WREN Convocation - September 2014

**Multi-PBRN Collaboration -
New Treatment for Refractory Asthma**

Wisconsin
Research &
Education
Network

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Conflict of interest disclosure

I have no conflicts of interest that relate to this presentation

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Agenda

Multi-PBRN Research

Refractory Asthma: Definition & Prevalence

Available Treatments: Conventional vs. Innovative (Macrolides for Long Term Management of Asthma)

Multi-Network PBRNs

Wisconsin Research & Education Network (WREN)
AAFP National Research Network (NRN)
Ambulatory Network for Scholarship & Research (ANSR)
Cleveland Ambulatory Research Network (CLAREN)
Oklahoma Physicians Resource/Research Network (OKPRN)
Wisconsin Network for Health Research (WiNHR)

Multi-Network PBRNs

Volunteerism
– Directors
– Clinicians
– Patients
Neglected Topic That Was Important

Refractory Asthma

Biologically non-responsive to Inhaled Steroids-LABAs
– Uncontrolled after optimizing treatment
"Difficult To Treat" Asthma
– Remains uncontrolled for other reasons
Both are characterized by poor asthma control

Asthma Control

<u>Easy to measure</u>
– Asthma Control Test (ACT) - 12 and above
– Child Asthma Control Test (C-ACT) - 5 to 11

<u>Anywhere</u>
– Clinic, Home, Travelling

<u>Anyhow</u>
– Electronically, Paper, Verbally

Asthma Control Test (ACT)

Asthma Control in Five European Countries

Compared to Controlled (ACT≥20) asthma patients
Not Well Controlled (ACT≤19) asthma patients have

• More activity limitations (40.8% vs 1.5%)
• More breathlessness ≥3 times weekly (72.5% vs 5.4%)
• More sleep difficulties ≥1 times weekly (60.3% vs 4.6%)
• More rescue medication ≥2-3 times weekly (77.4% vs 15.9%)
• More healthcare utilization (17.4% vs 9.9%)
• More absenteeism (12.2% vs 5.5%)
• More work impairment (30.0% vs 15.4%)
• Decreased quality-of-life (P<.001)

Demoly et al. Update on asthma control in five European countries. Eur Respir Rev 2010

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Uncontrolled Asthma is Common

50% of all adult asthmatics are sub optimally controlled
– ACT <20

15% are severely uncontrolled
– ACT ≤15

1 in 7 adult asthmatics is severely uncontrolled

Exact proportions of refractory & "difficult to treat" asthma are unknown

Conventional Options for Refractory Asthma

Oral Steroids
Anti-fungals
Anti-IgE injections
Intravenous Immunoglobulins
Methotrexate

Macrolides for the long-term management of asthma - a meta-analysis of randomized clinical trials
Reiter et al. Allergy 2013; 68:1040-1049

Significant benefits for
– Symptoms
– Quality of Life
– Bronchial Hyper reactivity
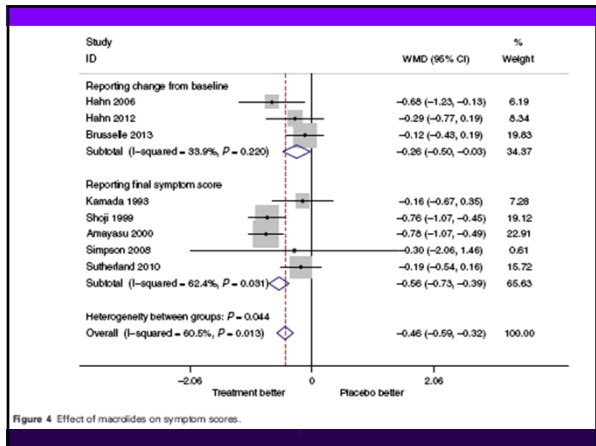– Peak Flow

No significant change in FEV1

Figure 4 Effect of macrolides on symptom scores.

