

Asthma Guideline Changes in the 2016 Revision of the Kenyan Guidelines

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Objectives

- Describe our local context in Asthma Care
- Describe the process of Guideline Development for the Kenyan Paediatric Protocols
- Review Changes from 2013 -2016 Kenyan Asthma Guidelines
- Review New Kenyan Guidelines versus Evidence in the Current GINA Guidelines

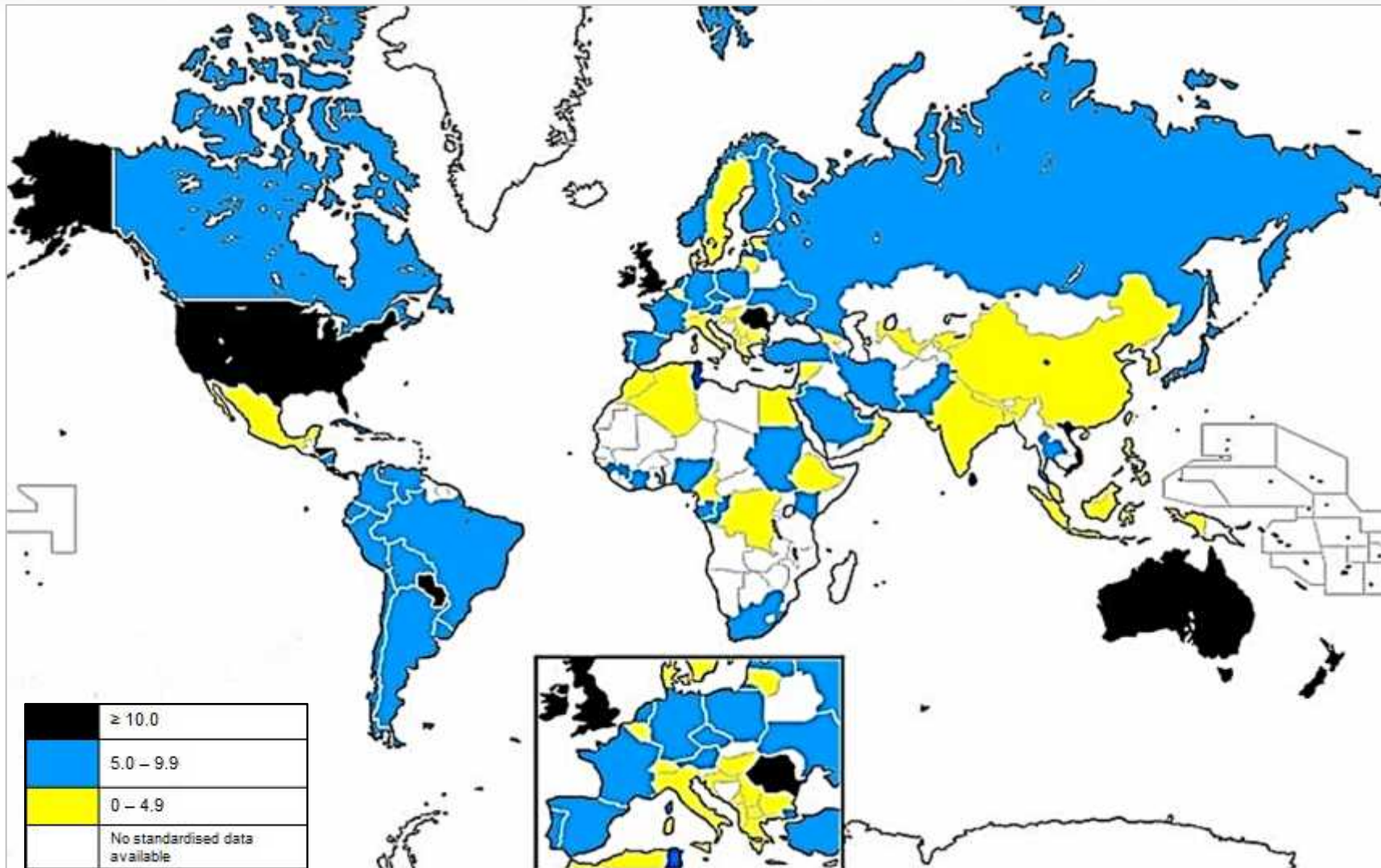
Asthma Guidelines Change frequently

Global Initiative for Asthma (GINA) 2016 update



GINA Global Strategy for Asthma
Management and Prevention 2015 \Rightarrow 2016

Our Local Context - Prevalence of asthma in children aged 13-14 years



Epidemiology in Kenyan Children

- Worldwide:
 - Among 6-7 yr olds, 0.1-10%
 - Among 13-14 yr olds, 0.3-13%
- Africa: Prevalence ranges 5 - <20% (ISAAC Phase I)
- Kenya: Overall Prevalence – 7.0%
- Kenya: Urban - 10%, Rural – 3%³ (8 – 12 yrs)

