Asthma Care Quality Improvement: A Workbook for State Action

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Foreword

Asthma Care Quality Improvement: A Workbook for State Action and its complementary *Resource Guide* were developed by the Agency for Healthcare Research and Quality (AHRQ) as learning tools for all State officials who want to improve the quality of health care. In conjunction with the *Resource Guide*, which uses State-level data on asthma care from the *2004 National Healthcare Quality Report*, this *Workbook* is designed to help States assess the quality of care in their States and fashion quality improvement strategies suited to State conditions.

The *Workbook* and its complementary *Resource Guide* can serve as tools for those who work on quality improvement to use in sharing their expertise, ideas, knowledge, and solutions. The various modules are intended for different users. Senior leaders, for example, may want to focus on making the case for asthma quality improvement, incorporating a State-led framework into their improvement strategy, and taking action; program staff need to provide the measures and data necessary to implement the quality improvement plan. The goal is that everyone work as a team and, thereby, improve the quality of asthma care in their State.

If you have any comments or questions on this *Workbook* or its complementary *Resource Guide*, please contact the AHRQ Center for Quality Improvement and Patient Safety, 540 Gaither Road, Suite 3000, Rockville, MD 20850 (phone: 301/427-1734; email: dwight.mcneill@ahrq.hhs.gov).

Contents

Introduction

The Need for Asthma Quality Improvement

As protectors of the public's health, State governments play a vital role in preventing asthma and controlling its consequences. Most States have some public resources invested in asthma prevention, monitoring, and care programs, although the level of investment may vary from State to State. As health care purchasers, States are responsible for ensuring that the health care they pay for on behalf of State employees, Medicaid clients, and other recipients meet standards of quality.

There are a number of reasons why States may want to take a closer look at improving quality of care for asthma, including:

- The increased prevalence of asthma, especially among children and adolescents.
- The disparities between various racial and ethnic groups in diagnosis and quality of asthma care.
- Interventions and treatment that can successfully control the disease and prevent attacks.
- The high health care cost of uncontrolled asthma and the potential for return on investment for purchasers, including State Medicaid agencies, through asthma quality improvement.

See Module 1 of the *Resource Guide* for more information on these topics.

Aim and Scope of This Workbook

The aim of this *Workbook* is to help State leaders develop information to support health care quality improvement. Its written exercises should help State leaders begin to think about an effective partnership for an initiative, assembly of available data for their State, questions to raise about interpretation of the data, and quality improvement techniques. It also should help readers apply information and concepts from the *Resource Guide* to their own States.

Upon completion of the *Workbook*, State leaders will be able to:

- Understand the key factors that determine whether there is a need for an asthma care quality improvement in their State (i.e., "make the case").
- Identify partners to plan, develop, and support a quality improvement strategy for asthma.
- Identify national, public-private, Federal, State, and local resources and activities related to asthma quality improvement.
- Identify appropriate asthma data sources and measures and develop estimates from data for assessing the State's performance in providing asthma care.
- Identify opportunities to contribute to improving asthma care quality.

This *Workbook* is a start for State leaders interested in learning about quality improvement for asthma care. The actual planning, implementation, tracking, and evaluation of an asthma care quality improvement program will go well beyond this *Workbook* and its companion *Resource Guide*. Carrying out such a program will require a team of experts: State leaders and agency staff, program staff, topic experts, researchers, health specialists, statisticians, data collection experts, evaluation researchers, and representatives from stakeholder groups.

Who Should Use This Workbook

This workbook is intended for multiple users:

- State elected leaders—governors and legislators (and their staffs) who provide leadership on health policy.
- State executive branch officials—State health departments, asthma prevention and control program leaders, Medicaid officials, benefit managers for State employees, and their staffs.
- Nongovernmental State and local health care leaders—professional societies, provider associations, hospital associations, quality improvement organizations, voluntary health organizations, health plans, business coalitions, community organizations, and consumer groups.

How To Use This Workbook

Although this *Workbook* can be completed by one individual, it would be a time-consuming task. Furthermore, few State leaders may be equipped to answer all of the questions. Therefore, State leaders may want to enlist the help of staff and others who will eventually become part of the quality improvement team that will develop, implement, and evaluate an asthma care quality improvement program.