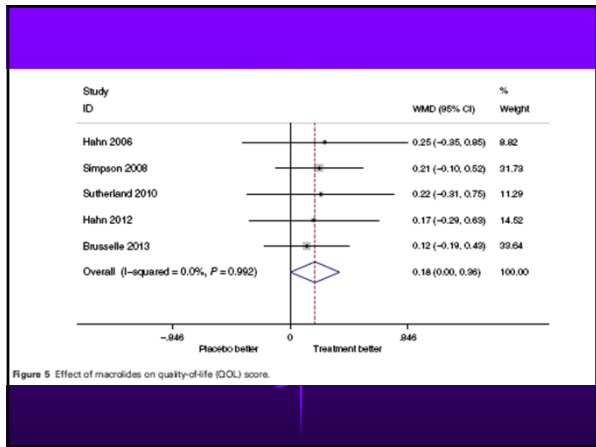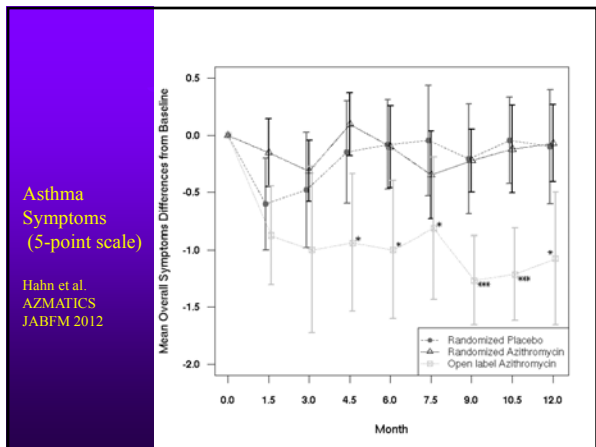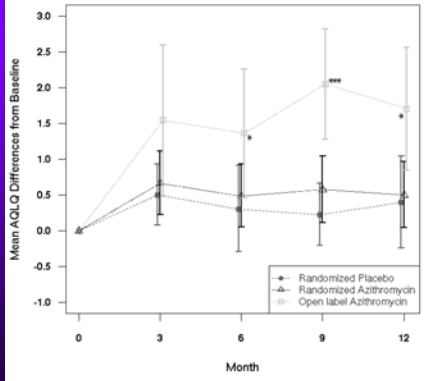
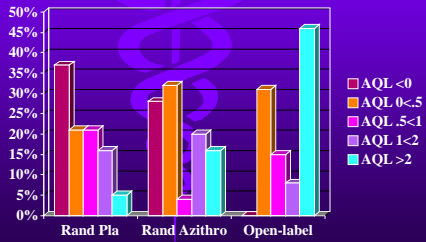Figure 5 Effect of macrolides on quality-of-life (QOL) score.

Asthma Symptoms (5-point scale)

Hahn et al.
AZMATICS
JABFM 2012

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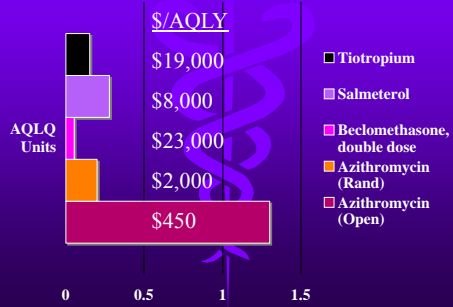## Change From Baseline in AQL

48 Weeks Post-Enrolment

Summary

Azithromycin is a promising new treatment for severe/uncontrolled/refractory asthma

Safe, inexpensive, limited treatment
– 3-6 months: prolonged response in ~half of refractory asthma patients

Azithromycin is Cost-Effective
AZMATICS v Peters et al. NEJM 2010

$/AQLY

$19,000 ☐ Tiotropium

$8,000 ☐ Salmeterol

$23,000 ☐ Beclomethasone, double dose

$2,000 ☐ Azithromycin (Rand)

$450 ☐ Azithromycin (Open)

AQLQ Units

0   0.5   1   1.5

Conclusions

Collaborative (PBRN/patient) research can be innovative and practice-changing

Azithromycin is an option for informed patients with severe/uncontrolled/refractory asthma

"You can't manage what you don't measure"
– Monitor results using the ACT or C-ACT

A Cure for Asthma?

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