

## **Appendix A**

# Appendix A.

## Acronyms and Abbreviations

A/P	Asian/Pacific Islander
AAP	Asthma action plan
BQC	benchmarking quality circle feedback intervention
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CLIQ	Clinical Inquiry
CME	Continuing medical education
CON	Control
COPD	Chronic obstructive pulmonary disease
CPGs	clinical practice guidelines
DM	Diabetes mellitus
ED	emergency department
EMR	Electronic Medical Records
ENT	Ear nose throat
EPOC	Cochrane Effective Practice and Organization of Care
EPR-3	Expert Panel Report 3
ERIC	Educational Resources Information Center
FEV	Forced Expiratory Volume
FVC	Forced Vital Capacity
GPs	General practitioner
HCSD	Health Care Services Division
HMO	Health maintenance organization
ICS	Inhaled Corticosteroids
INT	Intervention
MD	Medical Doctor
MSAGR	Multicolored, Simplified, Asthma Guideline Reminder
NAEPP	National Asthma Education and Prevention Program
NHLBI	National Heart, Lung, and Blood Institute
NYCHP	New York Children's Health Project
PACE	Practitioner Asthma Communication and Education
PCAPP	Primary Care Asthma Pilot Project
PDSA	Plan-do-study-act
PEFR	Peak Expiratory Flow Rate
PFR	Peak Flow Rate
PFT	Pulmonary Function Test
PLE	Peer Leader Education
PPO-FFS	Preferred provider organization – Fee for service
QC	quality circles
QOL	Quality of life
RCT	Randomized controlled trial
RDRB/CME	Research and Development Resource Base in Continuing Medical Education
SBHC	South Bronx Health Center
SOE	Strength of evidence
SP	Suburban practice
TOM	Therapeutic outcomes monitoring
TQC	traditional quality circle
UP	Urban practice
UTI	Urinary Tract Infection
WAAP	Written asthma action plan

## **Appendix B**



# Appendix B. Detailed Search Strategies

Search date -January 18, 2012

## Pubmed – 1128

(asthma[mh] OR asthma[tiab])

AND

(guideline[tiab] OR guidelines[tiab] OR practice guidelines as topic[mh] OR consensus conference[tiab] OR consensus statement[tiab] OR consensus statements[tiab] OR recommendation[tiab] OR recommendations[tiab] OR critical pathways[mh] OR critical pathways[tiab] OR critical pathway[tiab] OR clinical pathways[tiab] OR clinical pathway[tiab] OR primary health care/standards[mh])

AND

(guideline adherence[mh] OR adherence[tiab] OR nurse's practice patterns[mh] OR Physician's Practice Patterns[mh] OR practice pattern[tiab] OR practice patterns[tiab] OR behavior[tiab] OR behaviour[tiab] OR Professional practice[mh] OR "outcome assessment (health care)"[mh] OR quality assurance[mh])

AND

(Physicians[mh] or physicians[tiab] OR physician[tiab] OR general practitioner[tiab] OR general practitioners[tiab] OR GPs[tiab] OR hospitalists[tiab] OR Primary health care[mh] OR Nurses[mh] OR nurses[tiab] OR nurse[tiab] OR physical therapy[tiab] or Physical therapy[mh] OR physical therapist[tiab] OR physical therapists[tiab] OR physiotherapist[tiab] OR physiotherapists[tiab] OR Respiratory therapy[mh] OR respiratory therapist[tiab] OR respiratory therapists[tiab] OR Pharmacists[mh] OR pharmacist[tiab] OR pharmacists[tiab] OR health professional[tiab] OR health professionals[tiab] OR health care provider[tiab] OR health care providers[tiab] OR healthcare provider[tiab] OR healthcare providers[tiab] OR pediatricians[tiab] OR pediatrician[tiab] OR paediatrician[tiab] OR paediatricians[tiab] OR specialist[tiab] OR specialists[tiab] OR pulmonologist[tiab] OR pulmonologists[tiab] OR doctor[tiab] OR doctors[tiab] OR allergist[tiab] OR allergists[tiab] OR internist[tiab] OR internists[tiab])

## ERIC – 5

CINAHL =365

PsycINFO =80

(TX asthma ) AND (TX guideline OR TX guidelines OR TX consensus conference OR TX consensus statement OR TX consensus statements OR TX recommendation OR TX recommendations OR TX critical pathways OR TX critical pathway OR TX clinical pathways OR TX clinical pathway OR TX primary health care) AND (TX adherence OR TX practice pattern OR TX practice patterns OR TX behavior OR TX behaviour OR TX Professional practice OR TX quality assurance OR TX outcome assessment) AND (TX Physicians OR TX physician OR TX general practitioner OR TX general practitioners OR TX hospitalists OR TX Primary health care OR TX Nurses OR TX nurse OR TX physical therapy OR TX physical therapist OR TX physical therapists OR TX physiotherapist OR TX physiotherapists OR TX respiratory therapist OR TX respiratory therapists OR TX Pharmacists OR TX pharmacist OR

TX health professional OR TX health professionals OR TX health care provider OR TX health care providers OR TX healthcare provider OR TX healthcare providers OR TX pediatricians OR TX pediatrician OR TX paediatrician OR TX paediatricians OR TX specialist OR TX specialists OR TX pulmonologist OR TX pulmonologists OR TX doctor OR TX doctors OR TX allergist OR TX allergists OR TX internist OR TX internists)

## **EMBASE: 506**

'asthma'/exp OR asthma:ab,ti

guideline:ab,ti OR guidelines:ab,ti OR 'practice guideline'/exp OR 'practice guideline':ab,ti OR 'consensus conference':ab,ti OR 'consensus statement':ab,ti OR 'consensus statements':ab,ti OR recommendation:ab,ti OR recommendations:ab,ti OR 'critical pathways':ab,ti OR 'critical pathway':ab,ti OR 'clinical pathways':ab,ti OR 'clinical pathway':ab,ti OR 'primary health care':ab,ti

adherence:ab,ti OR 'practice pattern':ab,ti OR 'practice patterns':ab,ti OR behavior:ab,ti OR behaviour:ab,ti OR 'professional practice':ab,ti OR 'quality assurance':ab,ti OR 'outcome assessment'/exp OR 'outcome assessment':ab,ti

'physician'/exp OR physicians:ab,ti OR physician:ab,ti OR 'general practitioner':ab,ti OR 'general practitioners':ab,ti OR hospitalists:ab,ti OR 'primary health care'/exp OR 'primary health care':ab,ti OR nurses:ab,ti OR nurse:ab,ti OR 'physical therapy':ab,ti OR 'physical therapist':ab,ti OR 'physical therapists':ab,ti OR physiotherapist:ab,ti OR physiotherapists:ab,ti OR 'respiratory therapist':ab,ti OR 'respiratory therapists':ab,ti OR pharmacists:ab,ti OR pharmacist:ab,ti OR 'health professional':ab,ti OR 'health professionals':ab,ti OR 'health care provider':ab,ti OR 'health care providers':ab,ti OR 'healthcare provider':ab,ti OR 'healthcare providers':ab,ti OR pediatricians:ab,ti OR pediatrician:ab,ti OR paediatrician:ab,ti OR paediatricians:ab,ti OR specialist:ab,ti OR specialists:ab,ti OR pulmonologist:ab,ti OR pulmonologists:ab,ti OR doctor:ab,ti OR doctors:ab,ti OR allergist:ab,ti OR allergists:ab,ti OR internist:ab,ti OR internists:ab,ti

## **Cochrane =83**

asthma:ti,ab,kw OR MeSH descriptor Asthma explode all trees

guideline:ti,ab,kw OR guidelines:ti,ab,kw OR "practice guideline":ti,ab,kw OR "consensus conference":ti,ab,kw OR "consensus statement":ti,ab,kw OR "consensus statements":ti,ab,kw OR recommendation:ti,ab,kw OR recommendations:ti,ab,kw OR MeSH descriptor Critical Pathways explode all trees OR "critical pathways":ti,ab,kw OR "critical pathway":ti,ab,kw OR "clinical pathways":ti,ab,kw OR "clinical pathway":ti,ab,kw OR "primary health care":ti,ab,kw

MeSH descriptor Guideline Adherence explode all trees OR adherence:ti,ab,kw OR "practice pattern":ti,ab,kw OR "practice patterns":ti,ab,kw OR behavior:ti,ab,kw OR behaviour:ti,ab,kw

OR “professional practice”:ti,ab,kw OR “quality assurance”:ti,ab,kw OR MeSH descriptor Outcome Assessment (Health Care) explode trees 2 and 3 OR “outcome assessment”:ti,ab,kw

physicians:ti,ab,kw OR physician:ti,ab,kw OR “general practitioner”:ti,ab,kw OR “general practitioners”:ti,ab,kw OR hospitalists:ti,ab,kw OR MeSH descriptor Primary Health Care explode all trees OR “primary health care”:ti,ab,kw OR nurses:ti,ab,kw OR nurse:ti,ab,kw OR “physical therapy”:ti,ab,kw OR “physical therapist”:ti,ab,kw OR “physical therapists”:ti,ab,kw OR physiotherapist:ti,ab,kw OR physiotherapists:ti,ab,kw OR “respiratory therapist”:ti,ab,kw OR “respiratory therapists”:ti,ab,kw OR pharmacists:ti,ab,kw OR pharmacist:ti,ab,kw OR “health professional”:ti,ab,kw OR “health professionals”:ti,ab,kw OR “health care provider”:ti,ab,kw OR “health care providers”:ti,ab,kw OR “healthcare provider”:ti,ab,kw OR “healthcare providers”:ti,ab,kw OR pediatricians:ti,ab,kw OR pediatrician:ti,ab,kw OR paediatrician:ti,ab,kw OR paediatricians:ti,ab,kw OR specialist:ti,ab,kw OR specialists:ti,ab,kw OR pulmonologist:ti,ab,kw OR pulmonologists:ti,ab,kw OR doctor:ti,ab,kw OR doctors:ti,ab,kw OR allergist:ti,ab,kw OR allergists:ti,ab,kw OR internist:ti,ab,kw OR internists:ti,ab,kw

### **Research and Development Resource Base in Continuing Medical Education (RDRB/CME)**

#### **Asthma =60**

Keywords: ("asthma")

AND

Keywords: ("guideline") OR ("guidelines")

AND

Keywords: ("adherence") OR ("pattern") OR ("patterns")

AND

Keywords: ("physicians") OR ("physician") OR ("practitioner")



## **Appendix C**



# Appendix C: Screening Forms

Title/Abstract Review

Selected – No

DistillerSR



Project Meditation (Switch) User mreuben (My Settings)  
Messages 4 new  
Live Support Currently Unavailable User Guide

Review	Datarama	Reports	References	Forms	Manage Levels	Users	Project	Logout
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Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.  
Rethnam U, Yesupalan RS, Sinha A.

Submit Plans and go to or Skip to Next

1. Does this article POTENTIALLY apply to ANY of the key questions?

NO, this article DOES NOT apply to any of the Key Questions (check all of the following reasons that apply)

- No original data (systematic reviews, editorial, commentary, letters, meta-analysis)
- Other meditation form -DBT,ACT,CBT, IMBT
- Study only includes children, adolescent(0-18years)
- No Control group
- Not Randomized
- Not relevant to key questions
- Other

Yes, this article may apply to the key questions

Unclear-get it for article review

Please click below to see:  
[key questions](#)

Submit Plans and go to or Skip to Next

## Title/Abstract Review

Selected- Yes

DistillerSR



ritu.sharma

Project Asthma Guidelines (Switch) User mreuben (My Settings)  
Messages 3 new  
Live Support User Guide

Review	Datarama	Reports	References	Forms	Manage Levels	Users	Project	Logout
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Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.

Rethnam U, Yesupalan RS, Sinha A.

and go to  or Skip to Next

1. Does this article POTENTIALLY apply to ANY of the key questions?

- No  
 Yes

Include article for: (Check all that apply):

In the care of pediatric or adult patients with asthma, what is the evidence that interventions designed to improve health care provider adherence to guidelines:

- KQ1-Impact health care process outcomes (e.g., receiving appropriate treatment)  
 KQ2-Impact clinical outcomes (e.g., hospitalizations, patient reported outcomes such as symptom control)  
 KQ3-Impact health care process outcomes that then affect clinical outcomes

Unclear-No abstract or cannot tell from abstract alone --get it for full-text screen

**Guidelines** – Care path, Clinical pathway, recommendations, consensus statements, algorithm

**Health care providers** - Physicians, nurses, nurse practitioners, physiotherapists/physical therapists, respiratory therapists, pharmacists, and other health care providers

and go to  or Skip to Next

**Article Review  
Selected- No**

DistillerSR



**Project** Asthma Guidelines (Switch) **User** mreuben (My Settings)  
**Messages** 3 new  
[Live Support](#) [User Guide](#)

- Review
- Datarama
- Reports
- References
- Forms
- Manage Levels
- Users
- Project
- Logout

**Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.**  
Rethnam U, Yesupalan RS, Sinha A.

and go to  or [Skip to Next](#)

1. Does this article POTENTIALLY apply to ANY of the key questions?

No

**NO**, this article DOES NOT apply to any of the Key Questions (check only one reason)

- Not conducted in humans
- No original data (systematic reviews, meta-analysis, editorial, commentary)
- Not in English and not able to determine eligibility
- Does not address asthma
- Addresses inpatient or emergency department care only
- Does not target health care providers
- Does not evaluate an intervention targeting adherence or behavior of health care provider
- Does not provide any outcome of interest (e.g. provides only acceptability of intervention)
- Other-please specify

Yes

[Clear Response](#)

5. Comments:

**List of outcomes - [Please click here to see the list of outcomes](#)**

**Guidelines** – Care path, Clinical pathway, recommendations, consensus statements, algorithm

**Health care providers** - Physicians, nurses, nurse practitioners, physiotherapists/physical therapists, respiratory therapists, pharmacists, and other health care providers

and go to  or [Skip to Next](#)

**Article Review  
Selected-Yes**

DistillerSR



ritu.sharma

Project Asthma Guidelines (Switch) User mreuben (My Settings)  
Messages 3 new  
Live Support Currently Unavailable User Guide

- Review
- Datarama
- Reports
- References
- Forms
- Manage Levels
- Users
- Project
- Logout

Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.  
Rethnam U, Yesupalan RS, Sirha A.

and go to  or [Skip to Next](#)

1. Does this article POTENTIALLY apply to ANY of the key questions?

- No
- Yes

Include article for: (Check all that apply):

In the care of pediatric or adult patients with asthma, what is the evidence that interventions designed to improve health care provider adherence to guidelines:

- KQ1-Impact health care process outcomes (e.g., receiving appropriate treatment)
- KQ2-Impact clinical outcomes (e.g., hospitalizations, patient reported outcomes such as symptom control)
- KQ3-Impact health care process outcomes that then affect clinical outcomes

[Clear Response](#)

5. Comments:

**List of outcomes** - [Please click here to see the list of outcomes](#)

**Guidelines** - Care path, Clinical pathway, recommendations, consensus statements, algorithm

**Health care providers** - Physicians, nurses, nurse practitioners, physiotherapists/physical therapists, respiratory therapists, pharmacists, and other health care providers

and go to  or [Skip to Next](#)

## Study Characteristics

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

Create PDF Convert Multiple Reports Preferences Create and Attach to Email Create and Send For Review

Create Adobe PDF Create and Email Review And Comment

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences

### Study Characteristics

**Always click "New Record" before entering a new Ref ID!**

Ref ID:

If ineligible, select reason for exclusion:

Important Points:  
A. To denote a data field as Not Reported, use "ggg"  
B. To enter multiple lines of data in one box, use Ctrl+Enter

Design and Location	Study Duration
Study Design: <input type="text"/>	Study Start Date: <input type="text"/>
Study Location: <input type="text"/>	Study End Date: <input type="text"/>
Multicenter: <input type="checkbox"/>	Study Duration: <input type="text"/> Months
	Planned Length of Follow-up: <input type="text"/> Months

Other Comments:

Save Record Next Form New Record

Record: 1 of 1 No Filter Search

Form View Num Lock

**Healthcare Provider and Patient Characteristics (Arm D data fields are identical to A, B, and C)**

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Refresh All Save Spelling Delete More Filter Sort & Filter Selection Advanced Find Replace Go To Select

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences

### Healthcare Provider Practice Characteristics

Ref ID:  **Always click "New Record" before entering a new Ref ID!**

Arm A: <input type="text"/> (Control Arm)	Arm B: <input type="text"/>	Arm C: <input type="text"/>	Arm D: <input type="text"/>
n at Baseline Arm A: <input type="text"/>	n at Baseline Arm B: <input type="text"/>	n at Baseline Arm C: <input type="text"/>	n at Baseline Arm D: <input type="text"/>
Type of Healthcare Provider: <input type="text"/>			
If Other Provider, Specify: <input type="text"/>			
Practice Setting: <input type="text"/>			
Practice Specialty: <input type="text"/>			
Service Area: <input type="text"/>			
Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %	Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %	Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %	Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %
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International Study/Insurance

Record: 1 of 1 No Filter Search

Form View Num Lock

**Healthcare Provider and Practice Characteristics – continued**

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Cut Format Painter Clipboard Font Rich Text Refresh All Save Spelling Delete More Filter Advanced Toggle Filter Find Replace Go To Select

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences

### Healthcare Provider\_Practice Characteristics

<p>Arm A: <input type="text"/> (Control Arm)</p> <p>n at Baseline Arm A: <input type="text"/></p> <p>Type of Healthcare Provider: <input type="text"/></p> <p>If Other Provider, Specify: <input type="text"/></p> <p>Practice Setting: <input type="text"/></p> <p>Practice Specialty: <input type="text"/></p> <p>Service Area: <input type="text"/></p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p>	<p>Arm B: <input type="text"/></p> <p>n at Baseline Arm B: <input type="text"/></p> <p>Type of Healthcare Provider: <input type="text"/></p> <p>If Other Provider, Specify: <input type="text"/></p> <p>Practice Setting: <input type="text"/></p> <p>Practice Specialty: <input type="text"/></p> <p>Service Area: <input type="text"/></p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p>	<p>Arm C: <input type="text"/></p> <p>n at Baseline Arm C: <input type="text"/></p> <p>Type of Healthcare Provider: <input type="text"/></p> <p>If Other Provider, Specify: <input type="text"/></p> <p>Practice Setting: <input type="text"/></p> <p>Practice Specialty: <input type="text"/></p> <p>Service Area: <input type="text"/></p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p>	<p>Arm D: <input type="text"/></p> <p>n at Baseline Arm D: <input type="text"/></p> <p>Type of Healthcare Provider: <input type="text"/></p> <p>If Other Provider, Specify: <input type="text"/></p> <p>Practice Setting: <input type="text"/></p> <p>Practice Specialty: <input type="text"/></p> <p>Service Area: <input type="text"/></p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p> <p>Type of Insurance: <input type="text"/> n: <input type="text"/> <input type="text"/> %</p>
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International Study/Insurance

Other Comments:

Save Record Next Form New Record

Record: 1 of 1 No Filter Search

Form View Num Lock

# Patient Characteristics

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Cut Format Painter Clipboard Font Rich Text Refresh All New Save Delete More Records Filter Selection Advanced Toggle Filter Sort & Filter Find Replace Go To Select Find

Study Characteristics Healthcare Provider & Practice Characteristics2 **Patient Characteristics1** Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences

## Patient Characteristics1

Ref ID:  **Always click "New Record" before entering a new Ref ID!**

Inclusion Exclusion

Age

Other Medical Conditions:

Other:

Arm A	Arm B	Arm C	Arm
Arm A: <input type="text"/> (Control Arm)	Arm B: <input type="text"/>	Arm C: <input type="text"/>	Arm
n at Baseline: <input type="text"/>	n at Baseline: <input type="text"/>	n at Baseline: <input type="text"/>	n at Baseline Arm
Women: n: <input type="text"/> or <input type="text"/> %	Women: n: <input type="text"/> or <input type="text"/> %	Women: n: <input type="text"/> or <input type="text"/> %	
<b>Age</b>	<b>Age</b>	<b>Age</b>	
Age (Mean): <input type="text"/>	Age (Mean): <input type="text"/>	Age (Mean): <input type="text"/>	Age (M
Age (Median): <input type="text"/>	Age (Median): <input type="text"/>	Age (Median): <input type="text"/>	Age (M
Age (Range): <input type="text"/>	Age(Range): <input type="text"/>	Age (Range): <input type="text"/>	Age (R
<b>Race/Ethnicity</b>	<b>Race/Ethnicity</b>	<b>Race/Ethnicity</b>	
White, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	White, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	White, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	White, non-H

Record: 1 of 1 No Filter Search

Form View Num Lock

## Patient Characteristics – Continued

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Refresh All New Save Spelling Delete More Records Filter Advanced Selection Sort & Filter Find Replace Go To Select Find

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences

### Patient Characteristics1

n at Baseline:	n at Baseline:	n at Baseline:	n at Baseline:
Women: n: <input type="text"/> or <input type="text"/> %	Women: n: <input type="text"/> or <input type="text"/> %	Women: n: <input type="text"/> or <input type="text"/> %	Women: n: <input type="text"/> or <input type="text"/> %
<b>Age</b>	<b>Age</b>	<b>Age</b>	<b>Age</b>
Age (Mean): <input type="text"/>			
Age (Median): <input type="text"/>			
Age (Range): <input type="text"/>			
<b>Race/Ethnicity</b>	<b>Race/Ethnicity</b>	<b>Race/Ethnicity</b>	<b>Race/Ethnicity</b>
White, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	White, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	White, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	White, non-Hispanic: n: <input type="text"/> or <input type="text"/> %
Black, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	Black, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	Black, non-Hispanic: n: <input type="text"/> or <input type="text"/> %	Black, non-Hispanic: n: <input type="text"/> or <input type="text"/> %
Latino/Hispanic: n: <input type="text"/> or <input type="text"/> %	Latino/Hispanic: n: <input type="text"/> or <input type="text"/> %	Latino/Hispanic: n: <input type="text"/> or <input type="text"/> %	Latino/Hispanic: n: <input type="text"/> or <input type="text"/> %
Asian/Pacific Islander: n: <input type="text"/> or <input type="text"/> %	Asian/Pacific Islander: n: <input type="text"/> or <input type="text"/> %	Asian/Pacific Islander: n: <input type="text"/> or <input type="text"/> %	Asian/Pacific Islander: n: <input type="text"/> or <input type="text"/> %
American Indian/Alaska Native: n: <input type="text"/> or <input type="text"/> %	American Indian/Alaska Native: n: <input type="text"/> or <input type="text"/> %	American Indian/Alaska Native: n: <input type="text"/> or <input type="text"/> %	American Indian/Alaska Native: n: <input type="text"/> or <input type="text"/> %
Other: n: <input type="text"/> or <input type="text"/> %	Other: n: <input type="text"/> or <input type="text"/> %	Other: n: <input type="text"/> or <input type="text"/> %	Other: n: <input type="text"/> or <input type="text"/> %
<b>Asthma Severity</b>	<b>Asthma Severity</b>	<b>Asthma Severity</b>	<b>Asthma Severity</b>
Define Scale: <input type="text"/>			
Select Severity: <input type="text"/>			
Degree of Control: <input type="text"/>			

Record: 1 of 1 No Filter Search

Form View Num Lock

## Patient Characteristics – Continued

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Refresh All New Save Delete More Spelling Filter Advanced Toggle Filter Find Replace Go To Select

Study Characteristics Healthcare Provider & Practice Characteristics2 **Patient Characteristics1** Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences

### Patient Characteristics1

Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % Select Severity: <input type="text"/> Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % Select Severity: <input type="text"/> Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % # of Acute Asthma Visits/Given Timeframe: <input type="text"/>	Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % Select Severity: <input type="text"/> Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % Select Severity: <input type="text"/> Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % # of Acute Asthma Visits/Given Timeframe: <input type="text"/>	Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % Select Severity: <input type="text"/> Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % Select Severity: <input type="text"/> Degree of Control: <input type="text"/> n: <input type="text"/> <input type="text"/> % # of Acute Asthma Visits/Given Timeframe: <input type="text"/>	Select Severity: <input type="text"/> Degree of Control: <input type="text"/> Select Severity: <input type="text"/> Degree of Control: <input type="text"/> Select Severity: <input type="text"/> Degree of Control: <input type="text"/> # of Acute Asthma Visits/Given Timeframe: <input type="text"/>
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Other Comments:

Save Record Next Form New Record

Record: 1 of 1 No Filter Search

Form View Num Lock Scroll Lock

## Intervention Characteristics

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Refresh All New Save Delete More Records Filter Selection Advanced Toggle Filter Sort & Filter Find Replace Go To Select

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 **Intervention Characteristics1** Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences

### Intervention Characteristics

Ref ID:  **Always click "New Record" before entering a new Ref ID!**

Arm A	Arm B	Arm C	Arm D
Arm A: (Control Arm) <input type="text"/>	Arm B: <input type="text"/>	Arm C: <input type="text"/>	Arm D: <input type="text"/>
Type of Intervention Arm A: <input type="text"/>	Type of Intervention Arm B: <input type="text"/>	Type of Intervention Arm C: <input type="text"/>	Type of Intervention Arm D: <input type="text"/>
If "Other," Specify: <input type="text"/>			
Duration of Intervention: <input type="text"/> <input type="text"/> Units	Duration of Intervention: <input type="text"/> <input type="text"/> Units	Duration of Intervention: <input type="text"/> <input type="text"/> Units	Duration of Intervention: <input type="text"/> <input type="text"/> Units
Frequency of Intervention: <input type="text"/>			

Please answer the following questions about intervention type: Intervention Type 1: Education, physician detailing, audit, feedback  
Intervention Type 2: Reminders, decision support, pharmacy service

Type 1a	Type 1b	Type 1c	Type 1d
Type 1a Type 2a All a	Type 1b Type 2b All 2b	Type 1c Type 2c All c	Type 1d Type 2d All d
Electronic or in person?: <input type="text"/>			
Conducted by a peer, or a person external to the setting?: <input type="text"/>	Conducted by a peer, or a person external to the setting?: <input type="text"/>	Conducted by a peer, or a person external to the setting?: <input type="text"/>	Conducted by a peer, or a person external to the setting?: <input type="text"/>
Group or individual?: <input type="text"/>			

Record: 1 of 1 No Filter Search

Form View Num Lock Scroll Lock

## Intervention Characteristics – Continued

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Records Sort & Filter Find

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 **Intervention Characteristics1** Outcomes\_Baseline and End of Treatment Outcomes\_ Within Group Differences

### Intervention Characteristics

Duration of Intervention:  Units

Frequency of Intervention:

Please answer the following questions about intervention type:

Intervention Type 1: Education, physician detailing, audit, feedback  
Intervention Type 2: Reminders, decision support, pharmacy service

**Type 1a** Type 2a All a

Electronic or in person?:

Conducted by a peer, or a person external to the setting?:

Group or individual?:

**Type 1b** Type 2b All 2b

Electronic or in person?:

Conducted by a peer, or a person external to the setting?:

Group or individual?:

**Type 1c** Type 2c All c

Electronic or in person?:

Conducted by a peer, or a person external to the setting?:

Group or individual?:

**Type 1d** Type 2d

Electronic or in person?:

Conducted by a peer, or a person external to the setting?:

Group or individual?:

Other Comments:

Save Record Next Form New Record

Record: 1 of 1 No Filter Search

Form View Num Lock Scroll Lock

## Outcomes – Baseline and End of Treatment

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Refresh All New Save Spelling Delete More Records Filter Advanced Toggle Filter Sort & Filter Find Replace Go To Select

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 **Outcomes\_Baseline and End of Treatment** Outcomes\_Within Group Differences

### Outcomes\_Baseline and End of Treatment

**ID:**  *Always click "New Record" before entering a new Ref ID!*

**Ref ID:**

**Health Care Process Outcomes:**

**Clinical Outcomes:**

**Definition of Scale:**

**Range of Scale:**

**Asthma Seasonality**

Were outcomes measured over a period of at least 12 months?

*If no, or unable to determine:*

Is there enough information to determine seasonality?

If yes, describe:

Additional information pertaining to asthma seasonality:

**Arm A** **Arm B** **Arm C** **Arm D**

Arm A:  (Control Arm)

Baseline	End of Treatment	Last Follow-up
N: <input type="text"/>	N: <input type="text"/>	N: <input type="text"/>
Enter Time (months): <input type="text"/>	Enter Time (months): <input type="text"/>	Enter Time (months): <input type="text"/>
n with outcomes: <input type="text"/>	n with outcomes: <input type="text"/>	n with outcomes: <input type="text"/>
n with Events: <input type="text"/>	n with Events: <input type="text"/>	n with Events: <input type="text"/>
%: <input type="text"/>	%: <input type="text"/>	%: <input type="text"/>

Record: 1 of 1 No Filter Search

Form View Num Lock Scroll Lock

**Outcomes – Baseline and End of Treatment – Continued**

The screenshot shows a Microsoft Access database window titled 'Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access'. The active form is 'Outcomes\_Baseline and End of Treatment'. The form is divided into three main sections: 'Baseline', 'End of Treatment', and 'Last Follow-up'. Each section contains a grid of input fields for various data points such as 'N', 'Enter Time (months)', 'n with outcomes', 'n with Events', '%', 'Mean', 'Standard Deviation', and 'Other - please specify'. Below these sections, there is a checkbox for 'Were outcomes adjusted?', a text area for 'Briefly describe what was adjusted:', and another text area for 'Additional Comments:'. Three buttons are located at the bottom right: 'Save Record', 'Within Group Differences Form', and 'New Record'. The status bar at the bottom indicates 'Record: 1 of 1', 'No Filter', and 'Search'. The 'Navigation Pane' is visible on the left side of the window.

Baseline	End of Treatment	Last Follow-up
N	N	N
Enter Time (months):	Enter Time (months):	Enter Time (months):
n with outcomes:	n with outcomes:	n with outcomes:
n with Events:	n with Events:	n with Events:
%:	%:	%:
Mean	Mean	Mean
Standard Deviation:	Standard Deviation	Standard Deviation
Other - please specify	Other - please specify	Other - please specify

Were outcomes adjusted?

Briefly describe what was adjusted:

Additional Comments:

Save Record    Within Group Differences Form    New Record

Record: 1 of 1    No Filter    Search

Form View    Num Lock    Scroll Lock

## Outcomes – Within Group Differences

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Refresh All New Save Spelling Delete More Filter Advanced Toggle Filter Sort & Filter Find Replace Go To Select

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment **Outcomes\_Within Group Differences**

### Outcomes\_Within Group Differences

ID:  **Always click "New Record" before entering a new Ref ID!**

Ref ID:

Health Care Process Outcomes:  Choose either a Healthcare Process Outcome or a Clinical Outcome - do not choose both!

Clinical Outcomes:

Definition of Scale:

Range of Scale:

Arm A Arm B Arm C Arm D

Arm A:  (Control Arm)

Total N in Arm (A):

<u>End of Treatment</u>	<u>Last Follow-up</u>
Enter Time (months): <input type="text"/>	Enter Time (months): <input type="text"/>
Mean difference: <input type="text"/>	Mean difference: <input type="text"/>
Standard Deviation: <input type="text"/>	Standard Deviation: <input type="text"/>

Record: 1 of 1 No Filter Search

Form View Num Lock Scroll Lock

## Outcomes – Within Group Differences

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

Clipboard Font Rich Text Records Sort & Filter Find

Study Characteristics Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment **Outcomes\_Within Group Differences**

### Outcomes\_Within Group Differences

Range of Scale:

Arm A:  (Control Arm)  
 Total N in Arm (A):

<u>End of Treatment</u>		<u>Last Follow-up</u>	
Enter Time (months):	<input type="text"/>	Enter Time (months):	<input type="text"/>
Mean difference:	<input type="text"/>	Mean difference:	<input type="text"/>
Standard Deviation:	<input type="text"/>	Standard Deviation:	<input type="text"/>
95% CI:	<input type="text"/>	95% CI:	<input type="text"/>
P-Value:	<input type="text"/>	P-Value:	<input type="text"/>
Other - Please Specify:	<input type="text"/>	Other - Please Specify:	<input type="text"/>

Additional Comments:

Record: 1 of 1 No Filter Search

Num Lock Scroll Lock

## Outcomes – Mean Difference Between Groups

The screenshot shows a Microsoft Access database window titled "Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access". The ribbon includes "Home", "Create", "External Data", "Database Tools", and "Acrobat". The form is titled "Mean Difference Between Groups" and contains the following fields and controls:

- ID:** A text box with a "New" button next to it. A red instruction reads: "Always click 'New Record' before entering a new Ref ID!".
- RefID:** A text box.
- Health Care Process Outcomes:** A dropdown menu.
- Clinical Outcomes:** A dropdown menu.
- Definition of Scale:** A text box.
- Range of Scale:** A text box.
- Comparison Selection:** A set of tabs labeled "Comparison 1" through "Comparison 6".
- Comparison 1 Form:**
  - Arm A vs:** A dropdown menu.
  - Total N in Arm A:** A text box.
  - Total N in Comparison Arm:** A text box.
  - Total N in both Arms:** A text box.
  - Enter Time:** Two text boxes followed by the label "Units".
  - Choose a measure:** A dropdown menu.
  - Value of chosen measure:** A text box.
  - p value:** A text box.
  - 95% CI:** A text box.
  - Other - please specify:** A text box.

At the bottom, the status bar shows "Record: 1 of 1", "No Filter", and "Search". The window title bar includes "Form View", "Num Lock", and "Scroll Lock".

## Outcomes – Mean Difference Between Groups – Continued

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Records Sort & Filter Find

Healthcare Provider & Practice Characteristics2 Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences **Mean Difference Between Groups**

### Mean Difference Between Groups

Definition of Scale:

Range of Scale:

Comparison 1 Comparison 2 Comparison 3 Comparison 4 Comparison 5 Comparison 6

Arm A vs:  Enter Time:   Units

Total N in Arm A:

Total N in Comparison Arm:

Total N in both Arms:

Choose a measure:  Value of chosen measure:

p value:

95% CI:

Other - please specify:

Save Record Risk of Bias Form New Record

Additional Comments:

Record: 1 of 1 No Filter Search

Form View Num Lock Scroll Lock

## Risk of Bias

Asthma Data Abstraction\_access\_May9 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Acrobat

View Paste Copy Format Painter Clipboard Font Rich Text Refresh All New Save Spelling Delete More Filter Sort & Filter Selection Advanced Toggle Filter Find Replace Go To Select

Navigation Pane

Patient Characteristics1 Intervention Characteristics1 Outcomes\_Baseline and End of Treatment Outcomes\_Within Group Differences Mean Difference Between Groups **Risk of Bias**

### Risk of Bias

ID: (New)

Ref ID:  Reviewer Initials:

For Second Reviewers:  
Do not review data entered by First Reviewers! Click "New Record" at the bottom of the form to input your own data.

Controlled Studies Before and After Studies

Bias	Support for Judgement
Random sequence generation?:	<input type="text"/>
Allocation concealment?:	<input type="text"/>
Blinding of health care providers?:	<input type="text"/>
Blinding of Investigators?:	<input type="text"/>
Blinding of outcome assessment? - Health care process outcomes:	<input type="text"/>
Blinding of outcome assessment? - Clinical outcomes:	<input type="text"/>
Incomplete outcome data? -Health care process outcomes:	<input type="text"/>
Incomplete outcome data? -Clinical outcomes:	<input type="text"/>
Selective reporting?:	<input type="text"/>
Other bias?:	<input type="text"/>

Record: 1 of 1 No Filter Search

Form View Num Lock Scroll Lock

## **Appendix D**



# Appendix D. Excluded Studies

Appendix D lists studies that were excluded from this review, categorized by reason for exclusion and alphabetized.

## No Original Data

Advocate's disease management program reduces readmissions for CHF and asthma Performance improvement advisor 2003; 7 (3): 44-47.

