ASTHMA CARE MANAGEMENT

A REVIEW OF DOCUMENTATION, ANALYSIS, REPORTING AND CARE MANAGEMENT PROCEDURES

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Purpose of Report

The purpose of this report is to review the asthma study process and determine if any improvements need to be made to improve the documentation, analysis and reporting processes of asthma events and the ongoing care and disease management practices provided for these members. The ultimate goal of this work is to improve health care activities engaged in at all levels of management for low, medium and high risk asthma cases.

Introduction

Denver Health has five levels of interaction that occur between members (patients) and the health care system:

> Level 1--Guidelines, policies and procedures—defines the methods of operation of the health care system and the responsibilities and roles of its clinicians as care providers.

> Level 2—Denver Health Care System Activities—the actual events that take place in the health care system. These include activities related to the actual facilities and hardware related to health care administration, as well as methods by which administrators and managers oversee events engaged in by the health care facility.

> Level 3—Provider-based activities—those events which occur due to health care practitioner behaviors and training. These products of health care are a direct result of the training these clinicians and their co-workers receive and how this training gets integrated with the personal attitudes and behaviors in a form that can be measured as clinical performance.
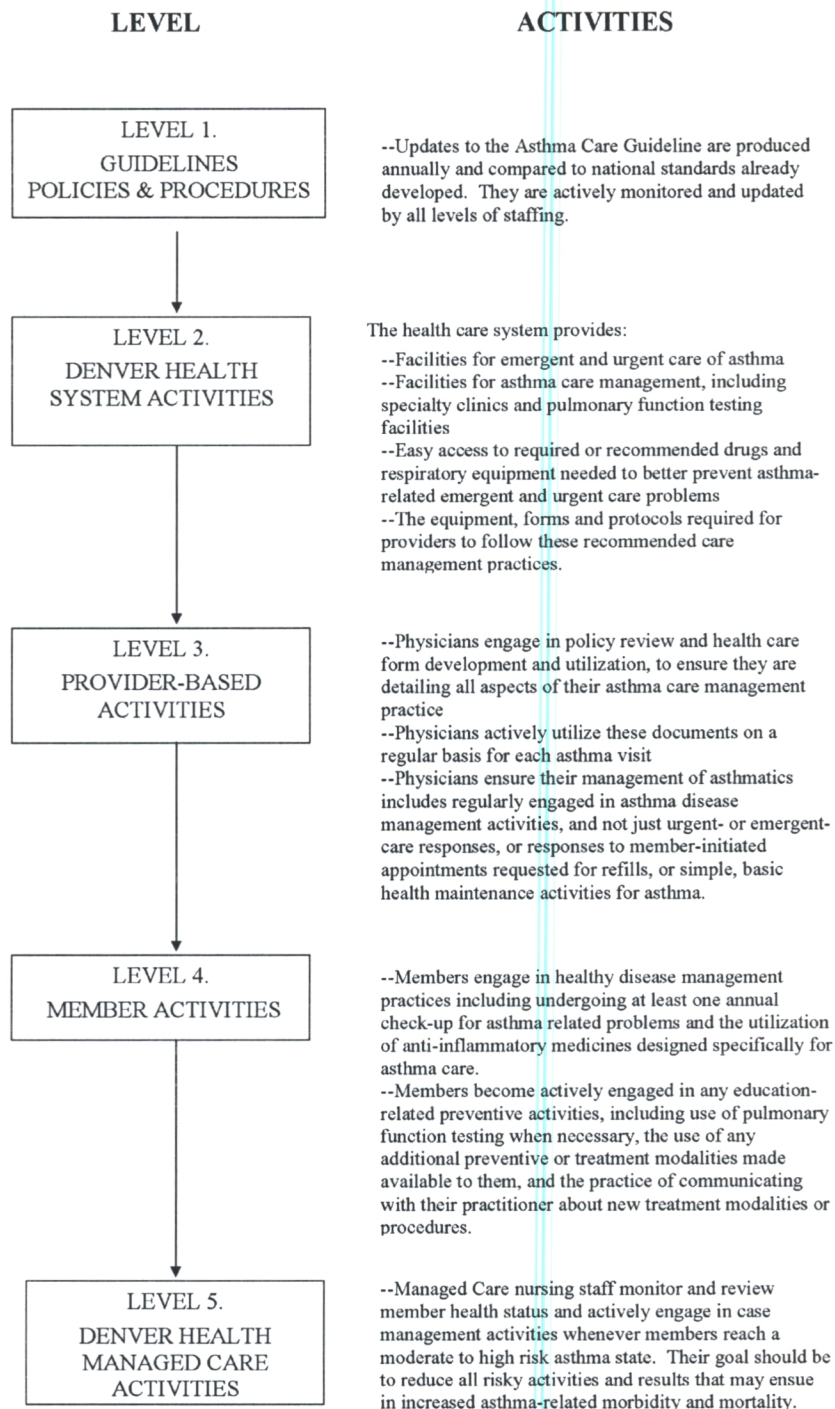
> Level 4—Member Activities—those member-related processes that ensue due to a number of potential variables, each of which directly or indirectly impacting their health care beliefs and how these beliefs affect what it is they perceive as wellness, the methods required to maintain this state of wellness, and the methods required to correct health problems in order to return to some state of perceived wellness.

> Level 5—Managed Care Activities—those activities engaged in by the insurer of members in order to promote well-being and reduce costs that may be generated due to needs for corrective or reactive care management procedures like hospitalization, costly care practices designed to maintain a particular state of being for a member, and costly procedures related to particular health conditions that may have been prevented or reduced in severity through early health maintenance practices.

To better understand the disease management process for members with medium to high risk or prolonged asthma problems, this method of review may be used to define which processes are already underway for asthma care at Denver Health and determine where new practices may need to be added to protocols already in place. Examples of various activities related to asthma management at Denver Health are provided in the following illustration.

Figure 1. Management of Asthma

LEVEL   ACTIVITIES

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+---------------------------+
|        LEVEL 1.           |
|       GUIDELINES          |
|  POLICIES & PROCEDURES    |
+---------------------------+
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--Updates to the Asthma Care Guideline are produced annually and compared to national standards already developed. They are actively monitored and updated by all levels of staffing.

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+---------------------------+
|        LEVEL 2.           |
|    DENVER HEALTH          |
|   SYSTEM ACTIVITIES       |
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The health care system provides:

--Facilities for emergent and urgent care of asthma
--Facilities for asthma care management, including specialty clinics and pulmonary function testing facilities
--Easy access to required or recommended drugs and respiratory equipment needed to better prevent asthma-related emergent and urgent care problems
--The equipment, forms and protocols required for providers to follow these recommended care management practices.

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+---------------------------+
|        LEVEL 3.           |
|    PROVIDER-BASED         |
|      ACTIVITIES           |
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--Physicians engage in policy review and health care form development and utilization, to ensure they are detailing all aspects of their asthma care management practice
--Physicians actively utilize these documents on a regular basis for each asthma visit
--Physicians ensure their management of asthmatics includes regularly engaged in asthma disease management activities, and not just urgent- or emergent-care responses, or responses to member-initiated appointments requested for refills, or simple, basic health maintenance activities for asthma.

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+---------------------------+
|        LEVEL 4.           |
|    MEMBER ACTIVITIES      |
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--Members engage in healthy disease management practices including undergoing at least one annual check-up for asthma related problems and the utilization of anti-inflammatory medicines designed specifically for asthma care.
--Members become actively engaged in any education-related preventive activities, including use of pulmonary function testing when necessary, the use of any additional preventive or treatment modalities made available to them, and the practice of communicating with their practitioner about new treatment modalities or procedures.

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+---------------------------+
|        LEVEL 5.           |
|    DENVER HEALTH          |
|    MANAGED CARE           |
|      ACTIVITIES           |
+---------------------------+
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--Managed Care nursing staff monitor and review member health status and actively engage in case management activities whenever members reach a moderate to high risk asthma state. Their goal should be to reduce all risky activities and results that may ensue in increased asthma-related morbidity and mortality.

