CAPHC
CPDSN

Special Project Working Group

ASTHMA

(Phase 2)

Return to ED Rate

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Paediatric Asthma

Selected as a condition of high interest for paediatric centres:

- Most common chronic childhood illness in North America
- Prevalence rates range from 1.6% to 36.8%. Canada avg. 12%
- Evidence-based management strategies
- 3% of ED visits
- Crosses the continuum of health services (community, primary care, ED, acute & tertiary)
- Ambulatory & inpatient standard coding

Asthma – Special Project Working Group

PHASE 1

- Inpatient LOS variability
- Was it due to care management strategies?

PHASE 2

- Development a pan-Canadian indicator reproducible at the facility, system, provincial, or national level.

CPDSN Performance Indicators

- The addition of performance indicators to the annual CPDSN Benchmarking Report enhances the utility of the publication
- Pan-Canadian indicators can be applied to agencies outside the tertiary paediatric community
- Useful tool for analyzing the variance based on local conditions, resources & clinical practice

Asthma Special Project Working Group

Phase 2

Guttmann, et al (2007)[1] reviewed 32,996 ED visits in Ontario using NACRS data and determined:

- Valid measure
- Rates vary:
  - Small community hospital 7.1%
  - Large community hospital 5.4%
  - Academic hospital 4.5%
- Return rates are associated with specific resources
  - pre-printed orders
  - access to a paediatrician

Guttmann, et al. Effectiveness of ED Asthma Management Strategies on Return Visits in Children: A Population –Based Study. Pediatrics 120(6) 2007.

Asthma Special Project Working Group

- Can we replicate the work at a national level?
- Can we explore the resource & practice effects
- Can we confirm a methodology that will allow individual groups to assess their own performance?
- Can we build it?

Paediatric Asthma Return to ED Rate

Definition

Percentage of patients that returned to the Emergency Department (ED) for asthma ≤ 72 hours after discharge from the initial ED visit.

Raw Data Parameters

Numerator: (Returns visits)

Number of ED visits where:

- Age ≥ 2 years and < 18 years
- ICD-10-CA Most Responsible Dx Codes: J45.* (ASTHMA) OR R06.2 (WHEEZING)
- Cases from all CTAS levels
- All D/C disposition types
- Patient returned to ED within 72 hours of prior ED discharge with same condition

Denominator: (All visits)

All ED visits for Asthma (J45*) OR "Wheezing" (R06.2) (where a diagnosis of ASTHMA has not yet been determined)

- Age ≥ 2 years and < 18 years
- ICD-10-CA Most Responsible Codes: J45.* (ASTHMA) OR R06.2 (WHEEZING)
- Cases from all CTAS levels
- All D/C disposition types

Prototype Design

- **Participants** 6 CPDSN centres

- **Data Sources**

1. 2007-08 CIHI NACRS and EDIS
   - Age
   - Admit Date & Time
   - Discharge Date & Time
   - Discharge Disposition
   - Discharge Diagnosis
   - CTAS level

2. Asthma Prevalence data from Stats Can

- **Process & Tools:**
  - Indicator Definition document
  - Prototype Report
  - Resource Strategies Profile for each center

Prototype Design

Participants

5 using NACRS, 1 NACRS-like EDIS

Data Sources

Stats Can on-line data
Canadian Community Heath Survey (updated every 2 years)

Process & Tools

Resource Strategies Profile

- Short stay unit
- Access to a paediatrician
- Pre-printed discharge instructions
- Pre-printed order sheets
- Routine use of peak-flow testing
- Trained asthma educators
- Ability to dispense aerochambers
- Availability of asthma guidelines


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Challenges to National Reporting

- Not all sites submit ambulatory care data to CIHI
- Not all facilities code ambulatory care data,
  i.e., J45.* includes Reactive Airway Disease (RAD) until 2009/10
- Analysts may have to rely on ADT or other systems to make the link between ED visits
- Smaller sample size of data in CPDSN centres may not be significant to detect something useful
- National prevalence data is only available for ages >12