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## Appendix E

## Appendix E. Evidence Tables

The following studies were grouped together: Haymore 2005 & Herborg 2011; Lozano 2004 & Finkelstein 2005; Cloutier 2005 & Cloutier 2009

**Evidence Table 1. Study Characteristics of All Included Studies**

Author, Year RefID	Study Design	Study location	Multicenter	Study Start/End Date	Study Duration	Planned length of follow-up	Intervention
Baker R., 2003 <sup>1</sup>	Randomized	Europe	NO	08/1998 - 01/2000	15 months	12 months	Audit and Feedback
Coleman C. I., 2003 <sup>2</sup>	Controlled Before-After	United States	NO	04/2001 - 06/2001	3 months	6 months	Audit and Feedback
Feder G, 1995 <sup>4</sup>	Randomized	Europe	YES	1/93	6 months	12 months	Audit and Feedback
Foster J. M., 2007 <sup>5</sup>	Randomized	Europe	YES	2002	NR	12 months	Audit and Feedback
Herborg H., 2001 <sup>6,7</sup>	Non-randomized	Europe	YES	08/1994 - 07/1995	NR	12 months	Audit and Feedback
Hoskins G., 1997 <sup>8</sup>	Controlled Before-After	Europe	NO	1991 - 1993	24 months	NR	Audit and Feedback
Richman M. J., 2000 <sup>9</sup>	Pre-post	United States	YES	NR	NR	12 months	Audit and Feedback
Schneider A., 2008 <sup>11</sup>	Randomized	Europe	YES	05/2005	NR	12 months	Audit and Feedback
Sondergaard J., 2002 <sup>12</sup>	Randomized	Europe	YES	06/01/1998 - 06/01/1999	12 months	12 months	Audit and Feedback
Suh D. C., 2001 <sup>13</sup>	Pre-post	United States	YES	01/1997 - 09/1998	21 months	9 months	Audit and Feedback
Veninga CCM, 1999 <sup>14</sup>	Randomized	Europe	YES	03/1995 - 11/1996	NR	12 months	Audit and Feedback
Veninga CCM, 2000 <sup>15</sup>	Randomized	Europe	YES	NR	NR	NR	Audit and Feedback
Yawn BP, 2008 <sup>17</sup>	Pre-post	United States	YES	NR	NR	9 months	Audit and Feedback
Armour C., 2007 <sup>72</sup>	Randomized	Australia	YES	11/2004 - 07/2005	9 months	NR	Clinical Pharmacy Support
de Vries T. W., 2010 <sup>3</sup>	Non-randomized	Europe	NO	07/01/2006 - 06/30/2007	12 months	NR	Clinical Pharmacy Support
Saini B, 2004 <sup>10</sup>	Controlled Before-After	Australia	YES	11/1997 - 05/2001	42 months	6 months	Clinical Pharmacy Support
Weinberger M, 2002 <sup>16</sup>	Randomized	United States	YES	07/1998 - 12/1999	18 months	12 months	Clinical Pharmacy Support

<b>Author, Year RefID</b>	<b>Study Design</b>	<b>Study location</b>	<b>Multicenter</b>	<b>Study Start/End Date</b>	<b>Study Duration</b>	<b>Planned length of follow-up</b>	<b>Intervention</b>
Bell L.M., 2010 <sup>18</sup>	Randomized	United States	YES	12/01/2005 - 04/15/2008	29 months	NR	Decision Support
Cho S. H., 2010 <sup>19</sup>	Pre-post	Asia	YES	03/2004 - 12/2004	9 months	3 months	Decision Support
Cloutier M. M., 2002 <sup>20</sup>	Pre-post	United States	YES	07/01/1997 - 12/31	24 months	NR	Decision Support
Cloutier M. M., 2005 <sup>21</sup>	Pre-post	United States	YES	06/01/1998 - 08/31/2002	50 months	NR	Decision Support
Cloutier M.M., 2009 <sup>22</sup>	Cross-sectional	United States	YES	06/01/1998 - 07/01/2002	36 months	NR	Decision Support
Davis AM, 2010 <sup>23</sup>	Pre-post	United States	NO	07/01/2007 - 12/31/2008	18 months	NR	Decision Support
Eccles M., 2002 <sup>24</sup>	Randomized	Europe	YES	NR	24 months	12 months	Decision Support
Fairall L., 2010 <sup>25</sup>	Randomized	Africa	NO	05/2003 - 11/2003	6 months	3 months	Decision Support
Glasgow N. J., 2003 <sup>26</sup>	Randomized	Australia	YES	02/2000	NR	12 months	Decision Support
Halteman J. S., 2005 <sup>28</sup>	Randomized	United States	NO	NR	NR	6 months	Decision Support
Halteman J.S., 2006 <sup>29</sup>	Randomized	United States	YES	11/20/2003 - 09/14/2004	NR	NR	Decision Support
Horswell R., 2008 <sup>30</sup>	Pre-post	United States	NO	2000 - 2006	84 months	84 months	Decision Support
Kattan M., 2006 <sup>31</sup>	Randomized	United States	YES	10/1998 - 08/2000	12 months	NR	Decision Support
Lesho E. P., 2005 <sup>32</sup>	Pre-post	Europe	NO	NR	NR	12 months	Decision Support
Martens J. D., 2007 <sup>33</sup>	Randomized	Europe	YES	10/2003	NR	12 months	Decision Support
McCowan C., 2001 <sup>34</sup>	Randomized	Europe	YES	NR	6 months	6 months	Decision Support
Mitchell E. A., 2005 <sup>35</sup>	Randomized	Australia	YES	01/1999 - 12/2000	9 months	NR	Decision Support
Newton W. P., 2010 <sup>36</sup>	Pre-post	United States	YES	09/2006 - 2008	24 months	24 months	Decision Support
O'Laughlen MC, 2008 <sup>37</sup>	Pre-post	United States	YES	NR	7 months	4 months	Decision Support
Ragazzi H., 2011 <sup>38</sup>	Pre-post	United States	YES	2004 - 2004	12 months	12 months	Decision Support
Rance K., 2011 <sup>39</sup>	Pre-post	United States	NO	06/2009 - 08/2009	1.5 months	NR	Decision Support

Author, Year RefID	Study Design	Study location	Multicenter	Study Start/End Date	Study Duration	Planned length of follow-up	Intervention
Renzi P. M., 2006 <sup>40</sup>	Randomized	Canada	NO	08/2002 - 2003	12 months	12 months	Decision Support
Ruoff G., 2002 <sup>41</sup>	Pre-post	United States	NO	2000 - 2000	NR	6 months	Decision Support
Shapiro A., 2011 <sup>42</sup>	Pre-post	United States	YES	11/01/2004 - 05/31/2009	54 months	NR	Decision Support
Shiffman R. N., 2000 <sup>43</sup>	Pre-post	United States	YES	09/30/1996 - 10/01/1998	24 months	NR	Decision Support
To T., 2008 <sup>44</sup>	Pre-post	Canada	YES	NR	12 months	12 months	Decision Support
Gorton T. A., 1995 <sup>45</sup>	Non-randomized	United States	NO	NR	4 months	4 months	Education
Ables AZ, 2002 <sup>46</sup>	Pre-post	United States	NO	10/01/1998 - 03/31/2000	18 months	NR	Education
Blackstien-Hirsch P., 2000 <sup>47</sup>	Pre-post	Canada	NO	NR	NR	6 months	Education
Brown R, 2004 <sup>48</sup>	Randomized	United States	YES	NR	NR	24 months	Education
Cabana M. D., 2006 <sup>49</sup>	Randomized	United States	YES	07/2001 -	NR	12 months	Education
Clark NM, 1998 <sup>50</sup>	Randomized	United States	YES	NR	NR	22 months	Education
Cowie R. L., 2001 <sup>51</sup>	Non-randomized	Canada	YES	NR	NR	12 months	Education
Davis R. S., 2004 <sup>52</sup>	Controlled Before-After	United States	NO	NR	NR	6 months	Education
Holton C., 2011 <sup>53</sup>	Randomized	Australia	YES	2006 - 2007	12 months	12 months	Education
Liaw S. T., 2008 <sup>54</sup>	Randomized	Australia	NO	02/2001 - 11/2001	9 months	6 months	Education
Lozano P., 2004 <sup>55</sup>	Randomized	United States	YES	NR	24 months	24 months	Education
Mahi-Taright S., 2004 <sup>56</sup>	Pre-post	Africa	YES	1992	NR	NR	Education
Premaratne U. N., 1999 <sup>57</sup>	Randomized	Europe	YES	09/1993 - 09/1996	36 months	36 months	Education
Shah S., 2011 <sup>58</sup>	Randomized	Australia	YES	2006 - 2008	NR	12 months	Education
Smeele I. J., 1999 <sup>59</sup>	Randomized	Europe	YES	NR	12 months	12 months	Education
Stergachis A,	Randomized	United States	YES	NR	24 months	12 months	Education

Author, Year RefID	Study Design	Study location	Multicenter	Study Start/End Date	Study Duration	Planned length of follow-up	Intervention
2002 <sup>60</sup>							
Sulaiman N. D., 2010 <sup>61</sup>	Randomized	Australia	YES	02/2001 - 11/2001	10 months	6 months	Education
Bryce FP, 1995 <sup>63</sup>	Randomized	Europe	YES	1990 - 1993	36 months	12 months	Information Only
Martens J. D., 2006 <sup>68</sup>	Pre-post, RCT	Europe	YES	2001 - 2004	NR	NR	Information Only
Bender B. G., 2011 <sup>62</sup>	Pre-post	United States	YES	NR	NR	NR	Multimodal
Daniels E. C., 2005 <sup>64</sup>	Randomized	United States	YES	NR	NR	NR	Multimodal
Frankowski B. L., 2006 <sup>65</sup>	Pre-post	United States	YES	04/2003 - 03/2005	11 months	NR	Multimodal
Hagmolen, W., 2008 <sup>66</sup>	Randomized	Europe	YES	12/2000 - 08/2003	33 months	12 months	Multimodal
Lundborg C. S., 1999 <sup>67</sup>	Randomized	Europe	NO	NR	19 months	NR	Multimodal
Finkelstein J. A., 2005 <sup>69</sup>	Randomized	United States	YES	NR	NR	24 months	Organizational Change
Patel P. H., 2004 <sup>70</sup>	Pre-post	United States	NO	06/01/1998 - 12/31/2000	30 months	13 months	Organizational Change
Thyne S.M., 2007 <sup>71</sup>	Pre-post	United States	NO	NR	NR	NR	Organizational Change
Fox P., 2007 <sup>73</sup>	Pre-post	United States	YES	2001 - 2004	36 months	12 and 24 months	Quality Improvement
Homer CJ, 2005 <sup>74</sup>	Randomized	United States	YES	01/2001 - 2002	12 months	12 months	Quality Improvement
Mangione-Smith R., 2005 <sup>75</sup>	Controlled Before-After	United States	YES	02/15/2000 - 03/01/2001	12 months	16 months	Quality Improvement

NR= Not reported

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**Evidence Table 2. Healthcare Provider Characteristics**

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
Ables AZ, 2002 <sup>1</sup>	Education and Reminders	NR	Nurse, Physician	Community Health Center, Other	Family Medicine	NR	NR	NR
Armour C., 2007 <sup>2</sup>	Arm A: Control	25	Pharmacist	NR	NR	Rural, Urban	NR	No
Armour C., 2007 <sup>2</sup>	Arm B: Pharmacy Asthma Care Program (PACP)	32	Pharmacist	NR	NR	Rural, Urban	NR	NR
Baker R., 2003 <sup>3</sup>	Arm A: Guidelines only	27	General Practitioner	NR	General Practice	NR	NR	Yes
Baker R., 2003 <sup>3</sup>	Arm B: Guidelines with audit criteria	27	General Practitioner	NR	General Practice	NR	NR	NR
Baker R., 2003 <sup>3</sup>	Arm C: Guidelines with audit criteria and feedback	27	General Practitioner	NR	General Practice	NR	NR	NR
Bell L.M., 2010 <sup>4</sup>	Arm A: UP Control	NR	Pediatrician	Academic	Pediatric Medicine	Urban	NR	No
Bell L.M., 2010 <sup>4</sup>	Arm B: UP intervention	NR	Pediatrician	Academic	Pediatric Medicine	Urban	NR	NR
Bell L.M., 2010 <sup>4</sup>	Arm C: SP Control	NR	Pediatrician	NR	Pediatric Medicine	Suburban	NR	NR
Bell L.M., 2010 <sup>4</sup>	Arm D: SP Intervention	NR	Pediatrician	NR	Pediatric Medicine	Suburban	NR	NR
Bender B. G., 2011 <sup>5</sup>	Arm A: Education, Coaching and Toolkit	372	NR	NR	NR	NR	NR	No
Bender B. G., 2011 <sup>5</sup>	Arm B:		Nurse, Physician, Physician Assistant Medical assistants, practice managers,	Other	Primary Care	NR	NR	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
			office staff					
Blackstien-Hirsch P., 2000 <sup>6</sup>	Education	59	Physician	NR	Family Medicine	Suburban	NR	NR
Brown R, 2004 <sup>7</sup>	Arm A: Control	11	Pediatrician	NR	Primary Care	NR	NR	No
Brown R, 2004 <sup>7</sup>	Arm B: Education	12	Pediatrician	NR	Primary Care	NR	NR	NR
Bryce FP, 1995 <sup>8</sup>	Arm A: Control	NR	General Practitioner, Nurse	NR	General Practice	Rural, Urban	Uninsured	No
Bryce FP, 1995 <sup>8</sup>	Arm B: Reminders and Tools	NR	General Practitioner	NR	General Practice	Rural, Urban	NR	NR
Cabana M. D., 2006 <sup>9</sup>	Arm A: Control	43	Primary Healthcare	NR	Primary Care	NR	Commercial/Private, n: 376 (83) Medicaid/Medicare, n: 48 (11)	No
Cabana M. D., 2006 <sup>9</sup>	Arm B: Physician Asthma Care Education (PACE)	51	Primary Healthcare	NR	Primary Care	NR	Commercial/Private, n: 307 (73) Type2: Medicaid/Medicare, n: 71 (17)	NR
Cho S. H., 2010 <sup>10</sup>	Decision Support,	377	Allergist, General Practitioner, Physician	NR	NR	NR	NR	NR
Clark NM, 1998 <sup>11</sup>	Arm A:	37	Pediatrician, Physician	Private Practice	Pediatric Medicine	NR	NR	No
Clark NM, 1998 <sup>11</sup>	Arm B: Education	37	Pediatrician, Physician	Private Practice	Pediatric Medicine	NR	NR	NR
Cloutier M. M., 2002 <sup>12</sup>	Decision support	172	Nurse, Nurse Practitioner, Other, Pediatrician, Physician, Physician Assistant Advanced practice nurses, Family practice	NR	Primary Care	Urban	Medicaid/Medicare, n: NR (84)	No
Cloutier M. M., 2005 <sup>13</sup>	Decision support	151	Nurse, Nurse Practitioner, Pediatrician, Physician Assistant, Primary Health care pediatric	Academic, Community Health Center, Other	Primary Care	Urban	Medicaid/Medicare	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
			residents, medical students					
Cloutier M.M., 2009 <sup>13</sup> <sup>14</sup>	Decision support	NR	Pediatrician	NR	NR	Urban	NR	NR
Coleman C. I., 2003 <sup>15</sup>	Arm A: Patient specific information: Prescribers with patients on 'high dose'	NR	Pharmacist Prescriber	NR	NR	NR	NR	No
Coleman C. I., 2003 <sup>15</sup>	Arm B: Patient specific information: Prescribers with patients on 'low dose'	NR	Pharmacist Prescriber	NR	NR	NR	NR	NR
Cowie R. L., 2001 <sup>16</sup>	Arm A: Basic Education	NR	NR	NR	NR	Urban	NR	Yes
Cowie R. L., 2001 <sup>16</sup>	Arm B: Intermediate Education	NR	NR	NR	NR	Urban	NR	NR
Cowie R. L., 2001 <sup>16</sup>	Arm C: Intensive Education	NR	NR	NR	NR	Urban	NR	NR
Daniels E. C., 2005 <sup>17</sup>	Arm A: Control	163	General Practitioner, Internist, Nurse Practitioner, Pediatrician, Physician, Physician Assistant staff	Community Health Center	NR	Rural, Urban	Uninsured, n: 67200 Type2: Medicaid/Medicare, n: 48419	No
Daniels E. C., 2005 <sup>17</sup>	Arm B: Education		General Practitioner, Internist, Nurse Practitioner, Other, Pediatrician, Physician, Physician Assistant staff	Community Health Center	NR	Rural, Urban	Uninsured, n: 30713 Type2: Medicaid/Medicare, n: 38059	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
Davis AM, 2010 <sup>18</sup>	Decision Support	NR	Physician Family medicine residents	Community Health Center	Family Medicine	NR	NR	NR
Davis R. S., 2004 <sup>19</sup>	Arm A: Guidelines only	20	Primary Healthcare	Other	Primary Care	NR	NR	No
Davis R. S., 2004 <sup>19</sup>	Arm B: Education and Toolkit		Primary Healthcare	Other	Primary Care	NR	NR	NR
de Vries T. W., 2010 <sup>20</sup>	Arm A: Control	9	General Practitioner	NR	General Practice	NR	NR	Yes
de Vries T. W., 2010 <sup>20</sup>	Arm B: Feedback		Pharmacists, General Practitioner	NR	General Practice	NR	NR	NR
de Vries T. W., 2010 <sup>20</sup>	Arm C: 2002		Pharmacists, General Practitioner, Pediatrician	NR	NR	NR	NR	NR
Eccles M., 2002 <sup>21</sup>	Arm A: angina	NR	General Practitioner	NR	General Practice	NR	NR	Yes
Eccles M., 2002 <sup>21</sup>	Arm B: asthma	NR	General Practitioner	NR	General Practice	NR	NR	NR
Fairall L., 2010 <sup>22</sup>	Arm A: Control	148	Nurse	NR	Primary Care	Rural	NR	Yes
Fairall L., 2010 <sup>22</sup>	Arm B: Intervention		Nurse	NR	Primary Care	Rural	NR	
Feder G, 1995 <sup>23</sup>	Arm A: Diabetes Education	NR	General Practitioner	Private Practice	General Practice	Urban	NR	Yes: International study; no insurance info.
Feder G, 1995 <sup>23</sup>	Arm B: Education, Reminders and Audit	NR	General Practitioner	Private Practice	General Practice	Urban	NR	NR.
Finkelstein J. A., 2005 <sup>24</sup> 25	Arm A: Control	228	NR	NR	NR	NR	NR	No
Finkelstein J. A., 2005 <sup>24</sup> 25	Arm B: PLE Intervention		NR	NR	NR	NR	NR	NR
Finkelstein J. A., 2005 <sup>24</sup>	Arm C: Planned Care		NR	NR	NR	NR	NR	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
<sup>25</sup>	Intervention							
Foster J. M., 2007 <sup>26</sup>	Arm A: Education and Feedback (Delayed)	12	General Practitioner	NR	General Practice	Inner City, Rural, Urban	NR	Yes
Foster J. M., 2007 <sup>26</sup>	Arm B: Education and Feedback	11	General Practitioner	NR	General Practice	Inner City, Rural, Urban	NR	NR
Fox P., 2007 <sup>27</sup>	Quality Improvement	NR	Nurse, Nurse Practitioner, Physician caregivers, administrative staff	Community Health Center	NR	NR	Commercial/Private (4.7-23.6) Uninsured (10.6-13.2) Medicaid/Medicare (-52.1-75.1)	NR
Frankowski B. L., 2006 <sup>28</sup>	Multimodal: Education and Feedback	NR	Nurse, Pediatrician, Primary Healthcare	Community Health Center, Other	Primary Care	NR	Medicaid/Medicare, n: 55 (47.4)	NR
Glasgow N. J., 2003 <sup>29</sup>	Arm A: Control	12	General Practitioner	NR	General Practice	NR	NR	No
Glasgow N. J., 2003 <sup>29</sup>	Arm B: Intervention	12	General Practitioner	NR	General Practice	NR	NR	NR
Gorton T. A., 1995 <sup>30</sup>	Arm A: Guidelines only	22	Primary Healthcare	NR	Family Medicine, General Practice, Internal Medicine, Pediatric Medicine, Primary Care	NR	NR	No
Gorton T. A., 1995 <sup>30</sup>	Arm B: Education and Detailing	NR	Primary Healthcare	NR	Family Medicine, General Practice, Internal Medicine, Pediatric Medicine, Primary Care	NR	NR	NR
Gorton T. A., 1995 <sup>30</sup>	Arm C: Education on Computer	NR	Primary Healthcare	NR	Family Medicine, General Practice, Internal Medicine,	NR	NR	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
					Pediatric Medicine, Primary Care			
Gorton T. A., 1995 <sup>30</sup>	Arm D: Education – multimedia	NR	Primary Healthcare	NR	Primary Care	NR	NR	NR
Hagmolen, W., 2008 <sup>32</sup>	Arm A: Guidelines only	34	General Practitioner	Community Health Center	NR	NR	NR	Yes
Hagmolen, W., 2008 <sup>32</sup>	Arm B: Education and Guidelines	34	General Practitioner	Community Health Center	NR	NR	NR	NR
Hagmolen of ten Have, W., 2008 <sup>32</sup>	Arm C: Education and Guidelines and individualized treatment advice	38	General Practitioner	Community Health Center	NR	NR	NR	NR
Halterman J. S., 2005 <sup>33</sup>	Arm A: Control	NR	NR	NR	NR	NR	Medicaid/Medicare, n: 54 (70.1)	No
Halterman J. S., 2005 <sup>33</sup>	Arm B: Intervention	NR	NR	NR	NR	NR	Medicaid/Medicare, n: 46 (63)	NR
Halterman J.S., 2006 <sup>34</sup>	Arm A: Control	NR	Nurse Practitioner, Pediatrician, Physician	Academic	Pediatric Medicine	Inner City	Medicaid/Medicare, n: 89 (78.1)	No
Halterman J.S., 2006 <sup>34</sup>	Arm B: Intervention	NR	Nurse Practitioner, Pediatrician, Physician	Academic	Pediatric Medicine	Inner City	Medicaid/Medicare, n: 81 (72.3)	NR
Herborg H., 2001 <sup>35 36</sup>	Arm A: Control	64	General Practitioner, Other, Pharmacist Pharmacy assistant	Other	Other	NR	NR	Yes
Herborg H., 2001 <sup>35 36</sup>	Arm B: Therapeutic Outcomes Monitoring (TOM)	75	General Practitioner, Other, Pharmacist Pharmacy assistant	Other	Other	NR	NR	NR
Holton C., 2011 <sup>37</sup>	Arm A: Control	45	General Practitioner	NR	General Practice	NR	NR	Yes

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
Holton C., 2011 <sup>37</sup>	Arm B: Spirometry training	127	General Practitioner	NR	General Practice	NR	NR	NR
Homer CJ, 2005 <sup>38</sup>	Arm A: Control	NR	Nurse, Physician Front office staff	Community Health Center, Other, Private Practice	NR	NR, Urban	Medicaid/Medicare (10)	No
Homer CJ, 2005 <sup>38</sup>	Arm B: Learning collaborative	NR	Nurse, Other, Physician Front office staff	Community Health Center, Other, Private Practice	NR	NR, Urban	Medicaid/Medicare (10)	NR
Horswell R., 2008 <sup>39</sup>	HCSD's DM program	NR	Physician	Community Health Center, Other	NR	NR	Uninsured	NR
Hoskins G., 1997 <sup>40</sup>	Arm A: Before intervention	91	General Practitioner	NR	General Practice	NR	NR	No
Hoskins G., 1997 <sup>40</sup>	Arm B: Education and Feedback	91	General Practitioner	NR	General Practice	NR	NR	NR
Kattan M., 2006 <sup>41</sup>	Arm A: Control	NR	Nurse Practitioner, Physician Assistant, Primary Healthcare	Community Health Center, Other, Private Practice	Family Medicine, General Practice, Other, Pediatric Medicine	Urban	Medicaid/Medicare (35) Type2: Managed care (25.5) Type3: Uninsured (17)	No
Kattan M., 2006 <sup>41</sup>	Arm B: Intervention	435	Nurse Practitioner, Physician Assistant, Primary Healthcare	Community Health Center, Other, Private Practice	NR	Urban	Medicaid/Medicare (28.7) Type2: Managed care(25.3) Type3: Uninsured (21.4)	NR
Lesho E. P., 2005 <sup>42</sup>	Decision Support	NR	Primary Healthcare	Other	Primary Care	NR	NR	NR
Liaw S. T., 2008 <sup>43</sup>	Arm A: Control	18	General Practitioner	NR	General Practice	Urban	NR	Yes
Liaw S. T., 2008 <sup>43</sup>	Arm B: Control (unrelated education)	15	General Practitioner	NR	General Practice	Urban	NR	NR
Liaw S. T.,	Arm C:	18	General Practitioner	NR	General Practice	Urban	NR	

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
2008 <sup>43</sup>	Education and Guidelines							
Lozano P., 2004 <sup>25</sup>	Arm A: Control	NR	Primary Healthcare	Other	Primary Care	NR	NR	No
Lozano P., 2004 <sup>25</sup>	Arm B: Peer leader education	NR	Primary Healthcare	Other	Primary Care	NR	NR	NR
Lozano P., 2004 <sup>25</sup>	Arm C: Chronic care model	NR	Primary Healthcare	Other	Primary Care	NR	NR	NR
Lundborg C. S., 1999 <sup>44</sup>	Arm A: Control	104	General Practitioner	NR	General Practice	NR	Uninsured	No
Lundborg C. S., 1999 <sup>44</sup>	Arm B: Education and Feedback	100	General Practitioner	NR	General Practice	NR	Uninsured	NR
Mahi-Taright S., 2004 <sup>45</sup>	Education	50	General Practitioner	Community Health Center	General Practice	Rural	NR	NR
Mangione-Smith R., 2005 <sup>46</sup>	Arm A: Control	NR	"Health care providers"	Community Health Center	Primary Care	Rural, Urban	Uninsured (4) Commercial/Private/ PPO-FFS (40) HMO (-56)	No
Mangione-Smith R., 2005 <sup>46</sup>	Arm B: Learning collaborative	NR	"Health care providers"	Community Health Center	Primary Care	Rural, Urban	Uninsured (9) Commercial/Private/ PPO-FFS (47) HMO (44)	NR
Martens J. D., 2006 <sup>47</sup>	Arm A: Control	54	General Practitioner	NR	NR	NR	NR	Yes
Martens J. D., 2006 <sup>47</sup>	Arm B: Guidelines and involved in development	53	General Practitioner	NR	NR	NR	NR	NR
Martens J. D., 2006 <sup>47</sup>	Arm C: Guidelines only	26	General Practitioner	NR	NR	NR	NR	NR
Martens J. D., 2007 <sup>48</sup>	Arm A: cholesterol	28	General Practitioner	Academic, NR	General Practice	NR	NR	Yes

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
Martens J. D., 2007 <sup>48</sup>	Arm B: antibiotics, asthma/COP	25	General Practitioner	Academic, NR	General Practice	NR	NR	NR
McCowan C, 2001 <sup>49</sup>	Arm A: Control	NR	General Practitioner	NR	General Practice	NR	Uninsured	No
McCowan C, 2001 <sup>49</sup>	Arm B: Intervention	NR	General Practitioner	NR	General Practice	NR	NR	NR
Mitchell E. A., 2005 <sup>50</sup>	Arm A: Control	270	General Practitioner	NR	NR	NR	NR	Yes
Mitchell E. A., 2005 <sup>50</sup>	Arm B: Intervention		General Practitioner	NR	NR	NR	NR	NR
Newton W. P., 2010 <sup>51</sup>	Decision Support	NR	Nurse, Physician Practice managers, other staff	Academic, Community Health Center, Private Practice	Family Medicine, Internal Medicine, Pediatric Medicine	NR	NR	NR
O'Laughlen MC, 2008 <sup>52</sup>	MSAGR group	6	General Practitioner, Nurse Practitioner Family Medicine	Community Health Center	Family Medicine, General Practice	Rural	NR	NR
Premaratne U. N., 1999 <sup>53</sup>	Arm A: Control	NR	Nurse practice nurses	NR	General Practice	NR	NR	No
Premaratne U. N., 1999 <sup>53</sup>	Arm B: Education	NR	Nurse practice nurses	NR	General Practice	NR	NR	NR
Ragazzi H., 2011 <sup>54</sup>	Practice 1	26-28	Nurse, Pediatrician	Private Practice	Pediatric Medicine	Inner City	Medicaid/Medicare (90)	NR
Ragazzi H., 2011 <sup>54</sup>	Practice 2		Nurse, Pediatrician	Private Practice	Pediatric Medicine	Inner City	Medicaid/Medicare (90)	NR
Ragazzi H., 2011 <sup>54</sup>	Practice 3	NR	Nurse, Pediatrician	Community Health Center	Pediatric Medicine	Inner City	Medicaid/Medicare (90)	NR
Rance K., 2011 <sup>55</sup>	Decision Support	4	Nurse Practitioner, Pediatrician	NR	Pediatric Medicine, Primary Care	Urban	NR	NR
Renzi P. M., 2006 <sup>56</sup>	Arm A: Group 4 (control)	NR	Primary Healthcare	Private Practice	NR	NR	NR	No
Renzi P. M., 2006 <sup>56</sup>	Arm B: Group 1 (stamp)	NR	Primary Healthcare	Private Practice	NR	NR	NR	NR
Renzi P. M., 2006 <sup>56</sup>	Arm C: Group 2 (stamp +	NR	Primary Healthcare	Private Practice	NR	NR	NR	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
	CME)							
Richman M. J., 2000 <sup>57</sup>	Feedback	29	Pediatrician	NR	Pediatric Medicine, Primary Care	Urban	Medicaid/Medicare,	No
Ruoff G., 2002 <sup>58</sup>	Arm A: Before the Flow Sheet	17	family physicians	Community Health Center	Family Medicine	NR	NR	No
Ruoff G., 2002 <sup>58</sup>	Arm B: After implementation of the Flow Sheet	17	family physicians	Community Health Center	Family Medicine	NR	NR	NR
Saini B., 2004 <sup>59</sup>	Arm A: Control 1	13	General Practitioner, Pharmacist	NR	NR	NR	NR	No
Saini B., 2004 <sup>59</sup>	Arm B: Control 2	12	Pharmacist	NR	NR	NR	NR	NR
Saini B., 2004 <sup>59</sup>	Arm C: Education	NR	Pharmacist	NR	NR	NR	Uninsured	NR
Schneider A., 2008 <sup>60</sup>	Arm A: traditional quality circle	96	General Practitioner	NR	General Practice	NR	NR	Yes
Schneider A., 2008 <sup>60</sup>	Arm B: benchmark quality circle		General Practitioner	NR	General Practice	NR	NR	NR
Schneider A., 2008 <sup>60</sup>	Arm C: combined arms		General Practitioner	NR	General Practice	NR	NR	NR
Shah S., 2011 <sup>61</sup>	Arm A: Control	150	General Practitioner	NR	General Practice	Urban	NR	Yes
Shah S., 2011 <sup>61</sup>	Arm B: Practitioner Asthma Communication and Education (PACE)		General Practitioner	NR	General Practice	Urban	NR	NR
Shapiro A., 2011 <sup>62</sup>	SBHC	25	Nurse, Physician	Community Health Center	Primary Care	Inner City	Medicaid/Medicare (67) ,Uninsured (17)	NR
Shapiro A., 2011 <sup>62</sup>	NYCHP		Nurse, Physician	Community Health Center	Primary Care	Inner City	Medicaid/Medicare (76) Type2:	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
							Uninsured (24)	
Shiffman R. N., 2000 <sup>63</sup>	Arm A: Sole physician arm, pre-post, patient arm, pre	11	Pediatrician	NR	Pediatric Medicine, Primary Care	Inner City, Rural, Suburban, Urban	NR	No
Sondergaard J., 2002 <sup>64</sup>	Arm A: control	141	General Practitioner	NR	General Practice	NR	NR	Yes
Sondergaard J., 2002 <sup>64</sup>	Arm B: Individual patient count data feedback	77	General Practitioner	NR	General Practice	NR	NR	NR
Sondergaard J., 2002 <sup>64</sup>	Arm C: Aggregate data feedback	74	General Practitioner	NR	General Practice	NR	NR	NR
Stergachis A, 2002 <sup>65</sup>	Arm A: Control	NR	Pharmacist	Community Health Center, Other, Private Practice	Other	Rural, Urban	managed care, n: 113 (74) Commercial/Private, n: 23 (115) Medicaid/Medicare, n: 4 (3)	No
Stergachis A, 2002 <sup>65</sup>	Arm B: Education	35	Pharmacist	Community Health Center, Other, Private Practice	Other	Rural, Urban	managed care, n: 97 (76) Commercial/Private, n: 25( 20) Medicaid/Medicare, n: 2 (2)	NR
Suh D. C., 2001 <sup>66</sup>	Feedback	NR	NR	NR	NR	NR	NR	NR
Sulaiman N. D., 2010 <sup>67</sup>	Arm A: Control (unrelated education)	18	General Practitioner	NR	General Practice	Urban	NR	Yes
Sulaiman N. D., 2010 <sup>67</sup>	Arm B: Education and guidelines	18	General Practitioner	NR	General Practice	Urban	NR	NR
Sulaiman N. D., 2010 <sup>67</sup>	Arm C: Guidelines	15	General Practitioner	NR	General Practice	Urban	NR	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
Thyne S.M., 2007 <sup>68</sup>	Arm A: Time 1, 2002-2003	NR	pediatric medical providers," "urgent care clinicians"	Academic, Other	NR	Urban	NR	No
Thyne S.M., 2007 <sup>68</sup>	Arm B:	NR	Pediatric medical providers	Community Health Center	Pediatric Medicine	Urban	NR	NR
Thyne S.M., 2007 <sup>68</sup>	Arm B: Time 2, 2003-2004	NR	pediatric medical providers," "urgent care clinicians"	Academic, Other	NR	Urban	NR	NR
Thyne S.M., 2007 <sup>68</sup>	Arm C: Time 3, 2004-2005	NR	pediatric medical providers," "urgent care clinicians"	Academic, Other	NR	Urban	NR	NR
To T., 2008 <sup>69</sup>	PCAPP Intervention		Primary Healthcare	Community Health Center, Other	NR	Inner City, Rural, Urban	NR	NR
Veninga CCM, 1999 <sup>70</sup>	Arm A: Netherlands	181	General Practitioner	NR	General Practice	NR	NR	Yes
Veninga CCM, 1999 <sup>70</sup>	Arm B: Sweden	204	General Practitioner	NR	General Practice	NR	NR	NR
Veninga CCM, 1999 <sup>70</sup>	Arm C: Norway	199	General Practitioner	NR	General Practice	NR	NR	NR
Veninga CCM, 1999 <sup>70</sup>	Arm D: Slovakia	81	Allergist, Pulmonologist	NR	Other	NR	NR	NR
Veninga CCM, 2000 <sup>71</sup>	Arm A: UTI	91	General Practitioner	NR	General Practice	NR	NR	Yes
Veninga CCM, 2000 <sup>71</sup>	Arm B: Education and Feedback	90	General Practitioner	NR	General Practice	NR	NR	NR
Weinberger M, 2002 <sup>72</sup>	Arm A: Control	NR	Pharmacist	Private Practice	NR	NR	NR	No
Weinberger M, 2002 <sup>72</sup>	Arm B: Peak Flow Meter Monitoring Control Group	NR	Pharmacist	Private Practice	NR	NR	Uninsured	NR
Weinberger M, 2002 <sup>72</sup>	Arm C: Pharmaceutical Care Program Group	NR	Pharmacist	NR	NR	NR	NR	NR

Author, year	Arm	n at Baseline	Type of Healthcare provider	Practice Setting	Practice Specialty	Service Area	Insurance Type	International study / Insurance
Weinberger M, 2002 <sup>72</sup>	Arm D:	NR	NR	Private Practice	NR	NR	NR	NR
Yawn BP, 2008 <sup>73</sup>	Education and Feedback	211	Nurse Practitioner, Physician, Physician Assistant	Community Health Center, Private Practice	Family Medicine, Other	Rural, Suburban	NR	NR

NR = Not Reported; HMO = Health Maintenance Organization; PPO = Preferred Provider Organization; NYCHP = New York Children's Hospital Project; UTI = Urinary Tract Infection

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**Evidence Table 3. Patient Characteristics**

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
Shah S., 2011 <sup>1</sup>	Arm A: Control (107)	Mean: 3	NR	NR	NR	NR
Shah S., 2011 <sup>1</sup>	Arm B: Practitioner Asthma Communication and Education (PACE) (110)	Mean: 2	NR	NR	NR	NR
Rance K., 2011 <sup>2</sup>	Arm B: (41)	Range: 5-17 years	n: 19	NR	Mild, n: 5 (12) Moderate, n: 29 (70) Severe, n: 7 (17)	NR
Shapiro A., 2011 <sup>3</sup>	Arm B: (200)	NR, Range: <2-18	n: 84(42)	NR	NR	Pre-toolbox: 61(30.3%); Post 1: 39(19.5%)
Shapiro A., 2011 <sup>3</sup>	Arm C: (197)	NR, Range: <2-18	n: 81(41.1)	NR	NR	Pre-toolbox: 66(33.5%); Post 1: 59(23.7%)
Ragazzi H., 2011 <sup>4</sup>	Arm B: Practice 1(17)	NR	NR	NR	NR	NR
Ragazzi H., 2011 <sup>4</sup>	Arm C: Practice 2(26)	NR	NR	NR	NR	NR
Cho S. H., 2010 <sup>5</sup>	Decision Support (2042)	Mean: 51,	n: 1096(53.7)	NR	Mild, n: 519 (25.4) Moderate, n: 1234 (60.4) Severe, n: 289 (14.2)	NR
Sulaiman N. D., 2010 <sup>6</sup>	Arm A: Control [unrelated education] (121)	Range: 2-14 years	n: 40(40.8)	NR	Mild n: 42 (43.3) Moderate, Severe, n: 55 (56.7)	NR
Sulaiman N. D., 2010 <sup>6</sup>	Arm B: Education and guidelines(156)	Range: 2-14 years	n: 45(35.7)	NR	Mild, n: 70 (55.6) Moderate, Severe, n: 56 (44.4)	NR
Sulaiman N. D., 2010 <sup>6</sup>	Arm C: Guidelines only(134)	Range: 2-14 years	n: 38(36.2)	NR	Mild, n: 62 (56.4) Moderate, Severe, n: 48 (43.6)	NR
Fairall L., 2010 <sup>7</sup>	Arm A: Control	Mean: 44,	n: 660(66.1)	NR	NR	NR
Fairall L., 2010 <sup>7</sup>	Arm B: Intervention(1000)	Mean: 45	n: 643(64.3)	NR	NR	NR
de Vries T. W., 2010 <sup>8</sup>	Arm A: Control (3527)	NR	NR	NR	NR	NR
de Vries T. W., 2010 <sup>8</sup>	Arm B: Feedback(1447)	NR	NR	NR	NR	NR
de Vries T. W.,	Arm C: 2002(3612)	NR	NR	NR	NR	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
2010 <sup>8</sup>						
To T., 2008 <sup>9</sup>	Arm B: Intervention(1408)	Mean: 26	n: 869(61.72)	NR	NR	NR
Horswell R., 2008 <sup>10</sup>	HCSD's DM program(2199)	NR	NR	NR	NR	NR
Hagmolen, W., 2008 <sup>11</sup>	Arm A: Guidelines only(98)	Mean: 11	n: 41	NR	NR	NR
Hagmolen, W., 2008 <sup>11</sup>	Arm B: Education and Guidelines(133)	Mean: 11	n: 58	NR	NR	NR
Hagmolen, W., 2008 <sup>11</sup>	Arm C: Education and Guidelines and individualized treatment advice(131)	Mean: 11	n: 62	NR	NR	NR
Schneider A., 2008 <sup>12</sup>	Arm A: traditional quality circle(NR)	NR	NR	NR	NR	NR
Schneider A., 2008 <sup>12</sup>	Arm B: benchmark quality circle(NR)	NR	NR	NR	NR	NR
Schneider A., 2008 <sup>12</sup>	Arm C: combined arms(256)	Mean: 57	n: 158(61.7)	NR	Gina asthma severity 2005, Persistent Intermittent, n: 59 (23.3) Mild, n: 63 (24.6) Moderate, n: 92 (35.9)	NR
Martens J. D., 2007 <sup>13</sup>	Arm A: (24160)	NR	NR	NR	NR	NR
Martens J. D., 2007 <sup>13</sup>	Arm B: (35748)	NR	NR	NR	NR	NR
Foster J. M., 2007 <sup>14</sup>	Arm A: Education and Feedback (delayed)(133)	Mean: 40,	(68)	NR	NR	NR
Foster J. M., 2007 <sup>14</sup>	Arm B: Education and Feedback(54)	Mean: 38,	(56)	NR	NR	NR
Armour C., 2007 <sup>16</sup>	Arm A: Control (186)	Mean: 51	(60.8)	NR	Mild, n: 3 (1.6) Moderate n: 50 (27.2) Severe, n: 131 (71.2)	NR
Armour C.,	Arm B: Pharmacy	Mean: 49	(69.7)	NR	Mild, n: 5 (3)	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
2007 <sup>16</sup>	Asthma Care Program [PACP](165)				Moderate, n: 15 (9.1) Severe, n: 145 (87.9)	
Frankowski B. L., 2006 <sup>17</sup>	Multimodal: Education and Feedback(150)	NR	NR	NR	NR	NR
Cabana M. D., 2006 <sup>18</sup>	Arm A: Control(452)	Mean: 7	n: 168	NR	Persistent asthma, n: 172 (38)	Hospital admissions per year: 0.12 +/- 0.47 (Mean +/- Std. Dev.); ED asthma visits per year: 0.66 +/- 1.8; emergent doctor visits per year: 1.7 +/- 2.5
Cabana M. D., 2006 <sup>18</sup>	Arm B: Physician Asthma Care Education [PACE](418)	Mean: 7	n: 148	NR	Persistent asthma, n: 153 (36)	Hospital admissions per year: 0.14 +/- 0.054 (Mean +/- Std. Dev.); ED asthma visits per year: 0.85 +/- 2.0 ; emergent doctor visits per year: 1.8 +/-3.3
Kattan M., 2006 <sup>19</sup>	Arm A: Control(466)	Mean: 8	(37.1)	White(6.4) Black(38.8), Latino(39.9),A/P(1.3), Other(9.7)	NR	Mean ED visits: 3.0; unscheduled clinic visits: 5.5; hospitalizations: 0.8.
Kattan M., 2006 <sup>19</sup>	Arm B: Intervention(471)	Mean: 8	(39.5)	White(7.4) Black(40.3), Latino(40.3),A/P(1.1), Other(8.5)	NR	Mean ED visits: 3.0; unscheduled clinic visits: 5.6; hospitalizations: 1.1
Finkelstein J. A., 2005 <sup>20</sup>	Arm B: PLE Intervention(2003)	NR	NR	NR	NR	NR
Finkelstein J. A., 2005 <sup>20</sup>	Arm C: Planned Care Intervention (1635)	NR	NR	NR	NR	NR
Lozano P., 2004 <sup>21</sup>	Arm A: Control(199)	Mean: 10	n: 139	White-n: 70, Black-n: 13, Latino-n: 6, Other-n: 11	NR	NR
Lozano P., 2004 <sup>21</sup>	Arm B: Chronic care model(226)	Mean: 9	n: 169	White-n: 58, Black-n: 22, Latino-n: 6, Other-n: 14	NR	NR
Lozano P., 2004 <sup>21</sup>	Planned care intervention (213)	Mean: 9	n: 151	White-n: 69, Black-n: 18, Latino-n: 4, Other-n: 9	NR	22/past year