The Role of Managed Care in Asthma Care

The managed care system has the potential of generating important impacts on long term management of asthma victims. In general, the quality assessment program which oversees the Managed Care System consist of two parts: a nursing care management team, and a Quality Analysis/biostatistics/data development team. The Nursing team is responsible for contacting medium to high risk members in order to assure they receive the best possible care offered at this facility based on their insurance coverage. The Biostatisticians are responsible for monitoring the success and results of these activities in conjunction with the overall success and activities engaged in by Denver Health in general, for both its clinical/outpatient and laboratory settings and its inpatient/ hospital care settings.

The activities of Biostatisticians at Denver Health include:

--monitoring the activities and success of clinical and non-clinical practices engaged in at each of the above levels.
--producing statistical profiles of all members managed for asthma-related history
--producing detailed reviews of high risk members with asthma requiring ongoing or temporary care management due to personal medical history, unhealthy personal disease management practice history, or asthma-related non-compliance activity.
--producing detailed reviews of PCP-related activities, including measures or reviews of their:
    a) continuous engagement in producing well-documented asthma preventive practices and visit reports,
    b) ongoing prescribing practices for anti-inflammatory medications,
    c) ability to produce detailed documents detailing the member's history of asthma,
    d) ability and success in facilitating members' active engagement in health care monitoring activities such as review of institutional educational materials, participation in an asthma-control disease management programs, undergoing a pulmonary function test, or undergoing allergy testing.

The goals of biostatistical studies are to measure, document and define reasons for any notable program success, document and define reasons for notable effective disease maintenance results, and document and define possible reasons for system, clinical, member, and care management related failures. Ultimately, it is the responsibility of the Quality Improvement [QI] team involved in this biostatistics activity to identify the reasons for program success and define in detail any levels or types of changes that need to be made in order to improve the overall care and maintenance of members with asthma.

The following research program defines this QI process as it was carried out as part of the annual review process for 2006. Since asthma care forms part of a number of reporting processes required for annual review, this review was carried out to determine is Asthma Care Management could play a better role in monitoring the activity of several internal activities and programs, and their successes. Therefore, this activity has applications to a Disease Management monitoring report and a Quality Assessment review produced annually for the State, two asthma-related performance improvement projects required for annual accreditation review, and two sizeable internal study projects engaged in regularly as part of the regular Quality Improvement activities at Denver Health.

Research Methodology

Internal studies were performed of asthma management for the required annual Care Management, Disease Management and PIP/QIA reports. To accomplish this, all medical records were reviewed for all asthmatics. An initial review demonstrated that approximately 400 members could be identified as having some sort of asthma history based on their ICD codes (493.*). However, not all members with asthma identified using ICD codes have ongoing respiratory problems related to asthma. In many cases, the notation of asthma is simply a consequence of other COPD-related disorders and/or allergy-based personal medical histories. Therefore, to differentiate moderate and severe asthmatics from intermittent, seasonal and/or exercise-induced asthmatics, a number of visit-related behavioral features are filtered from datasets made available through the biostats databases.

Moderate to High Risk asthmatics are identified using the following indicators:

- 4+ PCP visits in 2006 specifically for asthma,
- 1 or more In-patient [IP] stays for asthma in 2006,
- 1+ Urgent care [UC] for asthma-related exacerbation in 2006, and
- 1+ Emergent [ED] visit for an asthma exacerbation in 2006.

The result of this query is a listing of asthmatics considered "high risk" according to HEDIS standards. These members need to be regularly monitored as part of our managed care program.

The Data-Gathering Process. This research of asthmatics required a review of all documents and databases on the l:\\biostats directory. This led to the development of an Access database which utilizes the primary datasets in the form of links. Therefore, no data modification occurs in this initial data gathering process. The dataform used for this review is virtual data, modified and fine-tuned into a format that may be better and more efficiently utilized for this Disease Management study.

The datasets reviewed in the biostats drive include:
  o 6.4M outpatient visit records (including ED visits, Urgent care visits, labs and diagnostic tests) for 2006,
  o 2.4M specialty visits records for 2006
  o 1.7M Inpatient stay-related records for 2006
  o a listing of 583K individuals served by this facility during 2006
  o all demographic data for these members made available through the Perot Systems Diamond system in 2006

By linking these biostat databases using Access, the data was cleaned for headers and other invalid non-data rows. It was then filtered into study groups using queries appropriate for each managed care program. Each of the queries used to define a high risk asthmatic required a separate tool (4+ visits, 1+ IP/ED/UC visit). Each of these lists were then merged into a single datafile or directory listing members (data for each member is in a single row) with one or more high risk indicators, including dates for those events and number of hits for each given event. This data was then merged into a single file and then linked to prescription data for 2006 obtained from Caremark; Member Ids were used to produce these links.

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The result of these queries is a series of lists detailing the medium to highest risk asthmatics to be reviewed for this study. The medical records for each of these cases were then reviewed, using a one page entry form developed in Access to add the information required for the internal studies. This data entry process included additions of the following information for final analysis (see also *Metadata* page in Attachment 1 series):

- PCP name (text form)
- Clinic name (text)
- Member demographic data (gender, ethnicity, date of birth, etc.)
- Member's/member's parent's smoking history
- Member's Upper Respiratory disease history and type(s) of UR disease noted (text entries, dates).
- Member's history of UR infection
- history of at least one special encounter, in particular a pulmonary specialist visit. (checkbox and date).
- history of asthma-specific pulmonary function testing (checkbox, date and result),
- history of review of allergy history (checkbox and date),
- history of use of any of two special respiratory disease centers (National Jewish for Asthma, Colorado University for Autoimmune disease and PFT) (checkbox and date),
- use of a special asthma-allergy-type history form (mostly designed for childhood cases),
- engagement in allergy testing at University or National Jewish
- use of an Asthma Control form (checkbox and date),
- history of use of a national risk assessment form for asthma type and history in relation to risk (checkbox and date).
- Use of an Asthma-specific encounter form (checkbox and date)
- Documentation of asthma risk on the Asthma Encounter form
- Documentation that education occurred during any interactions in 2006 (in the form of boxes checked or test notes in the lower right education section of the form)
- Documentation of the specific forms of education that were provided (ca. 15 measures; on the Access Form, each has a checkbox to be checked when similar boxes are checked on the form for each of the topics; topics reviewed range from methods of respiratory equipment used, prevention practices, primary and second hand smoking history, reviews of pet dander risk, allergen exposure, etc..)
- Documentation that some form of domestic environment risk was reviewed and assessed (i.e. home pest control discussed, exposure to smoking parent, local traffic emissions, urban air quality-related exposure concerns, etc.).
- Documentation of school-related encounter or event related to asthma
- Documentation that asthma is possibly exercise-induced.
- Documentation in the medical records of specific forms of Asthma-, COPD- or UR disease-related prescription drug use, including anti-bacterials and anti-infectives for microorganism control.
- Documentation that the member is non-compliant

Results

The data developed from this review of documents revealed that a number of clinical practices need to be modified to improve the health care status and meet the needs of particular members with a Moderate to High Risk history of asthma.

HEDIS results. As part of the annual review of medical practices, a HEDIS study was performed. For the HEDIS portion of this study (review of Anti-inflammatory or AI use), data is gathered and entered by the QI team and then submitted to an outside scoring agency nationally-accredited for this type of review. The other statistics developed for this study resulted from the review of internal data gathered for this annual review and state-required Quality Improvement reporting (see Attachment 2, HEDIS measures Report).

The following HEDIS result was obtained from this review, including a review of this data and its progression over the past ten years.