The user should first read the Executive Summary and Introduction of the *Resource Guide* for an overview of the National Healthcare Quality Report. This report—produced annually by the Agency for Healthcare Research and Quality (AHRQ), along with its companion National Healthcare Disparities Report—serves as the basis for measures and data used in the *Resource Guide* and this *Workbook*. Modules in the *Resource Guide* are mirrored in this *Workbook*; and, based on the State leader's interests, needs, and role in developing a quality improvement program, users will want to focus on different modules such as:

Senior leaders

- Module 1—Making the Case for Asthma Care Quality Improvement
- Module 2—A Framework for State-Led Quality Improvement
- Module 3—Learning From Current State Quality Improvement Efforts
- Module 5—Moving Ahead – Implications for State Action

Staff specialists (all of above plus the following)

- Module 4—Measuring Quality of Care for Asthma

Modules 1, 2, and 3 might be completed by different individuals or groups of individuals to gather and assess information to create a quality improvement team and strategy specific to the State's needs. Module 4 provides guidance on available measures and how to use and interpret them in a quality improvement program. Module 5 will help State leaders assess their strengths and weaknesses in instituting improvement in health care quality.

Module 1: Making the Case for Asthma Care Quality Improvement

Learning Objectives

Upon completion of Module 1, the user(s) will be able to:

1. **Assess the need for asthma care quality improvement in the State.** Consolidating available information will help State leaders "make the case" for improvement in asthma care by showing why it should be a priority.
2. **Estimate the cost of asthma care statewide and for Medicaid.** Estimating the total costs of asthma care is an important part of understanding the need for quality improvement in the State.
3. **Estimate a State's potential cost savings by using targeted disease management and reducing pediatric hospitalizations for asthma.** Estimating the potential savings for Medicaid and for the State by improving asthma management and reducing avoidable hospitalizations is a vital part of making the case for asthma care quality improvement.

1. Assess the need for asthma care quality improvement in the State.

Read "The Need for Asthma Care Quality Improvement" and "The Quality Improvement Opportunity (pages 5-18) in the *Resource Guide* to learn about important reasons for addressing asthma and quality of care for asthma—increased prevalence, high cost, racial/ethnic and income disparities, and treatment variations—as well as the potential for return on investment through quality improvement in asthma care.

a. Look at Table 1.1 on page 10 to see how asthma prevalence (cases for every 100 people) has changed from 2000 to 2003. In Maryland in 2000, for example, 10.6 percent of the population had been diagnosed with asthma at some point in their lifetime, similar to the national average of 10.5 percent; in 2003, Maryland's lifetime asthma prevalence was 12.3 percent, higher than the national average of 11.7 percent. The lifetime asthma prevalence rates in Table 1.1 are from the Centers for Disease Control and Prevention's Behavioral Risk Factor Prevalence System (BRFSS).

1) What was the asthma prevalence in your State in 2000? (Table 1.1) _____

2) What was the asthma prevalence in your State in 2003? (Table 1.1) _____

3) Has the prevalence increased in your State since 2000? _____

4) How does your State compare with the national average? _____

b. Asthma prevalence may vary among subgroups of the population in your State (such as by age, racial or ethnic group, or income). As an example, look at Table E.3 (page 117) in Appendix E of the *Resource Guide* to find the current prevalence of asthma by State among adults by age group (18-64 and 65 and older) in 2003.

1) What was the current asthma prevalence for all adults in your State in 2003? (Table E.3) _____

How does your State compare with: the national average? _____ the top decile of States average? _____ the bottom decile of States average? _____

Note: The States in the "top decile" ($1/10^{th}$) are the States that have the lowest average of asthma prevalence. The States in the "bottom decile" are the States with the highest average of asthma prevalence.

2) What was the current asthma prevalence for age 18-64 in your State in 2003? (Table E.3) _____

How does your State compare with: the national average? _____ the top decile of States average? _____ the bottom decile of States average? _____

3) What was the current asthma prevalence for age 65 and older in your State in 2003? (Table E.3) _____

How does your State compare with: the national average? _____ the top decile of States average? _____ the bottom decile of States average? _____

4) Are there other groups (racial, ethnic, low income, etc.) in your State for which you have asthma prevalence data from your State health data agency?

_____

c. Look at Table 1.2 (page 11) in the *Resource Guide*. This shows the hospitalization rate for asthma (admissions per 100,000 population) by State for different age groups. This is an important quality improvement measure because many hospital visits for asthma can be avoided with high quality outpatient care. Knowing your State's rate compared to the national average may help determine whether asthma care quality improvement, especially as it affects the cost for asthma care, should be a priority in your State. Find your State and write your State's rate for each age group in the table below.

If your State is not listed in Table 1.2, or if your State collects its own hospitalization data for asthma, contact your State health data agency for these rates and write them in the table below.