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
Daniels E. C., 2005 <sup>22</sup>	Arm A: Control (136079)	NR	NR	Black(57.9), Latino(10.1)	NR	NR
Daniels E. C., 2005 <sup>22</sup>	Arm B: Education (90555)	NR	NR	Black(26.9), Latino(2.3)	NR	NR
Mitchell E. A., 2005 <sup>23</sup>	Arm B: Intervention (NR)	NR	NR	NR	NR	NR
Cloutier M. M., 2005 <sup>24</sup>	Decision support (3748)	NR	n: 1638(44)	White-n: 50 White(1), Black-n: 825 Black(22), Latino-n: 2436, Latino(65), Other-n: 437,Other(12)	NR	NR
Cloutier M.M., 2009 <sup>25</sup>	Decision support (3298)	NR	NR	White(5) Black(22), Latino(65),Other (7)	Mild (29) Moderate (17) Severe (2)	NR
Lesho E. P., 2005 <sup>26</sup>	Decision Support (330)	NR	NR	NR	NR	553/pre-intervention; 193/post intervention
Mahi-Taright S., 2004 <sup>27</sup>	Education(49)	NR	NR	NR	NR	24/past year
Patel P. H., 2004 <sup>28</sup>	Organizational Change (451)	NR	NR	NR	NR	NR
Glasgow N. J., 2003 <sup>29</sup>	Arm A: Control (73)	NR	(45)	NR	NR	NR
Glasgow N. J., 2003 <sup>29</sup>	Arm B: Intervention (101)	NR	(35)	NR	NR	NR
Baker R., 2003 <sup>30</sup>	Arm A: Guidelines only(483)	Mean: 50	n: 249(51.6)	NR	NR	NR
Baker R., 2003 <sup>30</sup>	Arm B: Guidelines with audit criteria(510)	Mean: 49	n: 294(57.7)	NR	NR	NR
Baker R., 2003 <sup>30</sup>	Arm C: Guidelines with audit criteria and feedback (489)	Mean: 45	n: 288(58.9)	NR	NR	NR
Coleman C. I., 2003 <sup>31</sup>	Arm A: Patient specific information: Prescribers with patients on 'high dose'(510)	Mean: 46	n: 393(77)	White-n: 172 White(34), Black-n: 103 Black(20), Latino-n: 220, Latino(43), A/P-n: 14,A/P(3), Other-n: 1,Other(0.1)	NR	NR
Coleman C. I.,	Arm B: Patient	Mean: 46	n: 79(59)	White-n: 48	NR	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
2003 <sup>31</sup>	specific information: Prescribers with patients on 'low dose' (135)			White(36), Black-n: 36 Black(27), Latino-n: 49, Latino(36), A/P-n: 2,A/P(1), Other-n: 0,Other(0)		
Eccles M., 2002 <sup>32</sup>	Arm A: angina (4851)	NR	NR	NR	NR	NR
Eccles M., 2002 <sup>32</sup>	Arm B: asthma (4960)	NR	NR	NR	NR	NR
Cloutier M. M., 2002 <sup>33</sup>	Pre-intervention (860)	NR	NR	NR	NR	NR
Cloutier M. M., 2002 <sup>33</sup>	Post-intervention (860)	NR	NR	NR	NR	NR
Suh D. C., 2001 <sup>34</sup>	Arm A: (566)	Mean: 26,	n: 330(58.3)	NR	NR	NR
Suh D. C., 2001 <sup>34</sup>	Arm B: Feedback(1050)	Mean: 30,	n: 617(58.8)	NR	NR	NR
Herborg H., 2001 <sup>35 36</sup>	Arm A: Control(NR)	Mean: 39,	NR	NR	NR	NR
Herborg H., 2001 <sup>35 36</sup>	Arm B: Therapeutic Outcomes Monitoring [TOM](NR)	Mean: 45,	NR	NR	NR	NR
Cowie R. L., 2001 <sup>37</sup>	Arm A: Basic Education(NR)	Mean: 39,	NR	NR	NR	NR
Cowie R. L., 2001 <sup>37</sup>	Arm B: Intermediate Education(NR)	Mean: 45,	NR	NR	NR	NR
Cowie R. L., 2001 <sup>37</sup>	Arm C: Intensive Education(NR)	Mean: 46,	NR	NR	NR	NR
Richman M. J., 2000 <sup>38</sup>	Feedback(228)	NR	NR	NR	NR	NR
Shiffman R. N., 2000 <sup>39</sup>	Arm A: Sole physician arm, pre-post; patient arm, pre(91)	Mean: 10, NR, Range: 5-17.4	NR	NR	As defined by AAP practice guideline, 1994: Mild, n: 71 (78) Moderate, n: 20 (22)	NR
Shiffman R. N., 2000 <sup>39</sup>	Arm B: patient arm, post(74)	Mean: 11, NR, Range: 5-17.8	NR	NR	Scale: as defined by AAP practice guideline, 1994: Mild, n: 44 (59) Moderate, n: 27 (36) Severe, n: 3 (4)	NR
Smeele I. J.,	Arm A: No	Mean: 49	(59)	NR	NR	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
1999 <sup>40</sup>	intervention(223)					
Smeele I. J., 1999 <sup>40</sup>	Arm B: Education(210)	Mean: 52	(62)	NR	NR	NR
Lundborg C. S., 1999 <sup>41</sup>	Arm A: Control arm(1333)	NR	NR	NR	NR	NR
Lundborg C. S., 1999 <sup>41</sup>	Arm B: Education and Feedback(1121)	NR	NR	NR	NR	NR
Premaratne U. N., 1999 <sup>42</sup>	Arm A: Control(14410)	NR	NR	NR	NR	NR
Premaratne U. N., 1999 <sup>42</sup>	Arm B: Education (9900)	NR	NR	NR	NR	NR
Hoskins G., 1997 <sup>43</sup>	Arm A: Before intervention (782)	NR	NR	NR	NR	NR
Hoskins G., 1997 <sup>43</sup>	Arm B: Education and Feedback(669)	NR	NR	NR	NR	NR
Gorton T. A., 1995 <sup>44</sup>	Arm A: Guidelines only	NR	NR	NR	NR	NR
Gorton T. A., 1995 <sup>44</sup>	Arm B: Education and Detailing	NR	NR	NR	NR	NR
Gorton T. A., 1995 <sup>44</sup>	Arm C: Education on computer	NR	NR	NR	NR	NR
Gorton T. A., 1995 <sup>44</sup>	Arm D:Education - multimedia	NR	NR	NR	NR	NR
Gorton T. A., 1995 <sup>44</sup>	Arm C:	NR	NR	NR	NR	NR
Bell L.M., 2010 <sup>45</sup>	Arm A: UP Control(5192)	NR	NR	White(1) Black(96), Latino(1),A/P(NR),Other(1)	NR	NR
Bell L.M., 2010 <sup>45</sup>	Arm B: UP intervention(5040)	NR	NR	White(13) Black(80), Latino(3),A/P(NR),Other(8)	NR	NR
Bell L.M., 2010 <sup>45</sup>	Arm C: SP Control(3843)	NR	NR	White(80) Black(5), Latino(5),A/P(NR),Other(15)	NR	NR
Bell L.M., 2010 <sup>45</sup>	Arm D: up Control (5375)	NR	NR	White(40) Black(50), Latino(3),A/P(999),Other(10)	NR	NR
Halterman J.S., 2006 <sup>46</sup>	Arm A: Control(124)	NR	n: 38(33)	White-n: 13 White(11.4), Black-n: 74 Black(64.9), Latino-n: 37,	Mild, n: 19 (16.7) Moderate, n: 47 (41.2) Severe, n: 48 (42.1)	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
				Latino(32.5), A/P-NR,A/P(NR), Other-n: 27,Other(23.7)		
Halterman J.S., 2006 <sup>46</sup>	Arm B: Intervention(122)	NR	n: 57(51)	White-n: 9 White(8), Black-n: 71 Black(63.4), Latino-n: 30, Latino(26.8), A/P-NR,A/P(NR), Other-n: 32,Other(26.8)	Mild, n: 29 (25.9) Moderate, n: 45 (40.2) Severe, n: 38 (33.9)	NR
Halterman J. S., 2005 <sup>47</sup>	Arm A: Control (77)	NR	n: 31(40.3)	White-n: 7 White(9.1), Black-n: 48 Black(62.3), Latino-n: 17, Latino(22.1), A/P-NR,A/P(NR), Other-n: 22,Other(28.6)	No. of visit: 4(+) symptom days per week over 4 weeks: 21 (27.3%) 4(+) symptom nights per week over past 4 wks: 13 (27.3%)	3(+) acute visits in the past yr: 23 (30.3%) 1(+) hospitalization in past yr: 5 (6.5%).
Halterman J. S., 2005 <sup>47</sup>	Arm B: Intervention (73)	NR	n: 32(43.8)	White-n: 10 White(13.7), Black-n: 41 Black(56.2), Latino-n: 20, Latino(27.4), A/P-NR,A/P(NR), Other-n: 22,Other(30.1)	No. of visit: 4(+) symptom days per week over 4 weeks: 18 (25.4%) 4(+) symptom nights per week over past 4 wks: 11 (15.1%)	3(+) acute visits in the past yr: 24 (32.9%) 1(+) hospitalization in past yr: 3 (4.1%).
Holton C., 2011 <sup>48</sup>	Arm A: Control (157)	Mean: 55,	n: 106 (67.5)	NR	Mild, n: 106 (67.5) Controlled, n: 123 (78.4) Not well-Controlled: 26 (16.5) Poorly controlled n: 8 (5.1)	NR
Holton C., 2011 <sup>48</sup>	Arm B: Spirometry training (240)	Mean: 58,	n: 162(67.5)	NR	Mild n: 164 (68.3) Controlled, n: 165 (68.7) Not well-Controlled, n: 58 (24.2) Poorly controlled n: 17 (7.1)	NR
Thyne S.M., 2007 <sup>49</sup>	Arm A: Time 1, 2002-2003(NR)	NR	NR	NR	NR	NR
Thyne S.M., 2007 <sup>49</sup>	Arm A: Time 1, 2002-2003(NR)	NR	NR	NR	NR	NR
Thyne S.M., 2007 <sup>49</sup>	Arm B: Time 2, 2003-2004(NR)	NR	NR	NR	NR	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
Thyne S.M., 2007 <sup>49</sup>	Arm B: Time 2, 2003-2004(NR)	NR	NR	NR	NR	NR
Thyne S.M., 2007 <sup>49</sup>	Arm C: Time 3, 2004-2005(NR)	NR	NR	NR	NR	NR
Thyne S.M., 2007 <sup>49</sup>	Arm C: Time 3, 2004-2005(NR)	NR	NR	NR	NR	NR
Veninga CCM, 2000 <sup>50</sup>	Arm A: UTI(NR)	NR	NR	NR	NR	NR
Veninga CCM, 2000 <sup>50</sup>	Arm B: Education and Feedback(NR)	NR	NR	NR	NR	NR
Yawn BP, 2008 <sup>51</sup>	Arm B: Education and Feedback(840)	NR	NR	NR	NR	NR
Clark NM, 1998 <sup>52</sup>	Arm B: Education(637)	Range: 1-12	(30)	White(NR) Black(15), Latino(15)	NR	NR
O'Laughlen MC, 2008 <sup>53</sup>	Arm B: MSAGR group(24)	Mean: 9, NR, Range: 5-12	n: 8(33)	White-n: 21 White(88), Black-n: 2 Black(8), Latino-NR, Latino(NR), A/P-NR,A/P(NR), Other-n: 1,Other(4)	Mild, n: 22 (92) Moderate, n: 2 (8)	NR
Brown R, 2004 <sup>54</sup>	Arm A: Control(122)	NR	n: 37(30.3)	White-n: 91 White(74.6), Black-n: 13 Black(10.7), Latino-n: 13, Latino(10.7), Other-n: 5,Other(4.1)	Moderate, Severe, n: 112 (91.8)	NR
Brown R, 2004 <sup>54</sup>	Arm B: Education(157)	NR	n: 42(26.7)	White-n: 113 White(72), Black-n: 27 Black(17.2), Latino-n: 12, Latino(7.6), Other-n: 5,Other(3.2)	Moderate, Severe, n: 134 (85.4)	NR
Homer CJ, 2005 <sup>55</sup>	Arm A: Control(337)	Median: 9, Range: 2.6-16.7	n: 134(40)	White(43) Black(27),Other(30)	NR	NR
Homer CJ, 2005 <sup>55</sup>	Arm B: Learning collaborative (294)	Median: 8, Range: 2.5-16.4	n: 107(36)	White(50) Black(28),Other(22)	NR	NR
Fox P., 2007 <sup>56</sup>	Chart review sample (280)	Mean: 11, Median: 10	(38.6)	White(13.6) Black(16.4), Latino(66.1),Other	Mild Intermittent (47.1) Mild persistent (27.9) Moderate (24)	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
				(3.9)		
Fox P., 2007 <sup>56</sup>	Interview sample (405)	Mean: 10.1, Median: 9.9	(39.7)	White (2.2), Black (14.3), Latino (81.7), Other (1.7)	Mild intermittent (16.8) Mild persistent (32.6) Moderate persistent (46.5)	NR
Ruoff G., 2002 <sup>57</sup>	Arm A: Before the Flow Sheet(122)	NR	NR	NR	NR	NR
Ruoff G., 2002 <sup>57</sup>	Arm B: After implementation of the Flow Sheet(122)	NR	NR	NR	NR	NR
Ables AZ, 2002 <sup>58</sup>	Education and reminders(126)	Mean: 26	n: 85(67.5)	White-n: 46 White(36.5), Black-n: 77 Black(61.1), Latino-n: 2, Latino(1.6), A/P-n: 1,A/P(0.8)	Intermittent (25) Mild (0) Moderate (0) Severe (25)	NR
Davis AM, 2010 <sup>59</sup>	Decision Support(180)	Mean: 32	n: 125(69.4)	White-n: 48 White(26.7), Black-n: 129 Black(71.7), Latino-n: 3, Latino(1.7), A/P-n: 0,A/P(0)	NR	NR
Veninga CCM, 1999 <sup>60</sup>	Arm A: Netherlands	NR	NR	NR	NR	NR
Veninga CCM, 1999 <sup>60</sup>	Arm B: Intervention (NR)	NR	NR	NR	NR	NR
Veninga CCM, 1999 <sup>60</sup>	Arm C: Norway	NR	NR	NR	NR	NR
Veninga CCM, 1999 <sup>60</sup>	Arm D: Slovakia	NR	NR	NR	NR	NR
Stergachis A, 2002 <sup>61</sup>	Arm A: Control(177)	Mean: 12	n: 58(33)	NR	NR	NR
Stergachis A, 2002 <sup>61</sup>	Arm B: Education(153)	Mean: 12	n: 60(39)	NR	NR	NR
Feder G, 1995 <sup>62</sup>	Arm A: Diabetes education	NR	NR	NR	NR	NR
Feder G, 1995 <sup>62</sup>	Arm B: Education and reminders audit	NR	NR	NR	NR	NR
Mangione-Smith R., 2005 <sup>63</sup>	Arm A: Control(126)	Mean: 10,	(34)	White(43) Black(23), Latino(22),A/P(NR),Other(12)	Scale: NAEPP, Persistent: Intermittent (50)	NR

Author, Year	ARM (n)	Age in years	Women n (%)	Race	Asthma Severity, n(%) (Degree of control if reported)	# of Acute Asthma visits/given timeframe
					Mild (24) Moderate, Severe (26)	
Mangione-Smith R., 2005 <sup>63</sup>	Arm B: Learning collaborative(385)	Mean: 9,	(43)	White(19) Black(30), Latino(29), Other(22)	Scale: NAEPP, Persistent: Intermittent (64) Mild (20) Moderate, Severe (16)	NR
Weinberger M, 2002 <sup>64</sup>	Arm A: Control(165)	Mean: 45,	n: 139(84.2)	White-n: 145 White(87.9)	NR	NR
Weinberger M, 2002 <sup>64</sup>	Arm B: Peak Flow Meter Monitoring Control Group(233)	Mean: 47,	n: 190(81.6)	White-n: 189 White(81.1)	NR	NR
Weinberger M, 2002 <sup>64</sup>	Arm C: Education, Feedback, Pay-for-performance(262)	Mean: 45,	n: 210(80.2)	White-n: 197 White(75.2)	NR	NR
Saini B, 2004 <sup>65</sup>	Arm A: Control 1(22)	Mean: 52,	NR (73)	NR	NR	hospitalizations past year = 0.1 +/- 0.6
Saini B, 2004 <sup>65</sup>	Arm B: Control 2(28)	Mean: 42,	NR (79)	NR	NR	hospitalizations past year = 1.3 +/- 4.1
Saini B, 2004 <sup>65</sup>	Arm C: Education (52)	Mean: 43,	NR(61)	NR	NR	hospitalizations past year = 0.18 +/- 0.6
Bryce FP, 1995 <sup>66</sup>	Arm A: Control Group(1563)	NR	NR	NR	NR	NR
Bryce FP, 1995 <sup>66</sup>	Arm B: Reminders and tools(1585)	NR	NR	NR	NR	NR
McCowan C, 2001 <sup>67</sup>	Arm A: Control (330)	Mean: 37,	n: 176(53)	NR	NR	NR
McCowan C, 2001 <sup>67</sup>	Arm B: Decision support (147)	Mean: 33,	n: 75 (51)	NR	NR	NR

NR = Not Reported; HCSD = Health Care Services Division; PACP = Pharmacy Asthma Care Program; PACE = Physician Asthma Care Education; PLE = Peer Leader Education; TOM = Therapeutic Outcomes Monitoring; SP= Suburban Practice; UP = Urban Practice; A/P = Asian/Pacific Islander; UTI = Urinary Tract Infection; AAP = Asthma Action Plan; NAEPP = National Asthma Education and Prevention Program

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**Evidence Table 4. Intervention Characteristics**

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
Ables AZ, 2002 <sup>1</sup>	Education and Reminders	Education, Reminders	In person ,Conducted by: Peer , Group , Paper, EMR: No	4 months	NR
Armour C., 2007 <sup>2</sup>	Arm A: Control	Other trained on risk assessment, spirometry and the control protocol during a 1 day workshop	Mode :In person ,Conducted by: External Person , Group, EMR: No,	1 day	NR
Armour C., 2007 <sup>2</sup>	Arm B: Pharmacy Asthma Care Program (PACP)	Other they were given an asthma education manual & were trained on risk assessment, pathophysiology of asthma, asthma medications, the NAC 6 step asthma management plan, patient education, goal setting, adherence assessment, spirometry & the PACP protocol	In person ,Conducted by: External Person , Group, EMR: No	2 days	NR
Baker R., 2003 <sup>3</sup>	Arm A:Guidelines only	Other: distribution of guidelines alone	Paper, EMR: No	NR	single event
Baker R., 2003 <sup>3</sup>	Arm B: Guidelines with audit criteria	Other distribution of guideline recommendations in prioritized review criteria format (according to strength of evidence and impact on outcome)	Paper, EMR: No	NR	single event
Baker R., 2003 <sup>3</sup>	Arm C: Guidelines with audit criteria and feedback	Feedback, Other distribution of review criteria supplemented with feedback	Conducted by: External Person , Group, Paper, EMR: No, "feedback on actual practice performance was prepared from the results of the first data collection and presented as text, tables, and charts comparing details of individual practice performance with other participating practices."	NR	single event
Bell L.M., 2010 <sup>4</sup>	Arm A: UP Control	Education	In person ,Conducted by: Peer, Group, EMR: No	NR	NR
Bell L.M., 2010 <sup>4</sup>	Arm B: Up intervention	Decision Support, Education, Reminders	Electronic, EMR: No	NR	NR
Bell L.M.,	Arm C: SP Control	Education	In Person ,Conducted by: Peer ,	NR	NR

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
2010 <sup>4</sup>			Group, EMR: No		
Bell L.M., 2010 <sup>4</sup>	Arm D: SP Control	Decision Support, Education, Reminders	Electronic, EMR: No	NR	NR
Bender B. G., 2011 <sup>5</sup>	Education, Coaching, Toolkit	Education, Other Guidelines	In person , Conducted by: External Person, Group, EMR: No	NR	2 clinician town hall meetings, 4 patient focus group meetings then 1 full day coaching session then 2 4-hour review visits at the clinics
Blackstien-Hirsch P., 2000 <sup>6</sup>	Education	Education, Other, Physician Detailing medical grand rounds, newsletters, workshop	In person ,Conducted by: External Person , Group, EMR: No	NR	NR
Brown R, 2004 <sup>7</sup>	Arm A:Control	Standard practice	EMR: No		
Brown R, 2004 <sup>7</sup>	Arm B: Education	Education, Other Guideline	In person ,Conducted by: External Person , Group, EMR: No	NR	2 2-3hour sessions held over 2-3 weeks
Bryce FP, 1995 <sup>8</sup>	Arm A:Control	NR	EMR: No	NR	NR
Bryce FP, 1995 <sup>8</sup>	Arm B: Reminders and Tools	Education, Feedback, Other Peak flow meters supplies, portable nebulizers for use	Electronic ,Conducted by: External Person , Individual, EMR: No	12 months	NR
Cabana M. D., 2006 <sup>9</sup>	Arm A:Control	Standard practice	EMR: No	NR	NR
Cabana M. D., 2006 <sup>9</sup>	Arm B: Physician Asthma Care Education (PACE)	Education	In person ,Conducted by: External Person , Group, EMR: No	2.5 hours	2
Cho S. H., 2010 <sup>10</sup>	Decision Support	Decision Support, Education	In person , Conducted by: External Person , Group , Electronic, EMR: No	3 months	3 follow-up visits with 4-week intervals
Clark NM, 1998 <sup>11</sup>	Arm B: Education	Education, Other Interactive seminar to guide physicians to examine ways to develop a partnership with their patients. Used lectures, videos, case studies, etc.	In person ,Conducted by: External Person , Group, EMR: No	3 weeks	2 meetings
Cloutier M. M., 2002 <sup>12</sup>	Decision support	Decision Support, Education	In person ,Conducted by: External Person , NR , Paper, EMR: No, Easy Breathing: A detailed survey regarding symptoms, triggers, personal and family history is given	4 hours	Duration above is of education, frequency is once

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
			to ALL patients; clinicians have an instrument to assess severity for those diagnosed with asthma; template for creating asthma treatment plan		
Cloutier M. M., 2005 <sup>13</sup>	Decision support	Decision Support, Education	In person ,Conducted by: External Person , Group , Electronic, EMR: No	NR	NR
Cloutier M.M., 2009 <sup>14</sup>	Decision support	Decision Support, Education	In person ,Conducted by: External Person , Paper, EMR: No	1 year	2-hr per week (edu)
Coleman C. I., 2003 <sup>15</sup>	Arm A: Patient specific information: Prescribers with patients on 'high dose'	NR	EMR: No	NR	NR
Coleman C. I., 2003 <sup>15</sup>	Arm B: Patient specific information: Prescribers with patients on 'low dose'	Feedback	Electronic ,Conducted by: External Person , Individual, EMR: No	1 month	1
Cowie R. L., 2001 <sup>16</sup>	Arm A: Basic Education	Education, Other Patient education by nurse educator, with report to the PCP; dissemination of guidelines to physicians; public education forums	In person ,Conducted by: External Person , Group, EMR: No, The clinician education was "several conventional medical education programs directed at physicians in the area"	1year	for patient education, this occurred every 6 weeks for one year (the duration above); The education for health professionals occurred "several" times.
Cowie R. L., 2001 <sup>16</sup>	Arm B: Intermediate Education	Education, Other Everything in A plus "development of an asthma clinic" in the table, but what is described sounds like staff training in "patient assessment, education, & counseling"	In person, Conducted by: External Person, EMR: No, The type Yes. B is describing the additional education component, the staff training. It is unclear if this is individual or group.	NR	NR
Cowie R. L., 2001 <sup>16</sup>	Arm C: Intensive Education	Education, Other Everything in B plus "intensive asthma education of the public and health professionals, and publicity campaign"	In Person, Conducted by: External Person, Group, EMR: No, This was "multipronged", but had an intensive full day asthma course that is described in Yesc.	NR	NR
Daniels E. C., 2005 <sup>17</sup>	Arm A: Control	Other, Standard practice "Copies of the national asthma guidelines and one asthma resource kit " p. 500)	EMR: No	NR	NR

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
Daniels E. C., 2005 <sup>17</sup>	Arm B: Education	Education, Other "asthma flow sheet in Microsoft Word format" (p. 501), "documentation tools"	In person ,Conducted by: External Person , Group, EMR: No	0.5 day	2
Davis AM, 2010 <sup>18</sup>	Decision Support	Other Guidelines	In person ,Conducted by: Peer , Group, EMR: No	NR	once
Davis R. S., 2004 <sup>19</sup>	Arm A: Guidelines only	Standard practice	EMR: No	NR	NR
Davis R. S., 2004 <sup>19</sup>	Arm B: Education and Toolkit	Education, Other Guidelines	Electronic ,Conducted by: External Person , Group, EMR: No	NR	NR
de Vries T. W., 2010 <sup>20</sup>	Arm A: Control	Standard practice	EMR: No	NR	NR,
de Vries T. W., 2010 <sup>20</sup>	Arm B: Feedback	Education	In person ,Conducted by: External Person , Individual, EMR: No	NR	NR
de Vries T. W., 2010 <sup>20</sup>	Arm C:2002	NR	EMR: No	NR	NR
Eccles M., 2002 <sup>21</sup>	Arm A: angina	Decision support, Education, Other Distribution of the guideline	In person, Conducted by: External Person , Group , Electronic, EMR:- Yes, "The system offered suggestions for management (including prescribing) informed by the content of the patient's record"; "the guideline was, however, a separate path w/l the clinical system, & it was not possible. To access all other parts...from guideline"	12months	Guideline: once Education: one time training on use of system
Eccles M., 2002 <sup>21</sup>	Arm B: asthma	Decision Support, Education, Other Distribution of the guideline	In person, Conducted by: External Person, Group, Electronic, EMR:- Yes,"The system offered suggestions for management (including prescribing) informed by the content of the patient's record"; "the guideline was, however, a separate path w/i the clinical system, & it was not possible to access all other parts...from ..guideline"	12 months	Guideline: once Education: one time training on use of system
Fairall L., 2010 <sup>22</sup>	Arm A: Control	Standard practice	EMR: No	3months	NR

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
Fairall L., 2010 <sup>22</sup>	Arm B: Intervention	Decision Support, Education, Other Nurse practitioners were permitted to prescribe inhaled corticosteroids for asthma (previously, could only renew existing physician-initiated Rx's).	In person ,Conducted by: External Person , Group, EMR: No	3 months	3-4 educational outreach workshops (1-3 hours each)
Feder G, 1995 <sup>23</sup>	Arm A: Diabetes Education	Other similar approach to active arm, but all content was about diabetes	EMR: No	NR	NR
Feder G, 1995 <sup>23</sup>	Arm B: Education, Reminders and Audit	Audit, Education, Reminders	In person ,Conducted by: External Person , Group , Paper, EMR: No	6 months	3 sessions
Finkelstein J. A., 2005 <sup>24</sup>	Arm A: Control	Standard practice received copies of NAEPP guidelines	EMR: No	NR	NR
Finkelstein J. A., 2005 <sup>24</sup>	Arm B: PLE Intervention	Education, Feedback, Reminders	In person ,Conducted by: Peer , Group, EMR: No	3 hour	2
Finkelstein J. A., 2005 <sup>24</sup>	Arm C:Planned Care Intervention	Education Same as in Arm B, with the addition of an asthma nurse educator who worked with families (symptoms assessment, provide self-management support).	In Person ,Conducted by: Peer , Group, EMR: No	3 hour	2
Foster J. M., 2007 <sup>25</sup>	Arm A: Education and Feedback (delayed)	Audit, Feedback, Other Formulation of a practice development plan	Mode :In person ,Conducted by: External Person , Group, EMR: No	NR	Once
Foster J. M., 2007 <sup>25</sup>	Arm B: Education and Feedback	Audit, Education, Feedback, Other Formulation of a development plan	Electronic ,Conducted by: External Person , Group, EMR: No	NR	Once
Fox P., 2007 <sup>26</sup>	Quality improvement	Continuous quality improvement (CQI) and the addition of a community health worker, with central technical assistance (TA).	In person. Conducted by: Peer, Group. EMR: No.	NR	Monthly CQI team meetings at each site and monthly meetings of all CQI teams with TA
Frankowski B. L., 2006 <sup>27</sup>	Multimodal: Education and Feedback	Education, Feedback, Organizational Change, Other Guidelines	In person ,Conducted by: External Person , Group, EMR: No	NR	NR
Glasgow N. J., 2003 <sup>28</sup>	Arm B: Intervention	Decision Support The 3+ visit plan	Paper, EMR: No	12 months	NR
Gorton T. A., 1995 <sup>29</sup>	Arm A:Control comparison site	Standard practice	EMR: No	NR	NR
Gorton T. A.,	Arm B: Education and	Education, Physician Detailing	In person ,Conducted by: Peer ,	4 months	two telephone calls

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
1995 <sup>29</sup>	Detailing	45 page guideline, decline summary, Detailing calls by peer physician, CME conference, audiocassette	Individual, EMR: No		
Gorton T. A., 1995 <sup>29</sup>	Arm B: Education on computer	Education, Other45 page guideline, four "hypertext" computer modules, Computer conference	In Person ,Conducted by: External Person , Group, EMR: No	4months	3 different times
Gorton T. A., 1995 <sup>29</sup>	Arm B: Education multimedia	45 -Page guideline, Four fascimile messages, Four posters, CME conference, Audiocassette, Videocassette	Electronic ,Conducted by: External Person , Group, EMR: No	4months	one a week for 4 weeks: Four Fascimile messages One a month for 4-months: four posters
Hagmolen, W., 2008 <sup>31</sup>	Arm A: Guidelines only	Other distribution of a guideline	EMR: No	NR	guideline: once,
Hagmolen, W., 2008 <sup>31</sup>	Arm B: Education and Guidelines	Education, Other distribution of a guideline	In person ,Conducted by: NR , Group, EMR: No	NR	guideline: once education: once
Hagmolen, W., 2008 <sup>31</sup>	Arm C: Education and Guidelines and individualized treatment advice	Education, Other distribution of a guideline	In Person ,Conducted by: External Person , Individual, EMR: No	NR	guideline: once education: once individual treatment advice: varied, median 5 range 1-13
Halterman J. S., 2005 <sup>32</sup>	Arm A:Control	Standard practice	EMR: No	NR	NR
Halterman J. S., 2005 <sup>32</sup>	Arm B: Intervention	Decision Support	Paper, EMR: No	NR	NR
Halterman J.S., 2006 <sup>33</sup>	Arm A:Control	Standard practice	EMR: No	NR	NR,
Halterman J.S., 2006 <sup>33</sup>	Arm B: Intervention	Decision Support Intervention elaborated: "single-page prompt including the child's symptoms and guideline recommendations given to the clinician at the time of visit"	Paper, EMR: No	NR	1
Herborg H., 2001 <sup>34</sup> & 35	Arm A:Control	Standard practice	EMR: No	1year	none,
Herborg H., 2001 <sup>34</sup>	Arm B: Therapeutic Outcomes Monitoring	Clinical Pharmacy Service, Other "TOM" training for	EMR: No, The pharmacy service was in person visits where they	1 year	once per month (pharmacists interacting

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
& 35	(TOM)	pharmacists= Therapeutic outcomes monitoring	identify problems with drug therapy, outline goals, and develop an individual intervention and monitoring plan		with patients),
Holton C., 2011 <sup>36</sup>	Arm A:Control	NR	EMR: No	NR	NR
Holton C., 2011 <sup>36</sup>	Arm B: Spirometry training	Education	In person ,Conducted by: External Person , Group, EMR: No	2 hours	once
Homer CJ, 2005 <sup>37</sup>	Arm A:Control	Standard practice	EMR: No	NR	NR
Homer CJ, 2005 <sup>37</sup>	Arm B: Learning collaborative	Education, Other Guidelines	In person ,Conducted by: Peer , Group, EMR: No	10 months	3 one-day learning sessions: coaching and support through bi-weekly conference calls and periodic performance feedback
Horswell R., 2008 <sup>38</sup>	HCSD's DM program	Decision Support, Feedback, Reminders	Electronic, EMR:-Yes, CLIQ (Clinical Inquiry) incorporates a "prevention page" and "Yes6 real-time data interfaces from clinical and administrative feeder systems"	3 years	continuous
Hoskins G., 1997 <sup>39</sup>	Arm A: Before intervention	NR	EMR: No	NR	NR
Hoskins G., 1997 <sup>39</sup>	Arm B: Education and Feedback	Audit, Education, Feedback	Conducted by: External Person , Individual, EMR: No	12 months	NR
Kattan M., 2006 <sup>40</sup>	Arm A:Control	Standard practice	EMR: No	1 year	once every 2 months
Kattan M., 2006 <sup>40</sup>	Arm B: Intervention	Decision Support, Feedback	Paper, EMR: No	1 year	once every 2 months
Lesho E. P., 2005 <sup>41</sup>	Decision Support	Decision Support, Education, Other Guidelines	In person ,Conducted by: NR , Group , Paper, EMR: No	NR	NR
Liaw S. T., 2008 <sup>42</sup>	Arm A:Control	Standard practice	EMR: No	NR	NR
Liaw S. T., 2008 <sup>42</sup>	Arm B:Control (unrelated education)	Education, Other education on unrelated topic	EMR: No	NR	NR
Liaw S. T., 2008 <sup>42</sup>	Arm C: Education and Guidelines	Education	In Person ,Conducted by: External Person , Group, EMR: No	3 hours	twice
Lozano P., 2004 <sup>43</sup>	Arm A:Control	Standard practice	EMR: No		NR
Lozano P., 2004 <sup>43</sup>	Arm B: Peer leader education	Education, Other, Physician Detailing, Reminders	Electronic ,Conducted by: External Person , Group , Paper, EMR: No	NR	NR

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
		Guidelines			
Lozano P., 2004 <sup>43</sup>	Arm C: Chronic care model	Education, Organizational Change, Physician Detailing, Reminders Guidelines	In Person ,Conducted by: External Person , Individual , Paper, EMR: No	10 hours	4-5 PAC visits over 2 years
Lundborg C. S., 1999 <sup>44</sup>	Arm A:Control	Education, Feedback	In person ,Conducted by: External Person , Group, EMR: No	NR	2 sessions
Lundborg C. S., 1999 <sup>44</sup>	Arm B: Education and Feedback	Education, Feedback	In person ,Conducted by: External Person , Group, EMR: No	NR	2 sessions
Mahi-Taright S., 2004 <sup>45</sup>	Education	Education	In person ,Conducted by: External Person , Group, EMR: No	2.5 days	once
Mangione-Smith R., 2005 <sup>46</sup>	Arm A:Control	Standard practice	EMR: No	NR	NR
Mangione-Smith R., 2005 <sup>46</sup>	Arm B: Learning collaborative	Breakthrough Collaborative Series Quality Improvement	In person ,Conducted by: External Person , Group, EMR: No	12.5 months	3 two-day learning sessions, followed by action periods of 2-6 months (PDSA cycles).
Martens J. D., 2006 <sup>47</sup>	Arm A: Control	Standard practice	EMR: No	NR	NR
Martens J. D., 2006 <sup>47</sup>	Arm B: Guidelines and involved in development	Other making of guideline and final guideline dissemination	Paper, EMR: No	NR	NR
Martens J. D., 2006 <sup>47</sup>	Arm C: Guidelines only	Other making of guideline and final guideline dissemination	Paper, EMR: No	NR	NR
Martens J. D., 2007 <sup>48</sup>	Arm B	Reminders	Electronic, EMR:-Yes	1 year	Based on frequency of prescriptions
Martens, J.D., 2007 <sup>48</sup>	Arm A	Reminders	Electronic, EMR:-Yes, When a GP prescribed a drug, the GP was prompted to enter diagnosis related information and codes, which, in addition to stored information, was used by the computer to generate reminders	1 year	Based on frequency of prescriptions
McCowan C, 2001 <sup>49</sup>	Arm A: Control	Standard practice	EMR: No	6months	NR
McCowan C, 2001 <sup>49</sup>	Arm B: Intervention	Decision Support	Electronic, EMR: No	6 months	NR
Mitchell E. A., 2005 <sup>50</sup>	Arm A:Control	Standard practice	EMR: No	9months	NR
Mitchell E. A., 2005 <sup>50</sup>	Arm B: Intervention	Decision Support, Education	In person , Group, EMR: No	2 hours	1

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
Newton W. P., 2010 <sup>51</sup>	Decision Support	Organizational Change	EMR: No	2 years	NR
O'Laughlen MC, 2008 <sup>52</sup>	MSAGR group B	Decision Support, Education, Reminders	In person , Individual , Paper, EMR: No	2 months	1
Patel P. H., 2004 <sup>53</sup>	Organizational Change	Education, Organizational Change, Other Guidelines	In person ,Conducted by: Peer , Group , Paper, EMR: No	NR	NR
Premaratne U. N., 1999 <sup>54</sup>	Arm A:Control	NR	EMR: No	NR	NR
Premaratne U. N., 1999 <sup>54</sup>	Arm B: Education	Education	In person ,Conducted by: External Person , Group, EMR: No	NR	NR
Ragazzi H., 2011 <sup>55</sup>	Practice 1	Decision Support, Education, Organizational Change	In person ,Conducted by: Peer , Group , Electronic, EMR: No	1 hour	6-8 sessions during the 1st 4 months
Ragazzi H., 2011 <sup>55</sup>	Practice 2	Decision Support, Education, Organizational Change	In Person ,Conducted by: Peer , Group , Electronic, EMR: No	1hour	6-8 sessions during the 1st 4 months
Ragazzi H., 2011 <sup>55</sup>	Practice 3	Decision Support, Education, Organizational Change	In Person ,Conducted by: Peer , Group , Electronic, EMR: No	1hour	6-8 sessions during the 1st 4 months
Rance K., 2011 <sup>56</sup>	Decision Support	Education, Reminders	In person , Conducted by: External Person , Group , Electronic, EMR:- Yes	6 weeks	1 workshop
Renzi P. M., 2006 <sup>57</sup>	Arm A:Group 4 (Control)	Other, Standard practice copy of Canadian Clinical Practice Guidelines	EMR: No	NR	NR
Renzi P. M., 2006 <sup>57</sup>	Arm B:Group 1	Education, Other, Reminders written instructions for stamp; verbal encouragement to use stamp; asked to have 6 patients to sign informed consent to have charts reviewed	In person, EMR: No	30 minutes	once at 6 months, once 12 months after enrollment
Renzi P. M., 2006 <sup>57</sup>	Arm C: Group 2	Education, Other, Reminders written instructions for stamp; verbal encouragement to use stamp	In Person, EMR: No	30min	NR
Renzi P. M., 2006 <sup>57</sup>	Arm D	Other, Reminders written instructions sent by mail	mail, EMR: No	NR	NR
Richman M. J., 2000 <sup>58</sup>	Feedback	Audit, Education, Feedback, Other, Reminders Distribution of practice recommendations	In person. Conducted by: External Person, Group Paper, EMR: No, reminder stickers attached to charts	6 months	NR
Ruoff G., 2002 <sup>59</sup>	Arm A: Before the Flow Sheet	NR	EMR: No	NR	NR

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
Ruoff G., 2002 <sup>59</sup>	After implementation of the Flow Sheet	Flow sheet	Paper, EMR: No	6 months	one time
Saini B, 2004 <sup>60</sup>	Arm A: Control 1	NR	EMR: No	NR	NR
Saini B, 2004 <sup>60</sup>	Arm B: Control 2	NR	EMR: No	NR	
Saini B, 2004 <sup>60</sup>	Arm C: Education	Education, Other, Standard practice Service--Provide specialized care to patients, i.e. asthma education, device monitoring, set goals with patient	In Person ,Conducted by: External Person , Individual, EMR: No	6months	NR
Schneider A., 2008 <sup>61</sup>	Arm A: traditional quality circle	Audit, Feedback, Other moderated discussion of feedback results	In person ,Conducted by: External Person , Group, EMR: No	NR	NR
Schneider A., 2008 <sup>61</sup>	Arm B: benchmark quality circle	Audit, Feedback, Other moderated discussion of feedback results with identification of best performers	In person ,Conducted by:	NR	NR External Person Group, EMR:0
Shah S., 2011 <sup>62</sup>	Arm B: Practitioner Asthma Communication and Education (PACE)	Education	In person , Conducted by: Peer , Group, EMR: No	6 hours	2 3-hour workshops held 1 week apart
Shapiro A., 2011 <sup>63</sup>	Arm A:Control	Decision Support, Reminders	Paper, EMR: No	NR	NR
Shapiro A., 2011 <sup>63</sup>	Arm B: Intervention	Reminders	Electronic, EMR: No	NR	NR
Shiffman R. N., 2000 <sup>64</sup>	Arm A: Sole physician arm, pre-post; patient arm, pre	Other Control time period, pre-intervention	EMR: No	NR	NR,
Shiffman R. N., 2000 <sup>64</sup>	Arm B: Patient arm, post	Decision Support	Electronic, EMR: No, Custom software on a Newton Message Pad, which provided: structured documentation recommendations based on the guideline assistance with calculation of PEFR and medication doses printed encounter summaries and prescriptions	NR	NR
Smeele I. J.,	Arm B: Education	Education Peer review program	In person ,Conducted by: Peer ,	12 months	once