Use of AI's: Goal >80% DHMP Commercial only

Age distribution	1998 QIA	1999 QIA	2000 QIA	2001 QIA	2002 QIA	2003 QIA	2004 QIA	2005 QIA	2006 QIA	2007 QIA	Chi Stat
AGES 5-9										NA	NS
AGES 10-17										NA	NS
AGES 18-56										NA	NS
TOTAL										NA	NS

(NOTE: numerator = members meeting the need measured, denominator = total population of moderate to high risk asthmatics for the noted age group).

The following internal study results were also obtained and presented at an Administrative meeting:

ED Visits: Goal <10%

Age distribution	1998 QIA	1999 QIA	2000 QIA	2001 QIA	2002 QIA	2003 QIA	2004 QIA	2005 QIA	2006 QIA	2007 QIA	Chi Stat
AGES 5-9											NS
AGES 10-17											NS
AGES 18-56											14.8--Sig. ↑
TOTAL											15.1--Sig. ↑

Flu Shots: Goal=>75%

Age distribution	1998 QIA	1999 QIA	2000 QIA	2001 QIA	2002 QIA	2003 QIA	2004 QIA	2005 QIA	2006 QIA	2007 QIA	Chi Stat
AGES 5-9											10.0--Sig. ↑
AGES 10-17											NS
AGES 18-56											NS
TOTAL											NS

Members Who Smoke or with Family Members Who Smoke: Goal<10%

Age distribution	1998 QIA	1999 QIA	2000 QIA	2001 QIA	2002 QIA	200 QIA	2004 QIA	2005 QIA	2006 QIA	2007 QIA	Chi Stat
AGES 5-9											5.6--Sig. ↑
AGES 10-17											5.6--Sig. ↑
AGES 18-56											NS
TOTAL											NS

Members Who Receive Smoking Cessation advice: Goal is >=80%

Age distribution	1998 QIA	1999 QIA	2000 QIA	2001 QIA	2002 QIA	2003 QIA	2004 QIA	2005 QIA	2006 QIA	2007 QIA	Chi Stat
AGES 5-9	NA	NA	NA	NA	1/4	0/1	0/0	0/3	0/4	NA	NS
AGES 10-17	NA	NA	NA	NA	0/8	5/6	0/1	0/1	0/2	NA	NS
AGES 18-56	NA	NA	NA	NA	8/19	14/22	9/14	6/15	1/3	NA	NS
TOTAL	NA	NA	NA	NA	9/31	19/29	9/15	6/19	1/9	NA	NS

The above tables are also reported as part of the annual Quality Improvement review performed by the QI Team. This report is provided to the state for review of our program. Included in this QI report is an analysis of HEDIS and a portion of the internal study results, discussion of which follow. The Special Studies portion of this Analysis section was developed solely for internal review of the CM team and process.

Analysis

HEDIS and Internal Study. The annually-reported HEDIS and Internal study review reports generated for the State included the following conclusions:

- The goal for AI use is 80% or more; this was not met for any of the age groups
- The percentage of adult members receiving ED care in 2006 increased while ED visits for children 5-9 y/o and 18-56 y/o decreased.
- An increase in flu shots was seen for children 5-9 y/o but not for other groups; none of these changes were significant
- The rates increased for percent 5-9 y/o and 10-17 y/o children with asthma with parents who smoke.
- Very few members with parents who smoke have evidence for receiving smoking cessation advice and so did not meet the goal of 90%.

Special Studies for 2006. In addition to the required HEDIS review and review of ongoing studies engaged in for the Performance Improvement Project, a series of new measurements were evaluated for the Internal Study portion of this review (see Attachment 1 for results; measures were defined on page 5).

The results of this review of the treatment of members with asthma led to the following conclusions:

- PCP encounters with children include the utilization of an Encounter form for Asthma-care designed specifically for children as per *Asthma Assessment and Treatment Guidelines for Denver Health*. This encounter form includes a section documenting types of risk experienced by asthmatics (smoking, environment, allergies, etc.), whether or not important asthma education topics were discussed (such as use of spacer, inhaler, nebulizer and pulmonary function meter), and whether or not goals for self-management were set during the visit. A similar form is not in use for Adults, often resulting in lack of documentation of severity of Asthma (Intermittent, Mild, Moderate, High) and inadequate documentation of educational and/or intervention activities in the regular encounter forms *(Chi-sq = 5.5, Signif Diff. between groups).*

- Children with asthma are more likely than adults to undergo one or more Plan of Action discussions or activities, an activity recommended in the *Asthma Assessment and Treatment Guidelines for Denver Health* as part of the <u>Initial Assessment process for all asthmatics</u> noted in the Appendix of this guideline. *(Chi-sq = 4.4 signif.)*

- Children with asthma are also more likely than adults to undergo one or more pulmonary function tests (PFTs), an activity also recommended in the *Asthma Assessment and Treatment Guidelines for Denver Health* as part of the Initial Assessment process.

- Children are more likely than adults to require and undergo steroid therapy for at least one of their asthma related events during the year. *(chi-sq = 8.2)*

- Children are more likely than adults to experience a combination of different types of visits for asthma (two or more of ED, UC, and IP) during the year, and less likely than adults to undergo multiple (4+) PCP visits for the same; *however, due to low visit counts, odds ratio results for this comparison were not significant (Chi-sq = NS for p =0.05).*

- For children, specialist/asthma prevention activities typically include a visit at the Denver Health Asthma-Allergy Clinic; this is not the case for adults. Other specialist activities typically experienced by children but not adults include one or more consultation(s) with an allergy specialist and/or visits with an asthma specialist at either National Jewish or University hospital.

Conclusions of Special Study

Opportunities for Improvement. As a result of this review, the areas for potential improvement were identified and presented only internally to practitioners as part of the annual review process:

- Educate practitioners about the Asthma Guideline which is available on the Pulse Intranet.
- Educate practitioners about the need for ongoing regular review of members with asthma, including:
  - ✓ The need to use the Asthma Control Test tool for all children (used to score asthma severity for 4-11 y/o)
  - ✓ The need to complete DH's *Pediatric Asthma Encounter Form*, with special emphasis on entries made in the *Assessment* section (lower right corner).
  - ✓ The need to complete documentation of all asthma-specific activities engaged in during an encounter with adults in the OP Encounter form, since an *Adult Asthma Encounter Form* is currently <u>not available for use</u>.
  - ✓ The need to develop a way to notify Practitioners with DHMP Asthmatic patients who are NOT on Anti-inflammatory agents
  - ✓ The need to educate practitioners about the Asthma Collaborative through CHS

Related Intervention Actions Planned for 2007. The following intervention activities are already in place and are ongoing, and are presented as part of an annual Quality Improvements report:

Level 1. Guidelines, Policies and Procedures related:

- Update the Asthma guideline and regularly edit/maintain its content based on nationally-published guidelines

Level 2. System-related:
- Maintain an Asthma database, in particular at the school level for children with asthma.
- Update and edit/maintain an institutional policy or guideline for managing patients with asthma

Level 3. Provider–related:
- Make regular use of the institution encounter forms and risk assessment forms
- Provide treatment for asthma patients according to system- and Managed Care-defined Guidelines

Level 4. Member-related:
- (None to note)

Level 5. Managed Care-related:
- (Biostatisticians duty). Perform a detailed annual HEDIS, QIA and Disease Management review of members with Asthma.
- (Management). Publish the results of these reviews in Provider Updates and Member newsletters.
- (Management). Publish asthma guidelines and updates in Provider Updates.
- (Management). Educate providers about Pulse-related Asthma education and guideline materials.

In addition to the above regularly managed events, the following actions are recommended to improve asthma care for this program:

Level 1. Guidelines/P&Ps.

- Denver Health needs to produce an Encounter Form designed to fully educate and assess adults with asthma history and produce a policy or provider-education materials informing them of its necessity and use.

Level 2. System.