Hospital admissions for asthma per 100,00 population among--	U.S. rate	Best-in-class rate	Your State's rate
Children under age 18	188.6	72.3	
Adults age 18-64	112.8	60.2	
Adults age 65 and older	170.6	118.2	

1) How does your State compare with the U.S. rate? _____

2) "Best-in-class" States have lower rates of avoidable hospitalizations for asthma. How does your State compare with the best-in-class averages for the three age groups above?

_____

_____

3) What do you see as the potential for quality improvement in this measure in your State?

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2. Estimate the cost of asthma care statewide and for Medicaid.

Read "Estimating the Costs of Asthma Care and Potential Savings From Quality Improvement" (pages 18-23) in the *Resource Guide* to learn about estimating direct and indirect costs of asthma statewide and for Medicaid. *Direct* costs are expenditures associated with asthma treatment: routine services, treatment of complications, and medical conditions attributable to asthma. *Indirect* costs are additional costs of living or the lost opportunities that affect individuals because they have asthma: the cost of dealing with disability, lost wages and productivity, premature death, and so on.

a. Look at Table 1.3 on page 20 of the *Resource Guide*. It lists current asthma prevalence and direct and indirect cost estimates for asthma by State. Find your State's estimates and list here.

Direct cost of asthma to your State = $_____

Indirect cost of asthma to your State = $_____

Total estimated asthma costs to your State = $_____

Asthma prevalence in your State = _____

Average cost to your State per person with asthma = $_____
(Divide State's total costs by State's asthma prevalence)

b. Next compare your State estimates for the total population to estimates for neighboring States in your region. Again using Table 1.3 on page 20 of the *Resource Guide*, find the figures for your State and the two States with similar characteristics to yours and write them in the blanks below. How does your State compare?

	Your State	State A	State B
Asthma prevalence			
Total asthma cost			
Average cost per person (divide total cost by prevalence)			
Cost difference (+/-)			

c. Look at Table 1.4 on page 21 of the *Resource Guide.* It gives the Medicaid population with asthma and the estimated costs to each State's Medicaid program for three age groups: 0-17, 18-64, and 65 and older. Find your State's Medicaid population and estimated Medicaid spending on asthma for the three age groups and list them in the first column below. Calculate the cost per person by dividing the estimated expense by the estimated Medicaid population with asthma. Make the same type of comparisons for the Medicaid population between your State and the two States you used in question 2b above.

Note: Do you have estimates for asthma care costs from your State health department or Medicaid program office that are better than those listed in Table 1.4? _____
If so, use them here. Your own State estimates for spending on asthma care would be more accurate than these derived through national studies and more generalized assumptions.

Medicaid population	Your State	State A	State B
Age 0-18			
Population with asthma			
Estimated expense			
Average cost per person (divide expense by population)			
Age 19-64			
Population with asthma			
Estimated expense			
Average cost per person (divide expense by population)			
Age 65 and older			
Population with asthma			
Estimated expense			
Average cost per person (divide expense by population)			

d. Look at Appendix B, Tables B.1-B.6 (pages 85-90) in the *Resource Guide*. These tables show estimated numbers of people in racial/ethnic subgroups of the Medicaid population with asthma by age group and estimated Medicaid spending for asthma for these groups. Fill in the blanks in the following table below with figures for your State and two comparable States.

Population group	Medicaid eligibles with asthma			
	Age 0-18	Age 19-64	Age 65 and older	Estimated Medicaid spending
Your State:				
White				
Black				
American Indian/ Alaska Native				
Asian				
Hispanic				
Other				
State A:				
White				
Black				
American Indian/ Alaska Native				
Asian				
Hispanic				
Other				
State B:				
White				
Black				
American Indian/ Alaska Native				
Asian				
Hispanic				
Other				

1) Does your State have large numbers of these subgroups with asthma? How much of your Medicaid spending is devoted to asthma care for these groups?

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2) Can you use the figures in Appendix Tables B.1-B.6 to help make the case for asthma care quality improvement in your State?

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3. Estimate a State's potential cost savings by using targeted disease management and reducing pediatric hospitalizations for asthma.

a. Look at pages 22-23 of the *Resource Guide* to see the results from a calculation of potential Medicaid savings from an asthma disease management program based on the Virginia Health Outcomes Partnership (VHOP) experiment.

1) Call your Medicaid program office to find your State's spending for emergency department visits for Medicaid (see step 1, below), the number of Medicaid claims for emergency department visits (step 2), and the number of physicians participating in primary care case management who might accept training in asthma management (step 6). Use your State data to fill in the blanks to develop a "ballpark" estimate of how much might be saved in Medicaid costs with a similar asthma disease management intervention.