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
1999 <sup>65</sup>			Group, EMR: No		
Sondergaard J., 2002 <sup>66</sup>	Arm A:Control	Feedback	Conducted by: External Person , Individual, EMR: No, not described, except that feedback was given on an unrelated subject	6months	3 times (every 3 months)
Sondergaard J., 2002 <sup>66</sup>	Arm B: Individual patient count data feedback	Audit, Feedback	Conducted by: External Person, Individual, EMR: No, The individual feedback group received information about their patients use of ICS relative to their Beta agonist use.	6 months	3 times (every 3 months)
Sondergaard J., 2002 <sup>66</sup>	Arm C: Aggregate data feedback	Audit, Feedback	Conducted by: External Person , Individual, EMR: No, The aggregate group received feedback on the number of ICS packages and inhaled beta agonist packages dispensed in one year per YesNoNo patients, with comparison data from other practices.	6months	3 times (every 3 months)
Stergachis A, 2002 <sup>67</sup>	Arm A:Control	Standard practice	EMR: No	NR	NR
Stergachis A, 2002 <sup>67</sup>	Arm B: Education	Other Guidelines	EMR: No	8 hours	once
Suh D. C., 2001 <sup>68</sup>	Arm A: Pre-intervention	Standard practice	EMR: No	NR	NR
Suh D. C., 2001 <sup>68</sup>	Arm B: Post-intervention	Audit, Feedback, Other educational mailings to patients, Providers received asthma management fact sheet and patient profiles	Conducted by: External Person , Individual, EMR: No, patients were identified who either overused quick relief meds (one or more short acting inhaler per month, or 8 or more/year) or patients who seemed to be non-compliant with long term controller meds. A management fact sheet was sent with the patient	1 year	every 3 months for mailings to patients and one time mailing to physicians
Sulaiman N. D., 2010 <sup>69</sup>	Arm A:Control (unrelated education)	Education	In person ,Conducted by: Peer , Group, EMR: No	6hours	Twice
Sulaiman N. D., 2010 <sup>69</sup>	Arm B: Education and Guidelines	Education, Other Guidelines	In person ,Conducted by: Peer , Group , Paper, EMR: No	6 hours	Twice
Sulaiman N.	Arm C: Guidelines	Other Guidelines	Paper, EMR: No	6hours	Twice

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
D., 2010 <sup>69</sup>	only				
Thyne S.M., 2007 <sup>70</sup>	Arm A:Control	NR	EMR: No	NR	NR
Thyne S.M., 2007 <sup>70</sup>	Arm B: Time 1, 2002-2003	Decision support, Education, Feedback, Other Posting and distribution of guidelines, posting of local medical plan formularies	In person, EMR: No, Intervention includes: Yes. quarterly presentations; 2. an "ongoing education campaign" 3 as noted in "other" above; 4. An asthma discharge planning form for urgent care that guides clinicians to classify and rx asthma; 5. asthma clinic staff feedback	NR	Education: quarterly
Thyne S.M., 2007 <sup>70</sup>	Arm C	Education, Feedback, Organizational Change	In person,Conducted by: Peer, Group, EMR: No, Medical provider education campaign designed to improve compliance with the national guidelines for asthma management.	3 years	Quarterly
To T., 2008 <sup>71</sup>	PCAPP Intervention	Decision Support, Education decision support = flow-chart	Paper, EMR: No	3 hours	once
Veninga CCM, 1999 <sup>72</sup>	Arm A: Netherlands	Audit, Education, Feedback	In person ,Conducted by: Peer , Group, EMR: No	5months	2 group meetings, average 7.8 weeks (+/- 3.0 weeks) between meetings
Veninga CCM, 1999 <sup>72</sup>	Arm B:Sweden	Audit, Education, Feedback	In person ,Conducted by: Peer , Group, EMR: No	6 months	2 group meetings, average 10.3 weeks (+/- 7.2 weeks) between meetings, Mode: In person Conducted by: Peer Group, EMR:0
Veninga CCM, 1999 <sup>72</sup>	Arm C:Norway	Audit, Education, Feedback	In Person ,Conducted by: Peer , Group, EMR: No	4months	2 group meetings, average 1.3 weeks (+/- 1.3 weeks) between meetings
Veninga CCM, 1999 <sup>72</sup>	Arm D: Slovakia	Audit, Education, Feedback	In Person ,Conducted by: Peer , Group, EMR: No	3months	single group meeting
Veninga CCM, 2000 <sup>73</sup>	Arm A: UTI	Audit, Education, Feedback	In person,Conducted by: Peer , Group, EMR: No, "self-learning auditing program for peer groups". Control group discussed UTI issues	NR	Twice
Veninga	Arm B: Education and	Audit, Education, Feedback	In person,Conducted by: Peer,	NR	Twice

Author, Year	Arm Name	Type of Intervention	Type of delivery	Duration of Intervention	Frequency of Intervention
CCM, 2000 <sup>73</sup>	Feedback		Group, EMR: No, "self-learning auditing program for peer groups" , Conducted in already established peer groups. Moderated by regular group members, after training by researchers. Discussed case vignettes in the first meeting, and individualized feedback. on prescribing in 2n		
Weinberger M, 2002 <sup>74</sup>	Arm A: Usual Care Control Group	4 hour training session on different topics than Pharmaceutical care	EMR: No	NR	NR
Weinberger M, 2002 <sup>74</sup>	Arm B: Peak Flow Meter Monitoring Control Group	Other received Peak flow meter, instructions, monthly calls to elicit PEFRs but not PEFR data provided to pharmacists. Did received 4 hour training but topics different than pharmaceutical care	In person ,Conducted by: External Person , Individual, EMR: No	NR	NR
Weinberger M, 2002 <sup>74</sup>	Arm C: Education, Feedback, pay-for-performance	Decision Support, Education, Pay-for-Performance/Quality Incentives	Conducted by: External Person , Individual, EMR: No	12	Mode: Electronic
Yawn BP, 2008 <sup>75</sup>	Education and Feedback	Audit, Decision Support, Education Documentation tool	In person ,Conducted by: External Person , Individual, EMR: No	6 hours	NR

NR = Not Reported; PACP = Pharmacy Asthma Care Program; EMR = Electronic Medical Records; NAC = National Asthma Campaign; NAEPP = National Asthma Education and Prevention Program; PLE = Peer Leader Education; CQI = Continuous Quality Improvement; TA = Technical Assistance; CME = Continued Medical Education; TOM = Therapeutic Outcomes Monitoring; PDSA = Plan-Do-Study-Act; GP = General Practitioner; PACE = Practitioner Asthma Communication and Education; ICS = Inhaled Corticosteroids; PCAPP = Primary Care Asthma Pilot Project; UTI = Urinary Tract Infection; MSAGR = Multicolored, Simplified, Asthma Guideline Reminder; PEFr = Peak Exploratory Flow Rate

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**Evidence Table 5. Clinical Outcomes Baseline and End of Treatment**

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Shapiro,2011 <sup>1</sup>	SBHC	Emergency department visits	Documentation during any visit	NR	No	No	N: 200, (26)	N: 200,(88)	NR	No
Shapiro,2011 <sup>1</sup>	NYCHP	Emergency department visits	Documentation during any visit	NR	No	No	N: 197,(27.4)	N: 249,(90)	NR	No
Newton,2010 <sup>2</sup>	Decision Support	Emergency department visits	NR	NR	NR	NR	N: NR,(10)	N: NR,(4)	NR	No
Sulaiman,2010 <sup>3</sup>	Arm A-ENT education	Emergency department visits	NR	NR	NR	NR	N: 97 n with outcomes: 3,(3.1)	N: 100 n with outcomes: 8,(8)	NR	No
Sulaiman,2010 <sup>3</sup>	Arm B-Asthma education and guidelines	Emergency department visits	NR	NR	NR	NR	N: 125 n with outcomes: 3,(2.4)	N: 125 n with outcomes: 10,(8)	NR	No
Sulaiman,2010 <sup>3</sup>	Arm C-Asthma guidelines only	Emergency department visits	NR	NR	NR	NR	N: 108 n with outcomes: 5,(4.6)	N: 108 n with outcomes: 3,(2.8)	NR	No
Horswell,2008 <sup>4</sup>	HCSD's DM program	Emergency department visits	# ER visits for respiratory diagnoses per 1,000 patients over past 3 months	NR	NR	NR	191	NR	N: 2199 187	No
Schneider, 2008 <sup>6</sup>	Arm A-Traditional	Emergency department visits	binary	Yes/No	Yes	NR	N: NR n with outcomes: 62	NR	N: 62 n with outcomes: 62 n	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	Quality Circle						n with events: 13,(19.7)		with events: 4,(6.1) Mean: NR SD: NR	
Schneider, 2008 <sup>6</sup>	Arm B- Benchmark quality circle	Emergency department visits	binary	Yes/No	Yes	NR	N: NR n with outcomes: 113 n with events: 21,(17.6)	NR	N: 113 n with outcomes: 113 n with events: 13,(10.9), Mean: NR SD:NR	No
Kattan,2006 <sup>7</sup>	Arm A- Control	Emergency department visits	mean # visits per year	NR	No	No	N: 466 Mean:3	NR	N: 463 Mean:1.14 SE: 0.08	No
Kattan,2006 <sup>7</sup>	Arm B- Intervention	Emergency department visits	mean # visits per year	NR	No	No	N: 471 Mean:3	NR	N: 466 Mean:0.87 SE: 0.07	No
Mitchell,2005 <sup>8</sup>	Arm A- Control	Emergency department visits	# of attendances at ED per patient week x 10 <sup>^5</sup> .	NR	No	No	16.7 (14.6-18.8)	NR	10.9 (9.1-12.7)	No
Mitchell,2005 <sup>8</sup>	Arm B- Intervention	Emergency department visits	# of attendances at ED per patient week x 10 <sup>^5</sup> .	NR	No	No	14.7 (12.8-16.6)	NR	11.0 (9.4-12.6)	No
Lesho,2005 <sup>9</sup>	Decision Support	Emergency department visits	NR	NR	NR	NR	n with events: 553	n with events: 193	NR	No
Patel,2004 <sup>10</sup>	Organizational change	Emergency department visits	Visits/1000 patients	NR	Yes	No	N: 451 n with outcomes: 148	N: 417 n with outcomes: 88	NR	No
Glascow,20	Arm A-	Emergency	Attended	NR	NR	NR	N: 67	NR	N: 71	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
03 <sup>11</sup>	Control	department visits	emergency department 1-3 times in past 12 months				n with outcomes: 15,(22)		n with outcomes: 8,(11)	
Glasgow,2003 <sup>11</sup>	Arm B-Intervention	Emergency department visits	Attended emergency department 1-3 times in past 12 months	NR	NR	NR	N: 95 n with outcomes: 14,(15)	NR	N: 95 n with outcomes: 4,(4)	No
Coleman,2003 <sup>12</sup>	Arm A-comparison group	Emergency department visits	NR	NR	No	No	N: 510 n with outcomes: 510 n with events: 510 Mean:0.012 SD:0.11	NR	N: 510 n with outcomes: 510 Mean:0.008 SD:0.11	No
Coleman,2003 <sup>12</sup>	Arm B-Intervention group	Emergency department visits	NR	NR	No	No	N: 135 n with outcomes: 135 Mean:0.02 SD:0.15	NR	N: 135 n with outcomes: 135 Mean:0 SD:0	No
Suh,2001 <sup>13</sup>	Arm A-intermittent	Emergency department visits	number of ED visits per patient	NR	NR	NR	N: 566 n with outcomes: 566 Mean:0 SD:NR	N: 566 Mean:0.06 SD:0.32	NR	No.
Suh,2001 <sup>13</sup>	Arm B-persistent	Emergency department visits	number of ED visits per patient	NR	NR	NR	N: 1050 Mean:0.2 SD:0.63	N: 1050 Mean:0.09 SD:0.4	NR	No.
Herborg,2001 <sup>14</sup>	Arm A-control	Emergency department visits	number of events per patient	NR	Yes	NR	N: 236	N: 204 Mean:0.021	NR	No.
Herborg,2001 <sup>14</sup>	Arm B-TOM	Emergency department	number of events per	NR	Yes	NR	N: 264	N: 209 Mean:0.19	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Cowie,2001 <sup>15</sup>	Arm A-basic	Emergency department visits	ED visit in last 12 months	Yes/No	Yes	NR	NR	N: NR n with outcomes: 174 n with events: NR,(22)	NR	No.
Cowie,2001 <sup>15</sup>	Arm B-intermediate	Emergency department visits	ED visit in last 12 months	Yes/No	Yes	NR	NR	N: NR n with outcomes: NR n with events: NR,(45)	NR	No.
Cowie,2001 <sup>15</sup>	Arm C-intensive	Emergency department visits	ED visit in last 12 months	Yes/No	Yes	NR	NR	N: NR n with outcomes: 98 n with events: NR,(36)	NR	No.
Richman,2000 <sup>16</sup>	Feedback	Emergency department visits	percent reporting no ED visits for asthma in last 6 months	0-100	No	No	N: 228 n with outcomes: 114 n with events: NR,(82)	N: 317 n with outcomes: 158 n with events: NR,(81)	NR	No.
Shiffman,2000 <sup>17</sup>	Arm A-Pre	Emergency department visits	Proportion of children with ED visit at 1 week follow up	n, %	No	See prior comments	N: 91 n with outcomes: 84 n with events: 5,(6)	NR	NR	No.
Shiffman,2000 <sup>17</sup>	Arm B-Post	Emergency department visits	Proportion of children with ED visit at 1 week follow up	n, %	No	See prior comments	N: 74 n with outcomes: 69 n with events: 0,(0)	NR	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Cloutier,2009 <sup>18</sup>	Decision support	Emergency department visits	NR	NR	NR	NR	6.0 per 100 children	NR	6.1 per 100 children	Yes. Controlled for asthma severity, sex, linic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>18</sup>	Decision support	Emergency department visits	NR	NR	NR	NR	15.4 per 100 children	NR	10.6 per 100 children	Yes. Controlled for asthma severity, sex, linic, chronological time, and race/ethnicity.
Halterman, 2005 <sup>19</sup>	Arm A-Control	Emergency department visits	NR	NR	No	No	N: 77	NR	N: 77 n with outcomes: 14 n with events: NR,(19.4)	No.
Halterman, 2005 <sup>19</sup>	Arm B-Intervention	Emergency department visits	NR	NR	No	No	N: 73	NR	N: 73 n with outcomes: 8 n with events: NR,(11.8)	No.
Clark,1998 <sup>20</sup>	Arm A-	Emergency department visits	NR	NR	NR	NR	NR	Mean:0.67	NR	Yes. Baseline scores and group assignment.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Clark, 1998 <sup>20</sup>	Arm B-	Emergency department visits	NR	NR	NR	NR	NR	Mean:0.65	NR	Yes. Baseline scores and group assignment.
Brown, 2004 <sup>21</sup>	Arm A- <\$20,000 annual household income	Emergency department visits	Yearly rates of emergency department visits	NR	Yes	No	NR	NR	N: 19 Mean:1.441	Yes. Medications, asthma severity, parental education
Brown, 2004 <sup>21</sup>	Arm A- Medicaid Insurance	Emergency department visits	Yearly rate of emergency department visit	NR	Yes	No	NR	NR	N: 47 Mean:0.709	Yes. Medications, asthma severity, parental education
Brown, 2004 <sup>21</sup>	Arm A- Non-Medicaid Insurance	Emergency department visits	Yearly rate of emergency department visits	NR	NR	NR	NR	NR	N: 115 Mean:0.225	Yes. Medications, asthma severity, parental education
Brown, 2004 <sup>21</sup>	Arm A- >=\$20,000 annual household income	Emergency department visits	Yearly rate of emergency department visits	NR	Yes	No	NR	NR	N: 115 Mean:0.232	Yes. Medications, asthma severity, parental education
Brown, 2004 <sup>21</sup>	Arm B- <\$20,000	Emergency department	Yearly rates of	NR	Yes	No	NR	NR	N: 17 Mean:0.208	Yes. Medication

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	0 annual household income	visits	emergency department visits							ns, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm B-Medicaid Insurance	Emergency department visits	Yearly rate of emergency department visit	NR	Yes	No	NR	NR	N: 65 Mean:0.264	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm B-Non-Medicaid Insurance	Emergency department visits	Yearly rate of emergency department visits	NR	NR	NR	NR	NR	N: 92, Mean:0.27	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm B->=\$20,000 annual household income	Emergency department visits	Yearly rate of emergency department visits	NR	Yes	No	NR	NR	N: 140, Mean:0.262	Yes. Medications, asthma severity, parental education
Homer,2005 <sup>22</sup>	Arm A-	Emergency department visits	NR	NR	NR	NR	N: 337(36)	N: 254(22)	NR	No.
Homer,2005 <sup>22</sup>	Arm B-	Emergency department visits	NR	NR	NR	NR	N: 294(36)	N: 236(17)	NR	No.
Ruoff,2002 <sup>23</sup>	Arm A-Before the flow sheet	Emergency department visits	Emergency room visits	NR	NR	NR	NR	NR	N: 122,(1.01)	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Ruoff,2002 <sup>23</sup>	Arm B- After Implementation of the flowsheet	Emergency department visits	Emergency room visits	NR	NR	NR	NR	NR	N: 122,(73.68)	No.
Mangione-Smith,2005 <sup>24</sup>	Arm A-control	Emergency department visits	Acute care service use (number of visits in last 6 mo)	NR	NR	NR	NR	NR	N: 126, Mean:0.5	Yes. Adjusted for child age, gender and race/ethnicity, parent education, household annual income, insurance type, severity of asthma and number of comorbidities.
Mangione-Smith,2005 <sup>24</sup>	Arm B-intervention	Emergency department visits	Acute care service use (number of visits in last 6 mo)	NR	NR	NR	NR	NR	N: 385,(0.8)	Yes. Adjusted for child age, gender and

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
										race/ethnicity, parent education, household annual income, insurance type, severity of asthma and number of comorbidities.
Weinberger ,2002 <sup>25</sup>	Arm A- Usual care Control	Emergency department visits	Hospital or emergency department visit in past month (Admission)	NR	Yes	No	NR	NR	N: 246,(7.3)	No.
Weinberger ,2002 <sup>25</sup>	Arm B- PFM monitoring control	Emergency department visits	Hospital or emergency department visit in past month (Admission)	NR	Yes	No	NR	NR	N: 296,(14.6)	No.
Weinberger ,2002 <sup>25</sup>	Arm C- Pharmaceutical care program	Emergency department visits	Hospital or emergency department visit in past month (Admission)	NR	Yes	No	NR	NR	N: 356,(15.7)	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Bryce,1995 <sup>26</sup>	Arm A- Control group	Emergency department visits	No of patients attending: Accident and emergency departments	NR	NR	NR	N: 1563 n with events: 6	NR	N: 1563 n with events: 6	No.
Bryce,1995 <sup>26</sup>	Arm B- Intervention group	Emergency department visits	No of patients attending: Accident and emergency departments	NR	NR	NR	N: 1585 n with events: 12	NR	N: 1585 n with events: 5	No.
McCowan,2001 <sup>27</sup>	Arm A- Control	Emergency department visits	Accident and emergency	NR	NR	NR	NR	NR	N: 330 n with events: 2,(1)	No.
McCowan,2001 <sup>27</sup>	Arm B- Intervention	Emergency department visits	Accident and emergency	NR	NR	NR	NR	NR	N: 147 n with events: 0,(0)	No.
Shapiro,2011 <sup>1</sup>	SBHC	hospitalizations	Documentation during any visit	NR	No	No	N: 200,(51)	N: 200,(88)	NR	No
Shapiro,2011 <sup>1</sup>	NYCHP	hospitalizations	Documentation during any visit	NR	No	No	N: 197,(41.1)	N: 249,(89.2)	NR	No
Newton,2010 <sup>2</sup>	Decision Support	hospitalizations	NR	NR	NR	NR	N: NR,(4)	N: NR,(6)	NR	No
Horswell,2008 <sup>4</sup>	HCSD's DM program	hospitalizations	# of hospital admissions for respiratory diagnoses per 1,000	NR	NR	NR	18	NR	N: 2199 11	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
			patients over past 3 months							
Schneider, 2008 <sup>6</sup>	Arm A- Traditional quality circle	hospitalizations	hospitalization in last 12 months	Yes/no	Yes	NR	N: NR n with outcomes: 62 n with events: 5,(7.6)	NR	N: 62 n with outcomes: 62 n with events: 3,(4.5)	No
Schneider, 2008 <sup>6</sup>	Arm B- Benchmark quality circle	hospitalizations	hospitalization in last 12 months	Yes/no	Yes	NR	N: NR n with outcomes: 113 n with events: 9,(7.6)	NR	N: 113 n with outcomes: 113 n with events: 7,(5.9)	No
Kattan,2006 <sup>7</sup>	Arm A- Control	hospitalizations	mean # per year		No	No	N: 466 Mean:0.8	NR	N: 463 Mean:0.24 SE: 0.03	No
Kattan,2006 <sup>7</sup>	Arm B- Intervention	hospitalizations	mean # per year	NR	No	No	N: 471,(1.1)	NR	N: 466 Mean:0.22 SE: 0.03	No
Finkelstein, 2005 <sup>28i</sup>	Arm A- Control	hospitalizations	Mean	NR	Yes	NR	N: 1531 Mean:0.1 SD:0.06	NR	NR	No
Finkelstein, 2005 <sup>28</sup>	Arm B- PLE Intervention	hospitalizations	Mean	NR	Yes	NR	N: 2003 Mean:0.13 SD:0.15	NR	NR	No
Finkelstein, 2005 <sup>28</sup>	Arm C- Planned Care Intervention	hospitalizations	Mean	NR	Yes	NR	N: 1635 Mean:0.07 SD:0.04	NR	NR	No
Mitchell,2005 <sup>8</sup>	Arm A- Control	hospitalizations	# of admissions per person week x 10^5	NR	No	No	N: NR 4.46 (3.18-5.75)	NR	N: NR 3.01 (2.08-3.94)	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Mitchell,2005 <sup>8</sup>	Arm B-Intervention	hospitalizations	# of admissions per person week x 10 <sup>5</sup>	NR	No	No	N: NR 3.50 (2.34-4.66)	NR	N: NR 2.09 (1.35-2.81)	No
Lesho,2005 <sup>9</sup>	Decision Support	hospitalizations	NR	NR	NR	NR	N: NR n with events: 56	N: NR n with events: 23	NR	No
Patel,2004 <sup>10</sup>	Organizational Change	hospitalizations	Hospitalizations/1000 population	NR	Yes	No	N: 451 n with outcomes: 81	N: 427 n with outcomes: 37	NR	No
Coleman,2003 <sup>12</sup>	Arm A-Comparison Group	hospitalizations	NR	NR	NR	NR	N: 510 n with outcomes: 510 Mean:0.1 SD:0.44	NR	N: 510 n with outcomes: 510 Mean:0.08 SD:0.4	No
Coleman,2003 <sup>12</sup>	Arm B-Intervention	hospitalizations	NR	NR	NR	NR	N: 135 n with outcomes: 135 Mean:0.07 SD:0.35	NR	N: 135 n with outcomes: 135 Mean: 0.04 SD: 0.19	No
Suh,2001 <sup>13</sup>	Arm A-intermittent	hospitalizations	number of hospitalizations per patient	NR	No	Yes. Same 9 months of the year Jan-Sept for all study outcomes	N: 566 n with outcomes: 566 Mean: 0	N: 566 n with outcomes: 566 Mean:0.02 SD:0.14	NR	No.
Suh,2001 <sup>13</sup>	Arm B-persistent	hospitalizations	number of hospitalizations per patient	NR	No	Yes. Same 9 months of the year Jan-Sept for all study outcomes	N: 1050 Mean:0.08 SD:0.32	N: 1050 Mean:0.05 SD:0.24	NR	No.
Herborg,2001 <sup>14</sup>	Arm A-control	hospitalizations	mean hospital admissions per patient	NR	Yes	NR	N: 236 Mean:NR	N: 204 Mean:0.058	NR	No.
Herborg,20	Arm B-	hospitalization	mean	NR	Yes	NR	N: 264	N: 209	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
01 <sup>14</sup>	TOM	ns	hospital admissions per patient					Mean:0.019		
Cowie,2001 <sup>15</sup>	Arm A-basic	hospitalizations	admitted for asthma in 12 months	Yes/no	NR	NR	NR	N: NR n with outcomes: 174 n with events: NR,(7.5)	NR	No.
Cowie,2001 <sup>15</sup>	Arm A-basic	hospitalizations	admitted for asthma in 12 months	Yes/no	Yes	12 months	N: NR	N: NR n with outcomes: 174 n with events: NR,(7.5)	NR	No.
Cowie,2001 <sup>15</sup>	Arm B-intermediate	hospitalizations	admitted for asthma in 12 months	Yes/no	NR	NR	NR	N: NR n with outcomes: 55 n with events: NR,(14.5)	NR	No.
Cowie,2001 <sup>15</sup>	Arm C-intensive	hospitalizations	admitted for asthma in 12 months	Yes/no	NR	NR	NR	N: NR n with outcomes: 98 n with events: NR,(18)	NR	No.
Richman,2000 <sup>16</sup>	Feedback	hospitalizations	percent reporting no admission for asthma in last 6 months	0-100	NR	NR	N: 228 n with outcomes: 114 n with events: NR,(96)	N: 317 n with outcomes: 158 n with events: NR,(NR) Mean: 94	NR	No.
Shiffman,2000 <sup>17</sup>	Arm A-Pre	hospitalizations	proportion of children hospitalized	NR	No	See prior notes	N: 91 n with outcomes: 84 n with events: 4,(NR)	NR	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Shiffman,2000 <sup>17</sup>	Arm B-Post	hospitalizations	proportion of children hospitalized	NR	No	See prior notes	N: 74 n with outcomes: 69 n with events: 0,(0)	NR	NR	No.
Cloutier,2009 <sup>18i</sup>	Decision support	hospitalizations	NR	NR	Yes	NR	7.9 per 100 children	NR	3.4 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>18i</sup>	Decision support	hospitalizations	NR	NR	NR	NR	0.9 per 100 children	NR	1.2 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Halterman, 2005 <sup>19</sup>	Arm A-Control	hospitalizations	NR	NR	NR	NR	N: 77	NR	N: 77 n with outcomes: 3 n with events: NR,(4.2)	No.
Halterman, 2005 <sup>19</sup>	Arm B-Intervention	hospitalizations	NR	NR	NR	NR	N: 73	NR	N: 73 n with outcomes: 1 n with events: NR,(1.5)	No.
Thyne,	Arm A-	hospitalization	NR	NR	No	No	NR	NR	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
2007 <sup>29</sup>		ns								
Thyne, 2007 <sup>29</sup>	Arm B-	hospitalizations	NR	NR	No	No	N: NR n with events: NR,(18)	N: NR n with events: NR,(16)	N: NR n with events: NR,(14)	No.
Clark, 1998 <sup>20</sup>	Arm A-	hospitalizations	NR	NR	NR	NR	NR	Mean:0.076	NR	Yes. Baseline scores and group assignment.
Clark, 1998 <sup>20</sup>	Arm B-	hospitalizations	NR	NR	NR	NR	NR	Mean:0.081	NR	Yes. Baseline scores and group assignment.
Brown, 2004 <sup>21</sup>	Arm A- <\$20,000 annual household income	hospitalizations	Yearly rate of hospitalizations	NR	Yes	No	NR	NR	N: 19, Mean:0.029	Yes. Medications, asthma severity, parental education
Brown, 2004 <sup>21</sup>	Arm A- Medicaid Insurance	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 47, Mean:0.052	Yes. Medications, asthma severity, parental education
Brown, 2004 <sup>21</sup>	Arm A- >=\$20,000 annual household	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 103, Mean:0.037	Yes. Medications, asthma severity,

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	old income									parental education
Brown,2004 <sup>21</sup>	Arm A-Non-Medicai d Insurance	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 75, Mean:0.034	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm A-<\$20,000 annual household income	hospitalizations	Yearly rate of hospitalizations		Yes	No	NR	NR	N: 19, Mean:0.029	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm A-Medicai d Insurance	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 47, Mean:0.052	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm A->=\$20,000 annual household income	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 103, Mean:0.037	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm A-Non-Medicai d Insurance	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 75, Mean:0.034	Yes. Medications, asthma severity, parental

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
										education
Brown,2004 <sup>21</sup>	Arm B- <\$20,000 annual household income	hospitalizations	Yearly rate of hospitalizations	NR	Yes	No	NR	NR	N: 17, Mean:0	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm B- Medicaid Insurance	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 65, Mean:0.012	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm B- >=\$20,000 annual household income	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 140, Mean:0.013	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm B- Non- Medicaid Insurance	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 92, Mean:0.013	Yes. Medications, asthma severity, parental education
Brown,2004 <sup>21</sup>	Arm B- Non- Medicaid Insurance	hospitalizations	Yearly rate of hospitalizations	NR	NR	NR	NR	NR	N: 92, Mean:0.013	Yes. Medications, asthma severity, parental education

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Ruoff,2002 <sup>23</sup>	Arm A- Before the flow sheet <sup>12</sup>	hospitalizations	Hospitalizations	NR	NR	NR	NR	NR	N: 122,(2.02)	No.
Ruoff,2002 <sup>23</sup>	Arm B- After implementation of the flowsheet	hospitalizations	Hospitalizations	NR	NR	NR	NR	NR	N: 122,(73.68)	No.
Bryce,1995 <sup>26</sup>	Arm A- Control group	hospitalizations	No of patients admitted	NR	NR	NR	N: 1563 , n with events: 13	NR	N: 1563 , n with events: 28	No.
Bryce,1995 <sup>26</sup>	Arm B- Intervention group	hospitalizations	No of patients admitted	NR	NR	NR	N: 1585 , n with events: 22	NR	N: 1585 , n with events: 25	No.
McCowan,2001 <sup>27</sup>	Arm A- Control	hospitalizations	Admissions	NR	No	No	NR	NR	N: 330 , n with events: 4,(1)	No.
McCowan,2001 <sup>27</sup>	Arm B- Intervention	hospitalizations	Admissions	NR	No	No	NR	NR	N: 147 n with events: 0,(0)	No.
Ragazzi,2010 <sup>30</sup>	Practice 1	Lung function tests	Spirometry	NR	NR	NR	N: 17,(6)	N: 24,(68)	NR	No
Ragazzi,2010 <sup>30</sup>	Practice 2	Lung function tests	Spirometry	NR	NR	NR	N: 26,(19)	N: 19,(27)	NR	No
Ragazzi,2010 <sup>30</sup>	Practice 3	Lung function tests	Spirometry	NR	NR	NR	N: 10,(0)	N: 21,(24)	NR	No
Hagmolen,2008 <sup>31</sup>	Arm A- extract	Lung function	FEV1% predicted	0-100	Yes	NR	N: 98 n with outcomes:	NR	N: 98 n with	Yes. 12 months

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
		tests					98 Mean:96.2, SD:10		outcomes: 98 , Mean:96.7, SD:NR SE 1.0	adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm B-extract and education	Lung function tests	FEV1% predicted	0-100	Yes	NR	N: 133 , n with outcomes: 133 , Mean:95.6,SD:11	NR	N: 133 , n with outcomes: 133 , Mean:95.6, SE 0.9	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm C-extract, education, and individual treatment	Lung function tests	FEV1% predicted	0-100	Yes	NR	N: 131 , n with outcomes: 131 , Mean:96 SD:12	NR	N: 131 , n with outcomes: 131 , Mean:96 SE 0.9	Yes. 12 months adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm A-extract	Lung function tests	PEF variability	NR	Yes	NR	N: 98 n with outcomes: 98 Mean:8.8 SD:5	NR	N: 98 n with outcomes: 98 , Mean:7.5 SE 0.5	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm B-extract and education	Lung function tests	PEF variability	NR	Yes	NR	N: 133 n with outcomes: 133 Mean:9.4 SD:5.4	NR	N: 133 n with outcomes: 133 , Mean:7.2 SE 0.4	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm C-extract, education, individual rx	Lung function tests	PEF variability	NR	Yes	NR	N: 131 , n with outcomes: 131 , Mean:8.5 SD:5.2	NR	N: 131 n with outcomes: 131 Mean:7.2 SE 0.4	Yes. Follow up mean adjusted for baseline
Lesho,2005	Decisio	Lung	NR	NR	NR	NR	N: 330,(65)	N: 334,(70)	NR	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
<sup>9</sup>	n Support	function tests								
Bell,2009 <sup>32</sup>	Arm A-UP control	Lung function tests	Spirometry performed	NR	NR	Yes. The education period was from October 13, 2006, to April 15, 2007, and the intervention 2 (follow up) period was from October 16, 2007, to April 15, 2008.	N: 647 n with outcomes: 101,(16)	N: 690 n with outcomes: 150,(22)	NR	No.
Bell,2009 <sup>32</sup>	Arm B-IP intervention	Lung function tests	Spirometry performed	NR	NR	Yes. The education period was from October 13, 2006, to April 15, 2007, and the intervention 2 (follow up) period was from October 16, 2007, to April 15, 2008.	N: 586 n with outcomes: 87,(15)	N: 604 n with outcomes: 147,(24)	NR	No.
Bell,2009 <sup>32</sup>	Arm C-SP Control	Lung function tests	Spirometry performed	NR	NR	Yes. The education period was from October 13, 2006, to April 15, 2007, and the intervention 2	N: 129 n with outcomes: 10,(8)	N: 185 n with outcomes: 2,(1)	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
						(follow up) period was from October 16, 2007, to April 15, 2008.				
Bell,2009 <sup>32</sup>	Arm D-Sp intervention	Lung function tests	Spirometry performed	NR	NR	Yes. The education period was from October 13, 2006, to April 15, 2007, and the intervention 2 (follow up) period was from October 16, 2007, to April 15, 2008.	N: 387 n with outcomes: 30,(8)	N: 464 n with outcomes: 67,(14)	NR	No.
O'Laughlen ,2008 <sup>33</sup>	MSAGR group	Lung function tests	FEV1	NR	No	No	N: 24, Mean:99.88 SD:15.23	NR	N: 24, Mean:100.9 SD:12.54	No.
Stergachis, 2002 <sup>34</sup>	Arm A-	Lung function tests	Mean number of days with peak flow >80% of personal best	NR	NR	NR	N: 177, Mean:0.74,SD:0.02	N: 177, Mean:0.79,SD:0.02	NR	No.
Stergachis, 2002 <sup>34</sup>	Arm B-	Lung function tests	Mean number of days with peak flow >80% of personal best	NR	NR	NR	N: 153 Mean:0.71 SD:0.03	N: 153 Mean:0.76 SD:0.02	NR	No.
Shah,2011 <sup>3</sup>	Arm A-	Missed days	NR	NR	NR	NR	N: 108	N: 106	NR	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
<sup>5</sup>	Control	of school					n with outcomes: 89,(82)	n with outcomes: 68,(64)		
Shah,2011 <sup>3</sup> <sub>5</sub>	Arm B-Intervention	Missed days of school	NR	NR	NR	NR	N: 110 n with outcomes: 73,(66)	N: 101 n with outcomes: 61,(60)	NR	No
Kattan,2006 <sup>7</sup>	Arm A-Control	Missed days of school	Mean # days per 2 weeks	NR	No	No	N: 466 Mean:1.1	NR	N: 463, Mean:0.72 SE: 0.04	No
Kattan,2006 <sup>7</sup>	Arm B-Intervention	Missed days of school	Mean # days per 2 weeks	NR	No	No	N: 471 Mean:0.9	NR	N: 466, Mean:0.67 SE: 0.04	No
Glasgow,2003 <sup>11</sup>	Arm A-Control	Missed days of school	Did not miss any school days with wheezing or asthma in past 12 months†	NR	NR	NR	N: 71 n with outcomes: 23,(32)	NR	N: 71 , n with outcomes: 32,(45)	No
Glasgow,2003 <sup>11</sup>	Arm B-Intervention	Missed days of school	Did not miss any school days with wheezing or asthma in past 12 months†	NR	NR	NR	N: 101 n with outcomes: 30,(30)	NR	N: 95 , n with outcomes: 49,(26)	No
Shiffman,2000 <sup>17</sup>	Arm A-Pre	Missed days of school	Missed days of school at one week follow up, yes no, then mean number	yes/no, and then integers for mean days	No	see prior comments	N: 91 , n with outcomes: 84 n with events: 37,(44) Mean:1.29 SD:NR	NR	NR	No.
Shiffman,2	Arm B-	Missed days	Missed	yes/no,	No	see prior	N: 74	NR	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
000 <sup>17</sup>	Post	of school	days of school at one week follow up, yes no, then mean number	and then integers for mean days		comments	n with outcomes: 69 n with events: 33,(48) Mean:1.04 SD:NR			
Ruoff, 2002 <sup>23</sup>	Arm A- Before the flow sheet	Missed days of school	Days of school/work missed	NR	NR	NR	NR	NR	N: 122,(1.01)	No.
Ruoff, 2002 <sup>23</sup>	Arm B- After implementation of the flowsheet	Missed days of school	Days of school/work missed	NR	NR	NR	NR	NR	N: 122,(73.68)	No.
Stargachs, 2002 <sup>34</sup>	Arm A-	Missed days of school	NR	NR	NR	NR	N: 177	N: 177 Mean:1.7 SD:0.4	NR	No.
Stargachs, 2002 <sup>34</sup>	Arm B-	Missed days of school	NR	NR	NR	NR	N: 153	N: 153 Mean:1.1 SD:0.2	NR	No.
Mangione-Smith, 2005 <sup>24</sup>	Arm A-control	Missed days of school	School days missed in last mo due to child's asthma	NR	NR	NR	NR	NR	N: 126, Mean:1.6	Adjusted for child age, gender and race/ethnicity, parent education, household annual income,

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
										insurance type, severity of asthma and number of comorbidities.
Mangione-Smith, 2005 <sup>24</sup>	Arm B-Intervention	Missed days of school	School days missed in last month due to child's asthma	NR	NR	NR	NR	NR	N: 385, Mean: 1.4	Adjusted for child age, gender and race/ethnicity, parent education, household annual income, insurance type, severity of asthma and number of comorbidities.
Shah, 2011 <sup>35</sup>	Arm A-Control	Missed days of work	NR	NR	NR	NR	N: 108 n with outcomes: 45, (42)	N: 104 n with outcomes: 37, (36)	NR	No
Shah, 2011 <sup>35</sup>	Arm B-Intervention	Missed days of work	NR	NR	NR	NR	N: 110 n with outcomes: 33, (30)	N: 101 n with outcomes: 26, (26)	NR	No
Richman, 2000 <sup>16</sup>	Feedback	Missed days of work	Percent reporting 0 parent work	0-100	No	No	N: 228 n with outcomes: 114	N: 317 n with outcomes: 158	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
			absence due to child's asthma in last 6 months				n with events: NR,(62),	n with events: NR,(62)		
Shiffman,2000 <sup>17</sup>	Arm A-Pre	Missed days of work	Missed days of work at one week follow up, yes no, and then mean number	yes/no, then integers for number of days	No	See prior comments	N: 91 n with outcomes: 84 n with events: 20,(24), Mean:0.56	NR	NR	No.
Shiffman,2000 <sup>17</sup>	Arm B-Post	Missed days of work	Missed days of work at one week follow up, yes no, and then mean number	yes/no, then integers for number of days	No	See prior comments	N: 74 n with outcomes: 69 n with events: 16,(23), Mean:0.46	NR	NR	No.
Yawn,2010 <sup>36</sup>	Education and Feedback	non urgent asthma care visits	NR	NR	NR	NR	N: 840,(4)	N: 850,(21)	NR	No.
Richman,2000 <sup>16</sup>	Feedback	Parental perceptions	% reporting physician asthma care as excellent	0-100	No	No	N: 228 n with outcomes: 114 n with events: NR,(50),	N: 317 n with outcomes: 158 n with events: NR,(50)	NR	No.
Baker,2003 <sup>37</sup>	Arm A-guidelines	Patient perceptions	patients are satisfied that everything	NR	NR	NR	N: 420 n with outcomes: 357,(85)	NR	N: 478 n with outcomes: 410,(85.8)	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
			possible was done to treat asthma							
Baker,2003 <sup>37</sup>	Arm B-review criteria	Patient perceptions	patients are satisfied that everything possible was done to treat asthma	NR	NR	NR	N: 446 n with outcomes: 364,(81.6)	NR	N: 466 n with outcomes: 379,(81.3)	No
Baker,2003 <sup>37</sup>	Arm C-criteria plus feedback	Patient perceptions	patients are satisfied that everything possible was done to treat asthma	NR	NR	NR	N: 395 n with outcomes: 338,(85.6)	NR	N: 463 n with outcomes: 390,(84.2)	No
Baker,2003 <sup>37</sup>	Arm A-guidelines	Patient perceptions	patients are satisfied with explanations given by the doctor about asthma	NR	NR	NR	N: 417 n with outcomes: 327,(78.4)	NR	N: 471 n with outcomes: 377,(80)	No
Baker,2003 <sup>37</sup>	Arm B-review criteria	Patient perceptions	patients are satisfied with explanations given by the doctor about asthma	NR	NR	NR	N: 444 n with outcomes: 337,(75.9)	NR	N: 462 n with outcomes: 354,(76.6)	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Baker,2003 <sup>37</sup>	Arm C-criteria plus feedback	Patient perceptions	patients are satisfied with explanations given by the doctor about asthma	NR	NR	NR	N: 394 n with outcomes: 321,(81.5)	NR	N: 457 n with outcomes: 366,(80.1)	No
Herborg,2001 <sup>14 ii</sup>	Arm A-control	Quality of Life	Nottingham Health Profile-overall quality of life	0-100	Yes	NR	N: 236 n with outcomes: 204 Mean:11.39 SEM 1.08	N: 204 n with outcomes: 204 Mean:10.32 SEM 1.13	NR	No.
Herborg,2001 <sup>14 ii</sup>	Arm B-TOM	Quality of Life	Nottingham Health Profile-overall quality of life	0-100	Yes	NR	N: 264 n with outcomes: 209 Mean:8.76 SEM 0.84	N: 209 n with outcomes: 209 Mean:4.97 SEM 0.65	NR	No.
Herborg,2001 <sup>14 ii</sup>	Arm A-control	Quality of Life	Living with Asthma Questionnaire-QOL specific for living with asthma	1-3	Yes	NR	N: 236 n with outcomes: 204 Mean:1.68 SEM 0.027	N: 204 n with outcomes: 204 Mean:1.6 SEM 0.031	NR	No.
Herborg,2001 <sup>14 ii</sup>	Arm B-TOM	Quality of Life	Living with Asthma Questionnaire-QOL specific for living with asthma	1-3	Yes	NR	N: 264 n with outcomes: 209 Mean:1.58 SEM 0.026	N: 209 n with outcomes: 209 Mean:1.41 SEM 0.026	NR	No.
O'Laughlen,2008 <sup>33</sup>	MSAGR group	Quality of Life	Physical health of	NR	NR	NR	N: 24 Mean:70.97	NR	N: 24, Mean:82.01	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
			child				SD:14.48		SD:16.59	
O'Laughlen ,2008 <sup>33</sup>	group 24	Quality of Life	Activity of child	NR	NR	NR	N: 24 Mean:82.5 SD:16.75	NR	N: 24, Mean:91.04 SD:14.74	No.
O'Laughlen ,2008 <sup>33</sup>	MASGR group	Quality of Life	Activity of family	NR	NR	NR	N: 24 Mean:90.45 SD:11.27	NR	N: 24, Mean:98.26 SD:2.72	No.
O'Laughlen ,2008 <sup>33</sup>	MSAGR group	Quality of Life	Emotional health of child	NR	NR	NR	N: 24, Mean:77.71 SD:24.67	NR	N: 24, Mean:85.42 SD:20.95	No.
O'Laughlen ,2008 <sup>33</sup>	- MSAGR group	Quality of Life	Emotional health of family	NR	NR	NR	N: 24, Mean:70.1, SD:19.08	NR	N: 24, Mean:74.45 SD:15.63	No.
Mangione-Smith,2005 <sup>24</sup>	Arm A- Control	Quality of Life	Asthma Specific health related QOL-treatment problems	0-100	NR	NR	NR	NR	N: 126 Mean:85.3	Yes. Adjusted for child age, gender and race/ethnicity, parent education, household annual income, insurance type, severity of asthma and number of comorbidities.
Mangione-Smith,2005	Arm B- Interven	Quality of Life	Asthma Specific	0-100	NR	NR	NR	NR	N: 385 Mean:88.6	Yes. Adjusted