Analysis

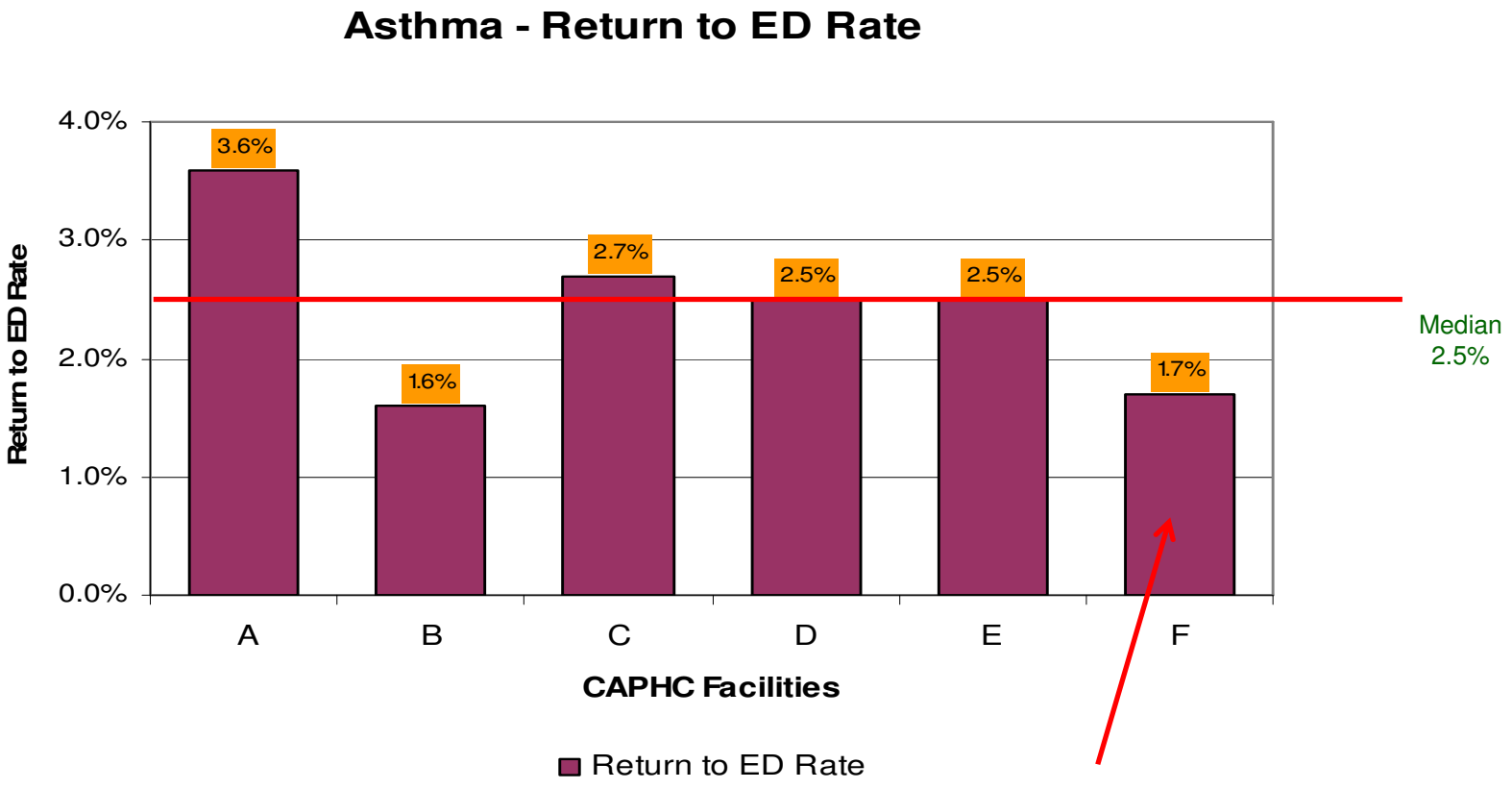
Compared centres with NACRS data vs. “NACRS- like” system

Sought early clinical expert feedback to fine tune the definition

Categorized Resource Strategies into 3 groups:

- Nurse-initiated actions at Triage
- Standardized care by EP
- Evidence-based DC & follow up