Note: These estimates assume that you would have results similar to those of Virginia (see page 22 of the *Resource Guide*) and that your State has not already implemented a training program for physicians treating Medicaid recipients with asthma. Your results will vary depending on the size of your Medicaid program and the scale of the intervention your State might undertake.

Steps for Estimating Potential Medicaid Savings From an Asthma Disease Management Program

Step	Your State
1. Total annual spending for emergency department visits for asthma pre-intervention for Medicaid recipients	
2. Total annual number of Medicaid claims for emergency department visits	
3. Payment per claim: Divide step 1 by step 2	
4. Emergency visit reduction factor: Adjusted to four quarters and to exclude added costs per physician and added drug prescribing (both included below; see steps 7 and 8)	0.06
5. Emergency care visit annual saving after training physicians: Multiply step 1 by step 4	
6. Number of physicians participating in primary care case management who might accept training in asthma management	
7. Asthma drug cost: Multiply step 6 by $180 per physician per year	
8. Program training costs: Multiply step 6 by $235 per physician	
9. Total drug and training costs: Add steps 7 and 8	
10. Total Medicaid savings: Subtract step 9 from step 5	
11. Savings per Medicaid claim: Divide step 10 by step 2	

Source: Estimates derived from Rossiter LF, Whitehurst-Cook MY, Small RE, et al. The impact of disease management on outcomes and cost of care: a study of low-income asthma patients. *Inquiry* 2000;37:188-202.
Note: Based on the VHOP experiment, for purposes of step 6, assume that one-third of Medicaid participating physicians in any disease management program would accept training in asthma management. See Rossiter et al. for further detail on derivation of the emergency visit reduction factor, asthma drug cost, and program training cost. In addition, percent savings per claim can be calculated by dividing step 11 by step 3.

2) How do these potential Medicaid savings for asthma care compare with other disease management programs in your State? Do these figures help make a case for asthma care quality improvement for your Medicaid program?

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b. Look at pages 23-24 in the *Resource Guide* to see results from a calculation of potential savings for Massachusetts from reducing avoidable hospitalizations for pediatric asthma.

1) Follow the steps below to develop a "ballpark" estimate of how much your State might save by reducing excess hospitalizations for pediatric asthma.

Note: These estimates assume that you would have results similar to those of Massachusetts (see page 24 of the *Resource Guide*). Your results may vary. In addition, the cost of implementing a quality improvement program to reduce hospitalizations is not included in the calculation below.

Steps for Estimating Potential Savings From Reducing Excess Pediatric Asthma Hospitalizations

Step	Your State
1. Hospital admission rate for pediatric asthma per 100,000 population under age 18 (Table 1.2 in the *Resource Guide*)	
2. Estimated population under age 18 in State (Census, 2000; available at http://www.census.gov/popest/states/asrh/SC-est2004-02.html)	
3. Number of pediatric asthma hospital admissions: Multiply step 1 by step 2	
4. Percent of pediatric asthma hospital admissions to be reduced to achieve best-in-class (Table 1.2 in the *Resource Guide*)	
5. Number of hospital admissions for pediatric asthma to reduce (excess hospitalizations): Multiply step 3 by step 4	
6. Mean cost for pediatric asthma hospitalization*	$2,590.72
7. Total cost of all pediatric asthma hospitalizations in State: Multiply step 3 by step 6	
8. Total cost of excess pediatric asthma hospitalizations in State: Multiply step 5 by step 6	
9. Potential cost savings from reducing excess hospitalizations: Subtract step 8 from step 7	

* Step 6 was calculated by multiplying the national mean charge per pediatric asthma hospitalization ($5,888) by the national cost-to-charge ratio for these hospitalizations (0.44) using data from the 2001 HCUP Nationwide Inpatient Sample. (Information on HCUP data and tools is available on the HCUP Web site at http://www.hcup-us.ahrq.gov or via email at hcup@ahrq.gov.) States may use their own State estimates on pediatric asthma hospitalizations if available.

2) Look at your potential cost savings from reducing excess hospitalizations. Can these potential savings help to make a case for asthma care quality improvement in your State?

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Module 2: A Framework for State-Led Quality Improvement

Learning Objectives

Upon completion of Module 2, the user(s) will be able to:

1. **Define the State's role in the asthma care quality improvement process and develop activities using a Plan-Do-Assess approach.** States can play a strategic role in quality improvement by providing leadership, working in partnership, and implementing quality improvement to achieve better care for people with asthma.
2. **Identify appropriate resources to help States reach their improvement goals.** States need to locate available resources to use in quality improvement efforts.