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
<sup>24</sup>	tion		health related QOL-treatment problems							for child age, gender and race/ethnicity, parent education, household annual income, insurance type, severity of asthma and number of comorbidities.
Mangione-Smith, 2005 <sup>24</sup>	Arm A-control	Quality of Life	General health-related quality of life (PedsQL 4.0 SF-15 scored on 0-100 scale)	0-100	NR	NR	NR	NR	N: 126 Mean:77	Yes. Adjusted for child age, gender and race/ethnicity, parent education, household annual income, insurance type, severity of asthma and

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
										number of comorbidities.
Mangione-Smith, 2005 <sup>24</sup>	Arm B-intervention	Quality of Life	General health-related quality of life (PedsQL 4.0 SF-15 scored on 0–100 scale)	0-100	NR	NR	NR	NR	N: 385 Mean:80.2	Yes. Adjusted for child age, gender and race/ethnicity, parent education, household annual income, insurance type, severity of asthma and number of comorbidities.
Weinberger, 2002 <sup>25</sup>	Arm A-Control or usual care	Quality of Life	Overall HPQOL	1(worst) to 7 (best)	NR	NR	N: 165 Mean:4.4 SD:1.2	N: 142 Mean:4.9 SD:1.2	N: 2135 Mean:4.9 SD:1.3	No.
Weinberger, 2002 <sup>25</sup>	Arm B-Peak Flow Meter Monitoring	Quality of Life	Overall HPQOL	1(worst) to 7 (best)	NR	NR	N: 233 Mean:4.3 SD:1.1	N: 204 Mean:4.8 SD:1.2	N: 191 Mean:5 SD:1.2	No.
Weinberger, 2002 <sup>25</sup>	Arm C-Pharma	Quality of Life	Overall HPQOL	1(worst) to 7 (best)	NR	NR	N: 262 Mean:4.5	N: 225 Mean:5,	N: 207 Mean:5	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	ceutical Care Program						SD:1.2	SD:1.3	SD:1.2	
Saini,2004 <sup>38</sup>	Arm A-Control 1	Quality of Life	Quality of life (0-80)	(0-80)	No	No	N: 22 Mean:44.7 SD:15.6	NR	N: 22, Mean:44.7 SD:15.6	No.
Saini,2004 <sup>38</sup>	Arm B-Control 2	Quality of Life	Quality of life (0-80)	(0-80)	No	No	N: 28 Mean:32.3 SD:9.4	NR	N: 28 Mean:32.3 SD:9.4	No.
Saini,2004 <sup>38</sup>	Arm C-Intervention	Quality of Life	Quality of life (0-80)	(0-80)	No	No	N: 52 Mean:40.6 SD:14.3	NR	N: 39 Mean:19 SD:13.5	No.
Lesho,2005 <sup>9</sup>	Decision Support	Rescue use of short-acting B2 agonists	NR	NR	NR	NR	N: NR n with events: 432	N: NR n with events: 203	NR	No
Mahi-Taright,2004 <sup>39</sup>	Education	Rescue use of short-acting B2 agonists	NR	NR	NR	NR	N: 137 n with outcomes: 6,(4)	N: 132 n with outcomes: 56,(43)	NR	No
Cloutier,2002 <sup>40</sup>	Arm A-mild, intermittent	Rescue use of short-acting B2 agonists	No. of bronchodilator prescriptions per child per year	NR	Yes	NR	N: NR Mean:1.28	NR	N: NR Mean:1.64 SD:NR	No
Cloutier,2002 <sup>40</sup>	Arm B-mild, persistent	Rescue use of short-acting B2 agonists	No. of bronchodilator prescriptions per child per year	NR	Yes	NR	N: NR Mean:2.329	NR	N: NR Mean:2.56 SD:NR	No
Cloutier,2002 <sup>40</sup>	Arm C-moderate,	Rescue use of short-acting B2	No. of bronchodilator	NR	Yes	NR	N: NR Mean:4.06	NR	N: NR Mean:4.52	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	persistent	agonists	prescriptions per child per year							
Cloutier,2002 <sup>40</sup>	Arm D-severe, persistent	Rescue use of short-acting B2 agonists	No. of bronchodilator prescriptions per child per year	NR	Yes	NR	N: NR Mean:11.33	NR	N: NR Mean:10.15	No
Suh,2001 <sup>13</sup>	Arm A-intermittent	Rescue use of short-acting B2 agonists	number of prescriptions for inhaled beta agonists	NR	No	Yes. Same time period	N: 566 n with outcomes: 566 total 257	NR	NR	No.
Suh,2001 <sup>13</sup>	Arm B-persistent	Rescue use of short-acting B2 agonists	number of prescriptions for inhaled beta agonists	NR	No	Yes. Same time period	N: 1050 n with outcomes: 1050 n with events: 4543,(47.3) total 4543	N: 1050 n with events: 4206,(49.2), total 4206	NR	No.
Cowie,2001 <sup>15</sup>	Arm A-basic	Rescue use of short-acting B2 agonists	Use of beta2-agonist more than once/day	Yes/no	Yes	NR	NR	N: NR n with outcomes: 174 n with events: NR,(34)	NR	No.
Suh,2001 <sup>13</sup>	Arm A-intermittent	Rescue use of short-acting B2 agonists	prescriptions for oral beta agonists	NR	No	Yes. Same time period	N: 566 n with outcomes: 566 total 149	N: 566 total 88	NR	No.
Suh,2001 <sup>13</sup>	Arm B-persistent	Rescue use of short-acting B2 agonists	prescriptions for oral beta agonists	NR	No	Yes. Same time period	N: 1050 n with events: 522,(5.4) total 522	N: 1050 n with events: 289,(3.4), total 289	NR	No.
Cowie,2001	Arm B-	Rescue use	Use of	Yes/no	Yes	NR	NR	N: NR	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
<sup>15</sup>	intermediate	of short-acting B2 agonists	beta2-agonist more than once/day					n with outcomes: 55 n with events: NR,(49),		
Cowie,2001 <sup>15</sup>	Arm C-intensive	Rescue use of short-acting B2 agonists	Use of beta2-agonist more than once/day	Yes/no	Yes	NR	NR	N: NR n with outcomes: 98 n with events: NR,(29)	NR	No.
Hoskins,1997 <sup>41</sup>	Arm A-Nebulized bronchodilators	Rescue use of short-acting B2 agonists	NR	NR	Yes	No	N: 782 n with outcomes: 782 n with events: 272,(35)	N: 669 n with outcomes: 669 n with events: 268,(40)	NR	No.
Gorton,1995 <sup>42</sup>	Arm A-appropriateness of self reported use of oral agonist prescriptions for mild asthma	Rescue use of short-acting B2 agonists	NR	NR	NR	No Intervention for 4 months	NR	NR	n with outcomes: 17, Mean:0,SD:0.71	No.
Gorton,1995 <sup>42</sup>	Arm B-Appropriateness of self reported use of oral agonist	Rescue use of short-acting B2 agonists	NR	NR	NR	No intervention for 4 months	NR	NR	n with outcomes: 11, Mean:0.05,SD:0.28	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	prescriptions									
Gorton,1995 <sup>42</sup>	Arm C- Appropriateness of self reported use of oral agonist prescriptions	Rescue use of short-acting B2 agonists	NR	NR	NR	No Intervention for 4 months	NR	NR	n with outcomes: 17, Mean:0.05,SD:1.33	No.
Gorton,1995 <sup>42</sup>	Arm D- Appropriateness of self reported use of oral agonist prescriptions	Rescue use of short-acting B2 agonists	NR	NR	NR	No Intervention for 4 months	NR	NR	n with outcomes: 18, Mean:0.07 0.97	No.
Baker,2002 <sup>37</sup>	Arm B- Guidelines	Rescue use of short-acting B2 agonists	In patients using beta-2 agonists, compliance has been checked	NR	NR	NR	N: 347 n with outcomes: 285 n with events: 285,(82.1)	N: 396 n with outcomes: 324 n with events: 324,(81.8)	NR	No.
Baker,2002 <sup>37</sup>	Arm C- Review Criteria	Rescue use of short-acting B2 agonists	In patients using beta-2 agonists, compliance has been checked	NR	NR	NR	N: 386 n with outcomes: 335 n with events: 335,(86.8)	N: 403 n with outcomes: 328 n with events: 328,(81.4),	NR	No.
Baker,2002 <sup>37</sup>	Arm D- Criteria	Rescue use of short-	In patients using beta-	NR	NR	NR	N: 349 n with outcomes:	N: 405 n with outcomes:	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	plus feedback	acting B2 agonists	2 agonists, compliance has been checked				300 n with events: 300,(86),	345 n with events: 345,(85.2),		
Hagmolen, 2008 <sup>31</sup>	Arm A-extract	Symptom Days	symptom free days	0-14	Yes	NR	N: 98 n with outcomes: 98 median(range) 8.4 (0-14)	NR	N: 98 n with outcomes: 98 , Mean:8.6 SE 0.5	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm B-extract and education	Symptom Days	symptom free days	0-14	Yes	NR	N: 133 n with outcomes: 133 median(range) 6.0 (0-14)	NR	N: 133 n with outcomes: 133 Mean:8.5 SE 0.5	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm C-extract, education and indiv rx	Symptom Days	symptom free days	0-14	Yes	NR	N: 131 n with outcomes: 131 median(range) 8.0 (0-14)	NR	N: 131 n with outcomes: 131 Mean:9.1,SD:N R SE 0.5	Yes. Follow up mean adjusted for baseline
Schneider, 2008 <sup>6</sup>	Arm A-Traditional quality circle	Symptom Days	Asthma step 1	1-4	Yes	NR	N: NR n with outcomes: 62 n with events: 15,(24.2)	NR	N: NR n with outcomes: 63 n with events: 15,(23.8),	No
Schneider, 2008 <sup>6</sup>	Arm B-benchmark quality circle	Symptom Days	Asthma step 1	1-4	Yes	NR	N: NR n with outcomes: 112 n with events: 31,(27.7)	NR	N: NR n with outcomes: 59 n with events: 13,(22),	No
Schneider, 2008 <sup>6</sup>	Arm A-tradition	Symptom Days	Asthma Step	Step 2	Yes	NR	N: NR n with outcomes:	NR	N: NR n with	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
	al						62 n with events: 16,(25.8),		outcomes: 63 n with events: 20,(31.7),	
Schneider, 2008 <sup>6</sup>	Arm B-benchmark	Symptom Days	Asthma Step	Step 2	Yes	NR	N: NR n with outcomes: 112 n with events: 24,(21.4),	NR	N: NR n with outcomes: 59 n with events: 23,(39),	No
Schneider, 2008 <sup>6</sup>	Arm A-traditional	Symptom Days	Asthma Step	step 3	Yes	NR	N: NR n with outcomes: 62 n with events: 27,(43.5),	NR	N: NR n with outcomes: 63 n with events: 21,(33.3),	No
Schneider, 2008 <sup>6</sup>	Arm B-benchmark	Symptom Days	Asthma Step	step 3	Yes	NR	N: NR n with outcomes: 112 n with events: 46,(41.1),	NR	N: NR n with outcomes: 59 n with events: 19,(32.2),	No
Schneider, 2008 <sup>6</sup>	Arm A-traditional	Symptom Days	Asthma step	Step 4	Yes	NR	N: NR n with outcomes: 62 n with events: 4,(6.5),	NR	N: NR n with outcomes: 63 n with events: 7,(11.1),	No
Schneider, 2008 <sup>6</sup>	Arm B-benchmark	Symptom Days	Asthma step	Step 4	Yes	NR	N: NR n with outcomes: 112 n with events: 11,(9.8),	NR	N: NR n with outcomes: 59 n with events: 4,(6.8),	No
Kattan,2006 <sup>7</sup>	Arm A-Control	Symptom Days	mean # per 2 weeks	NR	No	No	N: 466 Mean:2.1	NR	N: 463, Mean:1.6	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
									SE: 0.08	
Kattan,2006 <sup>7</sup>	Arm B-Intervention	Symptom Days	mean # per 2 weeks	NR	No	No	N: 471, Mean:2	NR	N: 466, Mean:1.42 SE: 0.07	No
Herborg,2001 <sup>14</sup>	Arm A-control	Symptom Days	days patients "felt too ill from asthma to work or carry out planned activities"	NR	Yes	NR	N: 236	NR	N: 204 Mean:6.57,	No.
Herborg,2001 <sup>14</sup>	Arm B-TOM	Symptom Days	days patients "felt too ill from asthma to work or carry out planned activities"	NR	Yes	NR	N: 264	NR	N: 209 Mean:3.81	No.
Cowie,2001 <sup>15</sup>	Arm A-Basic	Symptom Days	Waking at night	Yes/No	Yes	NR	NR	N: NR n with events: NR,(52)	NR	No.
Cowie,2001 <sup>15</sup>	Arm B-intermediate	Symptom Days	Waking at night	Yes/No	Yes	NR	NR	N: NR n with outcomes: 55 n with events: 99,(49)	NR	No.
Cowie,2001 <sup>15</sup>	Arm C-intensive	Symptom Days	Waking at night	Yes/No	Yes	NR	NR	N: NR n with outcomes: 98 n with events:	NR	No.

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
								NR,(42)		
McCowan,2001 <sup>27</sup>	Arm A-	Symptom Days	no time period noted	NR	No	No time period for symptom days.	NR	NR	N: 330 , n with events: 44,(13)	No.
McCowan,2001 <sup>27</sup>	Arm B-Intervention	Symptom Days	no time period noted	NR	No	No time period for symptom days.	NR	NR	N: 147 , n with events: 8,(5)	No.
McCowan,2001 <sup>27</sup>	Arm C-	Symptom Days	no time period noted	NR	No	No time period for symptom days.	NR	NR	NR	No.
Hagmolen, 2008 <sup>31</sup>	Arm A-extract	Symptom Score	Total symptom score (see mean differences for details)	0-18	Yes	NR	N: 98 n with outcomes: 98 median (range) 0.8 (0-9)	NR	N: 98 , n with outcomes: 98 , Mean:0.9,SD:NR 0.2	Yes. Follow up mean is "adjusted for baseline"
Hagmolen, 2008 <sup>31</sup>	Arm B-guideline plus education	Symptom Score	Total symptom score (see mean differences for details)	0-18	Yes	NR	N: 133 n with outcomes: 133 median (range) 1.0 (0-8)	NR	N: 133 n with outcomes: 133 , Mean:1.2 SE 0.2	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm C-guideline, education, individual treatment	Symptom Score	Total symptom score (see mean differences for details)	0-18	Yes	NR	N: 131 n with outcomes: 131 median (range) 0.8 (0-10)	NR	N: 131 , n with outcomes: 131 , Mean:1 SE 0.2	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm A-extract	Symptom Score	Nocturnal symptom score	0-9	Yes	NR	N: 98 n with outcomes: 98 median (range)	NR	N: 98 n with outcomes: 98 , Mean:0.3	Yes. Follow up mean adjusted

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
							0.2 (0-5)		SE 0.1	for baseline
Hagmolen, 2008 <sup>31</sup>	Arm B-extract and education	Symptom Score	Nocturnal symptom score	0-9	Yes	NR	N: 133 n with outcomes: 133 median (range) 0.3 (0-3)	NR	N: 133 n with outcomes: 133 , Mean:0.5,SD:NR SE 0.1	Yes. Follow up mean adjusted for baseline
Hagmolen, 2008 <sup>31</sup>	Arm C-extract, education, individual treatment	Symptom Score	Nocturnal symptom score	0-9	Yes	NR	N: 131 n with outcomes: 131 median(range) 0.2 (0-5)	NR	N: 131 n with outcomes: 131 , Mean:0.4, SE 0.1	-1follow up mean adjusted for "baseline"
Baker,2003 <sup>37</sup>	Arm A-guidelines	Symptom Score	mean symptom score	NR	NR	NR	N: 406, Mean:36.2 SD:23.9	NR	N: 453, Mean:34.1 SD:22.7	No
Baker,2003 <sup>37</sup>	Arm B-review criteria	Symptom Score	mean symptom score	NR	NR	NR	N: 424 Mean:34 SD:22	NR	N: 440, Mean:33.1 SD:21.8	No
Baker,2003 <sup>37</sup>	Arm C-criteria plus feedback	Symptom Score	mean symptom score	NR	NR	NR	N: 378, Mean:30.4 SD:20.5	NR	N: 443, Mean:33.8 SD:22.3	No
Herborg,2001 <sup>14</sup>	Arm A-control	Symptom Score	3 item asthma morbidity index	mild (1), moderate(2),	Yes	NR	N: 236 n with outcomes: 201 Mean:2.1 SEM 0.056	NR	N: 204 n with outcomes: 201 Mean:1.88 SEM 0.060	Yes. Differences among pharmacies and physicians -but unclear how

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
										adjusted.
Herborg,2001 <sup>14</sup>	Arm B-TOM intervention	Symptom Score	3 item asthma morbidity index	mild (1), moderate(2),	Yes	NR	N: 264 n with outcomes: 208 Mean:1.99 SEM 0.057	NR	N: 209 n with outcomes: 208, Mean:1.52 0.047	Yes. Differences among pharmacies and physicians -but unclear how adjusted.
Shah,2011 <sup>3</sup> <sub>5</sub>	Arm A-Control	urgent doctor visits	NR	NR	NR	NR	N: 108 n with outcomes: 34,(31)	N: 106 n with outcomes: 13,(12)	NR	No
Shah,2011 <sup>3</sup> <sub>5</sub>	Arm B-Intervention	urgent doctor visits	NR	NR	NR	NR	N: 110 n with outcomes: 30,(27)	N: 101 n with outcomes: 18,(18)	NR	No
Sulaiman,2010 <sup>3</sup>	Arm A-ENT education	urgent doctor visits	NR	NR	NR	NR	N: 92 n with outcomes: 33,(35.9)	N: 93 n with outcomes: 34,(35.8)	NR	No
Sulaiman,2010 <sup>3</sup>	Arm B-Asthma education and guidelines	urgent doctor visits	NR	NR	NR	NR	N: 121 n with outcomes: 25,(20.7)	N: 123 n with outcomes: 31,(25.2)	NR	No
Sulaiman,2010 <sup>3</sup>	Arm C-Asthma guidelines	urgent doctor visits	NR	NR	NR	NR	N: 104 n with outcomes: 18,(17.3)	N: 107 n with outcomes: 28,(26.2)	NR	No
Schneider, 2008 <sup>6</sup>	Arm A-Traditional quality circle	urgent doctor visits	"number of unscheduled visits"	integer values	Yes	NR	N: NR n with outcomes: 62 # visits:14	NR	N: 62 n with outcomes: 62 # visits:20	No

Author, Year	Arm	Clinical Outcome	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline N n (%) mean SD	Measurement at end of treatment N n (%) mean SD	Measurement at last follow-up N n (%) mean SD	Were outcomes adjusted?
Schneider, 2008 <sup>6</sup>	Arm B- Benchmark quality circle	urgent doctor visits	"number of unscheduled visits"	integer values	Yes	NR	N: NR n with outcomes: 113 # visits:51	NR	N: 113 , n with outcomes: 113 , # visits: 20	No
Herborg,2001 <sup>14</sup>	Arm A-control	urgent doctor visits	physician on call visits, mean number per patient	NR	Yes	NR	N: 236	N: 204 Mean:0.158	NR	No.
Herborg,2001 <sup>14</sup>	Arm B-TOM	urgent doctor visits	physician on call visits, mean number per patient	NR	Yes	NR	N: 264	N: 209 Mean:0.067	NR	No.
Richman,2000 <sup>16</sup>	Feedback	Urgent doctor visits	percent reporting no urgent doctor visits for asthma last 6 months	0-100	NR	NR	N: 228 n with outcomes: 114 n with events: NR,(46),	N: 317 n with outcomes: 158 n with events: NR,(23)	NR	No.

SBHC = South Bronx Health Center; NR = Not Reported; ENT = ear nose throat; NYCHP = New York Children's Health Project; HCSD = Health Care Services Division; ER = Emergency Room; TOM = Therapeutic Outcomes Monitoring; HPQOL = Health Profile Quality of Life; QOL = Quality of Life

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**Evidence Table 6. Healthcare Process Outcomes Baseline and End of Treatment**

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Bender, 2011 <sup>1</sup>	Asthma action plans	Arm B-	NR	NR	NR	NR	N: NR,(0) IQR=10	N: NR,(20), IQR= 47.5	NR	No.
Clark,2002 <sup>2</sup>	Asthma action plans	Arm A-	NR	NR	NR	NR	NR	(16)	NR	No.
Clark,2002 <sup>2</sup>	Asthma action plans	Arm B-	NR	NR	NR	NR	NR	(26)	NR	No.
Daniels,2005 <sup>3</sup>	Asthma action plans	Arm A-Control	% of chart reviews	0-100%	NR	NR	N: 136079,(32.6)	NR	(23.3)	No.
Daniels,2005 <sup>3</sup>	Asthma action plans	Arm B-Intervention	% of chart reviews	0-100%	NR	NR	N: 90555,(18.7)	NR	N: NR,(25.7)	No.
Frankowski,2006 <sup>4</sup>	Asthma action plans	Arm B-	NR	NR	NR	NR	N: 150 , n with outcomes: 34,(22.7)	N: 150 , n with outcomes: 100,(66.7)	NR	No.
Glascow,2003 <sup>5</sup>	Asthma action plans	Arm A-Control	Have a written asthma action plan	NR	Yes	No	N: 73 , n with outcomes: 20,(28)	NR	N: 71 , n with outcomes: 24,(34)	No.
Glascow,2003 <sup>5</sup>	Asthma action plans	Arm B-Intervention	Have a written asthma action plan	NR	Yes	No	N: 101 , n with outcomes: 23,(23)	NR	N: 95 , n with outcomes: 42,(44)	No.
Halterman ,2006 <sup>6</sup>	Asthma action plans	Arm A-Control	NR	NR	Unable to determine	NR	N: 124	NR	N: 114 , n with outcomes: 27 , n with events: NR,(23.7)	No.
Halterman ,2006 <sup>6</sup>	Asthma action plans	Arm B-Intervention	NR	NR	Unable to determine	NR	N: 122	NR	N: 112 , n with outcomes: 56 , n with events: NR,(50)	No.
Homer,2005 <sup>7</sup>	Asthma action plans	Arm A-	NR	NR	NR	NR	N: 337,(37)	N: 254,(41)	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Homer,2005 <sup>7</sup>	Asthma action plans	Arm B-	NR	NR	NR	NR	N: 294,(53)	N: 236,(54)	NR	No.
Horswell,2008 <sup>8</sup>	Asthma action plans	HCSD's DM program	Proportion of clinic visitors in past 3 months with current action plan	0-100%	NR	NR	,(60)	NR	N: 2199,(84)	No.
Liaw,2008 <sup>9</sup>	Asthma action plans	Arm A-Group 2 (control)	% who report that they "usually write an Asthma Action plan." (yes/no)	0-100%	NR	NR	N: 17 , n with outcomes: 10,(58.8)	NR	N: 15 , n with outcomes: 13,(86.7)	No.
Liaw,2008 <sup>9</sup>	Asthma action plans	Arm B-Group 3 (control)	% who report that they "usually write an Asthma Action plan." (yes/no)	0-100%	NR	NR	N: 15 , n with outcomes: 12,(80)	NR	N: 9 , n with outcomes: 6,(66.7)	No.
Liaw,2008 <sup>9</sup>	Asthma action plans	Arm C-	% who report that they "usually write an Asthma Action plan." (yes/no)	0-100%	NR	NR	N: 18 , n with outcomes: 11,(6.1)	NR	N: 17 , n with outcomes: 15,(88.2)	No.
Mangione-Smith,2005 <sup>10</sup>	Asthma action plans	Arm A-control	All patients should have a written action plan in the medical record that is based on changes in symptoms or peak flow measurements	NR	NR	NR	N: 126	NR	N: 126,(22)	No.
Mangione-	Asthma	Arm B-	All patients	NR	NR	NR	N: 385	NR	N: 385,(41)	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Smith,2005 <sup>10</sup>	action plans	intervention	should have a written action plan in the medical record that is based on changes in symptoms or peak flow measurements							
McCowan, 2001 <sup>11</sup>	Asthma action plans	Arm A- Control	Use a self management plan	Yes or No	No	6 month follow-up	NR	NR	N: 330 , n with events: 173,(52)	No.
McCowan, 2001 <sup>11</sup>	Asthma action plans	Arm B- Intervention	Use a self management plan	Yes or No	No	6 month follow-up	NR	NR	N: 147 , n with events: 74,(50)	No.
Newton,2010 <sup>12</sup>	Asthma action plans	Decision Support	NR	NR	Yes	No	N: NR,(48)	N: NR,(67)	NR	No.
Patel,2004 <sup>13</sup>	Asthma action plans	Organizational Change	NR	NR	Yes	No	N: 451,(11.1)	N: 427,(25.4)	NR	No.
Ragazzi,2010 <sup>14</sup>	Asthma action plans	Practice 1	NR	NR	NR	NR	N: 17,(18)	N: 24,(38)	NR	No.
Ragazzi,2010 <sup>14</sup>	Asthma action plans	Practice 2	NR	NR	NR	NR	N: 26,(0)	N: 19,(32)	NR	No.
Ragazzi,2010 <sup>14</sup>	Asthma action plans	Practice 3	NR	NR	NR	NR	N: 10,(0)	N: 21,(48)	NR	No.
Shah,2011 <sup>15</sup>	Asthma action plans	Arm A- Control	NR	NR	No	No	N: 56 , n with outcomes: 25,(45)	N: 47 , n with outcomes: 25,(53)	NR	No.
Shah,2011 <sup>15</sup>	Asthma action plans	Arm B- Intervention	NR	NR	No	No	N: 66 , n with outcomes: 30,(45)	N: 55 , n with outcomes: 42,(76)	NR	No.
Sulaiman,	Asthma	Arm A-	NR	NR	No	NR	N: 99 , n with	N: 100 , n with	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
2010 <sup>16</sup>	action plans	ENT education					outcomes: 31,(31.3)	outcomes: 35,(35)		
Sulaiman, 2010 <sup>16</sup>	Asthma action plans	Arm B- Asthma education and guidelines	NR	NR	No	NR	N: 120 , n with outcomes: 37,(30.8)	N: 123 , n with outcomes: 44,(35.8)	NR	No.
Sulaiman, 2010 <sup>16</sup>	Asthma action plans	Arm C-	NR	NR	No	NR	N: 103 , n with outcomes: 35,(34)	N: 105 , n with outcomes: 40,(38.1)	NR	No.
Schneider, 2008 <sup>17</sup>	Asthma action plans (emergency plans)	Arm A- Traditional quality circle	Emergency plan in place	Binary yes/no	Yes	NR	N: NR , n with outcomes: 62 , n with events: 4,(6.1),	NR	N: 62 , n with outcomes: 62 , n with events: 7,(10.6),	No.
Schneider, 2008 <sup>17</sup>	Asthma action plans (emergency plans)	Arm B- Benchmark quality circle	Emergency plan in place	Binary yes/no	Yes	NR	N: NR , n with outcomes: 113 , n with events: 8,(6.7),	NR	N: 113 , n with outcomes: 113 , n with events: 17,(14.3),	No.
Armour,2007 <sup>18</sup>	Documentation of asthma control/severity	Arm A- Control	Proportion of patients classified as severe	NR	No	NR	N: 205 n with events: (71.2)	N: 186 n with events: (67.9)	NR	Yes.
Armour,2007 <sup>18</sup>	Documentation of asthma control/severity	Arm B- Intervention	Proportion of patients classified as severe	NR	No (time: 9 months)	NR	N: 191 n with events: (87.9)	N: 165 n with events: (52.7)	NR	Yes.
Ables,2002 <sup>19</sup>	Documentation of level of asthma control/severity	Arm B-	NR	NR	NR	NR	N: 126,(8.5)	N: 175,(51)	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Ables,2002 <sup>19</sup>	Documentation of level of asthma control/severity	Education and Reminders	NR	NR	NR	NR	N: 126,(8.5)	N: 175,(51)	NR	No.
Davis,2010 <sup>20</sup>	Documentation of level of asthma control/severity	Decision Support	NR	NR	Yes	No	N: 180 , n with outcomes: 43,(24)	N: 180 , n with outcomes: 79,(44)	NR	No.
Fox,2007 <sup>21</sup>	Documentation of level of asthma control/severity	Quality Improvement	NR	NR	Yes	No	N: 280,(37.1)	N: 280,(69.3)		No.
Horswell,2008 <sup>8</sup>	Documentation of level of asthma control/severity	HCSD's DM program	% of clinic visitors in past 3 months with current severity assessment	0-100%	NR	NR	,(71)	NR	N: 2199,(89)	No.
Saini,2004 <sup>22</sup>	Documentation of level of asthma control/severity	Arm A- Control 1	Perceived control over asthma	11-55	No	No	N: 22, Mean:36.7, SD:9.5	NR	N: 22, Mean:36.7, SD:9.5	No.
Saini,2004 <sup>22</sup>	Documentation of level of asthma control/severity	Arm B-control 1	Perceived control over asthma	11-55	No	No	N: 28, Mean:39.2, SD:5.8	NR	N: 28, Mean:39.2, SD:5.8	No.
Saini,2004 <sup>22</sup>	Documentation of level of asthma control/severity	Arm C-	Perceived control over asthma	11-55	No	No	N: 52, Mean:39.4, SD:5.1	NR	N: 39, Mean:42.5, SD:5.2	No.
Shapiro,2	Documenta	SBHC	Documentation	NR	No	No	N: 200,(25.5)	N: 200,(77.5)	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
011 <sup>23</sup>	tion of level of asthma control/severity		during any visit							
Shapiro,2011 <sup>23</sup>	Documentation of level of asthma control/severity	NYCHP	Documentation during any visit	NR	No	No	N: 197,(11.7)	N: 249,(85.1)	NR	No.
Shiffman,2000 <sup>24</sup>	Documentation of level of asthma control/severity	Arm A-pre	assessment of PEFR	0-1.0	No	Each interval (pre and post) was under one year	N: 91 , n with outcomes: 81 Mean:0.86	NR	NR	No.
Shiffman,2000 <sup>24</sup>	Documentation of level of asthma control/severity	Arm B-post	assessment of PEFR	0-1.0	No	Each interval (pre and post) was under one year	N: 74 , n with outcomes: 73 Mean:0.94	NR	NR	No.
Shiffman,2000 <sup>24</sup>	Documentation of level of asthma control/severity	Arm A-pre	Oxygen saturation measured, yes no	0-1	No	No. Each interval, pre and post, was under one year.	N: 91 , n with outcomes: 81 Mean:0.29	NR	NR	No.
Shiffman,2000 <sup>24</sup>	Documentation of level of asthma control/severity	Arm B-post	Oxygen saturation measured, yes no	0-1	No	No. Each interval, pre and post, was under one year.	N: 74 , n with outcomes: 73 , Mean:0.56,	NR	NR	No.
Yawn,2010 <sup>25</sup>	Documentation of level of asthma control/severity	Education and Feedback	activity modification due to asthma	NR	NR	NR	N: 840,(29)	N: 851,(58)	NR	No.
Yawn,2010 <sup>25</sup>	Documentation of level of asthma	Education and Feedback	Symptom frequency	NR	NR	NR	N: 840,(30)	N: 851,(62)	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	control/severity	k								
Yawn,2010 <sup>25</sup>	Documentation of level of asthma control/severity	Education and Feedback	nighttime symptom frequency	NR	NR	NR	N: 840,(25)	N: 851,(63)	NR	No.
Baker,2003 <sup>26</sup>	Environmental control practice recommendations	Arm A-guidelines	patient's current smoking status has been established and recorded (past 12 months)	NR	NR	NR	N: 428 , n with outcomes: 120,(28)	NR	N: 490 , n with outcomes: 146,(29.8)	No.
Baker,2003 <sup>26</sup>	Environmental control practice recommendations	Arm B-review criteria	patient's current smoking status has been established and recorded (past 12 months)	NR	NR	NR	N: 451 , n with outcomes: 114,(25.3)	NR	N: 480 , n with outcomes: 158,(32.9)	No.
Baker,2003 <sup>26</sup>	Environmental control practice recommendations	Arm C-	patient's current smoking status has been established and recorded (past 12 months)	NR	NR	NR	N: 400 , n with outcomes: 110,(27.5)	NR	N: 473 , n with outcomes: 165,(35.2)	No.
Baker,2003 <sup>26</sup>	Environmental control practice recommendations	Arm A-guidelines	patients have been advised to avoid passive smoking	NR	NR	NR	N: 428 , n with outcomes: 97,(22.7)	NR	N: 490 , n with outcomes: 105,(21.4)	No.
Baker,2003	Environmental	Arm B-	patients have	NR	NR	NR	N: 451 , n with	NR	N: 480 , n with	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
3 <sup>26</sup>	ntal control practice recommendations	review criteria	been advised to avoid passive smoking				outcomes: 76,(16.8)		outcomes: 82,(17.1)	
Baker,2003 <sup>26</sup>	Environmental control practice recommendations	Arm C-	patients have been advised to avoid passive smoking	NR	NR	NR	N: 400 , n with outcomes: 73,(18.2)	NR	N: 473 , n with outcomes: 95,(20.1)	No.
Eccles,2002 <sup>27</sup>	Environmental control practice recommendations	Arm A-angina	n(%) with known smoking status	0-100	Yes	NR	N: NR , n with outcomes: 1163 n with events: 305,(26),	N: NR , n with outcomes: 1163 n with events: 367,(32),	NR	No.
Eccles,2002 <sup>27</sup>	Environmental control practice recommendations	Arm A-angina	n (%) of patients with documented smoking cessation advice or nicotine replacement therapy	0-100	Yes	NR	N: NR , n with outcomes: 1163 n with events: 68,(6),	N: NR , n with outcomes: 1163 n with events: 103,(9),	NR	No.
Eccles,2002 <sup>27</sup>	Environmental control practice recommendations	Arm B-asthma	n (%) of patients with documented smoking cessation advice or nicotine replacement therapy	0-100	Yes	NR	N: NR , n with outcomes: 1129 n with events: 57,(5),	N: NR , n with outcomes: 1129 n with events: 81,(7),	NR	No.
Eccles,2002 <sup>27</sup>	Environmental control practice recommendations	Arm A-angina	n(%) with known smoking status	0-100	Yes	NR	N: NR , n with outcomes: 1163 n with events: 305,(26),	N: NR , n with outcomes: 1163 n with events: 367,(32),	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Eccles,2002 <sup>27</sup>	Environmental control practice recommendations	Arm B-asthma	n(%) with known smoking status	%:0-100	Yes	NR	N: NR , n with outcomes: 1200 n with events: 285,(24),	N: NR , n with outcomes: 1200 n with events: 370,(32),	NR	No.
Fairall,2010 <sup>28</sup>	Environmental control practice recommendations	Arm A-	patients receiving counseling on smoking cessation, among those self-identified as current smokers	0-100%	No	No	N: 193	NR	n with outcomes: 127,(65.8)	No.
Fairall,2010 <sup>28</sup>	Environmental control practice recommendations	Arm B-outreach group	patients receiving counseling on smoking cessation, among those self-identified as current smokers	0-100%	No	No	N: 164	NR	n with outcomes: 112,(65.8)	No.
Richman,2000 <sup>29</sup>	Environmental control practice recommendations	Feedback	"environmental screening"	0-100	No	No	N: NR , n with outcomes: NR , n with events: NR,(21),	N: NR , n with outcomes: NR , n with events: NR,(70),	NR	No.
Ruoff,2002 <sup>30</sup>	Environmental control practice recommendations	Arm A-Before flowsheet	NR	NR	NR	NR	NR	NR	(27.37)	No.
Ruoff,2002 <sup>30</sup>	Environmental control practice recommend	Arm B-After implementation of	NR	NR	NR	NR	NR	NR	,(78.95)	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	ations	the flowsheet								
Smeele,1999 <sup>31</sup>	Environmental control practice recommendations	Arm A-Control	Advice on house dust mite eradication	NR	NR	NR	N: 17 , n with events: 17,(21)	N: 17 , n with events: 17,(25)	NR	No.
Smeele,1999 <sup>31</sup>	Environmental control practice recommendations	Arm B-intervention	Advice on house dust mite eradication	NR	NR	NR	N: 16 , n with outcomes: 16,(17),	N: 16 , n with outcomes: 16,(15)	NR	No.
Clark,2002 <sup>2</sup>	Follow-up visits	Arm A-	Scheduled	NR	NR	NR	NR	Mean:2.25	NR	Yes. Baseline scores and group assignment
Clark,2002 <sup>2</sup>	Follow-up visits	Arm A-	After an episode of symptoms	NR	NR	NR	NR	Mean:1.61	NR	No.
Clark,2002 <sup>2</sup>	Follow-up visits	Arm B-	Scheduled	NR	NR	NR	NR	Mean:1.24	NR	Yes. Baseline scores and group assignment
Clark,2002 <sup>2</sup>	Follow-up visits	Arm B-	After an episode of symptoms	NR	NR	NR	NR	Mean:0.94	NR	No.
Feder,1995 <sup>32</sup>	Follow-up visits	Arm A-	Consultation rates for asthma: per patient per year	NR	Yes	NR	, Mean:1.2	Mean:1.4	NR	No.
Feder,1995 <sup>32</sup>	Follow-up visits	Arm B-	Consultation rates for	NR	Yes	NR	, Mean:1	Mean:1.5	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
			asthma: per patient per year							
Finkelstein, 2005 <sup>33ii</sup>	Follow-up visits	Arm A-Control	Mean	NR	Yes	NR	N: 1531, Mean:2.0, SD:0.44	NR	NR	No.
Finkelstein, 2005 <sup>33i</sup>	Follow-up visits	Arm B- PLE Intervention	Mean	NR	Yes	NR	N: 2003, Mean:1.75, SD:0.45	NR	NR	No.
Finkelstein, 2005 <sup>33i</sup>	Follow-up visits	Arm C-	Mean	NR	Yes	NR	N: 1635, Mean:1.79, SD:0.21	NR	NR	No.
Kattan, 2006 <sup>34</sup>	Follow-up visits	Arm A-Control	# of visits per year	NR	NR	NR	N: 466, Mean:5.5	NR	N: 463, Mean:1.31 SE: 0.08	No.
Kattan, 2006 <sup>34</sup>	Follow-up visits	Arm B- Intervention	# of visits per year	NR	NR	NR	N: 471, Mean:5.6	NR	N: 466, Mean:1.14 SE: 0.08	No.
Ragazzi, 2010 <sup>14</sup>	Follow-up visits	Practice 1	NR	NR	NR	NR	N: 17,(76)	N: 24,(83)	NR	No.
Ragazzi, 2010 <sup>14</sup>	Follow-up visits	Practice 2	NR	NR	NR	NR	N: 26,(15)	N: 19,(53)	NR	No.
Ragazzi, 2010 <sup>14</sup>	Follow-up visits	Practice 3 -	NR	NR	NR	NR	N: 10,(20)	N: 21,(71)	NR	No.
Yawn, 2010 <sup>25</sup>	Follow-up visits	Education and Feedback	NR	NR	NR	NR	N: 840,(4)	N: 850,(21)	NR	No.
Bryce, 1995 <sup>35</sup>	Prescription of peak flow meter	Arm A-Control group	Peak flow meters	NR	NR	NR	N: 1563 , n with events: 12	NR	N: 1563 , n with events: 38	No.
Bryce, 1995 <sup>35</sup>	Prescription of peak flow meter	Arm B- Intervention group	Peak flow meters	NR	NR	NR	N: 1585 , n with events: 16	NR	N: 1585 , n with events: 101	No.
Coleman, 2003 <sup>36</sup>	Prescription of peak flow meter	Arm A- Comparison	Claim submitted	NR	NR	NR	N: 510 , n with outcomes: 510 , n with events:	NR	N: 510 , n with outcomes: 510 , n with events:	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
							4,(1)		11,(2)	
Coleman, 2003 <sup>36</sup>	Prescription of peak flow meter	Arm B-Intervention	Claim submitted	NR	NR	NR	N: 135 , n with outcomes: 135 , n with events: 0,(0)	NR	N: 135 , n with outcomes: 135 , n with events: 0,(0)	No.
Gorton,1995 <sup>37</sup>	Prescription of peak flow meter	Arm A-Comparison arm	NR	NR	NR	NR	NR	NR	, Mean:-0.05,SD:1.08	No.
Gorton,1995 <sup>37</sup>	Prescription of peak flow meter	Arm B-Site A	NR	NR	NR	NR	NR	NR	Mean:0.73 SD:1.22	No.
Gorton,1995 <sup>37</sup>	Prescription of peak flow meter	Arm C-	NR	NR	NR	NR	NR	NR	, Mean:0.88,SD:1.02	No.
Mangione-Smith,2005 <sup>10</sup>	Prescription of peak flow meter	Arm A-control	Peak expiratory flow rate (or spirometry) should be measured in all patients >=8 yrs of age at least annually	NR	NR	NR	N: 126	NR	N: 126,(43)	No.
Mangione-Smith,2005 <sup>10</sup>	Prescription of peak flow meter	Arm B-Intervention	Peak expiratory flow rate (or spirometry) should be measured in all patients >=8 yrs of age at least annually	NR	NR	NR	N: 385	NR	N: 385,(70)	No.
McCowan, 2001 <sup>11</sup>	Prescription of peak flow meter	Arm A-Control	Primary care consultations (No. of	NR	No	6 month follow-up	NR	NR	N: 330 , n with outcomes: 158 , n with events:	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
			patients):Issued peak flow meter						158,(48)	
McCowan, 2001 <sup>11</sup>	Prescription of peak flow meter	Arm B- Intervention	Primary care consultations (No. of patients):Issued peak flow meter	NR	No	6 month follow-up	NR	NR	N: 147 , n with outcomes: 77 , n with events: 77,(52)	No.
Richman,2000 <sup>29</sup>	Prescription of peak flow meter	Feedback	"peak flow meter"	0-100	No	No	N: NR, n with events: NR,(18),	N: NR, n with events: NR,(40)	NR	No.
Ruoff,2002 <sup>30</sup>	Prescription of peak flow meter	Arm A- Before the flow sheet	Yearly PFT	NR	NR	NR	NR	NR	N: 122,(8.08)	No.
Ruoff,2002 <sup>30</sup>	Prescription of peak flow meter	Arm B- After implementation of the flowsheet	Yearly PFT	NR	NR	NR	NR	NR	N: 122,(84.21)	No.
Schneider, 2008 <sup>17</sup>	Prescription of peak flow meter	Arm A- Traditional quality circle	peak flow use at home	Yes/No	Yes	Follow up questionnaire was sent one year later	N: NR , n with outcomes: 62 , n with events: 16,(24.2),	NR	N: 62 , n with outcomes: 62 , n with events: 20,(30.3),	No.
Schneider, 2008 <sup>17</sup>	Prescription of peak flow meter	Arm B- Benchmark quality circle	peak flow use at home	Yes/No	Yes	Follow up questionnaire was sent one year later	N: NR , n with outcomes: 113 , n with events: 27,(22.7),	NR	N: 113 , n with outcomes: 113 , n with events: 27,(22.7),	No.
Baker,2003 <sup>26</sup>	Prescriptions for controller medicine	Arm A-	In patients using beta-2 agonists, compliance has been checked	NR	NR	NR	NR	NR	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Baker,2003 <sup>26</sup>	Prescriptions for controller medicine	Arm B-Guidelines	In patients using beta-2 agonists, compliance has been checked	NR	NR	NR	N: 347 , n with outcomes: 285 , n with events: 285,(82.1)	N: 396 , n with outcomes: 324 , n with events: 324,(81.8)	NR	No.
Baker,2003 <sup>26</sup>	Prescriptions for controller medicine	Arm C-	In patients using beta-2 agonists, compliance has been checked	NR	NR	NR	N: 386 , n with outcomes: 335 , n with events: 335,(86.8),	N: 403 , n with outcomes: 328 , n with events: 328,(81.4),	NR	No.
Baker,2003 <sup>26</sup>	Prescriptions for controller medicine	Arm D-Criteria plus feedback	In patients using beta-2 agonists, compliance has been checked	NR	NR	NR	N: 349 , n with outcomes: 300 , n with events: 300,(86),	N: 405 , n with outcomes: 345 , n with events: 345,(85.2),	NR	No.
Baker,2003 <sup>26</sup>	Prescriptions for controller medicine	Arm A-guidelines	patients have been treated with cheapest inhaled steroid (beclomethasone)	NR	NR	NR	N: 301 , n with outcomes: 134,(44.5)	NR	N: 334 , n with outcomes: 149,(44.6)	No.
Baker,2003 <sup>26</sup>	Prescriptions for controller medicine	Arm B-review criteria	patients have been treated with cheapest inhaled steroid (beclomethasone)	NR	NR	NR	N: 334 , n with outcomes: 117,(35)	NR	N: 353 , n with outcomes: 163,(46.2)	No.
Baker,2003 <sup>26</sup>	Prescriptions for controller medicine	Arm C-	patients have been treated with cheapest inhaled steroid (beclomethasone)	NR	NR	NR	N: 298 , n with outcomes: 128,(43)	NR	N: 358 , n with outcomes: 211,(58.9)	No.
Bell,2009 <sup>3</sup>	Prescription	Arm A-	Controller	NR	NR	NR	NR	NR	N: 1193 , n with	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
8	s for controller medicine	Control UP	medication prescribed (Patients with persistent asthma)						outcomes: 947,(79)	
Bell,2009 <sup>3</sup> 8	Prescriptions for controller medicine	Arm A-UP Control	Controller medication prescribed	NR	Yes	The education period was from October 13, 2006, to April 15, 2007, and the intervention 2 (follow up) period was from October 16, 2007, to April 15, 2008.	N: 1193 , n with outcomes: 947,(79)	N: 1328 , n with outcomes: 1068,(80)	NR	No.
Bell,2009 <sup>3</sup> 8	Prescriptions for controller medicine	Arm B-UP Intervention	Controller medication prescribed	NR	Yes	The education period was from October 13, 2006, to April 15, 2007, and the intervention 2 (follow up) period was from October 16, 2007, to April 15, 2008.	N: 1123 , n with outcomes: 798,(71)	NR	N: 1205 , n with outcomes: 943,(78)	No.
Bell,2009 <sup>3</sup> 8	Prescriptions for controller medicine	Arm B-UP intervention	Controller medication prescribed	NR	NR	NR	N: 1123 , n with outcomes: 798,(71)	N: 1205 , n with outcomes: 943,(78)	NR	No.
Bell,2009 <sup>3</sup> 8	Prescriptions for controller medicine	Arm C-	Controller medication prescribed	NR	Yes	The education period was from October 13, 2006, to	N: 347 , n with outcomes: 168,(48)	NR	N: 409 , n with outcomes: 209,(51)	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
						April 15, 2007, and the intervention 2 (follow up) period was from October 16, 2007, to April 15, 2008.				
Bell,2009 <sup>38</sup>	Prescriptions for controller medicine	Arm C-	Controller medication prescribed	NR	NR	NR	N: 347 , n with outcomes: 168,(48)	N: 409 , n with outcomes: 209,(51)	NR	No.
Bell,2009 <sup>38</sup>	Prescriptions for controller medicine	Arm D-SP intervention	Controller medication prescribed	NR	Yes	The education period was from October 13, 2006, to April 15, 2007, and the intervention 2 (follow up) period was from October 16, 2007, to April 15, 2008.	N: 782 , n with outcomes: 527,(67)	NR	N: 926 , n with outcomes: 682,(74)	No.
Bell,2009 <sup>38</sup>	Prescriptions for controller medicine	Arm D-SP Intervention	Controller medication prescribed	NR	NR	NR	N: 782 , n with outcomes: 527,(68)	N: 926 , n with outcomes: 682,(74)	NR	No.
Bender, 2011 <sup>1</sup>	Prescriptions for controller medicine	Arm B-	NR	NR	NR	NR	N: NR,(25) IQR= 70	N: NR,(50) IQR=65	NR	No.
Bryce,1995 <sup>35</sup>	Prescriptions for controller medicine	Arm A-control group	Prophylactic agents cromoglycate	NR	NR	NR	N: 1563 , n with events: 99	NR	N: 1585 , n with events: 78	No.
Bryce,199	Prescription	Arm B-	Prophylactic	NR	NR	NR	N: 1585 , n with	NR	N: 1585 , n with	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
5 <sup>35</sup>	s for controller medicine	Intervention Group	agents cromoglycate				events: 103		events: 123	
Bryce,1995 <sup>35</sup>	Prescriptions for controller medicine	Arm A-Control group	Prophylactic agents:Inhaled steroids	NR	NR	NR	N: 1563 , n with events: 94	NR	N: 1585 , n with events: 150	No.
Bryce,1995 <sup>35</sup>	Prescriptions for controller medicine	Arm B-Intervention	Prophylactic agents:Inhaled steroids	NR	NR	NR	N: 1585 , n with events: 93	NR	N: 1585 , n with events: 151	No.
Bryce,1995 <sup>35</sup>	Prescriptions for controller medicine	Arm A-Control group	Bronchodilators Inhaled	NR	Yes	No	N: 1563 , n with events: 285	NR	N: 1563 , n with events: 310	No.
Bryce,1995 <sup>35</sup>	Prescriptions for controller medicine	Arm B-Intervention group	Bronchodilators Inhaled	NR	Yes	No	N: 1585 , n with events: 297	NR	N: 1585 , n with events: 386	No.
Bryce,1995 <sup>35</sup>	Prescriptions for controller medicine	Arm A-Control group	Bronchodilators Oral	NR	NR	NR	N: 1563 , n with events: 239	NR	N: 1585 , n with events: 108	No.
Bryce,1995 <sup>35</sup>	Prescriptions for controller medicine	Arm B-Intervention	Bronchodilators Oral	NR	NR	NR	N: 1585 , n with events: 256	NR	N: 1585 , n with events: 166	No.
Cho,2010 <sup>39</sup>	Prescriptions for controller medicine	Decision Support	NR	NR	No	NR	N: 100,(39)	N: 96,(73)	NR	No.
Clark,2002 <sup>2</sup>	Prescriptions for controller medicine	Arm A-	NR	NR	NR	NR	NR	(70.3)	NR	No.
Clark,2002 <sup>2</sup>	Prescriptions for	Arm B-	NR	NR	NR	NR	NR	(82.7)	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	controller medicine									
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm A-mild, intermittent	no. of inhaled corticosteroid prescriptions per child per year (on claims)	NR	Yes	NR	N: NR , n with outcomes: NR , n with events: NR,(NR), Mean:0.05,SD: NR	NR	N: NR , n with outcomes: NR , n with events: NR,(NR), Mean:0.3,SD:NR	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm B-mild, persistent	no. of inhaled corticosteroid prescriptions per child per year (on claims)	NR	Yes	NR	N: NR , Mean:0.33	NR	N: NR Mean:1.15, SD:0	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm C-moderate	no. of inhaled corticosteroid prescriptions per child per year (on claims)	NR	Yes	NR	N: NR Mean:1.25	NR	N: NR Mean:2.46	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm D-severe persistent	no. of inhaled corticosteroid prescriptions per child per year (on claims)	NR	Yes	NR	N: NR , Mean:1.61	NR	N: NR Mean:5.7	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm A-mild, intermittent	no oral steroid RXs per child per year	NR	Yes	NR	N: NR Mean:0.37	NR	N: NR Mean:0.1,	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm B-mild, persistent	no oral steroid RXs per child per year	NR	Yes	NR	N: NR , Mean:0.49,	NR	N: NR , Mean:0.43	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller	Arm C-moderate	no oral steroid RXs per child per year	NR	Yes	NR	N: NR Mean:1.07,SD: NR	NR	N: NR Mean:0.16,SD: NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	medicine									
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm D-severe, persistent	no oral steroid RXs per child per year	NR	Yes	NR	N: NR Mean:2.06,	NR	N: NR , Mean:0,SD:NR	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm A-mild, intermittent	Prescriptions of nonsteroidal inhaled anti-inflammatory Rx per child per year	NR	Yes	NR	N: NR , Mean:0.14	NR	N: NR , Mean:0.13	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm B-mild, persistent	Prescriptions of nonsteroidal inhaled anti-inflammatory Rx per child per year	NR	Yes	NR	N: NR Mean:0.49	NR	N: NR , Mean:0.43	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm C-	Prescriptions of nonsteroidal inhaled anti-inflammatory Rx per child per year	NR	Yes	NR	N: NR Mean:1.07	NR	N: NR Mean:0.16	No.
Cloutier,2002 <sup>40</sup>	Prescriptions for controller medicine	Arm D-severe, persistent	Prescriptions of nonsteroidal inhaled anti-inflammatory Rx per child per year	NR	Yes	NR	N: NR Mean:1.72,	NR	N: NR , Mean:0.5	No.
Cloutier,2009 <sup>41</sup>	Prescriptions for controller medicine	Decision support	NR	NR	Yes	NR	280.8 per 100 children	NR	272.8 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
										race/ethnicity.
Cloutier,2009 <sup>41ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	Yes	NR	78.4 per 100 children	NR	123.6 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>41ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	Yes	NR	32.1 per 100 children	NR	10.8 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>41ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	NR	NR	120.5 per 100 children	NR	128.1 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>41ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	Yes	NR	280.8 per 100 children	NR	272.8 per 100 children	Yes. Controlled for asthma severity, sex, clinic,