3 - Ng'ang'a *et.al.*, *Thorax* 1998; 53:919–926

Asthma Care in our Context

- Many health workers have only 10 weeks of paediatric training
- Many old taught practices are wrong – *Especially* in Asthma!!
 - Over-reliance on Nebulization & Oral Medications
 - ‘Inhaled Medication Aversion’
- Many hospitals reflect these practices (SIRCLE SURVEY of 22 Internship Center)
 - 16 out of 22 Centers had Nebulization Equipment
 - 5 out of 22 Centers had Spacer Devices
 - Poor availability of both Inhaled (5/22) and Nebulized Salbutamol (13/22)

Quality Care?

- Resp. Rates taken for close to 100%
- “Clustering” Phenomenon noted
- Wide Variations in other important assessments e.g. AVPU (76%); Cyanosis (6%)

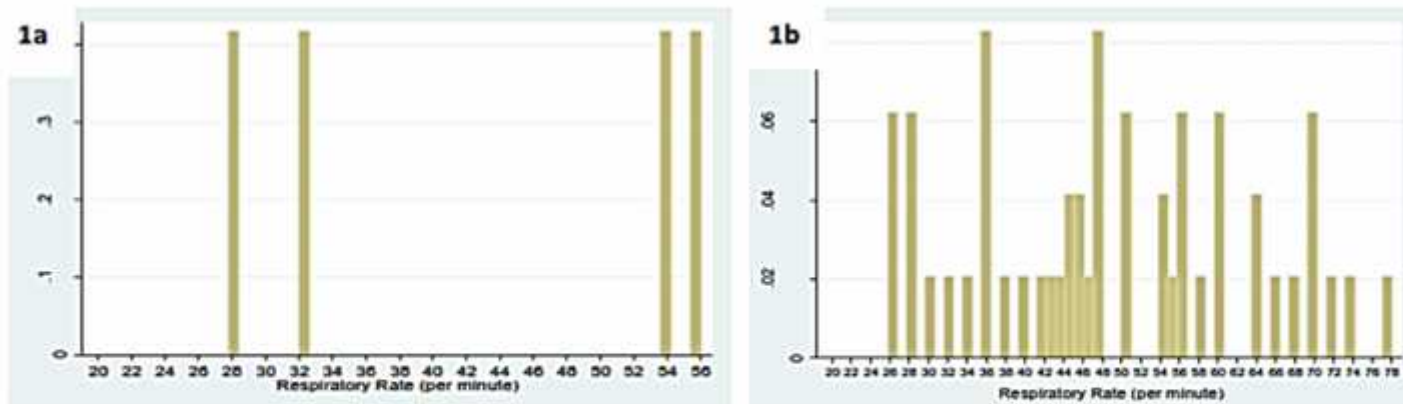


Figure 3.3.1: Documentation practices:1a Clustering of 60 respiratory rate observations around 4 unique values; 1b Expected distribution of respiratory rate for 60 observations

Where do the guidelines come from?