1. Define the State's role in the asthma care quality improvement process and develop activities using a Plan-Do-Assess approach.

a. Read pages 26-35 in the *Resource Guide*. These sections discuss the State's role in fostering quality improvement in health care, present existing improvement models, and a define a new framework for asthma care quality improvement and a leadership role for States.

1) What existing programs in your State can you use to gather information on quality improvement? Do you have previous quality improvement programs at the State or community level which you can use to begin planning your asthma improvement efforts? Who in your State might be able to provide this information (such as experts in asthma, asthma care, and quality improvement)? _____
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2) Are there ongoing provider networks already involved in quality improvement in your State that might serve as the basis of a statewide quality improvement initiative for asthma care?
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3) What do you envision as the State's key leadership role in leveraging these existing programs and networks for asthma care quality improvement?_____
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b. General and clinical models of quality improvement are described on pages 27-31 of the *Resource Guide*. These models require collaboration in planning, setting goals, establishing appropriate measures, designing and implementing changes, gathering and analyzing data, and interpreting the results. What features of these models seem particularly relevant to your State?

Plan-Do-Study-Act model:_____
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IHI model: _____
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Chronic Care model: _____
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Federal models: _____
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c. "A New Framework for State-Led Quality Improvement" that uses elements of these models is described on pages 31-35 of the *Resource Guide* and illustrated in Figures 2.1-2.3. This framework adapts the Plan-Do-Study-Act model into a Plan-Do-Assess improvement process comprising three stages: (1) provide leadership; (2) work in partnership; and (3) implement improvement. The State takes a lead role in each stage.

1) Stage 1: Provide leadership. A key part of this stage is championing the need for improving care and creating a quality improvement vision.

Plan: Are there members of your staff with experience in quality improvement who can help plan this effort and identify potential partners? _____
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What other State officials can you call upon to collaborate in leading the asthma care quality improvement effort? Consider the governor, other elected officials, the Medicaid program director, health department director, school superintendent, social services director, and others whose programs serve large numbers of State residents with asthma.

Can you identify ways to incorporate the case for asthma care quality improvement that you assembled in Module 1 into your planning efforts?

Do: What is the best way to convene parties interested in improving asthma care? Are there existing advisory bodies or workgroups? Who are the key stakeholders that you would want to include? (These might be community organizations, providers, health plans, employers and other larger purchasers, as well as consumers.)

Can you identify resources to help develop networks that support this effort in your State?

Assess: How do you assess your planning efforts at this stage? Have you established an environment and partnerships with stakeholders that will foster quality improvement?

What adjustments might be necessary?

(2) Stage 2: Work in partnership. This stage relies on the collaborative efforts of key stakeholders to develop a strategy, plan activities, develop possible solutions, and assess the potential pros and cons of these solutions before major implementation campaigns are begun.

Plan: The Centers for Disease Control and Prevention supports asthma programs in many States through its National Asthma Control Program. (The CDC Web site has information and a link to these programs at www.cdc.gov/asthma.) Does your State already have an asthma plan that identifies problems/issues to consider and goals to address in developing a quality improvement strategy? Are there established processes in place that you can use or adapt?

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What does the quality improvement team envision as the starting point? For example, do you want to improve the quality of care among the entire population or among vulnerable subgroups you have identified? Do you want to focus on quality of care in physician practices? Do you want to focus on reducing asthma hospitalizations? Is there more than one priority to which the team wants to commit at this point? _____
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What steps need to be taken to design an initial intervention that addresses your priority area(s)?_____
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Do: How will the proposed intervention be tested? Is there existing evidence from the literature or from your key stakeholders you can use? Can you or other stakeholders conduct a small pilot study to get data?

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Which measures will be used to determine whether the proposed intervention is successful? What experts that you have identified can you contact for information on these measures?

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Assess: What do the results of the test show? Who can you call on to help interpret the results? Is there something else you might need to do to gather more data?

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Does analysis of the results seem to suggest that the quality improvement partnership needs to modify the intervention or find another solution? (Perhaps your analysis indicates that you may need to add measures to improve documentation of how well asthma care is provided in your State.) Or has another problem or critical issue emerged that you believe should be addressed instead?

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3) Stage 3: Implement improvement. This stage relies on the partnership to bring about change statewide and evaluate its outcomes.

Plan: What are the steps needed to implement the asthma quality improvement intervention statewide? Specify the roles and responsibilities that each partner in the quality improvement team has agreed to take on to bring about this change. _____

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Do: What are the methods and mechanisms the quality improvement team will use to spread the change to providers and others in the State? For example will you use an advertising campaign, training programs, community outreach, other vehicles, or combinations?