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
										chronological time, and race/ethnicity.
Cloutier,2009 <sup>41 ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	Yes	NR	78.4 per 100 children	NR	123.6 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>41 ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	Yes	NR	32.1 per 100 children	NR	10.8 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>41 ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	NR	NR	120.5 per 100 children	NR	128.1 per 100 children	Yes. Controlled for asthma severity, sex, clinic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>41 ii</sup>	Prescriptions for	Decision support	NR	NR	Yes	NR	44.0 per 100 children	NR	30.4 per 100 children	Yes. Controlled

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	controller medicine									for asthma severity, sex, linic, chronological time, and race/ethnicity.
Cloutier,2009 <sup>41 ii</sup>	Prescriptions for controller medicine	Decision support	NR	NR	Yes	NR	44.0 per 100 children	NR	30.4 per 100 children	Yes. Controlled for asthma severity, sex, linic, chronological time, and race/ethnicity.
Cowie,2001 <sup>42</sup>	Prescriptions for controller medicine	Arm A-basic	"using inhaled steroid"	Yes/No	Yes	NR	NR	N: NR , n with outcomes: 174 , n with events: NR,(55)	NR	No.
Cowie,2001 <sup>42</sup>	Prescriptions for controller medicine	Arm B-intermediate	"using inhaled steroid"	Yes/No	Yes	NR	NR	N: NR , n with outcomes: 55 , n with events: NR,(67)	NR	No.
Cowie,2001 <sup>42</sup>	Prescriptions for controller medicine	Arm C-	"using inhaled steroid"	Yes/No	Yes	NR	NR	N: NR , n with outcomes: 98 , n with events: NR,(72)	NR	No.
Davis,2004 <sup>43</sup>	Prescriptions for controller medicine	Arm A-Control	ICS prescriptions/month	NR	No	No	N: 34, Mean:2.64	N: 34, Mean:3.28	NR	No.
Davis,2004 <sup>43</sup>	Prescriptions for controller	Arm B-	ICS prescriptions/month	NR	No	No	N: 20, Mean:2.54 Range= 0-9.5	N: 20, Mean:7.76 Range= 2.83-	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	medicine							12.33		
Davis, 2010 <sup>20</sup>	Prescriptions for controller medicine	Arm B-	ICS	NR	NR	NR	N: 180 n with outcomes: 71,(39.4)	N: 180 n with outcomes: 92,(51.1)	NR	No.
De Vries, 1995 <sup>44</sup>	Prescriptions for controller medicine	Arm A-Reference 2007	Proportion with no inhaled corticosteroid (ICS) Rx while on long-acting betamimetics.	0-100%	Yes	NR	NR	NR	N: 477 , n with outcomes: 41 , n with events: NR,(8.6)	No.
De Vries, 1995 <sup>44</sup>	Prescriptions for controller medicine	Arm B-Intervention 2007	Proportion with no inhaled corticosteroid (ICS) Rx while on long-acting betamimetics.	0-100%	Yes	NR	NR	NR	N: 219 , n with outcomes: 6 , n with events: NR,(2.7),	No.
De Vries, 1995 <sup>44</sup>	Prescriptions for controller medicine	Arm A-Reference 2007	Proportion with more than one type of inhaler (failure to adhere to guidelines)	0-100%	NR	NR	NR	NR	N: 2311 , n with outcomes: 119 , n with events: NR,(5.1)	No.
De Vries, 1995 <sup>44</sup>	Prescriptions for controller medicine	Arm B-Intervention 2007	Proportion with more than one type of inhaler (failure to adhere to guidelines)	0-100%	NR	NR	NR	NR	N: 849 , n with outcomes: 43 , n with events: NR,(5.1),	No.
De Vries, 1995 <sup>44</sup>	Prescriptions for controller medicine	Arm C-	Proportion with more than one type of inhaler (failure to adhere to guidelines)	0-100%	NR	NR	NR	NR	N: 3217 , n with outcomes: 239 , n with events: NR,(7.4),	No.
De Vries, 1995	Prescriptions for	Arm A-Reference	Proportion having no	0-100%	NR	NR	NR	NR	N: 3527 , n with outcomes: 534 ,	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
<sup>44</sup>	controller medicine	e 2007	short-acting betamimetics Rx						n with events: NR,(15.4)	
De Vries, 1995 <sup>44</sup>	Prescriptions for controller medicine	Arm B-Intervention 2007	Proportion having no short-acting betamimetics Rx	0-100%	NR	NR	NR	NR	N: 1447 , n with outcomes: 176 , n with events: NR,(12.1),	No.
De Vries, 1995 <sup>44</sup>	Prescriptions for controller medicine	Arm C-	Proportion having no short-acting betamimetics Rx	0-100%	NR	NR	NR	NR	N: 3612 , n with outcomes: 559 , n with events: NR,(15.5),	No.
Eccles, 2002 <sup>27</sup>	Prescriptions for controller medicine	Arm A-angina	n (%) of patients prescribed long acting beta 2 agonists	%:0-100	Yes	NR	N: NR , n with outcomes: 1385 n with events: 164,(12),	N: NR , n with outcomes: 1385 n with events: 183,(13),	NR	No.
Eccles, 2002 <sup>27</sup>	Prescriptions for controller medicine	Arm B-asthma	n (%) of patients prescribed long acting beta 2 agonists	%:0-100	Yes	NR	N: NR , n with outcomes: 1391 n with events: 181,(13),	N: NR , n with outcomes: 1391 n with events: 198,(14),	NR	No.
Eccles, 2002 <sup>27</sup>	Prescriptions for controller medicine	Arm A-angina	number (%) of patients prescribed inhaled corticosteroids	%:0-100	Yes	NR	N: NR , n with outcomes: 1385 n with events: 1004,(73)	N: NR , n with outcomes: 1385 n with events: 975,(70),	NR	No.
Eccles, 2002 <sup>27</sup>	Prescriptions for controller medicine	Arm B-asthma	number (%) of patients prescribed inhaled corticosteroids	%:0-100	Yes	NR	N: NR , n with outcomes: 1391 n with events: 1065,(77),	N: NR , n with outcomes: 1391 n with events: 1001,(72),	NR	No.
Fairall, 2010 <sup>28</sup>	Prescriptions for controller medicine	Arm A-Control	Mean use of health care resources (inhaled	NR	No	No	NR	NR	N: 926 Mean:0.08	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
			corticosteroids [No. units])							
Fairall,2010 <sup>28</sup>	Prescriptions for controller medicine	Arm B- Intervention	Mean use of health care resources (Beta-agonists [No. units])	NR	No	No	N: 1000	NR	N: 930	No.
Fairall,2010 <sup>28</sup>	Prescriptions for controller medicine	Arm A- control	prescriptions for inhaled corticosteroids filled among patients in each study arm during the study period	0-100%	No	NR	N: NR	NR	N: 926 , n with outcomes: 77,(7.7)	No.
Fairall,2010 <sup>28</sup>	Prescriptions for controller medicine	Arm B- outreach group	prescriptions for inhaled corticosteroids filled among patients in each study arm during the study period	0-100%	No	NR	N: 1000	NR	N: 930 , n with events: 137,(13.7)	No.
Finkelstein ,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm A- Control	Mean	NR	Yes	NR	N: 1531, Mean:0.76,SD:0.14	NR	NR	No.
Finkelstein ,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm A- Control	Mean	NR	Yes	NR	N: 1531, Mean:0.43,SD:0.15	NR	NR	No.
Finkelstein ,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm A- Control	Mean	NR	Yes	NR	N: 1531, Mean:0.31,SD:0.04	NR	NR	No.
Finkelstein ,2005 <sup>33i</sup>	Prescriptions for	Arm B- PLE	Mean	NR	Yes	NR	N: 2003, Mean:0.68,SD:0	NR	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	controller medicine	Intervention					.15			
Finkelstein,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm B- PLE Intervention	Mean	NR	Yes	NR	N: 2003, Mean:0.39,SD:0.12	NR	NR	No.
Finkelstein,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm B- PLE Intervention	Mean	NR	Yes	NR	N: 2003, Mean:0.33,SD:0.1	NR	NR	No.
Finkelstein,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm C-	Mean	NR	Yes	NR	N: 1635, Mean:0.77,SD:0.13	NR	NR	No.
Finkelstein,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm C-	Mean	NR	Yes	NR	N: 1635, Mean:0.44,SD:0.13	NR	NR	No.
Finkelstein,2005 <sup>33i</sup>	Prescriptions for controller medicine	Arm C-	Mean	NR	Yes	NR	N: 1635, Mean:0.26,SD:0.07	NR	NR	No.
Glasgow,2003 <sup>5</sup>	Prescriptions for controller medicine	Arm A-Control	Uses nebuliser	NR	NR	NR	N: 73 , n with outcomes: 29,(40)	NR	N: 71 , n with outcomes: 24,(34)	No.
Glasgow,2003 <sup>5</sup>	Prescriptions for controller medicine	Arm B- Intervention	Uses nebuliser	NR	NR	NR	N: 101 , n with outcomes: 36,(36)	NR	N: 95 , n with outcomes: 20,(21)	No.
Hagmolen,2008 <sup>45</sup>	Prescriptions for controller medicine	Arm A-guideline	Prescribed regular ICS treatment with mean > 1 puff per day	0-100	Yes	NR	N: 114, n with events: NR,(11)	NR	N: 98, n with events: NR,(9)	Yes. Baseline adjusted
Hagmolen,2008 <sup>45</sup>	Prescriptions for	Arm B-guideline	Prescribed regular ICS	0-100	Yes	NR	N: 143, n with events: NR,(11)	NR	N: 133, n with events: NR,(13)	Yes. Baseline

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	controller medicine	extract plus education	treatment with mean > 1 puff per day							adjusted
Hagmolen, 2008 <sup>45</sup>	Prescriptions for controller medicine	Arm C-	Prescribed regular ICS treatment with mean > 1 puff per day	0-100	Yes	NR	N: 147, n with events: NR(16)	NR	N: 131, n with events: NR(25)	Yes. Baseline adjusted
Halterman, 2005 <sup>46</sup>	Prescriptions for controller medicine	Arm A-Control	NR	NR	No	No	N: 77	NR	N: 77, n with outcomes: 20, n with events: NR(26)	No.
Halterman, 2005 <sup>46</sup>	Prescriptions for controller medicine	Arm B-Intervention	NR	NR	No	No	N: 73	NR	N: 73, n with outcomes: 16, n with events: NR(21.9)	No.
Halterman, 2006 <sup>6</sup>	Prescriptions for controller medicine	Arm A-Control	NR	NR	NR	NR	N: 124	NR	N: 114, n with outcomes: 38, n with events: NR(33.3),	No.
Halterman, 2006 <sup>6</sup>	Prescriptions for controller medicine	Arm B-Intervention	NR	NR	NR	NR	N: 122	NR	N: 112, n with outcomes: 46, n with events: NR,(41.1), Mean:NR,SD:NR	No.
Herborg, 2001 <sup>47iii</sup>	Prescriptions for controller medicine	Arm A-control	proportion of patients using short acting beta agonists who were prescribed ICS	0-100	Yes	NR	N: NR, n with outcomes: NR,(68)	N: NR, n with outcomes: NR,(70.4)	NR	No.
Herborg, 2001 <sup>47iii</sup>	Prescriptions for controller medicine	Arm B-TOM	proportion of patients using short acting beta agonists	0-100	Yes	NR	N: NR, n with outcomes: NR, n with events: NR,(68)	N: NR, n with outcomes: NR, n with events: NR,(84.3)	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
			who were prescribed ICS							
Horswell,2008 <sup>8</sup>	Prescriptions for controller medicine	Arm B- HCSD's DM program intervention	Proportion of patients on a corticosteroid.	0-100%	NR	NR	(73)	NR	N: 2199,(81)	No.
Horswell,2008 <sup>8</sup>	Prescriptions for controller medicine	Arm B- HCSD's DM program intervention	% of patients on a beta agonist	0-100%	NR	NR	(79)	NR	N: 2199,(92)	No.
Hoskins,1997 <sup>48</sup>	Prescriptions for controller medicine	Arm A- Step up in preventive care	Step up in preventive care	NR	NR	NR	N: 782 , n with outcomes: 782 , n with events: 402,(51)	N: 669 , n with outcomes: 669 , n with events: 382,(57)	NR	No.
Hoskins,1997 <sup>48</sup>	Prescriptions for controller medicine	Arm B-	Step up in preventive care	NR	NR	NR	NR	NR	NR	No.
Hoskins,1997 <sup>48</sup>	Prescriptions for controller medicine	Arm A- Systemic steroids	Use of systemic steroids for acute attack	Yes or No	NR	NR	N: 782 , n with outcomes: 782 , n with events: 563(72)	N: 669 , n with outcomes: 669 , n with events: 506(76)	NR	No.
Hoskins,1997 <sup>48</sup>	Prescriptions for controller medicine	Arm B-	Use of systemic steroids for acute attack	Yes or No	NR	NR	NR	NR	NR	No.
Lesho,2005 <sup>49</sup>	Prescriptions for controller medicine	Decision Support	NR	NR	NR	NR	N: 330(66)	N: 334(67)	NR	No.
Lundborg,1999 <sup>50</sup>	Prescriptions for	Arm A-	Ipratropium (R03BB)	NR	NR	NR	n with outcomes: 67 ,	n with outcomes: 72 ,	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	controller medicine		prescription				n with events: 2	n with events: 2		
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm B-	Ipratropium (R03BB) prescription	NR	NR	NR	N: NR, n with outcomes: 67 , n with events: 2,(NR)	N: NR, n with outcomes: 81 , n with events: 2.5,(NR)	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm A-	Sodiumcromoglycate (R03BC) prescriptions	NR	NR	NR	n with outcomes: 47 , n with events: 1.5	n with outcomes: 58 , n with events: 1	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm B-	Sodiumcromoglycate (R03BC) prescriptions	NR	NR	NR	n with outcomes: 45 , n with events: 1	n with outcomes: 29 , n with events: 1	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm A-	Selective -2 agonists, oral (R03CC) prescriptions	NR	NR	NR	n with outcomes: 101 , n with events: 5.5	n with outcomes: 66 , n with events: 3	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm B-	Selective -2 agonists, oral (R03CC) prescriptions	NR	NR	NR	n with outcomes: 84 , n with events: 4	n with outcomes: 68 , n with events: 2.5	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm A-	Xantines (R03DA) prescriptions	NR	NR	NR	n with outcomes: 45 , n with events: 1	n with outcomes: 38 , n with events: 2	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm B-	Xantines (R03DA) prescriptions	NR	NR	NR	n with outcomes: 41 , n with events: 2	n with outcomes: 22 , n with events: 0	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm A-	Glucocorticoids, oral (H02AB) prescriptions	NR	NR	NR	n with outcomes: 105 , n with events: 5	n with outcomes: 89 , n with events: 4.5	NR	On with events = GP group median
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller	Arm B-	Glucocorticoids, oral (H02AB)	NR	NR	NR	n with outcomes: 86 , n with events: 1	n with outcomes: 95 , n with events:	NR	On with events = GP group

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	medicine		prescriptions					3.5		median
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm A-	Glucocorticoids, inhaled(R03BA) prescriptions	NR	NR	NR	n with outcomes: 1152 , n with events: 51	n with outcomes: 1247 n with events: 61	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm B-	Glucocorticoids, inhaled(R03BA) prescriptions	NR	NR	NR	n with outcomes: 862 , n with events: 42	n with outcomes: 1002 , n with events: 52	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm A-	Antibiotics for systemic use (J01) prescriptions	NR	NR	NR	n with outcomes: 597 , n with events: 26.5	n with outcomes: 390 , n with events: 17	NR	On with events = GP group median
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm B-	Antibiotics for systemic use (J01) prescriptions	NR	NR	NR	n with outcomes: 433 , n with events: 27	n with outcomes: 384 , n with events: 15.5	NR	On with events = GP group median
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm A-Control	Selective beta-2 agonists, inhaled (R03AC) prescriptions for asthma patients	NR	NR	NR	n with outcomes: 3174 n with events: 168.5	n with outcomes: 2343 , n with events: 123	NR	No.
Lundborg, 1999 <sup>50</sup>	Prescriptions for controller medicine	Arm B-	Selective beta-2 agonists, inhaled (R03AC) prescriptions for asthma patients	NR	NR	NR	n with outcomes: 1809 n with events: 105.5	n with outcomes: 1830 n with events: 88.5	NR	No.
Mahi-Taright ,2003 <sup>51</sup>	Prescriptions for controller medicine	Education	Inhaled corticosteroids	NR	Unable to determine	No	N: 49 , n with outcomes: 0,(0)	N: 151 , n with outcomes: 18,(11.9)	NR	No.
Mangione-Smith,200	Prescriptions for	Arm A-control	Use of long term controller	NR	Yes	No	NR	NR	N: 126,(43)	Yes. Adjusted

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
5 <sup>10</sup>	controller medicine		medications (% yes at time of interview)							for child age, gender, race/ethnicity, parent education level, household annual income, insurance type, severity of asthma and number of comorbidities.
Mangione-Smith, 2005 <sup>10</sup>	Prescriptions for controller medicine	Arm B- Intervention	Use of long term controller medications (% yes at time of interview)	NR	Yes	No	NR	NR	(47)	Yes. Adjusted for child age, gender, race/ethnicity, parent education level, household annual income, insurance type, severity of asthma and number of

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
										comorbidities.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm A-control	Inhaled corticosteroids	NR	NR	NR	N: 54, Mean:19 CI:13,28	N: 54, Mean:21 CI:13,33	N: 54, Mean:18 CI:11,26	No.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm B-Intervention group	Inhaled corticosteroids	NR	NR	NR	N: 53, Mean:21 CI: 14,33	N: 53, Mean:19 CI:10,28	N: 53, Mean:14 CI:9,23	No.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm C-	Inhaled corticosteroids	NR	NR	NR	N: 26, Mean:24 CI:13,28	N: 26, Mean:21 CI:12,33	N: 26, Mean:19 CI:13,28	No.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm D-Intervention of intervention group	Inhaled corticosteroids	NR	NR	NR	N: 27, Mean:24 CI:16,35	N: 27, Mean:22 CI:12,32	N: 27, Mean:15 CI:10,29	No.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm A-control group	short term beta 2 sympatomimetics	NR	Yes	NR	N: 54, Mean:29 CI: 19, 35	N: 54, Mean:28 CI:19,14	, Mean:27 CI: 20,38	No.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm B-intervention (overall)	short term beta 2 sympatomimetics	NR	Yes	NR	N: 53, Mean:28 CI: 21,44	N: 53, Mean:29 CI:18,39	N: 53, Mean:28 CI:9,36	No.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm C-	short term beta 2 sympatomimetics	NR	Yes	NR	N: 26, Mean:35 ci:23,47	N: 23, Mean:37 ci:25,49	N: 26, Mean:36 ci:24,48	No.
Martens,2006 <sup>52</sup>	Prescriptions for controller medicine	Arm D-intervention of intervention	short term beta 2 sympatomimetics	NR	Yes	NR	N: 27, Mean:37 CI:26,48	N: 27, Mean:37 CI:26,48	N: 27, Mean:34 CI:24,44	No.
Martens,2	Prescription	Arm A-	the ratio of # of	0-100	No	Yes. Data	NR	NR	N: NR , n with	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
007 <sup>53</sup>	s for controller medicine	Cholesterol	prescriptions for inhaled steroids to # of all asthma prescriptions for mild persistent asthma among patients > 7 years old			collected over an entire year in both groups post start of intervention			outcomes: NR , n with events: NR,(27) Confidence interval 14-47	
Martens,2 007 <sup>53</sup>	Prescriptions for controller medicine	Arm B-antibiotics, asthma/c opd	the ratio of # of prescriptions for inhaled steroids to # of all asthma prescriptions for mild persistent asthma among patients > 7 years old	0-100	No	Yes. Data collected over an entire year in both groups post start of intervention	NR	NR	N: NR , n with outcomes: NR , n with events: NR,(44) confidence interval 30-56	No.
Martens,2 007 <sup>53</sup>	Prescriptions for controller medicine	Arm A-cholesterol	number of inhaled corticosteroid prescriptions for mildly persistent asthma with maintenance treatment among patients >7 per GP per 1000 patients	0-1000	NR	NR	NR	NR	N: NR , see scale above 1.4, confidence interval 0.7-4.0	No.
Martens,2 007 <sup>53</sup>	Prescriptions for controller	Arm B-antibiotics,	number of inhaled corticosteroid	0-1000	NR	NR	NR	NR	N: NR , see scale: 1.7,	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	medicine	asthma/c opd	prescriptions for mildly persistent asthma with maintenance treatment among patients >7 per GP per 1000 patients						CI 1.0-2.6	
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm A-Control	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 14.2 (13.8-14.6)	NR	N: NR 13.7 (13.3-14.1)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm A-Control	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 15.0 (14.6-15.4)	NR	N: 13.2 (12.8-14.1)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm A-Control	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 2.8 (2.6-3.0)	NR	N: NR 2.0 (1.8-2.2)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm A-Control	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 0.49 (0.42-0.56)	NR	N: NR 0.45 (0.38-0.52)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm A-Control	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 0.98 (0.88-1.08)	NR	N: NR 0.54 (0.46-0.62)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm A-Control	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 0.018 (0.004-0.032)	NR	N: NR , 0.003 (0-0.009)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller	Arm B-Intervention	# inhalers or Rx's per 1000 patient months	NR	NR	NR	N: NR , 13.5 (13.1-13.9)	NR	N: NR 13.2 (12.8-13.6)	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	medicine		(95% CI's)							
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm B-Intervention	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR , 15.3 (14.9-15.7)	NR	N: NR 14.0 (13.6-14.4)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm B-Intervention	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 6.2 (5.9-6.5)	NR	N: NR 3.2 (3.0-3.4)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm B-Intervention	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 0.46 (0.39-0.53)	NR	N: NR 0.35 (0.29-0.41)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm B-Intervention	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 1.30 (1.08-1.42)	NR	N: NR 0.80 (0.71-0.89)	No.
Mitchell,2005 <sup>54</sup>	Prescriptions for controller medicine	Arm B-Intervention	# inhalers or Rx's per 1000 patient months (95% CI's)	NR	NR	NR	N: NR 0.029 (0.011-0.047)	NR	N: NR 0.020 (0.005-0.035)	No.
Rance,2011 <sup>55</sup>	Prescriptions for controller medicine	Arm B-	NR	NR	NR	NR	N: 41 , n with outcomes: 28	N: 41 , n with outcomes: 38	NR	No.
Richman,2000 <sup>29</sup>	Prescriptions for controller medicine	Feedback	"inhaled anti-inflammatory"	0-100	No	No	N: NR , n with events: NR,(45),	N: NR , n with outcomes: NR , n with events: NR,(63)	NR	No.
Shiffman,2000 <sup>24</sup>	Prescriptions for controller medicine	Arm A-pre	Prescription of systemic corticosteroid, yes no	0-1	No	No. Each interval (pre and post) was under a year	N: 91 , n with outcomes: 81 Mean:0.43	NR	NR	No.
Shiffman,2000 <sup>24</sup>	Prescriptions for controller medicine	Arm B-post	Prescription of systemic corticosteroid, yes no	0-1	No	No. Each interval (pre and post) was under a year	N: 74 , n with outcomes: 73 Mean:0.57	NR	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Smeele,1999 <sup>31</sup>	Prescriptions for controller medicine	Arm A-Control	Exacerbation: prescription of Oral steroids	NR	NR	NR	N: 17 , n with outcomes: 15 , n with events: 15,(29)	N: 15 , n with outcomes: 15 , n with events: 15,(33)	NR	No.
Smeele,1999 <sup>31</sup>	Prescriptions for controller medicine	Arm B-Intervention	Exacerbation: prescription of Oral steroids	NR	NR	NR	N: 17 , n with outcomes: 17,(21),	N: 15 , n with outcomes: 15,(34)	NR	No.
Smeele,1999 <sup>31</sup>	Prescriptions for controller medicine	Arm A-Control	Exacerbations: Prescription of Inhaled steroids	NR	NR	NR	N: 17 , n with outcomes: 15 , n with events: 15,(51),	N: 15 , n with outcomes: 15 , n with events: 15,(50)	NR	No.
Smeele,1999 <sup>31</sup>	Prescriptions for controller medicine	Arm B-Intervention	Exacerbations: Prescription of Inhaled steroids	NR	NR	NR	N: 17 , n with outcomes: 17,(52),	N: 15 , n with outcomes: 15,(65)	NR	No.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm A-control	incidence of initiation of inhaled steroids among repeat users of beta2 agonists	NR	Yes	NR	NR	NR	N: 751 , n with outcomes: 751 , n with events: 140,(NR),  incidence rate (IR): 0.018, CI (0.015, 0.021); HR 1.00	Yes. Using survival analysis. Also variance taking into account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm A-control	incidence of initiation of inhaled steroids among first time users of inhaled beta 2 agonists	NR	Yes	NR	NR	NR	N: 1000 , n with outcomes: 1000 , n with events: 519,(NR), IR 0.060, CI 0.052, 0.069	Yes. Using survival analysis. Also variance taking into account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller	Arm A-control	Change in fraction of asthmatic	NR	Yes	NR	NR	N: NR , change in fraction -0.02 ,	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	medicine		treated with ICS					95% CI -0.05, 0.00		
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm A-control	incidence of initiation of inhaled steroids among repeat users of beta2 agonists	NR	Yes	NR	NR	NR	N: 751 , n with outcomes: 751 , n with events: 140,(NR), incidence rate (IR): 0.018, CI (0.015, 0.021); HR 1.00	Yes. Using survival analysis. Also variance taking into account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm A-control	incidence of initiation of inhaled steroids among first time users of inhaled beta 2 agonists	NR	Yes	NR	NR	NR	N: 1000 , n with outcomes: 1836 , n with events: 519,(NR), IR 0.060, CI 0.052, 0.069	Yes. Using survival analysis. Also variance taking into account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm B-individual	Change in fraction of asthmatic treated with ICS	NR	Yes	NR	NR	N: NR change in fraction, -0.01, 95% CI -0.04, 0.02	NR	No.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm B-individual	Change in fraction of asthmatic treated with ICS	NR	Yes	NR	NR	N: NR change in fraction, -0.01, 95% CI -0.04, 0.02	NR	No.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm B-individual feedback	incidence of initiation of inhaled steroids among repeat users of beta2 agonists	NR	Yes	NR	NR	NR	N: 457 , n with outcomes: 457 , n with events: 67,(NR), IR 0.013 CI (0.011,0.017); HR 0.77, CI	Yes. Using survival analysis. Also variance taking into

