Finnish Reference Programme: The Expert Group making the action plan (22 members)

- Tari Haahetela (chair, pulmonary medicine)
- Matti Hannuksela (co-chair, dermatology)
- Leena v Hertzén (secretary, microbiology)
- Marina Erhola (public health)
- Minna Kaila (pediatrics)
- Ritva Kauppinen (NGO, FILHA)
- Lola Killström (NGO, asthma & allergy)
- Timo Klaukka (public health insurance)
- Krista Korhonen (primary care)
- Antti Lauerma (dermatology)
- Jan Lindgren (NGO, FILHA)
- Satu Lähteinen (nursing)
- Mika Mäkelä (pediatrics)
- Pertti Paakkinen (NGO, lung)
- Juha Pekkanen (epidemiology)
- Anne Pietinalho (pulmonary medicine)
- Anneli Pouta (public health)
- Elina Toskala (ENT)
- Outi Vaarala (immunology)
- Erkkä Valovirta (pediatrics)
- Erkki Vartiainen (public health)
- Petra Vidgren (pharmacy)

All the major stakeholders were included to ensure commitment

Finnish Reference Programme: Organisational structure for implementation



Finnish National Allergy Programme 2008 - 2018

Finnish Reference Programme: Key Messages

- ▶ Endorse health, not allergy.
- ▶ Strengthen tolerance.
- ▶ Adopt a new attitude to allergy.
Avoid allergens only if mandatory
- ▶ Recognize and treat severe allergies early.
Prevent attacks/exacerbations
- ▶ Improve air quality. Stop smoking.

Allergy Health!

Allergy Health!

What professionals think of the messages?

| | Nurses | Doctors |
|--------------------------------------|--------|---------|
| ▶ Endorse health, not allergy. | 8,8 | 9,2 |
| ▶ Strengthen tolerance. | 8,7 | 9,1 |
| ▶ Adopt a new attitude to allergy. | 8,7 | 9,3 |
| Avoid allergens only if mandatory | | |
| ▶ Treat severe allergies early. | 9,2 | 9,5 |
| Prevent attacks/exacerbations | | |
| ▶ Improve air quality. Stop smoking. | 9,6 | 9,6 |

Scale 4-10

Kauppi, P, et al. Finnish Medical Journal 2010

Allergy Health!

How do the treatment chains (processes) work?

| | Nurses | Doctors |
|-----------------------------|--------|---------|
| ▶ Asthma | 7,8 | 6,6 |
| ▶ Asthma in children | 7,7 | 6,8 |
| ▶ Food allergy | 7,2 | 5,9 |
| ▶ Specific immunotherapy | 7,6 | 5,4 |
| ▶ Need for allergy training | 9,1 | 9,0 |

Scale 4-10

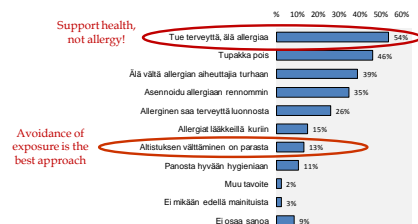
Kauppi, P, et al. Finnish Medical Journal 2010


Internet-based Gallup 2011

What allergic people think of the messages?

Allergy survey among allergic adult population in Finland (N=1040, women 54%, mean age 45 yrs)


What are the most appropriate messages of the National Allergy Programme?





Educational Programme 2008-2018

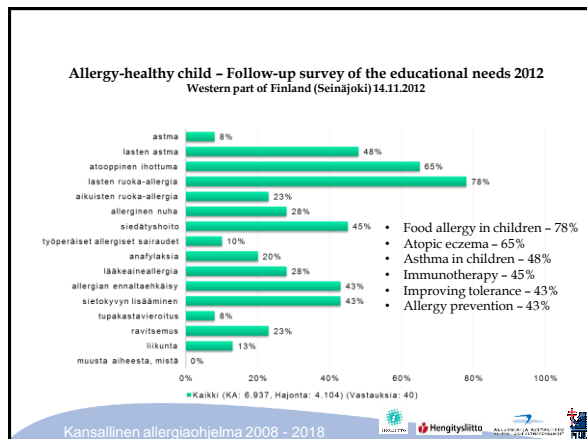
- Opinion leaders, specialists, health care and other professionals: 3-step education** 2008-2012: > 9 500 participants
 - ▶ **launch for 21 Central Hospitals (5 Univ. Hospitals), 2 hours**
 - ▶ **large Health Centres, half a day**
 - ▶ **back to Central Hospitals, Allergy Day**
- Allergic people, with the help of patient organisations (allergy & asthma, skin, lung health) – survey 2011**
- General population**

Allergy Health! 