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How will you measure the impact of this effort to spread change on patients and providers?

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Assess: How will the team evaluate the outcomes of the quality improvement effort, both successes and shortcomings? Is there a plan for modifying the intervention, based on ongoing evaluation, to assure continuous quality improvement?

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2. Identify appropriate resources to help States reach their improvement goals.

Read "Information Resources for Quality Improvement (pages 35-37) in the *Resource Guide* for a listing of some Federal programs and resources on quality improvement and quality of care, including asthma care.

a. Is your State using any of these resources? If so, how well have they worked for you?

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b. Visit the Web sites of the resources listed below. Jot down any ideas to help you plan, implement, and evaluate an asthma care quality improvement program.

- Institute for Healthcare Improvement (IHI model): www.ihi.org

Ideas: _____
_____
_____
_____
_____

- Improving Chronic Illness Care (Chronic Care model) : www.improvingchronicare.org/

Ideas: _____
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- National Healthcare Quality and Disparities Reports: www.qualitytools.ahrq.gov

Ideas: _____
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- State resources from the NHQR: www.qualitytools.ahrq.gov/qualityreport/2005/state

Ideas: _____
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- Healthcare Cost and Utilization Project databases: www.hcup-us.ahrq.gov

Ideas: _____
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- AHRQ evidence reports: www.ahrq.gov/clinic/epcix.htm

Ideas: _____
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Diabetes quality improvement tool: www.ahrq.gov/qual/diabqualoc.htm

Ideas: _____
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- National Quality Measures Clearinghouse: www.qualitymeasures.ahrq.gov

Ideas: _____
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- Behavioral Risk Factor Surveillance System: www.cdc.gov/brfss

Ideas: _____
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- National Asthma Control Program: www.cdc.gov/asthma/NACP.htm

Ideas:_____
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- National Asthma Survey: www.cdc.gov/nchs/about/major/slaits/nsa.htm

Ideas:_____
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- National Asthma Education and Prevention Program: www.nhlbi.nih.gov/about/naepp

Ideas:_____
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Module 3: Learning From Current State Quality Improvement Efforts

Learning Objectives:

Upon completion of Module 3, the user(s) will be able to:

1. **Use the quality improvement framework to identify various national and State approaches to asthma care quality improvement.** Many States have quality improvement programs that can be used or modified to serve as resources for informing State-specific quality improvement initiatives for asthma.
2. **Start an inventory of your State's quality improvement resources.** Building on others' activities, identify those initiatives already underway in your State that might provide models, staff, or additional resources for a statewide improvement effort.

1. Use the quality improvement framework to identify various national and State approaches to asthma care quality improvement.

Read pages 39-47 on "Current State Efforts To Improve the Quality of Asthma Care" in the *Resource Guide* for examples of programs that reflect the three stages of the quality improvement framework: provide leadership, work in partnership, and implement improvement.

a. What *leadership* approaches of other States seem particularly relevant to your State? These might include identifying "champions" for asthma quality improvement as well as advisory bodies, workgroups, and coalitions to help pull the overall effort together.

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b. What types of State practices seem to offer the best opportunities for leveraging *partnerships* to advance asthma care quality improvement? What can you learn from States that have worked in partnership with others (within and outside health care settings) to develop and implement quality improvement plans, promote guidelines, or improve their ability to measure and monitor quality?_____
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c. Which State programs would be most useful as examples for *implementing* an asthma quality improvement effort? Are there specific categories of activities that seem most relevant to your State's quality improvement initiative (such as self-management, patient/public education, provider training, or disease management)? _____

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2. Start an inventory of your State's quality improvement programs and resources.

Review Appendix C (pages 92-103) in the *Resource Guide* for a list of over 100 asthma quality improvement programs in 12 areas and Web links for more information on each program.

a. Inventory your own State quality improvement activities related to asthma. Use the categories listed in Appendix C (see page 92 of the *Resource Guide*) to organize your inventory. In the grid that follows, fill in what you know about groups in your State already assembled around asthma and asthma care; place a check (✓) if this activity is ongoing. If you know of other asthma-related activities that might not seem to fit within the categories listed below, jot them down in the lines after the inventory.