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
									0.59, 1.01	account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm B- individual feedback	incidence of initiation of inhaled steroids among first time users of inhaled beta 2 agonists	NR	Yes	NR	NR	NR	N: 1000 , n with outcomes: 1000 n with events: 305,(NR), IR 0.064, CI 0.054, 0.076, HR 1.08, CI 0.90, 1.30	Yes. Using survival analysis. Also variance taking into account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm C-	incidence of initiation of inhaled steroids among repeat users of beta2 agonists	NR	Yes	NR	NR	NR	N: 442 , n with outcomes: 442 , n with events: 67,(NR) IR 0.014, CI 0.011, 0.018; HR 0.79, CI 0.59, 1.07	Yes. Using survival analysis. Also variance taking into account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm C-	incidence of initiation of inhaled steroids among first time users of inhaled beta 2 agonists	NR	Yes	NR	NR	NR	N: 868 , n with outcomes: 868 , n with events: 229,(NR), IR 0.054, CI 0.045, 0.066; HR 0.92, CI 0.75, 1.13	-1Using survival analysis. Also variance taking into account clustering.
Sondergaard,2002 <sup>56</sup>	Prescriptions for controller medicine	Arm C-	Change in fraction of asthmatic treated with ICS	NR	Yes	NR	NR	N: NR 0.01, 95% CI - 0.03, 0.05	NR	No.
Suh,2001 <sup>57</sup>	Prescriptions for controller medicine	Arm A- intermittent	"number of uses of short acting controller"	NR	No	Yes. Same period	N: 5665 , n with outcomes: NR , n with events: NR,(NR),	N: 566 Mean:1.13,SD:1 .74	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
							Mean:0.78,SD:0.89			
Suh,2001 <sup>b</sup> <sub>7</sub>	Prescriptions for controller medicine	Arm B-persistent	"number of uses of short acting controller"	NR	No	Yes. Same period	N: 1050 , Mean:5.1,SD:4.51	N: 1050 Mean:4.4,SD:4.86	NR	No.
Suh,2001 <sup>b</sup> <sub>7</sub>	Prescriptions for controller medicine	Arm A-intermittent	"long acting controller meds per patient"	NR	No	Yes. Same time period	N: 566 , n with outcomes: 566 , Mean:0.4,SD:0.67	N: 566 , n with outcomes: 566 , Mean:0.77,SD:1.67	NR	No.
Suh,2001 <sup>b</sup> <sub>7</sub>	Prescriptions for controller medicine	Arm B-persistent	"long acting controller meds per patient"	NR	No	Yes. Same time period	N: 1050 , n with outcomes: 1050 , Mean:4.04,SD:4.81	N: 1050 , n with outcomes: 1050 Mean:3.75,SD:5.12	NR	No.
Suh,2001 <sup>b</sup> <sub>7</sub>	Prescriptions for controller medicine	Arm A-intermittent	no of prescriptions for inhaled corticosteroids	NR	No	Yes. Same time period	N: 566 , n with outcomes: 566 , total number 135	N: 566 , n with outcomes: 566 , total scripts 276	NR	No.
Suh,2001 <sup>b</sup> <sub>7</sub>	Prescriptions for controller medicine	Arm B-persistent	no of prescriptions for inhaled corticosteroids	NR	No	Yes. Same time period	N: 1050 , n with outcomes: 1050 , n with events: 2255,(23.5), number of scripts 2255	N: 1050 , n with outcomes: 1050 , n with events: 2012,(23.4), number of scripts 2012	NR	No.
Suh,2001 <sup>b</sup> <sub>7</sub>	Prescriptions for controller medicine	Arm A-intermittent	number of leukotriene inhibitor prescriptions	NR	No	Yes. Same time period	N: 566 , n with outcomes: 566 , n with events: NR,(NR), total 7	N: 566 , n with outcomes: 566 , n with events: NR,(NR), total 37	NR	No.
Suh,2001 <sup>b</sup> <sub>7</sub>	Prescriptions for controller medicine	Arm B-persistent	number of leukotriene inhibitor prescriptions	NR	No	Yes. Same time period	N: 1050 , n with outcomes: 1050 n with events: 217,(2.3), total 217	N: 1050 , n with outcomes: 1050 n with events: 527,(6.2), total 527	NR	No.
Veninga,1999 <sup>58</sup>	Prescriptions for	Arm A-Netherla	Proportion of patients on	NR	Yes	"To control for seasonal	N: 12,(58)	NR	(56)	Yes. TK: %'s from

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	controller medicine	nds control arm	inhaled corticosteroids (continued in ID2)			influences on asthma treatment, outcome data of a comparable period were collected after the intervention (between sept 1995 and aug 1997)."				above - weighted mean proportions per group of doctors calculated with multilevel model (taking account hierarchical data structure - prescriptions within patients within doctors within groups) using random effects model
Veninga, 1999 <sup>58</sup>	Prescriptions for controller medicine	Arm B-Netherlands intervention arm	Proportion of patients on inhaled corticosteroids (continued in ID2)	NR	Yes	"To control for seasonal influences on asthma treatment, outcome data of a comparable period were collected after the	N: 12,(58)	NR	(63)	Yes, TK: %'s from above - weighted mean proportions per group of doctors calculated with

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
						intervention (between sept 1995 and aug 1997)."				multilevel model (taking account hierarchical data structure - prescriptions within patients within doctors within groups) using random effects model
Veninga, 1999 <sup>58</sup>	Prescriptions for controller medicine	Arm C-	Proportion of patients on inhaled corticosteroids (continued in ID2)	NR	Yes	"To control for seasonal influences on asthma treatment, outcome data of a comparable period were collected after the intervention (between sept 1995 and aug 1997)."	N: 18,(46)	NR	(50)	Yes. TK: %'s from above - weighted mean proportions per group of doctors calculated with multilevel model (taking account hierarchical data structure - prescriptions within

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
										patients within doctors within groups) using random effects model
Veninga, 1999 <sup>58</sup>	Prescriptions for controller medicine	Arm D-Sweden intervention arm	Proportion of patients on inhaled corticosteroids (continued in ID2)	NR	Yes	"To control for seasonal influences on asthma treatment, outcome data of a comparable period were collected after the intervention (between sept 1995 and aug 1997)."	N: 18,(47)	NR	(53)	-1tk: %'s from above - weighted mean proportions per group of doctors calculated with multilevel model (taking account hierarchical data structure - prescriptions within patients within doctors within groups) using random effects model

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Veninga,2000 <sup>59</sup>	Prescriptions for controller medicine	Arm A-UTI	Proportion of patients receiving inhaled corticosteroids of all defined asthma patients	0-100	No	Yes. Both data collection periods were from June to Nov (in 1995 and then 1996)	N: NR , n with outcomes: NR , n with events: NR,(0.58)	NR	N: NR , n with outcomes: NR , n with events: NR,(0.56),	No. I do not think the proportions above are adjusted. I'm not certain what else was in the model for which the regression coefficients are reported
Veninga,2000 <sup>59</sup>	Prescriptions for controller medicine	Arm B-Asthma	Proportion of patients receiving inhaled corticosteroids of all defined asthma patients	0-100	No	Yes. Both data collection periods were from June to Nov (in 1995 and then 1996)	N: NR , n with outcomes: NR , n with events: NR,(0.58),	NR	N: NR , n with outcomes: NR , n with events: NR,(0.63),	No. I do not think the proportions above are adjusted. I'm not certain what else was in the model for which the regression coefficients are reported
Yawn,2010 <sup>25</sup>	Prescriptions for controller	Arm B-	daily anti-inflammatory medication	NR	NR	NR	N: 840,(24)	N: 851,(73)	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
Veninga, 1999 <sup>58</sup>	Proportion of patients on inhaled corticosteroids	Arm A- Norway control	Proportion of patients on inhaled corticosteroids (same outcome as ID1)	NR	Yes	"To control for seasonal influences on asthma treatment, outcome data of a comparable period were collected after the intervention (between Sept 1995 and Aug 1997)."	N: 16,(46)	NR	(50)	Yes. TK: %'s from above - weighted mean proportions per group of doctors calculated with multilevel model (taking account hierarchical data structure - prescriptions within patients within doctors within groups) using random effects model
Veninga, 1999 <sup>58</sup>	Proportion of patients on inhaled corticosteroids	Arm B- Norway intervention	Proportion of patients on inhaled corticosteroids (same outcome as ID1)	NR	Yes	"To control for seasonal influences on asthma treatment, outcome data of a	N: 16,(47)	NR	(54)	Yes. TK: %'s from above - weighted mean proportions per

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
						comparable period were collected after the intervention (between sept 1995 and aug 1997)."				group of doctors calculated with multilevel model (taking account hierarchical data structure - prescriptions within patients within doctors within groups) using random effects model
Veninga, 1999 <sup>58</sup>	Proportion of patients on inhaled corticosteroids	Arm C-	Proportion of patients on inhaled corticosteroids (same outcome as ID1)	NR	Yes	"To control for seasonal influences on asthma treatment, outcome data of a comparable period were collected after the intervention (between sept 1995 and aug 1997)."	N: 10,(41)	NR	(47)	Yes. TK: %'s from above - weighted mean proportions per group of doctors calculated with multilevel model (taking account hierarchic

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
										al data structure - prescriptions within patients within doctors within groups) using random effects model
Veninga, 1999 <sup>58</sup>	Proportion of patients on inhaled corticosteroids	Arm D-Slovakia intervention	Proportion of patients on inhaled corticosteroids (same outcome as ID1)	NR	Yes	"To control for seasonal influences on asthma treatment, outcome data of a comparable period were collected after the intervention (between sept 1995 and aug 1997)."	N: 10,(38)	NR	(50)	Yes. TK: %'s from above - weighted mean proportions per group of doctors calculated with multilevel model (taking account hierarchical data structure - prescriptions within patients within doctors within groups)

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
										using random effects model
Baker,2003 <sup>26</sup>	Self-management education	Arm A-guidelines	patient's inhaler technique has been checked and recorded	NR	NR	NR	N: 412 , n with outcomes: 53,(12.9)	NR	N: 488 , n with outcomes: 66,(13.5)	No.
Baker,2003 <sup>26</sup>	Self-management education	Arm B-review criteria	patient's inhaler technique has been checked and recorded	NR	NR	NR	N: 442 , n with outcomes: 61,(13.8)	NR	N: 479 , n with outcomes: 54,(11.3)	No.
Baker,2003 <sup>26</sup>	Self-management education	Arm C-	patient's inhaler technique has been checked and recorded	NR	NR	NR	N: 385 , n with outcomes: 93,(24.2)	NR	N: 471 , n with outcomes: 97,(20.6)	No.
Daniels,2005 <sup>3</sup>	Self-management education	Arm A-Control	% of chart reviews	0-100%	NR	NR	N: 136079	NR	NR	No.
Eccles,2002 <sup>27</sup>	Self-management education	Arm A-angina	n(%) who received asthma education, action plan, or both	%:0-100	Yes	NR	N: NR , n with outcomes: 1163 , n with events: 108,(9)	N: NR , n with outcomes: 1163 n with events: 78,(7)	NR	No.
Eccles,2002 <sup>27</sup>	Self-management education	Arm B-asthma	n(%) who received asthma education, action plan, or both	%:0-100	Yes	NR	N: NR , n with outcomes: 1200 n with events: 79,(7)	N: NR , n with outcomes: 1200 n with events: 60,(5)	NR	No.
Eccles,2002 <sup>27</sup>	Self-manageme	Arm C-	n(%) who received	%:0-100	Yes	NR	NR	NR	NR	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
	nt education		asthma education, action plan, or both							
Lesho,2005 <sup>49</sup>	Self-management education	Decision Support	NR	NR	Unable to determine	No	N: 330,(51)	N: 334,(65)	NR	No.
Patel,2004 <sup>13</sup>	Self-management education	Organizational Change	NR	NR	NR	NR	N: 451,(15.7)	N: 427,(26.1)	NR	No.
Ragazzi,2010 <sup>14</sup>	Self-management education	Practice 1	NR	NR	Yes	No	N: 17,(47)	N: 24,(79)	NR	No.
Ragazzi,2010 <sup>14</sup>	Self-management education	Practice 2	NR	NR	Yes	No	N: 26,(23)	N: 19,(47)	NR	No.
Ragazzi,2010 <sup>14</sup>	Self-management education	Practice 3	NR	NR	Yes	No	N: 10,(10)	N: 21,(86)	NR	No.
Richman,2000 <sup>29</sup>	Self-management education	Feedback	"basic education"	0-100	No	No	N: NR , n with events: NR,(30)	N: NR, n with events: NR,(70)	NR	No.
Richman,2000 <sup>29</sup>	Self-management education	Feedback	"referral for comprehensive education"	0-100	No	No	N: NR , n with events: NR,(13)	N: NR, n with events: NR,(34)	NR	No.
Ruoff,2002 <sup>30</sup>	Self-management education	Arm A- Before the flow sheet	Inhaler technique education	NR	NR	NR	NR	NR	N: 122,(7.07)	No.
Ruoff,2002	Self-	Arm B-	Inhaler	NR	NR	NR	NR	NR	N: 122,(78.95)	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
2 <sup>30</sup>	management education	After implementation of the flowsheet	technique education							
Ruoff,2002 <sup>30</sup>	Self-management education	Arm A- Before the flow sheet	Flow meter education	NR	No	No	NR	NR	N: 122,(7.07)	No.
Ruoff,2002 <sup>30</sup>	Self-management education	Arm B- After implementation of the flow sheet	Flow meter education	NR	No	No	NR	NR	N: 122,(63.13)	No.
Schneider, 2008 <sup>17</sup>	Self-management education	Arm A- traditional quality circle	receipt/non-receipt	binary	Yes	NR	N: NR , n with outcomes: 62 , n with events: 20,(30.3)	NR	N: 62 , n with outcomes: 62 , n with events: 20,(30.3)	No.
Schneider, 2008 <sup>17</sup>	Self-management education	Arm B- benchmark quality circle	receipt/non-receipt	binary	Yes	NR	N: NR , n with outcomes: 113 , n with events: 37,(31.1)	NR	N: 113 , n with outcomes: 113 , n with events: 39,(32.8)	No.
Smeele,1999 <sup>31</sup>	Self-management education	Arm A- Control	Written patient education	NR	NR	NR	N: 17 , n with outcomes: 17 , n with events: 17,(21),	N: 17 , n with outcomes: 17 , n with events: 17,(25)	NR	No.
Smeele,1999 <sup>31</sup>	Self-management education	Arm B- Intervention	Written patient education	NR	NR	NR	N: 17 , n with outcomes: 16,(26)	n with outcomes: 16,(29)	NR	No.
Smeele,1999 <sup>31</sup>	Self-management education	Arm A- control arm	Patient education inhalation instruction materials	NR	Yes	No	N: 17 , n with events: 11	N: 17 , n with events: 13	N: 13	No.
Smeele,19	Self-	Arm B-	Patient	NR	Yes	No	N: 17 , n with	N: 16 , n with	N: 17	No.

Author, Year	Health Care Process Outcomes	Arm	Definition of Scale	Range of Scale	Were outcomes measured over a period of at least 12 months?	Is there enough information to determine seasonality?	Measurement at Baseline n (%) mean SD	Measurement at end of treatment n (%) mean SD	Measurement at last follow-up n (%) mean SD	Were outcomes adjusted?
99 <sup>31</sup>	management education	Intervention group	education inhalation instruction materials				outcomes: 16,(15)	outcomes: 16,(17)		
Smeele,1999 <sup>31</sup>	Self-management education	Arm A- Control group	Peakflow measurement	NR	NR	NR	N: 17 , n with outcomes: 17 , n with events: 9	N: 17 , n with outcomes: 17 , n with events: 11	NR	No.
Smeele,1999 <sup>31</sup>	Self-management education	Arm B- Intervention group	Peakflow measurement	NR	NR	NR	N: 17 , n with events: 12,	N: 17 , n with events: 17	NR	No.
Yawn,2010 <sup>25</sup>	Self-management education	Education and Feedback	NR	NR	Unable to determine	No	N: 840,(8)	N: 851,(54)	NR	No.

SBHC = South Bronx Health Center; NR = Not Reported; ENT = ear nose throat; NYCHP = New York Children's Health Project; HCSD = Health Care Services Division; ER = Emergency Room; TOM = Therapeutic Outcomes Monitoring; HPQOL = Health Profile Quality of Life; QOL = Quality of Life; PLE = Peer Leader Education; UP = Urban Practice; SP = Suburban Practice; ICS = Inhaled Corticosteroids; GP = General Practitioner; UTI = Urinary Tract Infection

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**Evidence Table 7. Mean Difference Between Groups Clinical Outcomes**

Author, Year	Clinical Outcome	Arm	Comparison Arm	Total N in Arm A	Total N in Comparison Arm	Total N in both arms	Definition of Scale	Range of Scale	Time	Statistical comparison (OR, RR, RD, HR P value 95% CI )
Bryce,1995 <sup>1</sup>	Emergency department visits	Arm A	Arm B	1563	1585	NR	No of patients attending: Accident and emergency departments	NR	NR	Risk Ratio: 0.42, 95%CI: (0.09 to 1.94)
Cabana, 2006 <sup>2</sup>	Emergency department visits	Arm A	Arm B	368	363	731	Mean # visits per year	NR	NR	p-value:<0.05
Clark,1998 <sup>3</sup>	Emergency department visits	Arm A	NR	NR	NR	NR	NR	NR	NR	p-value: ns
Coleman, 2003 <sup>4</sup>	Emergency department visits	Arm A	Arm B	510	135	645	NR	NR	6	p-value: 0.372 Unit: months mean difference; Pre intervention: p=0.357  mean difference between groups post intervention Post Intervention: p=0.372
Glasgow, 2003 <sup>5</sup>	Emergency department visits	Arm A	Arm B	71	95	NR	Attended emergency department 1-3 times in past 12 months	NR	NR	Odds Ratio: 0.4 p-value: 0.06 95% CI: 0.2,1.04
Halterman,2005 <sup>6</sup>	Emergency department visits	Arm A	Arm B	77	73	150	NR	NR	NR	p-value: 0.25
McGowan,2001 <sup>7</sup>	Emergency department visits	Arm A	Arm B	330	147	NR	Accident and emergency	NR	NR	Odds Ratio: 0, 95%CI: (0,9.16)
Mitchell,2005 <sup>8</sup>	Emergency department visits	Arm A	Arm B	NR	NR	104501	# of attendance per person week x10 <sup>5</sup>	NR	NR	p-value:0.3
Renzi,2006 <sup>9</sup>	Emergency department visits	Arm A	Arm B, C and D	222	1390	NR	NR	NR	NR	p-value: 0.009
Ruoff,2002 <sup>10</sup>	Emergency department visits	Arm A	Arm B	122	122	NR	Emergency room visits	NR	NR	p-value: <0.0001
Weinberger,2002 <sup>11</sup>	Emergency department visits	Arm A	Arm C	246	356	602	Hospital or emergency department visit	NR	12	Odds Ratio: 1.08 95%CI: 0.93,1.2

							in past month (admission)			
Weinberger,2002 <sup>11</sup>	Emergency department visits	Arm B	Arm C	296	356	652	Hospital or emergency department visit in past month (admission)	NR	12	Odds Ratio 2.16 95%CI: 1.76,2.6
Bryce,1995 <sup>1</sup>	hospitalizations	Arm A	Arm B	1563	1585	NR	No of patients admitted	NR	NR	Risk Ratio: 0.53 95%CI: 0.22,1.26
Cabana,2006 <sup>2</sup>	Hospitalizations	Arm A	Arm B	368	363	731	Mean # hospitalizations	NR	NR	p-value:>0.05
Clark,1998 <sup>3</sup>	hospitalizations	Arm A	Arm B	NR	NR	NR	NR	NR	NR	p-value: ns
Haltermann,2005 <sup>6</sup>	Hospitalizations	Arm A	Arm B	77	73	150	NR	NR	NR	p-value: 0.62 95%
McGowan,2001 <sup>7</sup>	hospitalizations	Arm A	Arm B	330	147	NR	Admissions	NR	NR	Odds Ratio: 0, 95%CI: (0,3.44)
Mitchell,2005 <sup>8</sup>	Hospitalizations	Arm A	Arm B	NR	NR	104501	# of admissions per person week x 10 <sup>5</sup>	NR	NR	p-value: 0.7
Renzi,2006 <sup>9</sup>	Hospitalizations	Arm A	Arm B, C and D	222	1390	NR	NR	NR	NR	p-value: 0.09
Ruoff,2002 <sup>10</sup>	Hospitalizations	Arm A	Arm B	122	122	NR	Hospitalizations	NR	NR	p-value: <0.0001
Armour,2007 <sup>12</sup>	Lung function tests	Arm A	Arm B	135	122	257	FEV1(% predicted)	NR	NR	Risk diff: -1.81 p-value: 0.14
Armour,2007 <sup>12</sup>	Lung function tests	Arm A	Arm B	135	122	257	FEV1/FVC (% predicted)	NR	NR	Risk diff: 0.41 p-value: 0.71 95% CI: -1.76,2.57
Bell,2009 <sup>13</sup>	Lung function tests	Arm A	Arm B	NR	NR	NR	Spirometry performed	NR	NR	P-value: 0.04
Holton,2011 <sup>14</sup>	Lung function tests	Arm A	Arm B	119	171	290	Post-bronchodilator FEV1/FVC ratio (mean)	NR	12	Risk Difference: -0.01 95%CI: -0.03,0.02 Unit: months "mean difference"
Holton,2011 <sup>14</sup>	Lung function tests	Arm A	Arm B	153	225	NR	Patients who had spirometry performed in the previous 6 months	NR	12	Risk Ratio: 0.91, 95%CI: 0.37,2.28
Holton,2011 <sup>14</sup>	Lung function tests	Arm A	Arm B	119	171	290	Post-bronchodilator FEV1/FVC ratio (mean)	NR	12	Risk Difference: -0.01 95%CI: -0.03,0.02, Unit: months "mean difference"

Holton,2011 <sup>14</sup>	Lung function tests	Arm A	Arm B	153	225	NR	Patients who had spirometry performed in the previous 6 months	NR	12	Risk Ratio: 0.91, 95%CI: 0.37,2.28, Unit: months
Glasgow, 2003 <sup>5</sup>	Missed days of school	Arm A	Arm B	71	95	NR	Did not miss any school days with wheezing or asthma in past 12 months†	NR	NR	Odds Ratio: 0.8 p-value: 0.3 95% CI: 0.5,1.2
Kattan,2006 <sup>15</sup>	Missed days of school	Arm A	Arm B	463	466	929	Mean # days per two weeks	NR	NR	p-value: 0.38
Holton,2011 <sup>14</sup>	Missed days of work	Arm A	Arm B	129	194	323	days off work due to asthma ("at least 1 day in the last 4 weeks")	NR	12	Risk Ratio: 1.52 95%CI: 0.91,2.54 Unit: months "rate ratio"
Holton,2011 <sup>14</sup>	Missed days of work	Arm A	Arm B	129	194	323	days off work due to asthma ("at least 1 day in the last 4 weeks")	NR	12	Risk Ratio: 1.52 95%CI: 0.91,2.54 Unit: months "rate ratio"
Ruoff,2002 <sup>10</sup>	Missed days of work	Arm A	Arm B	122	122	NR	Days of school/work missed	NR	NR	p-value: <0.0001
Mangione-Smith,2005 <sup>16</sup>	Parental perceptions	Arm A	Arm B	385	126	NR	Overall asthma process of care summary score	NR	NR	Risk Difference: 13, p-value: <0.0001
Armour,2007 <sup>12</sup>	Patient perceptions	Arm A	Arm B	176	153	329	Perceived control of asthma questionnaire	11-55		Risk diff: -1.39 p-value: <0.01 95% CI: -2.44,-0.35
Baker,2003 <sup>17</sup>	Patient perceptions	Arm A	NR	NR	NR	NR	patients are satisfied that everything possible was done to treat asthma	NR	NR	p-value: 0.83 Generalized Wald tests
Baker,2003 <sup>17</sup>	Patient perceptions	Arm A	NR	NR	NR	NR	patients are satisfied with explanations given by the doctor about asthma	NR	NR	p-value: 0.75 Generalized Wald tests
Holton,2011 <sup>14</sup>	Patient perceptions	Arm A	Arm B	129	194	323	Patient rating of acceptability of spirometry (mean; max 10)	0-10	12	Risk Difference: -0.1, 95%CI: -0.55,0.34, Unit: months "mean difference"
Holton,2011 <sup>14</sup>	Patient perceptions	Arm A	Arm B	129	194	323	Patient rating of usefulness of spirometry (mean; max 10)	0-10	12	Risk Difference: 0.14, 95%CI: -0.39,0.68, Unit: months "mean

										difference"
Smeele,1999 <sup>18</sup>	Prescriptions for controller medicine	Arm A	Arm B	15	15	30	Exacerbations: Prescription of inhaled steroids	NR	NR	Risk Difference: 14 p-value: 0.1 95%CI: -4% to 32%
Armour,2007 <sup>12</sup>	Quality of Life	Arm A	Arm B	186	160	346	Asthma related quality of life questionnaire (mean change from baseline)	NR	NR	-0.23 p-value:0.05 95%CI:-0.46,0.00
Holton,2011 <sup>14</sup>	Quality of Life	Arm A	Arm B	129	194	323	Asthma Quality of Life–TOTAL SCORE	NR	12	Risk Difference: -0.23 95%CI: -0.44,-0.01, Unit: months "mean difference"
Premaratne,1999 <sup>9</sup>	Quality of Life	Arm A	Arm B	NR	NR	NR	Mean square root quality of life	NR	NR	Risk Difference: -0.003 p-value: 0.96 95%CI: -0.121,0.115
McGowan,2001 <sup>7</sup>	Rescue use of short-acting B2 agonists	Arm A	Arm B	330	147	NR	Received emergency nebulisations	NR	NR	Odds Ratio: 0.13, 95%CI: (0.01,0.91)
Smeele,1999 <sup>18</sup>	Self-management education	Arm A	Arm B	17	16	33	Advise on house dust mite	NR	NR	Risk Difference p-value: 0.1 95%CI: -16%to 2%
Cabana,2006 <sup>2</sup>	Symptom days	Arm A	Arm B	368	363	731	Mean # days	NR	NR	p-value: <0.05
Holton,2011 <sup>14</sup>	Symptom Days	Arm A	Arm B	129	194	323	exacerbations (at least 1 in the last 4 weeks)	NR	12	Risk Ratio: 1.09 95%CI: 0.85,1.41 Unit: months "rate ratio"
Holton,2011 <sup>14</sup>	Symptom Days	Arm A	Arm B	129	194	323	asthma on waking (at least 1 night in the last 4 weeks)	NR	12	Risk Ratio: 1.21 95%CI: 0.79,1.85 Unit: months "rate ratio"
Holton,2011 <sup>14</sup>	Symptom Days	Arm A	Arm B	129	194	323	nocturnal asthma (at least 1 night in the last 4 weeks)	NR	12	Risk Ratio: 0.98 95%CI: 0.63,1.51 Unit: months "rate ratio"
Kattan,2006 <sup>15</sup>	Symptom days	Arm A	Arm B	463	466	929	Mean # per two weeks	NR	NR	p-value: 0.54
Baker,2003 <sup>17</sup>	Symptom Score	Arm A	NR	NR	NR	NR	mean symptom score	NR	NR	p-value: 0.02 Generalized Wald tests

Cabana, 2006 <sup>2</sup>	Urgent doctor visits	Arm A	Arm B	368	363	731	Mean # days	NR	NR	p-value: >0.05
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NR = Not Reported; FEV = Forced Expiratory Volume; FVC = Forced Vital Capacity

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**Evidence Table 8. Mean Difference Between Groups Healthcare Process Outcomes**

Author, Year	Healthcare Process Outcomes	Arm	Comparison Arm	Total N in Arm A	Total N in Comparison Arm	Total N in both Arms	Definition of Scale	Time	Statistical comparison (OR, RR, RD, HR P value 95% CI )
Hoskins,1997 <sup>1</sup>	Prescriptions for controller medicine	Arm A	Arm B	272	268	NR	NR	NR	Odds Ratio: 0.8 95%CI: 0.64,0.99
Hoskins,1997 <sup>1</sup>	Prescriptions for controller medicine	Arm A	Arm B	563	506	NR	NR	NR	Odds Ratio: 0.83 95%CI: 0.65,1.06
Hoskins,1997 <sup>1</sup>	Prescriptions for controller medicine	Arm A	Arm B	402	382	NR	NR	NR	Odds Ratio 0.7995 95%CI: 0.64,0.98
Halterman,2006 <sup>2</sup>	Asthma action plans	Arm A	Arm B	114	112	226	NR	NR	Odds Ratio: 4 p-value: <0.001 95%CI: 2.1,7.8
Halterman,2006 <sup>2</sup>	Prescriptions for controller medicine	Arm A	Arm B	114	112	226	NR	NR	Odds Ratio: 1.6 p-value: 0.12 95%CI: 0.9,3.0
Halterman,2005 <sup>3</sup>	Prescriptions for controller medicine	Arm A	Arm B	77	73	150	NR	NR	p-value: 0.57
Halterman,2005 <sup>3</sup>	Prescriptions for controller medicine	Arm A	Arm B	77	73	150	NR	NR	Odds Ratio: 0.78 p-value: 0.62
Holton,2011 <sup>4</sup>	Asthma action plans	Arm A	Arm B	153	225	378	Written asthma action plan prepared or revised in the previous 6 months	12	Unit: months
Clark,1998 <sup>5</sup>	Follow-up visits	Arm A	Arm B	NR	NR	NR	Visits/patient	NR	p-value: .018
Clark,1998 <sup>5</sup>	Asthma action plans	Arm A	Arm B	NR	NR	NR	NR	NR	Odds Ratio: 1.74 p-value: .03
Clark,1998 <sup>5</sup>	Follow-up visits	Arm A	Arm B	NR	NR	NR	Scheduled	NR	p-value: .005
Clark,1998 <sup>5</sup>	Follow-up visits	Arm A	Arm B	NR	NR	NR	After an episode of symptoms	NR	p-value: .005
Ruoff,2002 <sup>6</sup>	Self-management education	Arm A	Arm B	122	122	NR	Flow meter education	NR	p-value: <.0001
Ruoff,2002 <sup>6</sup>	Self-management education	Arm A	Arm B	122	122	NR	Inhaler technique education	NR	p-value: <.0001
Ruoff,2002 <sup>6</sup>	Prescription of peak flow meter	Arm A	Arm B	122	122	NR	Yearly PFT	NR	p-value: <0.0001
Veninga,1999 <sup>7</sup>	Prescriptions for controller medicine	Arm A	NR	12	12	24	Proportion of patients on inhaled cortico-steroids	NR	1.27, p-value: <0.05 effect

Author, Year	Healthcare Process Outcomes	Arm	Comparison Arm	Total N in Arm A	Total N in Comparison Arm	Total N in both Arms	Definition of Scale	Time	Statistical comparison (OR, RR, RD, HR P value 95% CI )
									size
Veninga,1999 <sup>7</sup>	Prescriptions for controller medicine	Arm A	NR	18	18	36	Proportion of patients on inhaled cortico-steroids	NR	0.33 p-value: >=0.05 effect size
Veninga,1999 <sup>7</sup>	Prescriptions for controller medicine	Arm A	NR	16	16	32	Proportion of patients on inhaled cortico-steroids	NR	0.51 p-value: >=0.05 effect size
Mangione-Smith,2005 <sup>8</sup>	Asthma action plans	Arm A	Arm B	385	126	NR	All patients should have a written action plan in the medical record that is based on changes in symptoms or peak flow measurements	NR	Risk Difference: 33 p-value: <0.0001
Mangione-Smith,2005 <sup>8</sup>	Self-management education	Arm A	Arm B	385	126	NR	Patients should be educated in self-management of asthma	NR	Risk Difference: 21 p-value: <0.0001
Weinberger,2002 <sup>9</sup>	medication compliance	Arm A	Arm C	246	356	602	% not compliant	12	Odds Ratio: 1.09 95%CI: 0.80,1.49
Bryce,1995 <sup>10</sup>	Prescriptions for controller medicine	Arm A	Arm B	1563	1585	NR	Bronchodilators Inhaled	NR	Risk Ratio: 1.16 95%CI: 0.93,1.45
Bryce,1995 <sup>10</sup>	Prescriptions for controller medicine	Arm A	Arm B	1563	1585	NR	Bronchodilators Oral	NR	Risk Ratio: 1.43 95%CI: 1.06,1.94
Bryce,1995 <sup>10</sup>	Prescriptions for controller medicine	Arm A	Arm B	1563	1585	NR	Prophylactic agents Cromoglycate	NR	Risk Ratio: 1.52 95%CI: 1.02,2.25
Bryce,1995 <sup>10</sup>	Prescriptions for controller medicine	Arm A	Arm B	1563	1585	NR	Prophylactic agents: Inhaled steroids	NR	Risk Ratio: 1.02 95%CI: 0.71,1.47
Bryce,1995 <sup>10</sup>	Prescriptions for controller medicine	Arm A	Arm B	1563	1585	NR	Peak flow meters	NR	Risk Ratio: 1.99 95%CI: 0.86,4.60
McGowan,2001 <sup>11</sup>	Prescription of peak flow meter	Arm A	Arm B	330	147	NR	Issued peak flow meter	NR	Odds Ratio: 1.52, 95%CI: (0.58–4.01)
Baker,2003 <sup>12</sup>	Self-management education	Arm A	NR	NR	NR	NR	patient's inhaler technique has been checked and recorded	NR	p-value: 0.56 Generalized Wald tests
Baker,2003 <sup>12</sup>	Environmental control practice recommendations	Arm A	NR	NR	NR	NR	patients have been advised to avoid passive smoking	NR	p-value: 0.72 Generalized Wald tests

Author, Year	Healthcare Process Outcomes	Arm	Comparison Arm	Total N in Arm A	Total N in Comparison Arm	Total N in both Arms	Definition of Scale	Time	Statistical comparison (OR, RR, RD, HR P value 95% CI )
Baker,2003 <sup>12</sup>	Environmental control practice recommendations	Arm A	NR	NR	NR	NR	patient's current smoking status has been established and recorded (past 12 months)	NR	p-value: 0.74 Generalized Wald tests
Coleman, 2003 <sup>13</sup>	Prescription of peak flow meter	Arm A	Arm B	510	135	645	NR	6	p-value: 0.607 Unit: months
Smeele,1999 <sup>14</sup>	Self-management education	Arm A	Arm B	17	17	34	patient education inhalation instruction materials	NR	p-value: 0.4
Smeele,1999 <sup>14</sup>	Self-management education	Arm A	Arm B	17	16	33	Advise on house dust mite	NR	Risk Difference p-value: 0.1 95%CI: -16%to 2%
Smeele,1999 <sup>14</sup>	Self-management education	Arm A	Arm B	17	16	33	Written patient education	NR	Risk Difference: -1 p-value: 0.8 95%CI: -13% -11%
Smeele,1999 <sup>14</sup>	Prescriptions for controller medicine	Arm A	Arm B	15	15	30	Exacerbations: prescription of Oral steroids	NR	Risk Difference: 5 p-value: 0.7 95%CI: -19%-28%
Smeele,1999 <sup>14</sup>	Prescriptions for controller medicine	Arm A	Arm B	15	15	30	Exacerbations: Prescription of inhaled steroids	NR	Risk Difference: 14 p-value: 0.1 95%CI: -4% to32%
Premaratne,1999 <sup>15</sup>	Prescriptions for controller medicine	Arm A	Arm B	870	627	NR	Possession of steroid inhaler	NR	Odds Ratio: 1.07 95%CI: 0.87-1.31
Premaratne,1999 <sup>15</sup>	Prescriptions for controller medicine	Arm A	Arm B	880	623	NR	Possession of peak flow meter	NR	Odds Ratio: 0.78 95%CI: 0.49-1.24
Premaratne,1999 <sup>15</sup>	Prescriptions for controller medicine	Arm A	Arm B	869	628	NR	Explanation of appropriate actions if asthma symptoms worsen	NR	Odds Ratio: 0.81 95%CI: 0.64-1.01
Glasgow,2003 <sup>16</sup>	Asthma action plans	Arm A	Arm B	73	71	NR	Have a written asthma action plan	NR	Odds Ratio: 2.2 p-value: 0.01 95% CI: 1.2,4.1
Glasgow,2003 <sup>16</sup>	Prescriptions for controller medicine	Arm A	Arm B	71	95	NR	Uses nebuliser	NR	Odds Ratio: 0.5 p-value: 0.09 95%CI: 0.2,1.1
Bell,2009 <sup>17</sup>	Prescriptions for controller medicine	Arm A	Arm B	1328	1205	NR	Controller medication prescribed	NR	p-value: 0.006
Kattan,20	Follow-up visits	Arm A	Arm B	463	466	929	# of visits per year	NR	P-value: 0.14

Author, Year	Healthcare Process Outcomes	Arm	Comparison Arm	Total N in Arm A	Total N in Comparison Arm	Total N in both Arms	Definition of Scale	Time	Statistical comparison (OR, RR, RD, HR P value 95% CI )
06 <sup>18</sup>									
Daniels,2005 <sup>19</sup>	Asthma action plan	Arm A	Arm B	136079	90555	222634	z	NR	Z=0.17
Daniels,2005 <sup>19</sup>	Prescriptions for peak flow meter	Arm A	Arm B	136079	90555	222634	Z	NR	Z=0.006*
Daniels,2005 <sup>19</sup>	NR	Arm A	Arm B	136079	90555	222634	Z	NR	Z=0.30
Daniels,2005 <sup>19</sup>	Prescriptions for medicine	Arm A	Arm B	136079	90555	222634	Z	NR	Z=0.63
Daniels,2005 <sup>19</sup>	Follow-up visits	Arm A	Arm B	136079	90555	222634	Z	NR	Z=0.24
Mitchell,2005 <sup>20</sup>	Prescriptions for controller medicine	Arm A	Arm B	NR	NR	104501	% decrease in # of inhaled corticosteroids	NR	p-value: 0.4
Mitchell,2005 <sup>20</sup>	Prescriptions for controller medicine	Arm A	Arm B	NR	NR	104501	% decrease in the # of inhalers relievers prescribed	NR	Other:0.2
Mitchell,2005 <sup>20</sup>	Prescriptions for controller medicine	Arm A	Arm B	NR	NR	104501	% decrease in oral relievers prescribed	NR	p-value: <0.001
Mitchell,2005 <sup>20</sup>	Prescriptions for controller medicine	Arm A	Arm B	NR	NR	104501	% decrease in Rx's for reliever dry powder	NR	p-value:0.3
Mitchell,2005 <sup>20</sup>	Prescriptions for controller medicine	Arm A	Arm B	NR	NR	104501	% decrease of # Rx's for mast cell stabilizers	NR	p-value:0.5
Mitchell,2005 <sup>20</sup>	Prescriptions for controller medicine	Arm A	Arm B	NR	NR	104501	% decrease in # of Rx's for the theophylline group of drugs	NR	p-value:0.3

NR = Not Reported; PFT = Pulmonary Function Test

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**Evidence Table 9. Mean Difference Within Groups Clinical**

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
Cabana,2006 <sup>1</sup>	Arm A-Control, 368	Emergency department visits	Mean # ED visits per year	NR	NR	Time: 12 Mean diff: -0.3	Mean # ED visits per year
Cabana,2006 <sup>1</sup>	Arm B- Intervention, 363	Emergency department visits	Mean # ED visits per year	NR	NR	Time: 12 Mean diff: -0.55	Mean # ED visits per year
Cabana,2006 <sup>1</sup>	Arm C-	Emergency department visits	Mean # ED visits per year	NR	NR	NR	Mean # ED visits per year
Cloutier,2009 <sup>2</sup>	Decision support	Emergency department visits	NR	NR	p-value: < 0.01 27% decrease	p-value: <0.01 27% decrease	Number of Emergency Department visits per 100 children per 12 months eligibility.  “other” refers to the percentage decrease in overall hospitalization after the Easy Breathing intervention versus pre intervention.
Cloutier,2005 <sup>3</sup>	Arm B- Intermittent asthma	Emergency department visits	ED visit/child/year	NR	Time: NR 95%CI: 0.799,1.049 p-value: 0.82 Adjusted RR- 0.915	NR	NR
Cloutier,2005 <sup>3</sup>	Arm C- Persistent asthma, 1799	Emergency department visits	ED visit/child/year	NR	Time: NR 95%CI: 0.776,0.999 p-value: 0.05 Adjusted RR- 0.880	NR	NR
Finkelstein,2005 <sup>4</sup>	Arm A-Control, 1531	Emergency department visits	Unadjusted mean absolute change from baseline	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: -0.01 95%CI: -0.04, 0.02	1(+) ED/hospitalization
Finkelstein,2005 <sup>4</sup>	Arm B- PLE Intervention, 2003	Emergency department visits	Unadjusted mean absolute change from baseline	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: -0.01 95%CI: -0.05, 0.03	1(+) ED/hospitalization
Finkelstein,2005 <sup>4</sup>	Arm C-Planned care intervention, 1635	Emergency department visits	Unadjusted mean absolute change from baseline	NR	Time: 12 Mean diff: NR	Time: 24	1(+) ED/hospitalization

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference • SD • 95% CI • P-value	Last Follow-up Mean difference • SD • 95% CI • P-value	Additional Comments
Lesho,2005 <sup>9</sup>	Decision Support	Emergency department visits	NR	NR	Time: NR Mean diff: 0.65 p-value: <0.001	NR	NR
Mitchell,2005 <sup>5</sup>	Arm A-Control	Emergency department visits	Percent decrease in the number of attendances at Children's ED per person week x 10 <sup>5</sup> (95% confidence intervals)	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 30%	NR	Percent decrease in the number of attendances at Children's ED per person week x 10 <sup>5</sup> (95% confidence intervals)
Mitchell,2005 <sup>5</sup>	Arm B-Intervention	Emergency department visits	Percent decrease in the number of attendances at Children's ED per person week x 10 <sup>5</sup> (95% confidence intervals)	NR	Time: 9 Mean diff: NR 25% decrease	NR	Percent decrease in the number of attendances at Children's ED per person week x 10 <sup>5</sup> (95% confidence intervals)
Patel,2004 <sup>7</sup>	Organizational Change-, 427 ,	Emergency department visits	Visits/1000 population		Time: 13 Mean diff: -0.41 p-value: <0.001	NR	NR
Suh,2001 <sup>8</sup>	Arm A-intermittent, 566	Emergency department visits	mean number of ED visits per patient	NR	Time: 9 Intermittent Mean diff: 0.06 95% CI: 0.04,0.09 p-value: 0.001	NR	P for intermittent and persistent less than value in cell
Suh,2001 <sup>8</sup>	Arm B-persistent, 1050	Emergency department visits	mean number of ED visits per patient	NR	Time: 9 Persistent Mean diff: -0.11 95%CI: -0.14, -0.08 p-value: 0.001	NR	P for intermittent and persistent less than value in cell
Cabana,2006 <sup>1</sup>	Arm A-Control, 368	Hospitalizations	mean # per year	NR	NR	Time: 12 Mean diff: -0.06	*OUTCOME: Mean hospitalizations for asthma per year.
Cabana,2006 <sup>1</sup>	Arm B-Intervention, 363	Hospitalizations	mean # per year	NR	NR	Time: 12 Mean diff: -0.06	*OUTCOME: Mean hospitalizations for asthma per year.
Cabana,2006 <sup>1</sup>	Arm C-	Hospitalizations	mean # per year	NR	NR	NR	*OUTCOME: Mean hospitalizations for asthma per year.