Educational process for health care 2008-2012

| Themes | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|--|-----------|-----------|-----------|-----------|-----------|--|
| Programme Launch • Central Hospitals | 16 | 10 | - | - | - | 26 events 1585 participants |
| Food Allergy • Primary Care | 7 | 29 | 25 | 8 | - | 69 events 2253 participants |
| Allergy Health • Central Hospital districts | - | 3 | 10 | 11 | - | 24 events 2293 participants |
| Anaphylaxis • Primary Care | - | - | 1 | 16 | 14 | 31 events 2174 participants |
| Allergy-healthy Child • Central Hospital districts | - | - | - | - | 5 | 5 events 375 participants |
| More tolerance – less allergy • Central Hospital districts | - | - | - | - | 9 | 9 events 690 participants |
| • Northern Lapland • Military Forces etc. | - | - | 1 | 1 | 6 | 8 events 442 participants |
| Alli 26.11.2012 | 23 | 42 | 37 | 36 | 34 | 172 events 9 812 participants |

Kansallinen allergiaohjelma 2008 - 2018



Internet Explorer provided by Suomen Terveystieteiden keskus

http://www.allergiaterveys.fi/etusivu.html

Allergy Health Campaign for the Lay Public allergiaterveys.fi

Etsiö Allergiaohjelma Kysy allergista Tarinat Materiaalit Tapahumat Linkit

Ela täysillä allergian kanssa



Ajankohtaista

16.10.2012
Hauassa vuoden Lasten ja Nuorten Allergiapäivä.
Metsäallergia ja Suomen Uho-
etien yhdessä vuoden Lasten
nuorten kuuntelijatapa. Suvi
Uhoetien kanssa 15.12.2013 ja
erikoispuhelimella haastan
edustajat lasten ja nuorten la-
mattomissa jänillä, merillä tai
luontoympäristössä.

5.10.2012
Ohjeita vanhemmille lasten
erityisruokavaliosta
Kansallinen allergiaohjelma ja
yhessä Salon terveyskeskuksella
Allergiaterveys.fi

Finnish Reference Programme: Goals

- ▶ **Prevent allergies.**
- Indicator: prevalence of asthma, allergic rhinitis and atopic dermatitis reduces by **20 %**.
- ▶ **Increase tolerance to allergens in the population.**
- Indicator: avoidance diets to foods decrease by **50 %**.
- ▶ **Improve allergy diagnostics.**
- Indicator: all patients are tested in a quality certified allergy-testing centre.
- ▶ **Reduce work related allergies.**
- Indicator: Their numbers reduce by **50 %**.
- ▶ **Focus to severe allergies and reduce attacks.**
- Indicator: "Good Allergy Care" employed, asthma emergencies reduced by **40 %**.
- ▶ **Reduce costs caused by allergies.**
- Indicator: total costs of allergic diseases reduced by **20 %** in 10 years.

■ Haahela T, et al. Finnish Allergy Programme 2008-2018. Allergy 2008
■ von Hertzen L, et al. Scientific rationale of the Finnish Allergy Programme 2008-2018. Allergy 2009
■ Bousquet J, et al. In Allergy, "A new day has begun". Allergy 2008, Editorial

Finnish Reference Programme: Practical advice to build-up and improve tolerance

Primary prevention

- Support breastfeeding. Solid foods from 4-6 months.
- Do not avoid environmental exposure unnecessarily (e.g. foods, pets).
- **Strengthen immunity by increasing connection to natural environments.**
- Strengthen immunity by regular physical exercise.
- Strengthen immunity by healthy diet, e.g. traditional Mediterranean or Baltic type
- Use antibiotics only for true need. Majority of microbes are useful and build-up healthy immune function.
- Probiotic bacteria in fermented food or other preparations may strengthen immune function.
- **Do not smoke.** Parent smoking increases asthma risk in children.

Secondary and tertiary prevention

- Regular physical exercise is anti-inflammatory.
- Healthy diet is anti-inflammatory. Traditional Mediterranean or Baltic type of diet improves asthma control.
- Probiotic bacteria in fermented food or other preparations are anti-inflammatory.
- Allergen specific immunotherapy:
 - allergens as in (foods)
 - sublingual tablets or drops (e.g. timothy, birch pollen, mites)
 - subcutaneous injections
- **Hit early and hit hard respiratory/skin inflammation with medication. Find treatment for long-term control.**
- **Do not smoke.** Asthma and allergy drugs do not have full effects in smokers

MEADALL Mechanisms of the Development of ALLergy

Tools for professionals
New Guidelines for Allergy in Children

Mika J. Mäkelä, ym.
The challenge of relaying the right public health messages in allergy. *PAI 2012*, Editorial

Anna Pelkonen, ym.
Allergy in children: practical recommendations of the Finnish Allergy Programme 2008–2018 for prevention, diagnosis and treatment. *PAI 2012*

LÄÄKÄRILEHTI
Oikeet ehkäisy- ja diagnosoviestit ja tiedot
Lasten allergiat
Line 14
2012