Asthma-Related Quality Improvement Programs in Your State, by Type of Activity

Type of activity	✓	**Name of program**	**Program contact**
Advisory bodies/councils/workgroups			
Coalitions (networks)			
Collaboratives			
Cross-agency work			
Data measurement and reporting			

Type of activity	✓	Name of program	Program contact
Developing/enforcing guidelines			
Disease management			
Minority and rural outreach			
Public service/education efforts			
Self-management			
Provider training			
Use of technology			

Other: _____
_____
_____
_____
_____
_____

b. Review your answers to questions 1a, 1b, and 1c above. Are there asthma-related activities for which you and your quality improvement team see a need but which do not appear in your inventory? Who might you contact to get more information on how to address this need?

_____
_____
_____
_____
_____

Module 4: Measuring Quality of Care for Asthma

Learning Objectives

Upon completion of Module 4, the user(s) will be able to:

1. **Understand quality measures and how measures of process and outcome can be used to track the quality of asthma care.** This will help identify gaps in care, how closing them can improve health status, and how measures can be used as a basis for setting goals.
2. **Inventory available data systems and other resources to use in developing State or local estimates.** A data systems inventory will identify existing data sources and collection mechanisms that might be adapted or enhanced to track quality improvement.
3. **Define "benchmark" as a measurement tool and understand how to identify appropriate benchmarks when developing quality improvement goals.** Comparing a State's performance with national or other benchmarks will provide a clearer understanding of the State's level of asthma care and any potential need for change.
4. **List various sociodemographic, behavioral, and environmental factors that must be considered in setting quality improvement goals.** Many factors outside the health care system can affect quality of asthma care processes and outcomes.
5. **Using appropriate benchmarks, draft goals for a State quality improvement effort.**

Read pages 49-55 in the *Resource Guide* on quality measurement and dimensions of care for asthma, including selecting process and outcome measures for these dimensions of care.

1. Understand quality measures and how measures of process and outcome can be used to track the quality of asthma care.

a. Look at the diagram on page 51 of the *Resource Guide*.

1) What does the diagram tell you about daily use of medications by people with asthma (a process measure) and number of hospitalizations for asthma (an outcome measure)?

_____
_____
_____
_____
_____

2) How would increasing daily use of medications by people with asthma improve asthma outcomes?_____
_____
_____
_____

b. Review Table 4.1 (pages 53-55) and Appendix D (pages 104-112) in the *Resource Guide* to learn about additional process and outcome measures and other dimensions of asthma care management. For many of the measures, special surveys or data collection efforts may be required. Does your State collect data for any of these measures?

Process measures (such as medication use, management plans, self-management, planned care):

_____
_____
_____
_____
_____

Outcome measures (such as symptom burden, work or school days lost, asthma hospitalizations):

_____
_____
_____
_____
_____

Other measures (such as access to care through insurance, asthma prevalence):_____

_____
_____
_____
_____
_____

2. Inventory available data systems and other resources to use in developing State or local estimates.

Review pages 55-59 in Module 4 and Appendixes E and F (pages 113-131 and 132-138, respectively) in the *Resource Guide*. These sections present information on sources of measures and data for asthma care, including data limitations and State estimates for various measures.

a. Begin an inventory list of the data sources available for your State below. You may wish to write down any questions or concerns you have about these data sources on the grid—items about which you need to contact data resource experts in your State. Place a check (✓) if data are available for your State.

Data source	✓	Questions/notes
Behavioral Risk Factor Surveillance System - CDC		
Healthcare Cost and Utilization Project - AHRQ		
HEDIS® data from the National Committee for Quality Assurance (available by region only)		

National Asthma Survey - CDC		
Other CDC surveys		
State vital statistics		
Special disease registries		
Statewide hospital discharge data		
Medicaid health provider reimbursement claims		
State employee health benefits claims		
Census population data		
Area Resource File – HRSA		
Kaiser Family Foundation		
Other statewide or local sources (school, occupational health, environmental assessments, etc.)		
Other setting-specific sources (hospitals, community health centers, primary care practices, etc.)		
State and local initiatives from other States		

b. Review your answers to questions 1.b and 2.a above. Can you identify any gaps in information or resources that you believe are important for assessing asthma care in your State? How will you address them?_____

_____

_____

_____

_____

_____
_____
_____
_____

3. Define "benchmark" as a measurement tool and understand how to identify appropriate benchmarks when developing quality improvement goals.