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
Cloutier,2005 <sup>3</sup>	Arm B- Intermittent asthma	Hospitalizations	NR	NR	Time: NR 95%CI: 0.453,1.350 p-value: 0.38 Adjusted RR- 0.782	NR	NR
Cloutier,2005 <sup>3</sup>	Arm C- Persistent asthma, 1799	Hospitalizations	NR	NR	Time: NR 95%CI: 0.454,0.932 p-value: 0.02 Adjusted RR- 0.651	NR	NR
Cloutier,2009 <sup>2</sup>	Decision support	Hospitalizations	NR	NR	p-value: <0.006 35% decrease	p-value: <0.006 35% decrease	Number of hospital visits per 100 children per 12 months eligibility.  "other" refers to the percentage decrease in overall hospitalization after the Easy Breathing intervention versus pre intervention.
Lesho,2005 <sup>5</sup>	Decision Support,582	Hospitalizations	NR	NR	Time: NR Mean diff: 0.6 p-value: <0.001	NR	NR
Mitchell,2005 <sup>5</sup>	Arm A-Control	Hospitalizations	Percent decrease in the number of admissions per person week x 10 <sup>^5</sup> (95% confidence intervals)	NR	Time: 9 33% decrease	NR	% decrease in the number of admissions per person week x 10 <sup>^5</sup> (95% confidence intervals)
Mitchell,2005 <sup>5</sup>	Arm B- Intervention	Hospitalizations	Percent decrease in the number of admissions per person week x 10 <sup>^5</sup> (95% confidence intervals)	NR	Time: 9 40% decrease	NR	% decrease in the number of admissions per person week x 10 <sup>^5</sup> (95% confidence intervals)
Mitchell,2005 <sup>5</sup>	Arm C-	Hospitalizations	Percent decrease in the number of admissions per person week x 10 <sup>^5</sup> (95% confidence intervals)	NR	NR	NR	% decrease in the number of admissions per person week x 10 <sup>^5</sup> (95% confidence intervals)

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference • SD • 95% CI • P-value	Last Follow-up Mean difference • SD • 95% CI • P-value	Additional Comments
Patel,2004 <sup>7</sup>	Organizational change, 427	Hospitalizations	Hospitalization/1000 population	NR	Time: 13 Mean diff: -0.54 p-value: <0.001	NR	NR
Shapiro,2011 <sup>9</sup>	SBHC, 200	Hospitalizations	NR	NR	Time: 12 p-value: <0.001	NR	NR
Shapiro,2011 <sup>9</sup>	NYCHP, 249	Hospitalizations	NR	NR	Time: 12 p-value: <0.001	NR	NR
Suh,2001 <sup>8</sup>	Arm A- intermittent, 566	Hospitalizations	number of hospitalizations per patient	NR	Time: 9 Mean diff: 0.02 95%CI: 0.12,0.03 p-value: 0.001	NR	NR
Suh,2001 <sup>8</sup>	Arm B- persistent, 1050	Hospitalizations	number of hospitalizations per patient	NR	Time: 9 Mean diff: -0.03 SD diff: NR 95%CI: -0.05,0.02, p-value: 0.003	NR	NR
To,2008 <sup>10</sup>	PCAPP Intervention, 1014	Hospitalizations	NR	NR	NR	Time: 12 95%CI: 0.32–2.03 p-value: p>0.05 OR: 0.80	Hospitalizations in last 6 months (dichotomous outcome).
Hagmolen,2008 <sup>11</sup>	Arm A-extract, 98	Lung function tests	PEF variability	NR	NR	Time: 12 Mean diff: -1.3 p-value: 0.05	NR
Hagmolen,2008 <sup>11</sup>	Arm B-extract and education, 133	Lung function tests	PEF variability	NR	NR	Time: 12 Mean diff: -1.7 p-value: <0.001	NR
Hagmolen,2008 <sup>11</sup>	Arm C-extract, education, indiv rx, 131	Lung function tests	PEF variability	NR	NR	Time: 12 Mean diff: -1.6 p-value: 0.001	NR
Hagmolen,2008 <sup>11</sup>	Arm A-extract, 98	Lung function tests	FEV1 % predicted	0-100	NR	Time: 12 Mean diff: 0.1	NR
Hagmolen,2008 <sup>11</sup>	Arm B-extract and ed, 133	Lung function tests	FEV1 % predicted	0-100	NR	Time: 12 Mean diff: -1	NR
Hagmolen,2008 <sup>11</sup>	Arm C-extract, ed, and indiv rx, 131	Lung function tests	FEV1 % predicted	0-100	NR	Time: 12 Mean diff: 0.2	NR
Lesho,2005 <sup>5</sup>	Arm B-, 334	Lung function tests	NR	NR	Time: NR Mean diff: 0.07 p-value: 0.15	NR	Result reported only for those with persistent asthma

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
O'Laughlen,2008 <sup>12</sup>	MSAGR group, 24	Lung function tests	FEV1	NR	NR	NR	p = 0.01 : p value for test of trends
To,2008 <sup>10</sup>	PCAPP Intervention, 463	Missed days of school	NR	NR	NR	Time: 12 95%CI: 0.25–0.54 OR: 0.37	Lost days of school among children (dichotomous outcome).
To,2008 <sup>10</sup>	PCAPP Intervention, 551	Missed days of work	NR	NR	NR	Time: 12 95%CI: 0.34,0.71 0.49	OUTCOME: Missed days of work among adults (dichotomous outcome).
Lesho,2005 <sup>5</sup>	Decision Support,334	NR	NR	NR	Time: NR Mean diff: 0.02 p-value: 0.78	NR	Result reported only for those with persistent asthma
Saini,2004 <sup>13</sup>	Arm C-	NR	NR	NR	NR	p-value: <0.001	NR
Shapiro,2011 <sup>9</sup>	SBCH, 200	NR	NR	NR	Time: 12 p-value: <0.001	NR	NR
Shapiro,2011 <sup>9</sup>	NYCHP 249	NR	NR	NR	Time: 12 p-value: <0.001	NR	NR
Mangione-Smith,2005 <sup>14</sup>	Arm A-control, 385	Parental perceptions	Overall asthma process of care summary score	NR	NR	Mean diff: 0	p<0.0001
Mangione-Smith,2005 <sup>14</sup>	Arm B-intervention	Parental perceptions	Overall asthma process of care summary score	NR	NR	Mean diff: 0.12	NR
Mangione-Smith,2005 <sup>14</sup>	Arm B-intervention, 126	Parental perceptions	Overall asthma process of care summary score	NR	NR	Mean diff: 12	p<0.0001
Baker,2003 <sup>15</sup>	Arm A-	Patient perceptions	Patients are satisfied with explanations given by the doctor about asthma	NR	NR	NR	Generalized Wald tests were used to calculate P-values for differences between the interventions after adjustment
Baker,2003 <sup>15</sup>	Arm B-	Patient perceptions	Patients are satisfied with explanations given by the doctor about asthma	NR	NR	NR	Generalized Wald tests were used to calculate P-values for differences between the interventions after adjustment
Baker,2003 <sup>15</sup>	Arm C-	Patient	Patients are satisfied	NR	NR	NR	Generalized Wald tests

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
		perceptions	with explanations given by the doctor about asthma				were used to calculate P-values for differences between the interventions after adjustment
Baker,2003 <sup>15</sup>	Arm B-	Patient perceptions	NR	NR	NR	NR	NR
Baker,2003 <sup>15</sup>	Arm C-	Patient perceptions	NR	NR	NR	NR	NR
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 11	Quality of Life	NR	NR	Time: 6 Mean diff: 1.8	Time: 6 Mean diff: 1.8	quality of life activity subscale (ages 7-9 years); SE 0.30; P-
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 11	Quality of Life	NR	NR	Time: 6 Mean diff: 0.9	Time: 6 Mean diff: 0.9	quality of life symptoms subscale (ages 7-9 years); SE=0.31 P-
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 123	Quality of Life	NR	NR	Time: 6 Mean diff: 0.42 p-value: <0.001	Time: 6 Mean diff: 0.42 p-value: <0.001	quality of life symptoms subscore, ages 10+ years; SE= 0.10
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 123	Quality of Life	NR	NR	Time: 6 Mean diff: 0.4 p-value: <0.001	Time: 6 Mean diff: 0.4 p-value: <0.001	quality of life emotions subscore, ages 10+; SE =0.10
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 11	Quality of Life	NR	NR	Time: 6 Mean diff: 1.23	Time: 6 Mean diff: 1.23	quality of life emotions subscale (ages 7-9 years) SE=0.40 P-
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 123	Quality of Life	NR	NR	Time: 6 Mean diff: 0.12 p-value: 0.20	Time: 6 Mean diff: 0.12 p-value: 0.20	quality of life, environment, ages 10+; SE=0.10
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 123	Quality of Life	NR	NR	Time: 6 Mean diff: 0.28 p-value: 0.001	Time: 6 Mean diff: 0.28 p-value: 0.001	quality of life activity subscale, ages 10+; SE 0.08
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 11	Quality of Life	NR	NR	Time: 6 Mean diff: 1.19	Time: 6 Mean diff: 1.19	quality of life overall subscale (ages 7-9 years) SE=1.19 P-
Blackstien-Hirsch,2000 <sup>16</sup>	Education, 123	Quality of Life	NR	NR	Time: 6 Mean diff: 0.33 p-value: <0.001	Time: 6 Mean diff: 0.33 p-value: <0.001	quality of life subscale, overall (ages 10+); SE=0.08
O'Laughlen,2008 <sup>12</sup>	MSAGR	Quality of Life	Physical health of child	NR	NR	NR	p < 0.01 difference

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference • SD • 95% CI • P-value	Last Follow-up Mean difference • SD • 95% CI • P-value	Additional Comments
	group,24						between base line and las follow up
O'Laughlen,2008 <sup>12</sup>	MSAGR, 24	Quality of Life	Activity of child1	NR	NR	NR	p = 0.78; difference between baseline and last follow up
O'Laughlen,2008 <sup>12</sup>	MSAGR, 24	Quality of Life	Activity of family	NR	NR	NR	p = 0.01; diff btw baseline and last follow up
O'Laughlen,2008 <sup>12</sup>	MSAGR, 24	Quality of Life	Emotional health of child	NR	NR	NR	p = 0.06; diff btw baseline and last follow up
O'Laughlen,2008 <sup>12</sup>	MSAGR, 24	Quality of Life	Emotional health of family	NR	NR	NR	p = 0.13; diff btw baseline and last follow up
Lesho,2005 <sup>5</sup>	Decision Support	Rescue use of short-acting B2 agonists	NR	NR	NR Mean diff: 0.54 p-value: <0.001	NR	NR
Cabana,2006 <sup>1</sup>	Arm A-Control, 368	Symptom Days	Change in # of days	NR	NR	Time: 12 Mean diff: -8.5	OUTCOME: Change in number of days for which activity was limited by asthma
Cabana,2006 <sup>1</sup>	Arm B-Intervention, 363	Symptom Days	Change in # of days	NR	NR	Time: 12 Mean diff: -15.6 SD diff: NR 95%CI: NR p-value: NR	OUTCOME: Change in number of days for which activity was limited by asthma
Cabana,2006 <sup>1</sup>	Arm C-	Symptom Days	Change in # of days	NR	NR	NR	OUTCOME: Change in number of days for which activity was limited by asthma
Hagmolen,2008 <sup>11</sup>	Arm A-guideline, 58	Symptom Days	Number of symptom free days	0-14	Time: 12 Mean diff: 1.5 p-value: <0.05	NR	P values are less than the stated number (won't allow symbols).
Hagmolen,2008 <sup>11</sup>	Arm B-guideline and education, 133	Symptom Days	Number of symptom free days	0-14	Time: 12 Mean diff: 1.3 p-value: 0.05	NR	P values are less than the stated number (won't allow symbols).
Hagmolen,2008 <sup>11</sup>	Arm C-guideline, education, and	Symptom Days	Number of symptom free days	0-14	Time: 12 Mean diff: 1.9 SD diff: NR	NR	P values are less than the stated number (won't allow symbols).

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
	individual treatment advice, 131				95%CI: NR p-value: 0.001		
Lozano,2004 <sup>17</sup>	Arm B-Peer leader intervention, 226	Symptom Days	NR	NR	Time: 24 Mean diff: -14.8 95%CI: -22.4,-7.28	NR	NR
Lozano,2004 <sup>17</sup>	Arm C-Planned care intervention, 213	Symptom Days	NR	NR	Time: 24 Mean diff: -13.3 95%CI: -24.7,-2.1	NR	NR
To,2008 <sup>10</sup>	PCAPP Intervention, 1014	Symptom Days	NR	NR	NR	Time: 12 95%CI: 0.27,0.42 OR: 0.34	OUTCOME: Any uncontrolled daytime symptoms (dichotomous outcome)
To,2008 <sup>10</sup>	PCAPP Intervention, 1014	Symptom Days	NR	NR	NR	Time: 12 95%CI: 0.23,0.37 OR: 0.29	OUTCOME: Any uncontrolled nighttime symptoms (dichotomous outcome).
Hagmolen,2008 <sup>11</sup>	Arm A-guideline extract, 98	Symptom Score	Total symptom score	0-18	NR	Time: 12 Mean diff: -0.6 p-value: <0.05	The frequency of asthma-related symptoms, cough, wheeze, and shortness of breath were scored twice daily. 0=no complaints 1=once a day 2=more than daily 3= whole daily in a two week diary. P value is < 0.05, won't allow symbols
Hagmolen,2008 <sup>11</sup>	Arm B-extract plus education, 133	Symptom Score	Total symptom score	0-18	NR	Time: 12 Mean diff: -0.3	The frequency of asthma-related symptoms, cough, wheeze, and shortness of breath were scored twice daily. 0=no complaints 1=once a day 2=more than daily

Author, Year	Arm, N	Clinical Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
							3= whole daily in a two week diary. P value is < 0.05, won't allow symbols
Hagmolen,2008 <sup>11</sup>	Arm C-extract, education, individual treatment, 131	Symptom Score	Total symptom score	0-18	NR	Time: 12 Mean diff: -0.5 p-value: 0.05	The frequency of asthma-related symptoms, cough, wheeze, and shortness of breath were scored twice daily. 0=no complaints 1=once a day 2=more than daily 3= whole daily in a two week diary. P value is < 0.05, won't allow symbols
Hagmolen,2008 <sup>11</sup>	Arm A-extract, 98	Symptom Score	Nocturnal symptom score	NR	NR	Time: 12 Mean diff: -0.24 p-value: <0.05	NR
Hagmolen,2008 <sup>11</sup>	Arm B-extract and education, 133	Symptom Score	Nocturnal symptom score	NR	NR	Time: 12 Mean diff: -0.7	NR
Hagmolen,2008 <sup>11</sup>	Arm C-extract, education, indiv rx, 131	Symptom Score	Nocturnal symptom score	NR	NR	Time: 12 Mean diff: -0.15 p-value: <0.05	NR
Cabana,2006 <sup>1</sup>	Arm A-Control, 368	urgent doctor visits	Change in Mean # visits per year	NR	NR	Time: 12 Mean diff: -0.9	OUTCOME: Mean # urgent asthma office visits per year
Cabana,2006 <sup>1</sup>	Arm B- Intervention, 363	urgent doctor visits	Change in Mean # visits per year	NR	NR	Time: 12 Mean diff: -1.07	OUTCOME: Mean # urgent asthma office visits per year
Cabana,2006 <sup>1</sup>	Arm C-	urgent doctor visits	Change in Mean # visits per year	NR	NR	NR	OUTCOME: Mean # urgent asthma office visits per year
To,2008 <sup>10</sup>	PCAPP Intervention, 1014	urgent doctor visits	NR	NR	NR	Time: 12 95%CI: 0.32,0.62 p-value: p<0.0001 OR: 0.45	Any urgent or walk-in clinic visits in last 6 months (dichotomous outcome).

AAP = Asthma Action Plan; CME = Continuing medical education; CLIQ = Clinical Inquiry; DM = Diabetes mellitus; ED = Emergency department; EMR: Electronic Medical Records; ENT = ear nose throat; HCSD = Health Care Services Division; HMO = Health maintenance organization ; ICS = Inhaled Corticosteroids; MD = Medical Doctor; MSAGR = Multicolored, Simplified, Asthma Guideline Reminder; NAEPP = National Asthma Education and Prevention Program; NR = Not reported; NYCHP = New York Children's Health Project; PCAPP = Primary Care Asthma Pilot Project; PDSA = Plan-do-study-act ; PEFr = Peak Expiratory Flow Rate; PLE = Peer Leader Education; PPO-FFS = Preferred provider organization – Fee for service; SBHC = South Bronx Health Center; SF = Short-Form ; UP =Urban Practice; SP = Suburban Practice; UTI = Urinary tract infection;

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**Evidence Table 10. Mean Difference Within Groups Healthcare Process Outcomes**

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  • SD • 95% CI • P-value	Last Follow-up  Mean difference • SD • 95% CI • P-value	Additional Comments
Bender,2011 <sup>1</sup>	Arm A-	Asthma action plans	NR	NR	NR	NR	P-value= <0.0001
Bender,2011 <sup>1</sup>	Arm B-, NR	Asthma action plans	NR	NR	NR	NR	P-value= <0.0001
Bender,2011 <sup>1</sup>	Arm C-	Asthma action plans	NR	NR	NR	NR	P-value= <0.0001
Bender,2011 <sup>1</sup>	Arm D-	Asthma action plans	NR	NR	NR	NR	P-value= <0.0001
Daniels,2005 <sup>2</sup>	Arm A-Control, 136,079	Asthma action plans	Percent increase	NR	NR	-6%	Percent Increase from baseline to follow-up between intervention and control groups (compliance from chart audit)
Daniels,2005 <sup>2</sup>	Arm B-Intervention, 90555	Asthma action plans	Percent increase	NR	-0.07%	NR	Percent Increase from baseline to follow-up between intervention and control groups (compliance from chart audit)
Mangione-Smith,2005 <sup>3</sup>	Arm A-control, 385	Asthma action plans	All patients should have a written action plan in the medical record that is based on changes in symptoms or peak flow measurement	NR	NR	Mean diff: 1	p <0.0001
Mangione-Smith,2005	Arm B-Intervention	Asthma action plans	All patients should have a	NR	NR	Mean diff: 34	p <0.0001

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment Mean difference • SD • 95% CI • P-value	Last Follow-up Mean difference • SD • 95% CI • P-value	Additional Comments
<sup>3</sup>	n, 126		written action plan in the medical record that is based on changes in symptoms or peak flow measurement				
Patel,2004 <sup>4</sup>	Organizational Change, 427	Asthma action plans	NR	NR	Time: 13 95%CI: 1.8,-4.1 p-value: <0.001 OR= 2.72	NR	NR
To,2008 <sup>5</sup>	PCAPP Intervention, 1014	Asthma action plans	NR	NR	NR	Time: 12 95%CI: 1.88,3.07 p-value: <0.0001 OR: 2.41	Dichotomous outcome: Have you been given a personal asthma self-management plan or action plan?
Ables,2002 <sup>6</sup>	Education and Reminders, 175	Documentation of level of asthma control/severity	NR	NR	Time: 18 p-value: <0.0001	NR	NR
Davis,2010 <sup>7</sup>	Decision Support, 180	Documentation of level of asthma control/severity	NR	NR	Time: 180 p-value: 0.0013	NR	NR
Saini,2004 <sup>8</sup>	Arm C- Intervention, 39	Documentation of level of asthma control/severity	Perceived control over asthma	11-55	NR	p-value: 0.04	NR
Shapiro,2011 <sup>9</sup>	SBHC, 200	Documentation of level of asthma control/severity	NR	NR	Time: 12 p-value: <0.01	NR	NR
Shapiro,2011 <sup>9</sup>	NYCHP, 249	Documentation of level of	NR	NR	Time: 12 p-value: <0.001	NR	NR

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up  Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
		asthma control/severity					
Suh,2001 <sup>10</sup>	Arm A- intermittent, 566	Environmental control practice recommendations	number of prescriptions of long term controller meds per patient	NR	Time: 9 Mean diff: 0.37 SD diff: NR 95%CI: 0.25, 0.47 p-value: 0.001	NR	Mean difference by bootstrap method used to determine the confidence interval was 0.37 for intermittent and -0.29 for persistent group. P is less than value in cell for intermittent group.
Daniels,2005 <sup>2</sup>	Arm A- Control, 136079	Follow-up visits	% increase from baseline	NR	NR	+11%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Daniels,2005 <sup>2</sup>	Arm B- Intervention, 90,555	Follow-up visits	% increase from baseline	NR	NR	+28%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Finkelstein, 2005 <sup>11ii</sup>	Arm A- Control, 1531	Follow-up visits	Unadjusted mean absolute change from baseline	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: -0.01 95%CI: -0.23,0.14	Ambulatory visits
Finkelstein, 2005 <sup>11ii</sup>	Arm B- PLE Intervention, 2003	Follow-up visits	Unadjusted mean absolute change from baseline	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.17 95%CI: -0.01, 0.35	Ambulatory visits
Mangione-Smith,2005 <sup>3</sup>	Arm A- control, 385	Follow-up visits	Patients whose asthma medications are changed during one visit have a follow-up visit within 6 weeks	NR	NR	Mean diff: 3	p=0.64

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  • SD • 95% CI • P-value	Last Follow-up  Mean difference • SD • 95% CI • P-value	Additional Comments
Mangione-Smith,2005 <sup>3</sup>	Arm B-intervention, 126	Follow-up visits	Patients whose asthma medications are changed during one visit have a follow-up visit within 6 weeks	NR	NR	Mean diff: 0	p=0.64
Daniels,2005 <sup>2</sup>	Arm A-Control, 136,079	Prescription of peak flow meter	% increase	NR	NR	+0.04%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Daniels,2005 <sup>2</sup>	Arm B-Intervention, 90,555	Prescription of peak flow meter	% increase	NR	NR	+11%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Gorton,1995 <sup>12</sup>	Arm A-Comparison on site, 19	Prescription of peak flow meter	NR	NR	NR	Mean diff: -0.05 SD diff: 1.08	*p<0.05 for site A and p<0.01 for Site b.
Bender,2011 <sup>1</sup>	Arm A-	Prescriptions for controller medicine	NR	NR	NR	NR	P-value= <0.0001
Bender,2011 <sup>1</sup>	Arm B-, NR	Prescriptions for controller medicine	NR	NR	NR	NR	P-value= <0.0001
Bender,2011 <sup>1</sup>	Arm C-	Prescriptions for controller medicine	NR	NR	NR	NR	P-value= <0.0001
Bender,2011 <sup>1</sup>	Arm D-	Prescriptions for controller medicine	NR	NR	NR	NR	P-value= <0.0001
Cho,2010 <sup>13</sup>	Decision support, 96	Prescriptions for controller medicine	NR	NR	Time: 3	NR	Mean difference= +86% P value= <0.001

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  • SD • 95% CI • P-value	Last Follow-up  Mean difference • SD • 95% CI • P-value	Additional Comments
Cloutier,2005 <sup>14</sup>	Arm B- Intermittent asthma, NR	Prescriptions for controller medicine	NR	NR	95%CI: 1.7984 - 3.614 p-value:<0.001 Adjusted RR- 2.539	NR	NR
Cloutier,2005 <sup>14</sup>	Arm C- Persistent asthma, 1799	Prescriptions for controller medicine	NR	NR	95%CI: 1.031 - 1.295 p-value:0.01 Adjusted RR- 1.155	NR	NR
Daniels,2005 <sup>2</sup>	Arm A- Control, 136,079	Prescriptions for controller medicine	% increase from baseline	NR	NR	+9%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Daniels,2005 <sup>2</sup>	Arm B- Intervention, 90,555	Prescriptions for controller medicine	% increase from baseline	NR	NR	+19%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Davis,2004 <sup>15</sup>	Arm A- Guidelines only, 30	Prescriptions for controller medicine	ICS prescriptions/month	NR	Mean diff: 9.99E+02	NR	NR
Davis,2004 <sup>15</sup>	Arm B- Education, 20	Prescriptions for controller medicine	ICS prescriptions/month	NR	Time: 6 p-value: <0.001	NR	NR
Davis,2010 <sup>7</sup>	Arm B-, 180	Prescriptions for controller medicine	NR	NR	Time: 18 p-value: 0.017	NR	NR
Finkelstein, 2005 <sup>11</sup>	Arm A- Control, 1531	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR 95%CI: NR	Time: 24 Mean diff: 0.07 95%CI: -0.01, 0.15	Among all patients with asthma, 1(+) asthma controller dispensed.
Finkelstein, 2005 <sup>11</sup>	Arm B- PLE Intervention	Prescriptions for controller medicine	Mean absolute change from baseline	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.16 95%CI: 0.08, 0.24	Among all patients with asthma, 1(+) asthma controller dispensed.

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up  Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
	n, 2003		proportional to each practice				
Finkelstein, 2005 <sup>11</sup>	Arm C-Planned Care Intervention, 1635	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.13 95%CI: 0.07, 0.19	Among all patients with asthma, 1(+) asthma controller dispensed.
Finkelstein, 2005 <sup>11</sup>	Arm A-Control, 1531	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.04 95%CI: -0.02, 0.10	Among all patients with asthma, 3(+) asthma controller dispensed.
Finkelstein, 2005 <sup>11</sup>	Arm B-PLE Intervention, 2003	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.08 95%CI: 0.02, 0.14	Among all patients with asthma, 3(+) asthma controller dispensed.
Finkelstein, 2005 <sup>11</sup>	Arm C-Planned care intervention, 1635	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.1 95%CI: 0.06, 0.14	Among all patients with asthma, 3(+) asthma controller dispensed.
Finkelstein, 2005 <sup>11</sup>	Arm A-Control, 1531	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.1 95%CI: 0.00, 0.20	Among all patients with asthma, 1(+) inhaled corticosteroid.
Finkelstein, 2005 <sup>11</sup>	Arm B-PLE Intervention, 2003	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.18 95%CI: 0.10, 0.26	Among all patients with asthma, 1(+) inhaled corticosteroid.
Finkelstein, 2005 <sup>11</sup>	Arm C-Planned care	Prescriptions for controller medicine	Mean absolute change from baseline	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.17 95%CI: 0.11, 0.23	Among all patients with asthma, 1(+) inhaled corticosteroid.

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  • SD • 95% CI • P-value	Last Follow-up  Mean difference • SD • 95% CI • P-value	Additional Comments
	intervention, 1635		proportional to each practice				
Finkelstein, 2005 <sup>11</sup>	Arm A-Control, 1531	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.03 95%CI: -0.03,0.09	Among all patients with asthma, 3(+) inhaled corticosteroid.
Finkelstein, 2005 <sup>11</sup>	Arm B- PLE Intervention, 2003	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.09 , 95%CI: 0.03,0.15	Among all patients with asthma, 3(+) inhaled corticosteroid.
Finkelstein, 2005 <sup>11</sup>	Arm C-Planned care intervention, 1635	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.09 95%CI: 0.07,0.11	Among all patients with asthma, 3(+) inhaled corticosteroid.
Finkelstein, 2005 <sup>11</sup>	Arm A-Control, 1531	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.02 95%CI: -0.01, 0.05	Among all patients with asthma, 1(+) oral steroid dispensed.
Finkelstein, 2005 <sup>11</sup>	Arm B- PLE Intervention, 2003	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.05 95%CI: 0.00,0.10	Among all patients with asthma, 1(+) oral steroid dispensed.
Finkelstein, 2005 <sup>11</sup>	Arm C-Planned care intervention, 1635	Prescriptions for controller medicine	Mean absolute change from baseline proportional to each practice	NR	Time: 12 Mean diff: NR	Time: 24 Mean diff: 0.04 95%CI: 0.00, 0.08	Among all patients with asthma, 1(+) oral steroid dispensed.
Lesho,2005 <sup>16</sup>	Decision Support, 334	Prescriptions for controller medicine	NR	NR	Mean diff: 0.02 p-value: 0.78	NR	Result reported only for those with persistent asthma

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Last Follow-up  Mean difference <ul style="list-style-type: none"> <li>• SD</li> <li>• 95% CI</li> <li>• P-value</li> </ul>	Additional Comments
Mitchell,2005 <sup>17</sup>	Arm A-Control	Prescriptions for controller medicine	% decrease in the number of inhalers prescribed	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 95%CI: NR p-value: NR 13.3% decrease	NR	% decrease in the number of inhalers prescribed
Mitchell,2005 <sup>17</sup>	Arm B-	Prescriptions for controller medicine	% decrease in the number of inhalers prescribed	NR	Time: 9 Mean diff: NR 6.7% decrease	NR	% decrease in the number of inhalers prescribed
Mitchell,2005 <sup>17</sup>	Arm A-Control	Prescriptions for controller medicine	Percent decrease in # of inhaled corticosteroids inhalers prescribed.	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 3.5% decrease	NR	Percent decrease in # of inhaled corticosteroids inhalers prescribed.
Mitchell,2005 <sup>17</sup>	Arm B-Intervention	Prescriptions for controller medicine	Percent decrease in # of inhaled corticosteroids inhalers prescribed.	NR	Time: 9 Mean diff: NR SD diff: NR 95%CI: NR p-value: NR 3.6% decrease	NR	Percent decrease in # of inhaled corticosteroids inhalers prescribed.
Mitchell,2005 <sup>17</sup>	Arm A-Control	Prescriptions for controller medicine	% decrease in Rx's for mast cell stabilizers	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 44.9% decrease	NR	% decrease in Rx's for mast cell stabilizers
Mitchell,2005 <sup>17</sup>	Arm B-Intervention, NR	Prescriptions for controller medicine	% decrease in Rx's for mast cell stabilizers	NR	Time: 9 Mean diff: NR 38.5% decrease	NR	% decrease in Rx's for mast cell stabilizers
Mitchell,2005 <sup>17</sup>	Arm A-Control	Prescriptions for controller medicine	% decrease in theophylline group of drugs	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 83.3% decrease	NR	% decrease in Rx's for theophylline group of drugs
Mitchell,2005 <sup>17</sup>	Arm B-Intervention	Prescriptions for controller	% decrease in theophylline	NR	Time: 9 Mean diff: NR	NR	% decrease in Rx's for theophylline group of

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  • SD • 95% CI • P-value	Last Follow-up  Mean difference • SD • 95% CI • P-value	Additional Comments
	n, NR	medicine	group of drugs		31.0% decrease		drugs
Mitchell,2005 <sup>17</sup>	Arm A-Control, NR	Prescriptions for controller medicine	Percent decrease in # of inhaled corticosteroids inhalers prescribed.	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 3.5% decrease	NR	Percent decrease in # of inhaled corticosteroids inhalers prescribed.
Mitchell,2005 <sup>17</sup>	Arm B-Intervention	Prescriptions for controller medicine	Percent decrease in # of inhaled corticosteroids inhalers prescribed.	NR	Time: 9 Mean diff: NR 3.6% decrease	NR	Percent decrease in # of inhaled corticosteroids inhalers prescribed.
Mitchell,2005 <sup>17</sup>	Arm A-Control, NR	Prescriptions for controller medicine	% decrease in Rx of oral relievers	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 28.6% decrease	NR	% decrease in Rx of oral relievers
Mitchell,2005 <sup>17</sup>	Arm B-Intervention	Prescriptions for controller medicine	% decrease in Rx of oral relievers	NR	Time: 9 Mean diff: NR 28.6%	NR	% decrease in Rx of oral relievers
Mitchell,2005 <sup>17</sup>	Arm A-Control, NR	Prescriptions for controller medicine	% decrease in Rxs for reliever dry powder devices (in under 5's)	NR	Time: 9 Mean diff: NR SD diff: 9.99E+02 8.2% decrease	NR	% decrease in Rxs for reliever dry powder devices (in under 5's)
Mitchell,2005 <sup>17</sup>	Arm B-Intervention	Prescriptions for controller medicine	% decrease in Rxs for reliever dry powder devices (in under 5's)	NR	Time: 9 Mean diff: NR 23.9% decrease	NR	% decrease in Rxs for reliever dry powder devices (in under 5's)
NR	Arm A-control, 17	Prescriptions for controller medicine	Exacerbations: prescription of inhaled steroids	NR	Mean diff: -0.01 95%CI: -13%,14% p-value: 0.9	NR	NR
NR	Arm B-Intervention	Prescriptions for controller	Exacerbations: prescription of	NR	Mean diff: 0.13 SD diff: NR	NR	NR

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  • SD • 95% CI • P-value	Last Follow-up  Mean difference • SD • 95% CI • P-value	Additional Comments
	n, 17	medicine	inhaled steroids		95%CI: -1%-27% p-value: 0.08		
Premaratne, 1999 <sup>18</sup>	Arm D-	Prescriptions for controller medicine	possession of steroid inhaler	NR	NR	NR	NR
Smeele, 1999 <sup>19</sup>	Arm A-Control, 15	Prescriptions for controller medicine	Exacerbations: Prescription of oral steroids	NR	Mean diff: 0.04 95%CI: -11%,19% p-value: 0.7	NR	NR
Suh, 2001 <sup>10</sup>	Arm A-intermittent, 566	Prescriptions for controller medicine	"short acting controller"	NR	Time: 9 Mean diff: 0.36 95%CI: 0.23,0.48 p-value: 0.001	NR	p-values less than value in cell --- short acting = short acting beta agonist, but not clear in study.
Daniels, 2005 <sup>2</sup>	Arm A-Control, 136079	Self-management education	% increase from baseline	NR	NR	+3%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Daniels, 2005 <sup>2</sup>	Arm B-Intervention, 90,555	Self-management education	% increase from baseline	NR	NR	+19%	Percent increase from baseline to follow-up b/w intervention and control groups (compliance from chart audit)
Lesho, 2005 <sup>16</sup>	Decision Support, 334	Self-management education	NR	NR	Mean diff: 0.28 p-value: <0.001	NR	Result reported only for those with persistent asthma
Mangione-Smith, 2005 <sup>3</sup>	Arm A-control, 385	Self-management education	NR	NR	NR	Mean diff: -8	P<0.0001
Mangione-Smith, 2005 <sup>3</sup>	Arm B-intervention, 126	Self-management education	NR	NR	NR	Mean diff: 16	P<0.0001
Patel, 2004 <sup>4</sup>	Organizational Change-, 427	Self-management education	NR	NR	Time: 13 95%CI: 1.4,2.7 p-value: <0.001 OR= 1.89	NR	NR

Author, Year	Arm, N	Health Care Process Outcome	Definition of Scale	Range of Scale	End of treatment  Mean difference  • SD • 95% CI • P-value	Last Follow-up  Mean difference • SD • 95% CI • P-value	Additional Comments
Smeele, 1999 <sup>19</sup>	Arm A-control group	Self-management education	Patient education inhalation instruction materials	NR	change in number of GP=2	NR	NR
Smeele, 1999 <sup>19</sup>	Arm B-Intervention group, 17	Self-management education	Patient education inhalation instruction materials	NR	Change in number of GP =+2	NR	NR
Smeele, 1999 <sup>19</sup>	Arm A-Control, 17	Self-management education	Advise on house dust mite	NR	Mean diff: 0.04 95%CI: -2%,10% p-value: 0.2	NR	NR
Smeele, 1999 <sup>19</sup>	Arm B-Intervention, 16	Self-management education	Advise on house dust mite	NR	Mean diff: -0.02 95%CI: -6%,2% p-value: 0.3	NR	NR
Smeele, 1999 <sup>19</sup>	Arm A-control, 17	Self-management education	Written patient education	NR	Mean diff: 0.07 95%CI: -1%,15% p-value: 0.1	NR	NR
Smeele, 1999 <sup>19</sup>	Arm B-Intervention, 16	Self-management education	Written patient education	NR	Mean diff: 0.03 95%CI: -7%,13% p-value: 0.6	NR	NR
Yawn, 2010 <sup>20</sup>	Education and Feedback 851	Self-management education	NR	NR	Time: 9 Mean diff: 5.75 p-value: <0.0001	NR	NR

NR = Not Reported; PCAPP = Primary Care Asthma Pilot Project; SBHC = South Bronx Health; PLE = Peer Leader Education; GP = General Practitioner

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