- The best research evidence
 - GoK, KEMRI, Universities, Kenya Paediatric Association
 - 2010 Child Health Evidence Week
 - 2013, 2014, 2015 Guideline Panels - **GRADE Evaluation**
- World Health Organisation Guidance

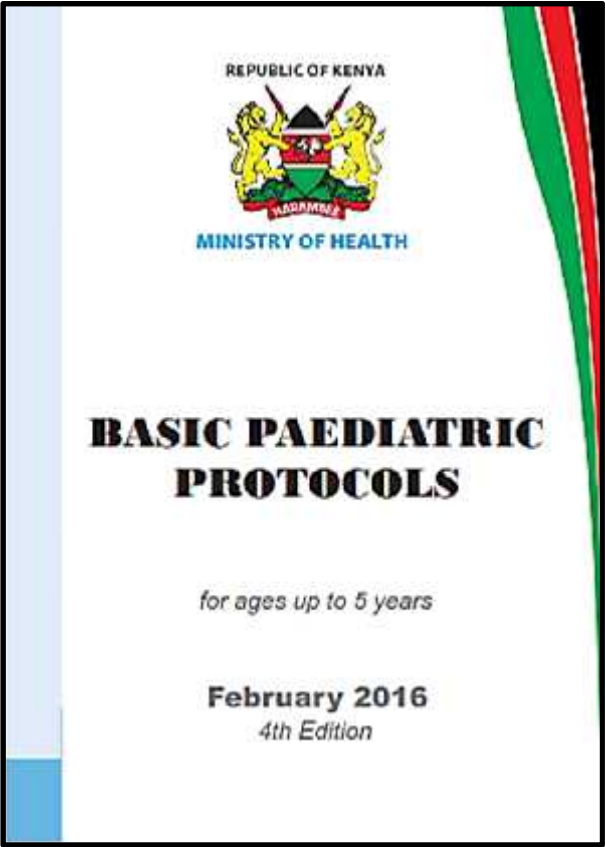
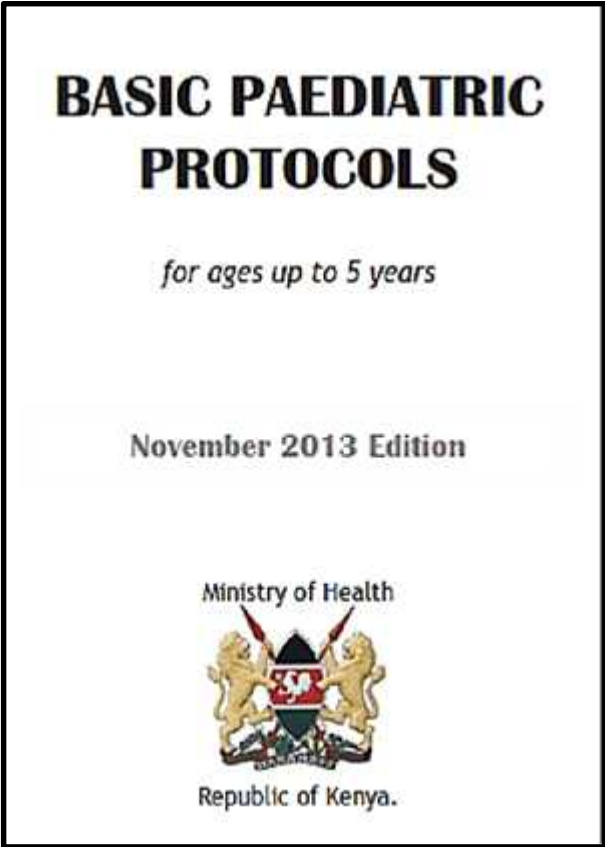


Where does the Asthma Guidance come from?