- Denver Health needs to produce an Encounter Form designed to fully educate and assess adults with asthma history; this form should be utilized at least once a year, with a policy or provider-education materials generated to better educate provides about it use.
- Denver Health need to produce an Asthma Action Plan form that is focused on adult care for asthma, requiring this be filled out at least once per year.
- Denver Health needs to produce a form that can be used to assess the risk of NEW adult asthma patients and determine whether or not these members engage in risky and/or preventive activities defined by CCGC guidelines or guidelines produced by a nationally-known asthma management medical team, agency or program. This assessment should include and occupation-related history assessment and use of this assessment to determine related potential or history of occupation-induced pulmonary disease.

Level 3. PCPs.

- Make full use of Asthma-specific encounter forms, history assessment forms, and risk assessment forms,
- Reduce member non-compliance with medications, Provide members with opportunities to increase their use of Anti-inflammatories and ensure this use continues through proper disease management practices
- Increase member participation in 1+ annual visit for asthma maintenance in order to decrease the number or risk-related encounters generated each year,
- Reduce member non-compliance regarding annual asthma-review appointments. Better educate members on their most important asthma-related issues and document this education completely using an encounter form or Asthma Risk Assessment tool.
- Ensure asthmatics that they need to receive at least one pulmonary function test assessment during their years of managed care with your facility.
- Require asthmatics undergo at least one allergy and/or environmental exposure review at least once per year. If required due to members' medical history, provide members with the opportunity for annual or biannual review of their allergy state and history.
- Review each member's home environmental history and occupation-related exposure history at least once per year. Provide and document any potential relationships that may exist between home environment, occupation and medical condition for these members using an OP Encounter Notes form. Review this history in relation to asthma/COPD/allergy history.
- Engage members in asthma-related education activities and/or provide members with Denver Health asthma educational materials for home use; follow this activity with the use of an Asthma Action plan at least once a year, through which goals are developed and reviewed for accomplishment and maintenance several months to one year later.

Level 4. Members.

- Engage in at least one PCP appointment for asthma prevention/management every year, one specialty visit to assess/reassess special or high risk need every two years, and at least one review of allergy and occupation history and a pulmonary function test at least once every three years.

- Engage in a least one PCP event per year which includes asthma-specific educational activities.

Level 5. Managed Care.

- Provide the education needed to improve PCP performance for any or all of the related new measures used for this assessment (Asthma form use, use of new forms, better completion of risk assessment/education check boxes, etc.)
- Increase the utilization of each of the standard disease maintenance activities engaged in, as listed above.
- More actively involve care management nurses in the management of medium and high cost asthmatics.

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Summary

This review of the Asthma Management program was designed to document the processes already underway, determine the impacts of these processes on the health care provided to members, and determine where changes may need to be initiated to improve asthma disease management activities and related health care services being provided. Through this assessment, it was determined that changes need to be made at all levels: Guidelines/P&P, System, Provider, Member and Managed Care. To implement such changes, two goals may be used:

- the development of an adult asthmatic-specific form and guideline/educational material that details all the responsibilities of the PCP in managing an asthmatic case,
- the development of several measures for Managed Care to use to completely assess the full use of this form.

These two steps should help eliminate or reduce the problem that exists with lack of adequate services provided to adult asthmatics. By implementing effective procedures already engaged in for children asthmatics, the adult asthma maintenance program will be more successful at reducing the costs generated due to asthma risk-related outpatient and inpatient visits. Further success in reducing the number of medium to high risk asthma cases per year requires that better educational practices be developed and maintained at the clinical/PCP level and better methods of managing non-compliance activities be developed. The requirement that a member visit an allergy/asthma clinic at least once each year may also help to reduce the problems generated by lack of education and non-compliance on behalf of members. The role of the Managed Care nursing staff is to improve member awareness of this issue in the form of education (i.e. an educational mailing), and to engage more actively in their required disease and care management practices for asthma.

Attachment 1 Series

METADATA

Column	Description	
A	Total for AgeGroup	
B	4+Visits	
C	ER	
D	IP	
E	UC	
G	Grand Total	
Immunizations		
J	Flu Shot	
L	Pneumo	
Smoking		
R	*No SmokingHx/No Secondary Exposure*	
R	*Former SmokingHx*	
R	*Current SmokingHx*	
Q	Second-Hand Exposure Hx	
S	Smoking Cessation noted in Med Rec	
T	HX of Nicotine Script	
U	Smoking Counseling Noted	
W	Envirtl Exposure reviewed?	
Y	Reduce Smoke Exposure recommended	
PCP Visit and Evaluation Process		
AL	Risk Assessment	
AJ	Asthma Control Test Administered (for 4-11 y/o)	
O	Pulm Fon Test	
N	No PFT	
AH	Recent Asthma Mgmt Form in Med Rec Form lacking in Med Rec	
BB	Allergy Hx	
BD	Allergies Tested	
Goal Setting Processes		
AN	Self Mgmt Goal Set	
AP	Asthma Action Plan	
AQ	Use of Spacer	
AR	Reduce Smoke Exposure	
AS	Avoid Envirtl Triggers	
AT	Use of Nebulizer	
AU	Use of MDI	
AV	Use of PFM	
DH Specialist and Network Care		
AY	1+ Appts w/ DHMC Asthma Clinic	
AW	Hx of University Visit for Mgmt	
AX	Hx of Natl Jewish Review	
Prescription History		
BI	On Some Form of Asthma Al	
BJ	Prednisone (Oral rx)	
BM	Leukotriene history	
BL	Flonase (Nasal inhaler script)	
BN	Rx'd prednisone only/no other Al	
Other Notes		
AZ	Specialist Referral hx: Referred to Specialist but no Visit	
Z	Significant Comorbidity Hx	
AB	COPD_hx	
AC	Exercise-Induced Hx Asthma history	
AF	CM_team_group	
BO	Non-Compliance History in LCR/MED Rec	
BP	4+BD Scripts in 2006	