1. Return Rate

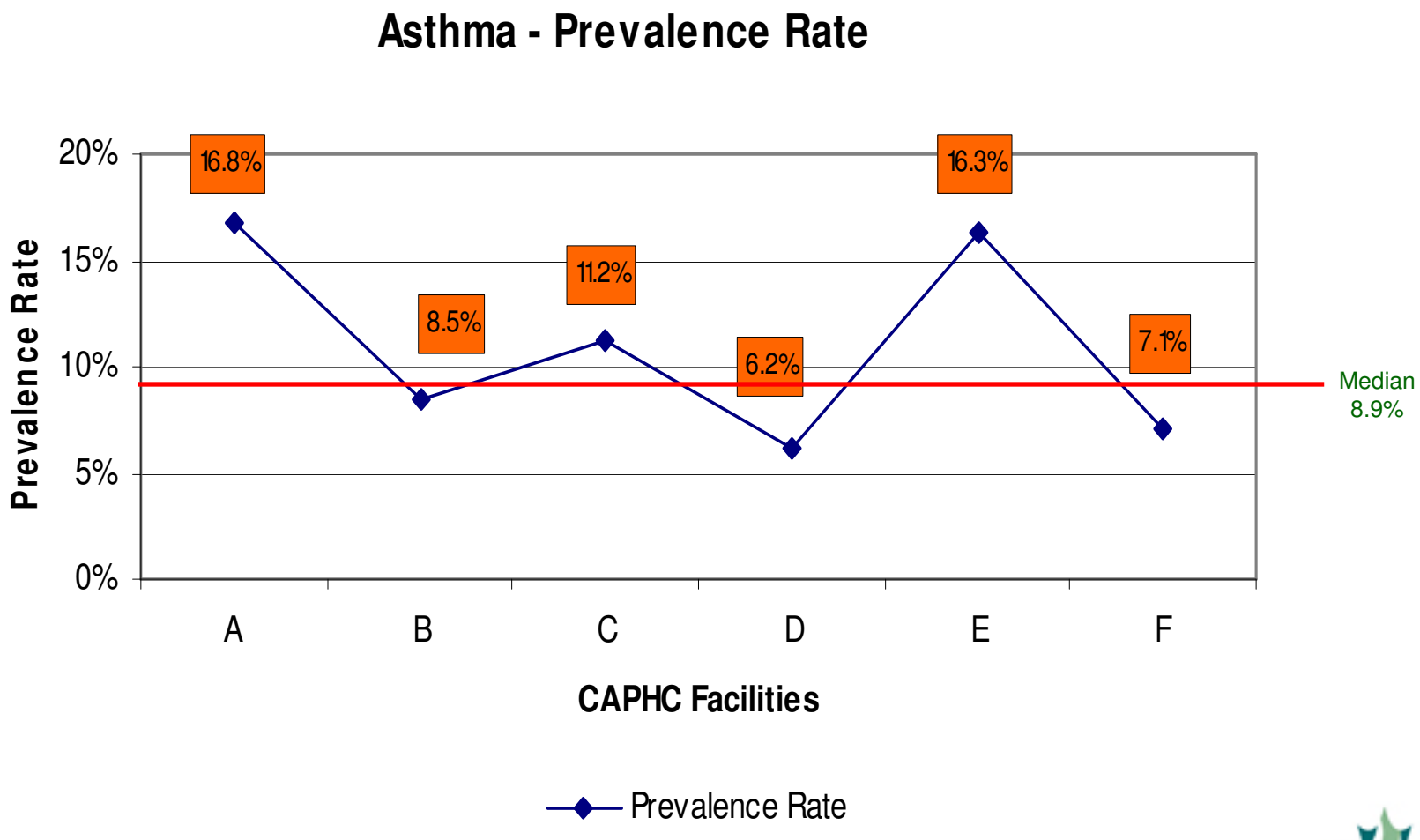


NACRS-like

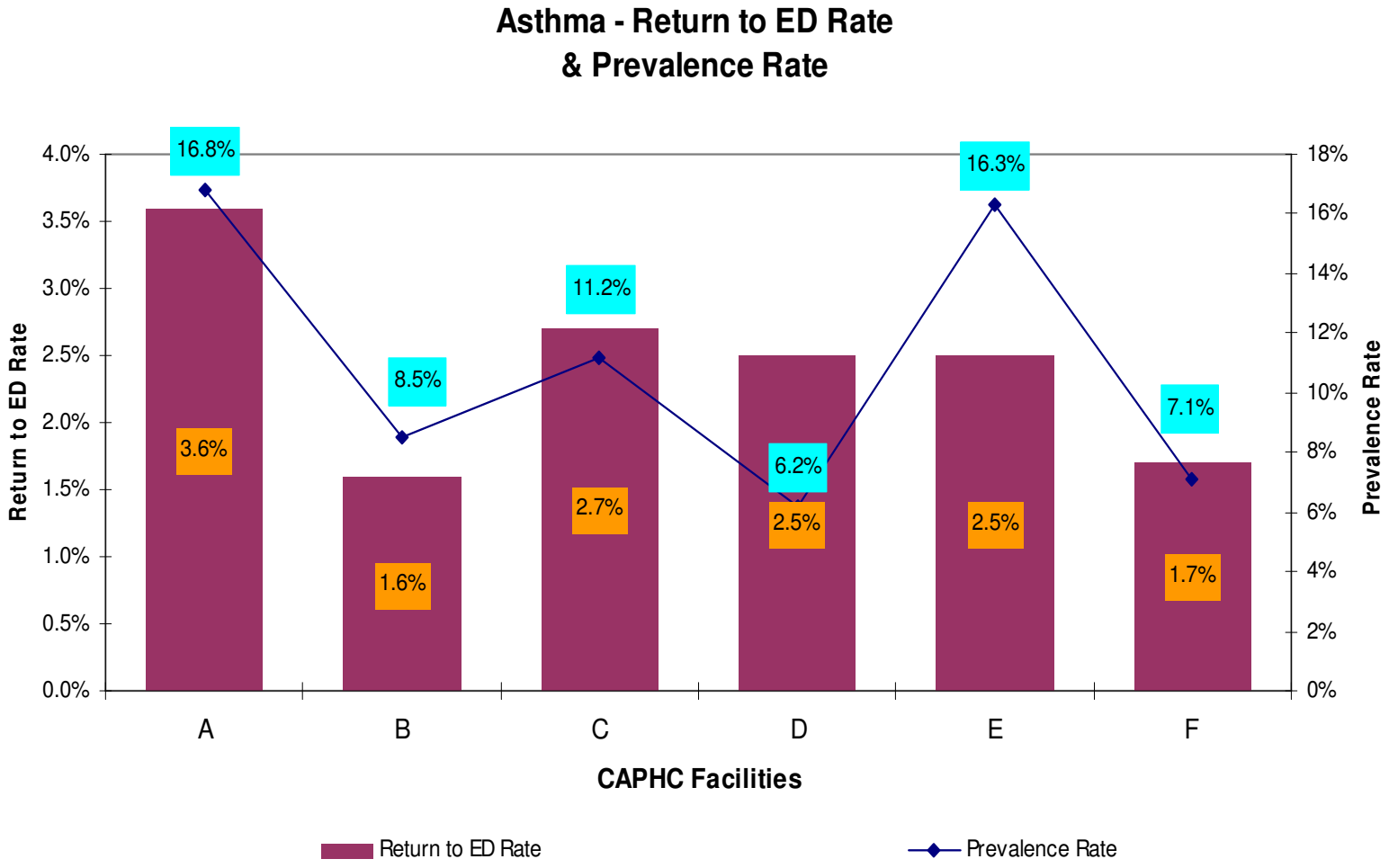
(no RAD)

Small community hospital	7.1%
Large community hospital	5.4%
Academic hospital	4.5%

2. Prevalence Rate



2. Return Rate + Prevalence Rate



3. Resources & Strategies

Colour Key

Nurse Initiated Actions at Triage
Standardized Care by EP
Evidence-based DC & Follow Up

3. Resources & Strategies

Strategies & Resources	A	B	C	D	E	F
Pre- Printed Asthma Care Map	No		No	No	No	Yes
Nurse Initiated Treatment	Yes	Yes	Yes	Yes	No	Yes
Nurse Initiated Treatment at Triage	Yes	Yes	Yes	Yes	No	Yes
Aerochambers Used at Triage	Yes	Yes	Yes	No	Yes	Yes
Salbutamol Administered by Nebulizer Mask at Triage	Yes	Yes	Yes	Yes	No	No
Short Stay Unit	Yes	No	No	No	No	Yes
Pre-printed Order Sheets	No	Yes	No	Yes	No	Yes
Routine Use of Peak Flow Testing	No	No	No	No	No	Yes
Pre-printed Discharge Instructions	No	Yes	in progress	No	Yes	Yes
Trained Personnel in Asthma Teaching	Yes	Yes	No	No	No	Yes
Ability to Dispense Aerochambers	Yes	No	Yes	Yes	Yes	No
Ability to Dispense Metered Dose Inhalers	Yes	No	Yes	In progress	No	No
Discharge Instructions Involve Follow Up with Pediatrician	Yes	Yes	Sometimes	Yes	No	No

Summary

- A valid methodology
- A review of limitations
- Standard & flexible method for deriving prevalence rates (adding local context)
- Identification of tools (resources & strategies), benchmarks & best practice locations
- A distribution strategy via the CAPHC-CPDSN Annual Benchmarking Report

Questions ?