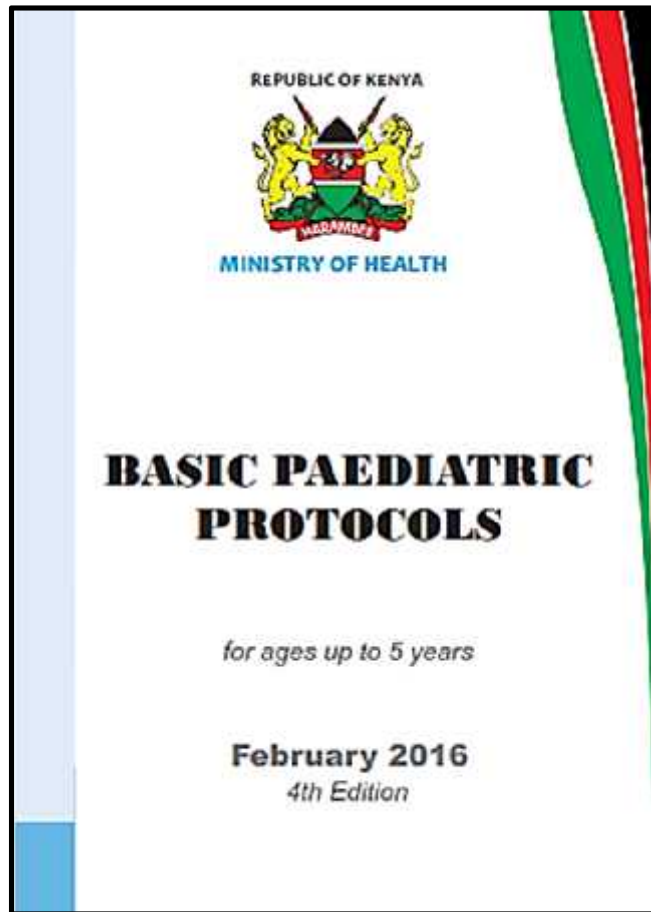
- GINA Guidelines
- WHO Guidance – mainly the 2013 Pocketbook of Hospital Care
- Consultation with Local Experts
- ***Applied to our Health Context!!!***