MEDICAID CHOICE HIGH RISK ASTHMATICS	5 to 9	10 to 17	18 to 56	Total	Pct 5 to 9	Pct 10 to 17	Pct 18 to 56	Pct Total
Total for AgeGroup	20	22	25	**67**	29.9%	32.8%	37.3%	**100.0%**
4+Visits	14	17	13	**44**	70.0%	77.3%	52.0%	**65.7%**
ER	2	3	6	**11**	10.0%	13.6%	24.0%	**16.4%**
IP	4	4	1	**9**	20.0%	18.2%	4.0%	**13.4%**
UC	20	22	23	**65**	100.0%	100.0%	92.0%	**97.0%**
Anti-inflammatory Medications History *(Hx = History)*								
On Some Form of Asthma AI (prescription of combined E	17	22	17	**56**	85.0%	100.0%	68.0%	**83.6%**
Prednisone (Oral rx)	17	18	14	**49**	85.0%	81.8%	56.0%	**73.1%**
Leukotriene history (oral AI rx)	2	1	2	**5**	10.0%	4.5%	8.0%	**7.5%**
Flonase (Nasal inhaler script) (nasal AI rx)	5	7	6	**18**	25.0%	31.8%	24.0%	**26.9%**
AI, leukotriene, and/or flonase prescribed	2	0	3	**5**	10.0%	0.0%	12.0%	**7.5%**
Use of Prednisone, no other hx of Anti-inflammatory	0	0	0	**0**	0.0%	0.0%	0.0%	**0.0%**
Immunizations								
Flu Shot	12	13	9	**34**	60.0%	59.1%	36.0%	**50.7%**
Pneumo Shot	0	0	5	**5**	0.0%	0.0%	20.0%	**7.5%**
Smoking Behavior								
No Smoking/No Second Hand Smoke History	19	21	10	**50**	95.0%	95.5%	40.0%	**74.6%**
Former Smoker	0	0	3	**3**	N/A	N/A	12.0%	**4.5%**
Current Smoker	0	0	9	**9**	N/A	N/A	36.0%	**13.4%**
Second-Hand Exposure Hx	0	0	1	**1**	N/A	N/A	11.1%	**11.1%**
Smoking Cessation noted in Med Rec	0	0	4	**4**	N/A	N/A	44.4%	**44.4%**
HX of Nicotine Script	0	0	0	**0**	0.0%	0.0%	0.0%	**0.0%**
Smoking Counseling Noted	1	1	3	**5**	5.0%	4.5%	12.0%	**7.5%**
PCP Visit Patient Evaluation Process *(based on various special reporting forms noted in Med Rec)*								
Non-Compliance noted in Med Rec or LCR	0	0	0	**0**	0.0%	0.0%	0.0%	**0.0%**
Risk Assessment NOT Performed by PCP in 2006	18	21	5	**44**	90.0%	95.5%	20.0%	**65.7%**
Asthma Control Test Administered (for 4-11 y/o) (kids or	3	1	N/A	**4**	15.0%	4.5%	N/A	**9.8%**
Pulm Fon Test (PFT) Performed in past 5 years	6	15	10	**31**	30.0%	68.2%	40.0%	**46.3%**
No PFT (PFT) Performed in past 5 years	14	7	15	**36**	70.0%	31.8%	60.0%	**53.7%**
Recent Asthma Mgmt Form in Med Rec Form lacking in	16	18	2	**36**	80.0%	81.8%	8.0%	**53.7%**
Allergy Hx	8	11	3	**22**	40.0%	50.0%	12.0%	**32.8%**
Allergies Tested	8	10	0	**18**	40.0%	45.5%	0.0%	**26.9%**
Goal Setting Processes *(referred to in notes scribed or w/ related boxes checked in related OP Encounter form)*								
Self Mgmt Goal Set	9	15	4	**28**	45.0%	68.2%	16.0%	**41.8%**
Asthma Action Plan	7	11	1	**19**	35.0%	50.0%	4.0%	**28.4%**
Use of Spacer	13	10	2	**25**	65.0%	45.5%	8.0%	**37.3%**
Reduce Smoke Exposure	7	6	3	**16**	35.0%	27.3%	12.0%	**23.9%**
Avoid Envirtl Triggers	7	10	1	**18**	35.0%	45.5%	4.0%	**26.9%**
Use of Nebulizer	8	7	0	**15**	40.0%	31.8%	0.0%	**22.4%**
Use of MDI	10	11	1	**22**	50.0%	50.0%	4.0%	**32.8%**
Use of PFM	3	8	1	**12**	15.0%	36.4%	4.0%	**17.9%**
Internal Specialty or Network Care								
1+ Appts w/ DHMC Asthma Clinic	7	13	0	**20**	35.0%	59.1%	0.0%	**29.9%**
Hx of University Visit for Mgmt	2	2	0	**4**	10.0%	9.1%	0.0%	**6.0%**
Hx of Natl Jewish Review	0	5	1	**6**	0.0%	22.7%	4.0%	**9.0%**

Stats_IntlStudies

	Children			Adults			
MCD ASTHMA Study 2006	**Y**	**N**	**Total**	**Y**	**N**	**Ttl**	**Results for OP Encounter-related preventive activities**
Asthma Control test administered	4	38	42	0	30	30	CHILD>Adult for Asthma Control test administered (Chi sq = NS)
Pulmonary Function Test performed	21	21	42	11	19	30	CHILD>Adult for Pulmonary Function Test performed (Chi sq = NS)
Asthma Mgmt Form or Equivalent Used	34	8	42	2	28	30	CHILD>Adult for Asthma Mgmt Form or Equivalent Used (Chi sq = 38.6--Sig. Diff)
Type of Asthma Risk defined	39	3	42	5	25	30	CHILD>Adult for Type of Asthma Risk defined (Chi sq = 42.7--Sig. Diff)
Self Mgmt Goals Set	24	18	42	4	26	30	CHILD>Adult for Self Mgmt Goals Set (Chi sq = 14.1--Sig. Diff)
Asthma Action Plan administered	18	24	42	1	29	30	CHILD>Adult for Asthma Action Plan administered (Chi sq = 14.0--Sig. Diff)
Other Environmental Risks assessed	18	24	42	2	28	30	CHILD>Adult for Other Environmental Risks assessed (Chi sq = 12.2--Sig. Diff)
Pulmonary Function Test discussed as goal	11	31	42	1	29	30	CHILD>Adult for Pulmonary Function Test discussed as goal (Chi sq = 6.58--Sig. Diff)
Review by University or Natl Jewish	8	34	42	1	29	30	CHILD>Adult for Review by University or Natl Jewish (Chi sq = 3.95--Sig. Diff)
Review by DH Asthma-Allergy Clinic	15	27	42	0	30	30	CHILD>Adult for Review by DH Asthma-Allergy Clinic (Chi sq = 13.5--Sig. Diff)
Underwent Allergies Test	18	24	42	0	30	30	CHILD>Adult for Underwent Allergies Test (Chi sq = 17.1--Sig. Diff)
Flu Shot	25	17	42	11	19	30	CHILD>Adult for Flu Shot (Chi sq = NS)
Pneumo Shot	0	42	42	8	22	30	ADULT>Child for Pneumo Shot (Chi sq = 12.6--Sig. Diff)
Bronchodilator Use	42	0	42	24	6	30	CHILD>Adult for Bronchodilator Use (Chi sq = 9.16--Sig. Diff)
Anti-inflammatory (AI) Use	39	3	42	22	8	30	CHILD>Adult for Anti-inflammatory (AI) Use (Chi sq = 5.15--Sig. Diff)
Leukotriene Use	3	39	42	3	27	30	ADULT>Child for Leukotriene Use (Chi sq = NS)
Prednisone Use	35	7	42	16	14	30	CHILD>Adult for Prednisone Use (Chi sq = 7.62--Sig. Diff)
Flonase Use	12	30	42	7	23	30	CHILD>Adult for Flonase Use (Chi sq = NS)
Combined Rx (Bronchodilator + AI) Use	39	3	42	19	11	30	CHILD>Adult for Combined Rx (Bronchodilator + AI) Use (Chi sq = 9.73--Sig. Diff)
Combined Rx+Prednisone	42	0	42	24	6	30	CHILD>Adult for Combined Rx+Prednisone (Chi sq = 9.16--Sig. Diff)
Prednisone Use Only	0	42	42	0	30	30	No Difference for Prednisone Use Only (Chi sq = N/A)
CombinedRx+Flonase Used	11	31	42	5	25	30	CHILD>Adult for CombinedRx+Flonase Used (Chi sq = NS)
Engaged in one or more ED visits during 2006	5	37	42	8	22	30	ADULT>Child for Engaged in one or more ED visits during 2006 (Chi sq = NS)
1+ UC visit for asthma in 2006	42	0	42	28	2	30	CHILD>Adult for 1+ UC visit for asthma in 2006 (Chi sq = NS)
1+ hospitaliztion in 2006	8	34	42	1	29	30	CHILD>Adult for 1+ hospitaliztion in 2006 (Chi sq = 3.95--Sig. Diff)
4+visits w/ PCP for upper respiratory or asthma-related reasons	31	11	42	16	14	30	CHILD>Adult for 4+visits w/ PCP for upper respiratory or asthma-related reasons (Chi sq = NS)
More than one type of UC,ED,IP	12	30	42	8	22	30	CHILD>Adult for More than one type of UC,ED,IP (Chi sq = NS)
4+ Bronchodilators scripts in 2006	28	14	42	15	15	30	CHILD>Adult for 4+ Bronchodilators scripts in 2006 (Chi sq = NS)

Bria

ASTHMA CARE MANAGEMENT

HEDIS-measures Report (based on internal database)