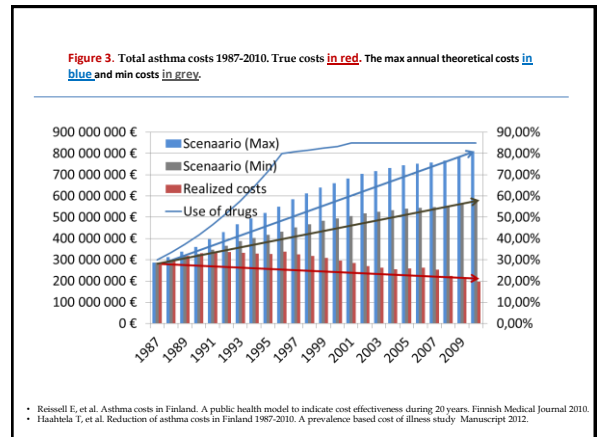
MeDALL = Mechanisms of Development of Asthma. EU-funded Programme

Finnish Reference Programme: Tools

1. Handbook for quality skin prick testing (2009) – to improve diagnostic work and reduce medicalisation.
2. Allergen specific Reading Keys for common allergens: adults (2009), children (2012) – to improve diagnostic accuracy and reduce medicalisation.
3. Rip-off sheets for guided self-management, asthma and rhinitis (2010), asthma in children (2011), anaphylaxis (2012), atopic eczema (2013), urticaria (2013), food allergy (2013) – to proactively prevent attacks/exacerbations
4. New process to diagnose occupational asthma – to improve diagnostic labeling
5. New guidelines for allergy in children (PAI 2012) – to improve tolerance and reduce medicalisation.
6. Short guide for allergy diets for 1) day-care, and 2) schools (2012) – to reduce unjustified allergy diets.
7. A guide to use for allergen component diagnostics (2013) – to improve diagnostic accuracy, guide to proper avoidance, prevent anaphylaxis.
8. National anaphylaxis register (2000) – to improve knowledge of the causative factors and pitfalls in prevention and treatment.

Finnish Reference Programme: Goals in 10 years

- ▶ **Prevent allergies.**
 - Indicator: prevalence of asthma, allergic rhinitis and atopic dermatitis reduces by 20 %
 - No data yet, but several follow-ups ongoing (military conscripts, FinES-study).
- ▶ **Increase tolerance to allergens in the population.**
 - Indicator: avoidance diets to foods decrease by 50 %
 - Allergy diets in schools -20 %, in day-care centres -25 %, large variation in the country.
- ▶ **Improve allergy diagnostics.**
 - Indicator: all patients are tested in a quality certified allergy-testing centre.
 - Yes, we are half a way, 12 public health testing centres audited and certified.
- ▶ **Reduce work related allergies.**
 - Indicator: Their numbers reduce by 50 %
 - Occupational asthma down by 24 % (2005-2009 vs. 2010).
- ▶ **Focus to severe allergies and reduce attacks.**
 - Indicator: "Good Allergy Care" employed in the country, asthma attacks reduced by 40 %
 - Emergencies down by 62 % in the age-group 7-14 yrs, all asthma hospital days 54 %
- ▶ **Reduce costs caused by allergies.**
 - Indicator: total costs of allergic diseases reduced by 20 % in 10 years.
 - Asthma total costs € 250 mill (2007) vs. € 195 mill (2010). Next step: all allergy costs.



Suggestion!
Global Allergy Plan (GAP)
Reduce burden, promote health, support allergic people!

Background

- NEW BODY OF KNOWLEDGE
- Avoidance strategies do not work at population level. Loss of protective factors
- EPIDEMIOLOGY
- Morbidity ↑
- Prevalence ↑
- ECONOMY
- Costs ↑
- EVIDENCE
- Improve tolerance: immune function, psychological attitudes

4-Step Action Plan

- ▶ **CONCLUSIONS**
 - Public health problem
 - Need for broad consensus
 - Need for action
 - Identification of key stakeholders
 - Focus on patients
 - Focus on severe allergies to stop attacks
 - Focus on effective use of available resources and registers
- ▶ **STRATEGIC CHOICES**
 - Practical action plan, not a consensus report
 - Strategies for: 1) those diagnosed, 2) general population
 - Quantitative and qualitative goals
 - Focus on primary health care and outpatients
 - Promotion of allergy health
 - Allergy Control Tools for guided self-management to stop attacks
 - Search for critical mass for change through education and counselling
- ▶ **GOALS, MEASURES**
 - 1-3 key messages for the public
 - 3-5 numerical goals for Health Care to reduce the burden
 - Tools to be used locally
 - Measures to follow outcomes
 - Time lines
- ▶ **ACTIVITIES**
 - Leadership, steering group (local, national)
 - Capacity building, funding
 - New internet-based networking with specialists, GPs, nurses, pharmacists
 - In diagnostic work, improving quality
 - In treatment, improving tolerance
 - Education and publicity (with NGOs)
 - Legislation (essential medication, anti-smoking)
 - Feedback, follow-up

Process evaluation → **Outcome evaluation**

THWAO 9-12-2012

Four Years of The Finnish Programme

Asia Pacific allergy

The Finnish Allergy Programme 2008-2018 - scientific rationale and practical implementation

Responsibility map: map

GOALS

Methods

Feedback