Update in Guidelines



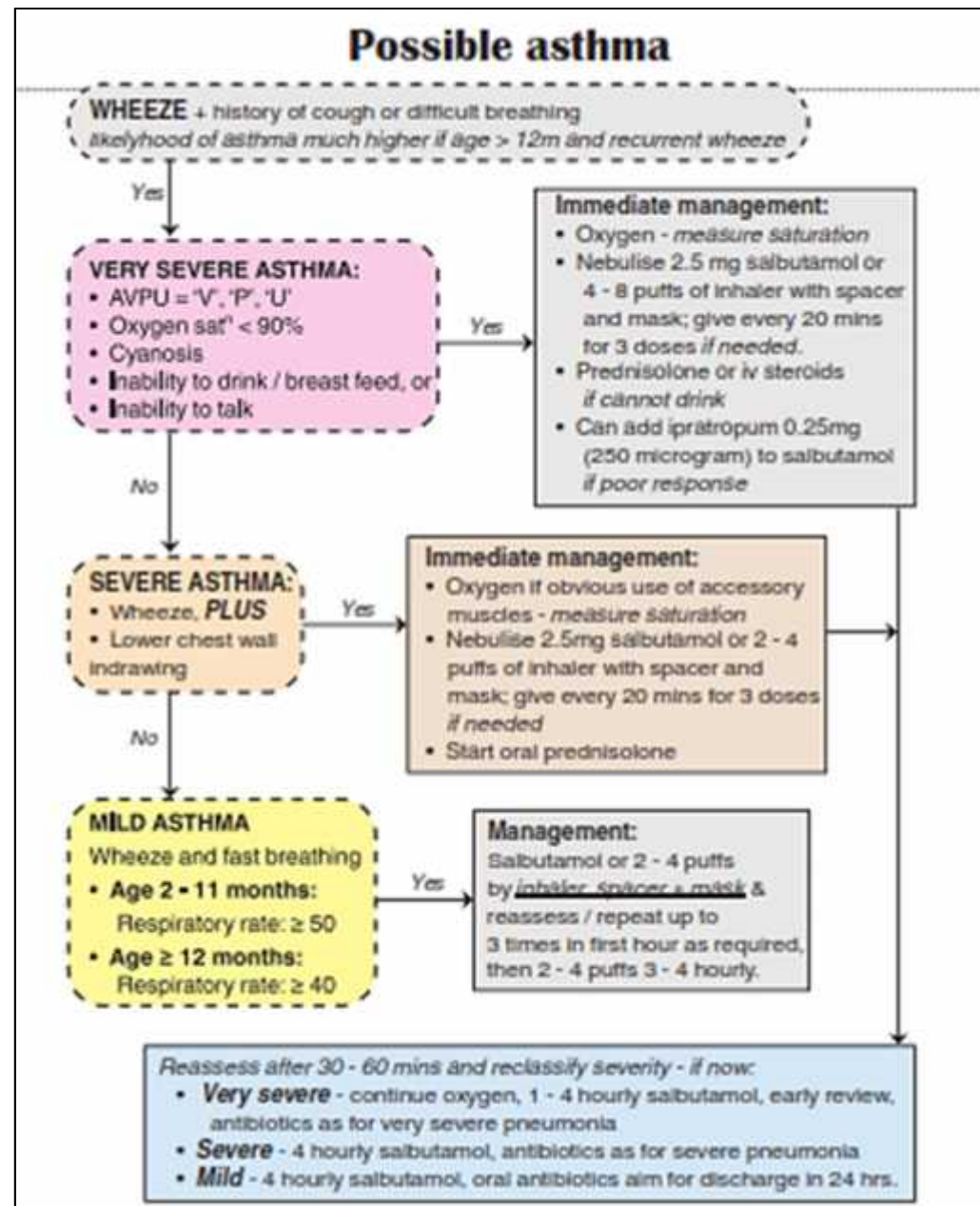
Current Guidelines



- Released in February 2016
- Guidelines consistent with IMNCI
- Up to date
- Concentrate on management of the very sick / referred child & newborn
- Similar Guides used in Kenya, Uganda, and Rwanda, Somaliland Zimbabwe, Sierra Leone, Myanmar