HEDIS Groups	Age Ranges				Percentages			
MEDICAID CHOICE HIGH RISK ASTHMATIC	5 to 9	10 to 17	18 to 56	Combined	Pct 5 to 9	Pct 10 to 17	Pct 18 to 56	Combined
Total for AgeGroup	20	22	25	67	29.9%	32.8%	37.3%	100.0%
4+Visits	14	17	13	44	70.0%	77.3%	52.0%	65.7%
ER	2	3	6	11	10.0%	13.6%	24.0%	16.4%
IP	4	4	1	9	20.0%	18.2%	4.0%	13.4%
UC	20	22	23	65	100.0%	100.0%	92.0%	97.0%
Anti-inflammatory History (Mbrs on AI)	17	22	17	56	85.0%	100.0%	68.0%	83.6%
Smoking Behavior								
No Smoking/No Second Hand Smoke History	19	21	10	50	95.0%	95.5%	40.0%	74.6%
Former Smoker	0	0	3	3	0.0%	0.0%	12.0%	4.5%
Current Smoker	1	1	12	14	5.0%	4.5%	48.0%	20.9%
Second-Hand Exposure Hx (for kids residing with Current Smokers)	0	0	1	1	0.0%	0.0%	4.0%	1.5%
Smoking Cessation noted in Med Rec	0	0	4	4	0.0%	0.0%	33.3%	28.6%
Exposure to Second Hand Smoke/Smoking Counseling Noted	1	1	3	5	100.0%	100.0%	25.0%	35.7%

Activity Name: Management of Asthma

Section I: Activity Selection and Methodology

A. Rationale. Use objective information (data) to explain your rationale for why this activity is important to members or practitioners *and* why there is an opportunity for improvement.

Based on a National Health Interview Survey, 30.8 million Americans were diagnosed with asthma by their PCP in 2002 and approximately 12 million (40%) experienced an asthma attack. In 2002 asthma rates were calculated to be 71.8 per 1000 population by CDC, with the highest rates for a given age group experienced by people 5 to 17 years of age. In 2002, more than 11 million office or urgent care visits were recorded by asthmatics, along with nearly two million emergency room visits for asthma-related complications. In 2001, hospital discharges related to asthma in the United States numbered more than 450,000. According to a recent study published by the American Lung Association, asthma currently affects about 20 million people in the United States, representing a 25% increase since the late 1990s. The economic impact of these asthma cases is currently $9.4 billion per year in direct costs and $4.6 billion in indirect costs (1-3). The death rates for women with asthma (ca. 1.5 per 100,000 people) is 42% higher than those for men. Non-white people three times more likely to have asthma.

In spite of this rise in prevalence rates and the cost of asthma at a national level, asthma mortality rates have demonstrated a continuous decline in recent years accompanied by a similar decline in hospital discharge rates. Such an increase has led to suggestions that earlier studies may no longer be comparable with contemporary asthma research (4). Yet in spite of the resulting reduction in specific asthma-related services, asthma still contributes to more than 14 million lost school days for children and 4,000 deaths annually. Asthma remains one of the most frequent childhood disease, effecting more than 5 million children each year.

Current strategies for the treatment of asthma and the prevention of hospitalization and emergency care include the use of inhaled anti-inflammatory agents to prevent asthmatic attacks. The guidelines for the management of asthma adopted by the Medicaid Choice Plan (MCP) include the use of inhaled anti-inflammatory agents to reduce the need for Emergency Room utilization and/or hospitalization by Medicaid Choice members. This P.I.P. is designed to establish baseline data followed by the use of this data to monitor the performance of ongoing asthma management programs provided by the Medicaid Choice Plan (MCP). A long term goal of this project is the improvement of primary and preventive care for Medicaid Choice members.

References.

1. "Asthma Statistics." *Asthma In America*™ Survey Project - 1901 L Street NW, Suite 300, Washington, DC 20036. Accessed 12/04 at http://www.asthmainamerica.com/statistics.htm.

2. Allergy & Asthma Network Mothers of Asthmatics (AANMA). "Asthma Statistics." Accessed 12/04 at http://www.aanma.org/headquarters/hq_asthmastatistics.htm.

3. National Institutes of Health, National Heart, Lung and Blood Institute. "Data Fact Sheet. Asthma Statistics." Accessed 12/13/04 at *Asthma In America*™ Survey Project - 1901 L Street NW, Suite 300, Washington, DC 20036.

4. American Lung Association, Epidemiology and Statistics Unit, Research and Scientific Affairs. Trends in Asthma Morbidity and Mortality. Accessed on 12/04 at http://www.lungusa.org/atf/cf/{7A8D42C2-FCCA-4604-8ADE-7F5D5E762256}/ASTHMA1.PDF. American Lung Association, Epidemiology and Statistics Unit, Research and Scientific Affairs. April 2004.

B. Quantifiable Measure(s).

List and define *all* quantifiable measures used in this activity. Include a goal or benchmark for each measure. If a goal was established, list it. If you list a benchmark, state the source. Add sections for additional quantifiable measures as needed.

Quantifiable Measure #1:	Members with asthma and identified as high risk who are on Anti-inflammatory Medications
Numerator:	Number of MCP members with asthma who filled four or more Anti-inflammatory prescriptions for asthma medication between 7/1/04 and 6/31/05
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk
First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	>80%
Quantifiable Measure #2:	Members with asthma and identified as high risk who received a Flu Shot during the study period
Numerator:	Number of MCP members with asthma who received a flu shot between 1/1/06 and 12/31/06
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk

First measurement period dates:	January 1, 2005 to December 31, 2005
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	>80%
Quantifiable Measure #3:	Members with asthma and identified as high risk who received a Pneumonia Shot during the past ten years
Numerator:	Number of MCP members with asthma who received a pneumonia shot between 1/1/97 and 12/31/06
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk
First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	>80%
Quantifiable Measure #4:	Percent Members with asthma and identified as high risk who are currently Smoking
Numerator:	Number of MCP members with asthma who are noted in the medical records as currently smoking in 2006
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk
First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	>90%
Quantifiable Measure #6:	Percent Members with asthma and identified as high risk who received Smoking Cessation Advice during the past year
Numerator:	Number of MCP members with asthma and currently smoking who received Smoking Cessation Advice between 1/1/06 and 12/31/06
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk

First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	>90%
Quantifiable Measure #6:	Percent Members with asthma and identified as high risk who received another form of Smoking Cessation Counseling or Treatment in 2006
Numerator:	Number of MCP members with asthma who received Smoking Cessation assistance between 1/1/06 and 12/31/06
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk
First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	>90%
Quantifiable Measure #7	PCP Visits for Asthma-related Problems
Numerator:	Number of MCP members with asthma and identified as high risk who experienced 4+ visits with a PCP for asthma during the study year
Denominator:	Number of MCP members diagnosed with asthma
First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	
Quantifiable Measure #8	Urgent Care Visits for Asthma-related Problems
Numerator:	Number of MCP members diagnosed with asthma who experienced 1+ Emergency Room or Urgent Care visit for asthma in the study year.
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk

First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	<10%
Quantifiable Measure #9:	Emergency Room Visits for Asthma-related Problems
Numerator:	Number of MCP members diagnosed with asthma who experienced 1+ Emergency Room or Urgent Care visit for asthma in the study year.
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk
First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Benchmark:	
Source of benchmark:	
Baseline goal:	<10%
Quantifiable Measure #10	Hospitalization for Asthma-related Problems
Numerator:	Number of MCP Members diagnosed with Asthma and identified as high risk who underwent hospitalization for Asthma-related complications during the study year.
Denominator:	Number of MCP Members diagnosed with asthma and identified as high risk
First measurement period dates:	January 1, 2006 to December 31, 2006
Current measurement period	January 1, 2006 to December 31, 2006
Baseline Benchmark:	
Source of benchmark:	
Baseline goal:	

C. Baseline Methodology.

C.1 Data Sources.