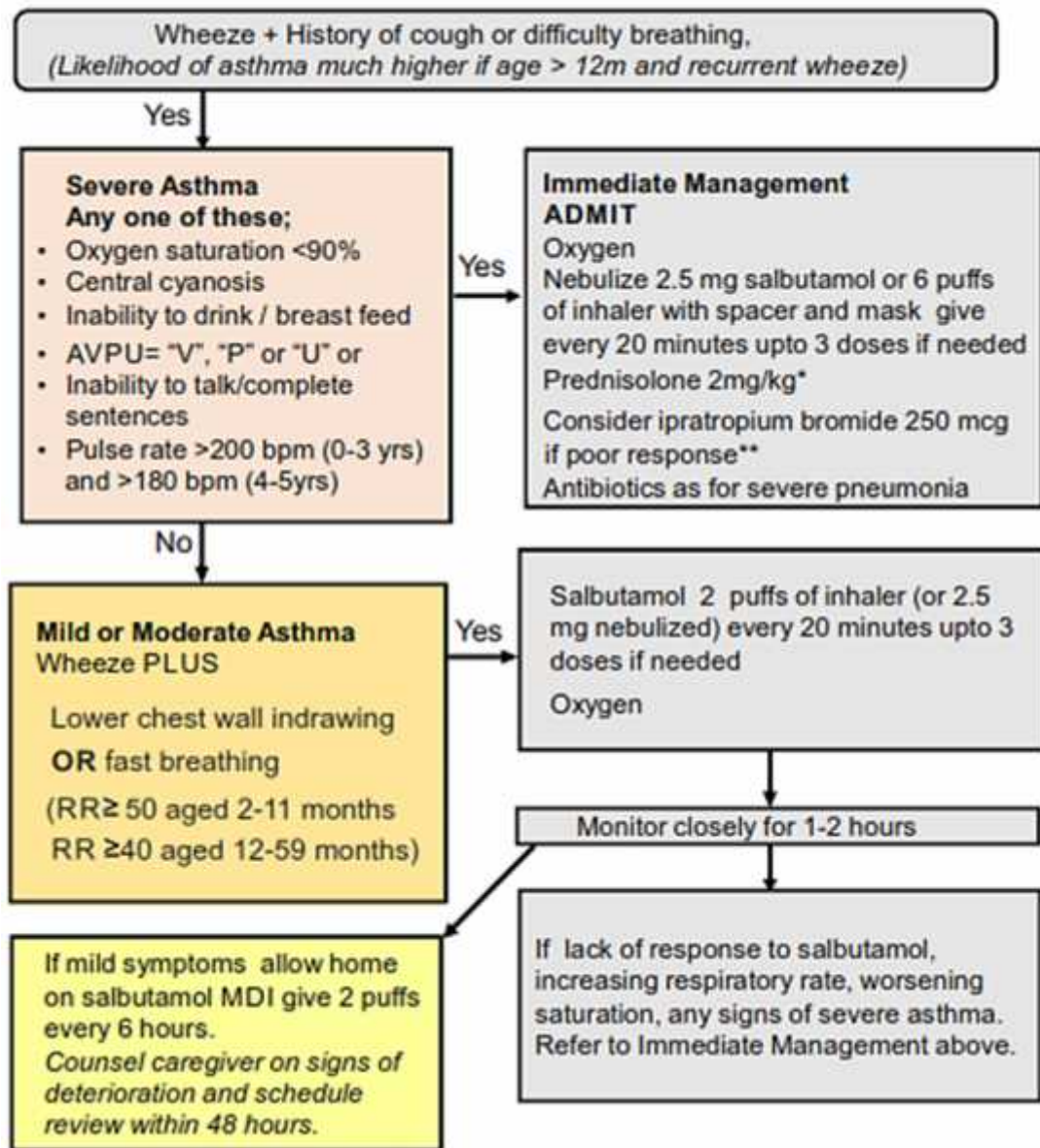
Highlights of 2013 Asthma Guidelines

- Three levels of Severity
- Closely reflected similar levels of Pneumonia Severity
- Significant Emphasis given to Reassessment
- Gave clear followup instructions for both discharge and admission