[X] Medical/treatment records
[X] Administrative data:
    [X] Claims/encounter data   [   ] Complaints   [   ] Appeals   [   ] Telephone service data   [   ] Appointment/access data
[X] Hybrid (medical/treatment records and administrative)
[X] Pharmacy data [Caremark Phamracy query for Asthmatics with AI/BD/Leukotriene/Steroid history.
[   ] Survey data (attach the survey tool and the complete survey protocol)
[   ] Other (list and describe):

    Lifetime Clinical Record (LCR) _____

    _____

C.2 Data Collection Methodology. Check all that apply and enter the measure number from Section B next to the appropriate methodology.

If medical/treatment records, check below:
[X] Medical/treatment record abstraction

If survey, check all that apply:
[   ] Personal interview
[   ] Mail
[   ] Phone with CATI script
[   ] Phone with IVR
[   ] Internet
[   ] Incentive provided
[   ] Other (list and describe):

_____

_____

If administrative, check all that apply:
[   ] Programmed pull from claims/encounter files of all eligible members
[   ] Programmed pull from claims/encounter files of a sample of members
[   ] Complaint/appeal data by reason codes
[   ] Pharmacy data
[   ] Delegated entity data
[   ] Vendor file
[   ] Automated response time file from call center
[   ] Appointment/access data
[   ] Other (list and describe):

_____

_____

C.3 Sampling. If sampling was used, provide the following information.

Measure	Sample Size	Population	Method for Determining Size (describe)	Sampling Method (describe)
All measures: entire population with history of one or more of the following encounters experienced during the study year due to asthma: 4+ PCP visits, 1+ ER visit, 1+ Urgent Care visit, 1+ Inpatient stay				

C.4 Data Collection Cycle.	Data Analysis Cycle.
[X] Once a year [ ] Twice a year [ ] Once a season [ ] Once a quarter [ ] Once a month [ ] Once a week [ ] Once a day [ ] Continuous [ ] Other (list and describe): _____ _____	[X] Once a year [ ] Once a season [ ] Once a quarter [ ] Once a month [ ] Continuous [ ] Other (list and describe): _____ _____

C.5 Other Pertinent Methodological Features. Complete only if needed.

D. Changes to Baseline Methodology. Describe any changes in methodology from measurement to measurement.

Include, as appropriate:
- Measure and time period covered
- Type of change
- Rationale for change
- Changes in sampling methodology, including changes in sample size, method for determining size and sampling method
- Any introduction of bias that could affect the results

_____

_____

_____

_____

Section II: Data / Results Table *[for Combined group only; Eligible Members List]*
Complete for each quantifiable measure; add additional sections as needed.

#1 Quantifiable Measure: Members on anti-inflammatory medication during study period

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	*Baseline:*						
2006	*Baseline:*	62	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#2 Quantifiable Measure: Percentage of members receiving a flu shot during the study period

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	*Baseline:*						
2006	*Baseline:*	34	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#3 Quantifiable Measure: Percentage of members receiving a pneumonia shot during the study period or nine years prior (past 10 years)

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	*Baseline:*						
2006	*Baseline:*	5	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

* If used, specify the test, p value, and specific measurements (e.g., baseline to remeasurement #1, remeasurement #1 to remeasurement #2, etc., or baseline to final remeasurement) included in the calculations. NCQA does not require statistical testing.

Section II: Data / Results Table
Complete for each quantifiable measure; add additional sections as needed.

#4 Quantifiable Measure: Percentage of members currently smoking

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	Baseline:						
2006	Baseline:	9	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#5 Quantifiable Measure: Percentage of members receiving smoking cessation advice

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	Baseline:						
2006	Baseline:	4	9				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#6 Quantifiable Measure: Percentage of members receiving other form of smoking cessation counseling

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	Baseline:						
2006	Baseline:	5	9				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#7 Quantifiable Measure: Quantifiable Measure: Percentage of members with 4+ PCP visits for asthma during study period

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	*Baseline:*						
2006	*Baseline:*	44	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#8 Quantifiable Measure: Percentage of members with 1+ visits to an Urgent Care clinic during the study period

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	*Baseline:*						
2006	*Baseline:*	65	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#9 Quantifiable Measure: Percentage of members with 1+ visits to the Emergency Room during the study period

Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	*Baseline:*						
2006	*Baseline:*	11	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

#10 Quantifiable Measure: Quantifiable Measure: Percentage of members with an Inpatient stay for asthma during study period							
Time Period Measurement Covers	Measurement	Numerator	Denominator	Rate or Results	Comparison Benchmark	Comparison Goal	Statistical Test and Significance*
2005	Baseline:						
2006	Baseline:	9	67				
2007	Remeasurement 1:						
2008	Remeasurement 2:						
2009	Remeasurement 3:						
2010	Remeasurement 4:						

* If used, specify the test, p value, and specific measurements (e.g., baseline to remeasurement #1, remeasurement #1 to remeasurement #2, etc., or baseline to final remeasurement) included in the calculations. NCQA does not require statistical testing.

Section III: Analysis Cycle
Complete this section for EACH analysis cycle presented.

A. Time Period and Measures That the Analysis Covers.

January 1, 2006 to December 31, 2006.

B. Analysis and Identification of Opportunities for Improvement. Describe the analysis and include the points listed below.

B.1 For the quantitative analysis, include the analysis of the following:
- Comparison with the goal/benchmark
- Reasons for changes to goals
- If benchmarks changed since baseline, list source and date of changes
- Comparison with previous measurements
- Trends, increases or decreases in performance or changes in statistical significance (if used)
- Impact of any methodological changes that could impact the results
- For a survey, include the overall response rate and the implications of the survey response rate

B.2 For the qualitative analysis, describe any analysis that identifies causes for less than desired performance (barrier/causal analysis) and include the following:
- Techniques and data (if used) in the analysis
- Expertise (e.g., titles; knowledge of subject matter) of the work group or committees conducting the analysis
- Citations from literature identifying barriers (if any)
- Barriers/opportunities identified through the analysis
- Impact of interventions

Analysis

62 of 67 (92.5%) members eligible through 2006 and diagnosed with asthma received some form of Anti-inflammatory medication in 2006, these medications included leukotriene prescribed as an alternative to the more traditional anti-inflammatories (n = 5). Regarding age range, 100% of the children 10 to 17 y/o and 90% of children 5 to 9 y/o were prescribed some form of AI. In contrast, only 76% of adults 18 to 56 y/o were taking some form of AI in 2006.

Flu shots were administered to only 34 of 67 members (50.7%).

9 members (13.4%) had a current history of smoking, 3 (4.5%) were former smokers, 1 (11.1%) had secondary exposure history, and 50 (74.6%) had no smoking or secondary exposure history. 4 of the 9 smokers (44.4%) had smoking cessation discussed in their medical record.

The most common high risk indicator for asthmatics considered high risk according to HEDIS measure requirements was one or more Urgent Care/Walk-in visits during the study year. 65 of 67 high risk members (97.0%) experienced at least one of these during the year, with many members engaging in multiple UC visits for URI/Asthma. 44 members (65.7%) engaged in 4+ PCP visits for asthma management in 2006. 11 members (16.4%) underwent an asthma-related ED visit, and 9 (13.4%) an inpatient stay due to asthma.

Regarding the three Age-defined categories according to HEDIS [5 to 9, 10 to 17, and 18 to 56], the numbers of members engaging in UC, ED and PCP visits were distributed fairly equally across all three age groups. 8 of 9 Inpatient stays involved children 5 to9 and 10 to 17 y/o.

Opportunities for improvement.

Increase percentage of adults taking AI scripts.

Increase percentage of members receiving flu shots during the study year for all age groups.