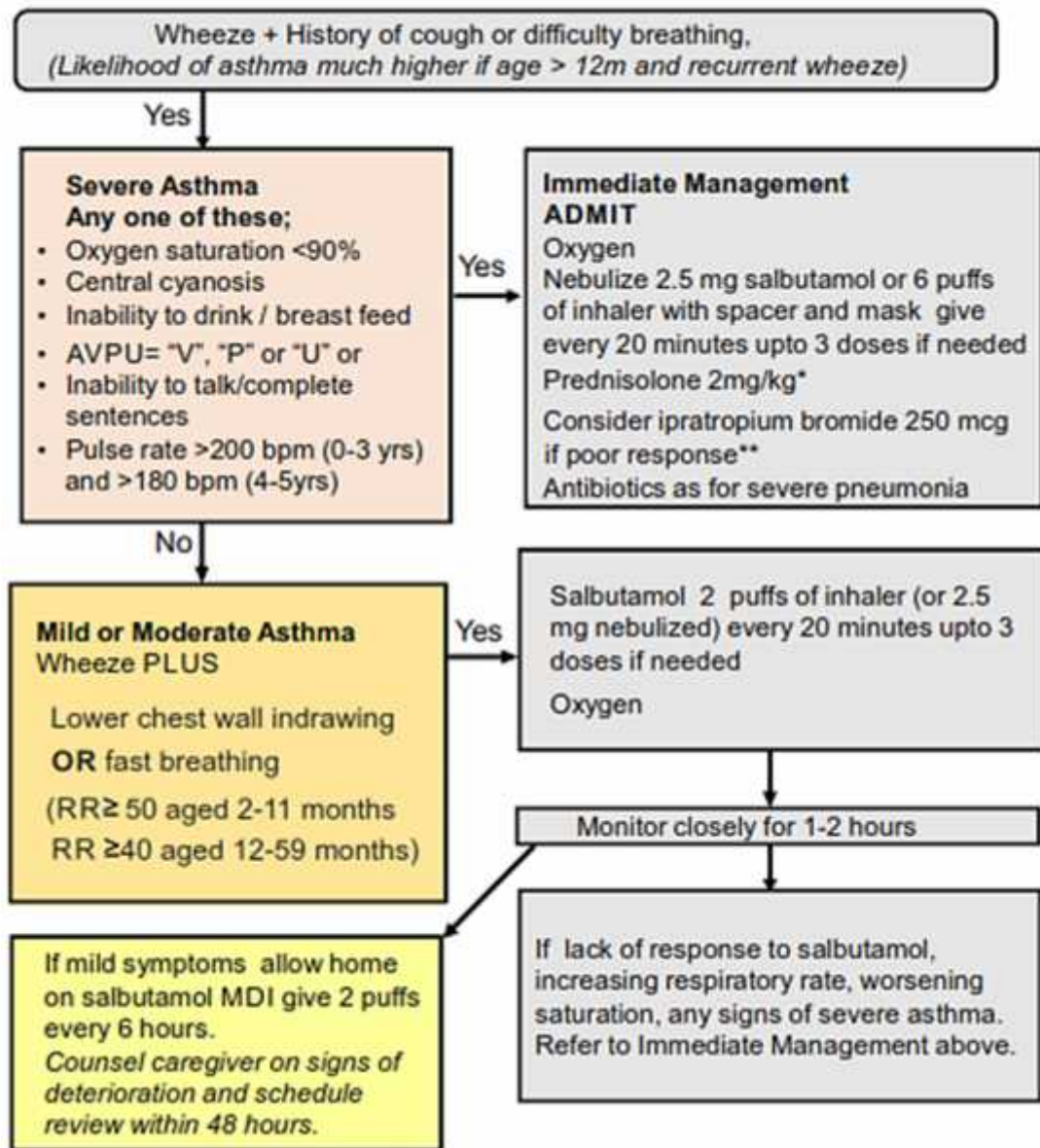
Highlights of 2016 Asthma Guidelines

- Two levels of Severity
- Closely reflect similar levels of Asthma Severity in GINA Guidelines
- Significant Emphasis given to MDI and Spacer Demonstration



Highlights of 2016 Asthma Guidelines

- Two levels of Severity
- Closely reflect similar levels of Asthma Severity in GINA Guidelines
- Significant Emphasis given to MDI and Spacer Demonstration



Management of Severe/Life Threatening Asthma

- Child presents with acute or sub-acute asthma exacerbation or acute wheezing episode

Yes

GINA CRITERIA SEVERE OR LIFE THREATENING any of:

- Unable to speak or drink
- Central cyanosis
- Confusion or drowsiness
- Marked subcostal and/or sub-glottic retractions
- Oxygen saturation <92%
- Silent chest on auscultation
- Pulse rate > 200 bpm (0-3 yrs) or >180 bpm (4-5 yrs)

Yes

TRANSFER TO HIGH LEVEL CARE (e.g. ICU)

While waiting give:

- Salbutamol 100 mcg 6 puffs by pMDI+spacer (or 2.5mg nebulizer). Repeat every 20 min as needed.
- Oxygen (if available) to keep saturation 94-98%
- Prednisolone 2mg/kg (max. 20 mg for <2 yrs; max. 30 mg for 2-5 yrs) as a starting dose
- Consider 160 mcg ipratropium bromide (or 250 mcg by nebulizer). Repeat every 20 min for 1 hour if needed.

Use of MDI & Spacer versus Nebulization

J Pediatr. 2004 Aug;145(2):172-7.

beta-agonists through metered-dose inhaler with valved holding chamber versus nebulizer for acute exacerbation of wheezing or asthma in children under 5 years of age: a systematic review with meta-analysis.

Castro-Rodriguez JA¹, Rodrigo GJ.

RESULTS:

Six trials (n=491) met criteria for inclusion. *Patients who received beta-agonists by MDI+VHC showed a significant decrease in the admission rate compared with those by nebulizer (OR, 0.42; 95% CI, 0.24-0.72; P=.002); this decrease was even more significant among children with moderate to severe exacerbations (OR, 0.27; 95% CI, 0.13-0.54; P=.0003).* Finally, *measure of severity (eg, clinical score) significantly improved in the group who received beta-agonists by MDI+VHC in comparison to those who received nebulizer treatment* (standardized mean difference, -0.44; 95% CI, -0.68 to -0.20; P=.0003).

CONCLUSIONS:

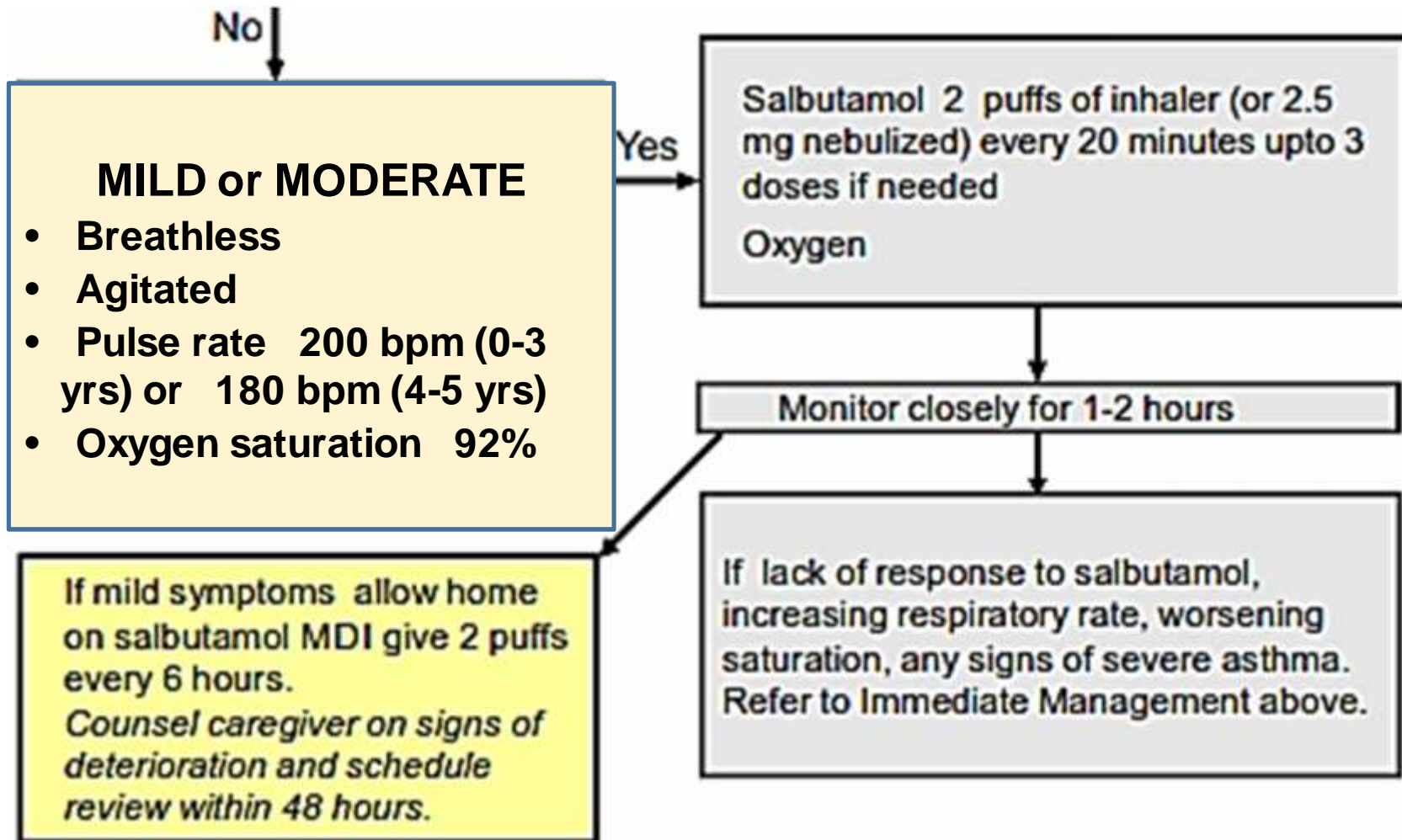
The use of an MDI+VHC was **more effective** in terms of **decreasing hospitalization and improving clinical score than the use of a nebulizer** in the delivery of beta-agonists to children under 5 years of age with **moderate to severe acute exacerbations of wheezing or asthma.**

Whats your prevalence in Severe Exacerbations?

- MDI and Spacer
 - Decreased Rates of Admission
 - Reduced measures of severity
 - Effects more significant in children with Moderate to Severe Exacerbations



Management of Mild to Moderate Asthma



Further Recommendations in the 2016 Update (GINA versus Kenya Guidelines)

Included GINA Recommendations:

- MDI + Spacer demonstration to the parent or caregiver
- Advice on Regular follow-up
- Administration of Prednisone

GINA Recommendations not included:

- Use of Written Asthma Action Plans (Evidence A but context sensitive?)
- Explicit Recommendation for Follow up

Summary

- The 2016 Kenyan Guidelines provide simpler recommendations that classify severity into severe and non severe categories
- Initial Use of MDI and Spacer continues to be recommended for all children
- Continuing research is required to continue incorporating High Level Evidence to match our contexts

Thank You!