A number of additional encounter related activities not measured as indicators demonstrate substantial need for improvement as well. These include:

- Reduce the percentage of members with encounter histories lacking an asthma risk assessment note (intermediate, mild, moderate and severe) (34.7% lack such a note)
- Increase goal setting activities for all members, especially adults (84% adults lack some form of goal setting, 31.5% of children 10-17 y/o, and 55% of children 5-9 y/o).
- Increase utilization of the Asthma Action Plan (AAP) as recommended by the Asthma Guideline (96% of adults lacked an AAP, 50% of children 10-17 y/o, and 65% of children 5-9 yo).
- Increase utilization of the Asthma Control test designed for evaluating members 4-11 y/o. Only 15 of children 5-9 y/o were assessed with this form.
- Increase utilization of the DHMC Asthma-Allergy clinic; 0% of adults used this clinic, 59.1% of children 10-17 yo, and 35% of children 5-9 yo.
- The need to develop an Adult-targeted OP Encounter form for documenting asthma care visits. This would prevent or reduce the lack of medical history that currently exists regarding risk assessment, goal setting and other preventive care activities.

Section IV: Interventions Table

Interventions Taken for Improvement as a Result of Analysis. List chronologically the interventions that have had the most impact on improving the measure. Describe only the interventions and provide quantitative details whenever possible (e.g., "hired 4 customer service reps" as opposed to "hired customer service reps"). Do not include intervention planning activities.

Date Implemented (MM / YY)	Check if Ongoing	Interventions	Barriers That Interventions Address
STANDARDS			
PROVIDERS			
MEMBERS			
SYSTEM			
SERVICES			

Section V: Chart or Graph (Optional)

Attach a chart or graph for any activity having more than two measurement periods that shows the relationship between the timing of the intervention (cause) and the result of the remeasurements (effect). Present one graph for each measure unless the measures are closely correlated, such as average speed of answer and call abandonment rate. Control charts are not required, but are helpful in demonstrating the stability of the measure over time or after the implementation.

Performance Improvement Project (PIP) Name: Preventive Services provided to Medicare members with Diabetes
Step 1: Select the Study Topic(s)

Step 1: Choose the Selected Study Topic. Topics selected for study should reflect the Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease. Topics should reflect a high-volume or high-risk condition and address a broad spectrum of care and services. Topics could also address the need for a specific nonclinical service. The project should have the potential to affect consumer health, functional status, or satisfaction. The topic may be specified by the State Medicaid agency, on the basis of Medicaid consumer input, or selected following the collection and analysis of data related to the topic. Topics should include all eligible populations that meet the study criteria and should not exclude consumers with special health care needs.

Study Topic: Evaluation of Managed Care Preventive Services provided to Medicare members with Diabetes.

Hypothesis: By increasing member participation in various diabetes screening and health monitoring activities in accordance with the Diabetes Management Standard guideline (1), long term health-related outcomes for each of these activities will improve.

Description:

This study focuses on MEDICARE CHOICE members 18 to 99+ years of age*(18 to 75 – study done for HEDIS) with Diabetes Mellitus.   The primary goal of this project is to increase the number of members who undergo the recommended prevention activities defined in the Denver Health Managed Care guideline *Diabetes Management Standard (1)*.

According to recent studies of diabetes, Diabetes effects about 5.4 million people in the United States $\geq$ 65 years of age or 15.3% of the total population in this age range (2,3). These studies also estimate that another 2.4 million people $\geq$ 65 yo or 6.9% of the total population $\geq$ 65 years of age are undiagnosed cases of diabetes, 90% of which are Type-II NIDDM initiating during the mid-life years (45-60 yo).   Long-term health-related complications of uncontrolled diabetes include retinopathy, nephropathy, neuropathy, and foot ulceration.   The most costly complications of diabetes for the older population include blindness, renal failure accompanied by a need for dialysis, diabetic retinopathy and a need for laser surgery, foot or lower leg amputation due to peripheral necrosis, and assorted comorbidity problems related to hypertension, heart disease, obesity, osteoporosis, physical disability, and neurological impairment (4,5).

One of the most important parts of an effective diabetes disease management program is the regular monitoring of members with diabetes in order to improve long term health outcomes (6). As part of the care management program at Denver Health Managed Care, people with diabetes are encouraged to undergo annual testing for hemoglobin A1c and LDL-C levels, receive at least one eye exam specifically for diabetes-related retinopathy per year, be screened for proteinuria each year or be monitored for a documented nephropathy condition, undergo regular PCP visits, and maintain healthy home glucose monitoring and prescription drug use. By engaging in these preventive health practices, DHMC members experience improvements in quality of life and increased productivity at home and in the work place (7,8,9).

The goals of this study are based on preventive health measures promoted by the Denver Health Medicare Choice Diabetes Disease Management program and incorporated into the Diabetes care guidelines produced by Colorado Clinical Guidelines Collaborative (CCGC) (10), which are derived from a series of nationally-recognized standards of care produced by the American Diabetes Association and several disease specialty organizations (11,12). These preventive care activities provided to Medicare members by Denver Health Managed Care are reviewed annually as part of the annual NCQA/HEDIS review of the Medicare Choice program (13).

This study evaluates the overall performance of the Medicare Choice Diabetes disease management program.   The following traditional measures define this Performance Improvement Project (** = measure is made as part of the annual HEDIS review):

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Performance Improvement Project (PIP) Name: Preventive Services provided to Medicare members with Diabetes

- ❑ Percent of members screened for HgA1c at least once during the research year---improvement is represented by significant <u>increase</u> in percent screened**
- ❑ Percent of members demonstrating <u>poor control</u> of HgbA1c maintenance (HgA1c > 9.0%)---improvement represented by significant <u>decrease</u> in percent over 9.0%**
- ❑ Percent of members demonstrating <u>good control</u> of HgbA1c maintenance (HgbA1c < 7.0%)---improvement represented by significant <u>increase</u> in percent less than 7.0%**
- ❑ Percent of members screened for LDL-C at least once during the research year ---improvement is represented by significant <u>increase</u> in percent screened**
- ❑ Percent of members demonstrating LDL control during the research year, as defined by an LDL-C <100 mg/dL--- improvement is represented by significant <u>increase</u> in percent with LDL-C<100 mg/dL**
- ❑ Percent of members undergoing an annual diabetic retinal exam during the research year, or year prior if results are normal---improvement is represented by significant <u>increase</u> in percent undergoing appropriate eye exam**
- ❑ Percent of members with annual testing for renal nephropathy or evidence for monitoring of nephropathy, in the form of a screening for microalbuminuria or macroalbuminuria, or evidence for monitoring of nephropathy in the form of a visit to a nephrologist---improvement is represented by significant <u>increase</u> in percent undergoing appropriate monitoring procedure for nephropathy**
- ❑ Percent of members with most recent BP<130/80---baseline for NCQA---improvement is represented by significant <u>increase</u> in percent with BP<130/80**
- ❑ Percent of members with most recent BP<140/90---baseline for NCQA---improvement is represented by significant <u>increase</u> in percent with BP<140/90**
- ❑ Percent of members with ACEI/ARB medication prescribed during study year---improvement is represented by significant <u>increase</u> in percent utilizing ACEIs or ARBs
- ❑ Percent of members with Lipid-lowering agent prescribed during study year---improvement is represented by significant <u>increase</u> in percent utilizing Lipid-lowering agent

These measures are included in this report or combined to produce two measures for this PIP:

1. Percent of member who underwent at least one visit during the study year for Diabetes
2. Percent of members who underwent two of the following three health maintenance activities related to Diabetes at least once during the year: HgA1c screening, LDL-C screening and Urine Protein screening (or Nephrology Visit due to history of proteinuria).
3. Percent of members who underwent all three of the following three health maintenance activities related to Diabetes at least once during the year: HgA1c screening, LDL-C screening and Urine Protein screening (or Nephrology Visit due to history of proteinuria).

Other possible measures to include are:

4. Percent of members who had their blood pressure checked as part of the PCP visit during the year.
5. Percent of members with most recent BP<140/90.

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