Read pages 59-66 and Appendix G (pages 139-140) in the *Resource Guide* on benchmarks and examples of how States may use them in quality improvement. Benchmarks are values that can be used as markers for measuring performance. Common benchmarks are national or regional averages, individual State rates, or best-in-class (top 10 percent of States) averages.

a. Review your answers to question 1c in Module 1 where you compared your State with the national and best-in-class averages for asthma hospitalization rates. How did you assess your State's performance against these benchmarks? _____
_____
_____

b. Page 60 of the *Resource Guide* lists six measures from BRFSS for which national and best-in-class benchmarks were calculated. These include four asthma process measures (routine care, medication use, advice to quit smoking, and flu shots) and two asthma outcome measures (urgent care and emergency room visits). These benchmarks are listed in Table 4.2 (page 56) of the *Resource Guide* and reproduced in the table below.

1) Go to Appendix Table E.1 (page 115) in the *Resource Guide*; this table lists national and best-in-class averages for selected BRFSS measures by State, including the six measures below. Locate the values for your State and write them in the blanks. (If your State is not listed in Appendix Table E.1, or if your State collects its own data for these measures, contact your State health data agency for these percentages and write them in the table below.) Subtract your State average from the best-in-class average to assess how many percentage points your State must improve to be a top performer. Note on the last two measures, a lower value is better.

Measure	U.S. average (%)	Best-in-class average (%)	Your State (%)	Best-in-class average minus your State average (+/-)
Planned/routine care for asthma (2 visits in past 12 months)	28.3	40.4		
Advice to quite smoking	82.2	87.9		
Flu shot (in past 12 months)	40.3	53.3		
Medication use for asthma (in past month)	71.1	75.3		
Urgent care visit (in past 12 months)	28.1	19.4		
Emergency room visit (in past 12 months)	17.7	12.2		

2) How does your State compare to the national and best-in-class averages for these measures?

_____
_____
_____
_____
_____
_____

c. Look at Figure 4.1 (page 61) in the *Resource Guide*, which illustrates the national and best-in-class averages for these six measures and the range of variation among States in the four regions. Examples of how four individual States compare against benchmarks on some of these measures are shown in Figures 4.2-4.5 (pages 62-65) in the *Resource Guide*.

Again using Appendix Table E.1 (or your own State data), select two States with some characteristics similar to your State and write their values for these six measures in the following table. Subtract the percentages for each of these others States from your percentages. Write the differences below; check off measures for which your State is performing better than State A and/or State B.

Measure	State A (%)	Your State minus State A (points different)	Better than State A ✓	State B (%)	Your State minus State B (points different)	Better than State B ✓
Planned/routine care for asthma (2 visits in past 12 months)						
Advice to quit smoking						
Flu shot (in past 12 months)						
Medication use for asthma (in past month)						
Urgent care visit (in past 12 months)						
Emergency room visit (in past 12 months)						

d. It is important to know whether a State's results are significantly different from the benchmark from a statistical standpoint. (Refer to Appendix H on pages 141-143 of the *Resource Guide* for further information on statistical significance.) Look at your answers to question 3b above; then go to Appendix Table E.1 on page 115 of the *Resource Guide*.

1) Are any of the percentages for your State significantly above the national average (as indicated by a + sign next to the value for your State in Appendix Table E.1)? Which ones?

2) Are any of the percentages for your State significantly below the national average (as indicated by a − sign next to the value for your State in Appendix Table E.1)? Which ones?

3) Are any of the percentages for your State within the best-in-class range and thus not significantly different from the best-in-class average (as indicated by a † sign next to the value for your State in Appendix Table E.1)? Which ones?

e. Using your answers to question 3d above, together with the discussion of four States on pages 62-66 of the *Resource Guide* as examples, write a similar analysis of your State's results. On which measures is your State doing well? In what areas could you improve?

4. List various sociodemographic, behavioral, and environmental factors that must be considered in setting quality improvement goals.

Review pages 66-70 of the *Resource Guide* on the factors that affect asthma quality of care. A State's performance on quality measures may be affected by a number of factors, including poor access to health care, high proportions of subgroups with no insurance, cultural attitudes toward

health care providers, etc. In addition State or employer decisions regarding coverage policies may affect the way providers deliver care. For example, certain asthma medications may not be reimbursed by a patient's health plan, and so the patient may have to pay out of pocket for certain prescribed medication and may not be able to afford them. There are also factors over which States have little or no control, such as asthma prevalence and population characteristics. (To find additional information on measures for some of these factors, such as percentage of population uninsured, you can use the Henry J. Kaiser Family Foundation Web site on State health facts at http://www.statehealthfacts.org.)

a. What characteristics of your State, its infrastructure, and your State's population might help to account for your answers to questions 3d and 3e above? For example, does your State have a substantial Medicaid population or large numbers of uninsured persons, racial or ethnic minorities, people with less than a high school education, or other vulnerable groups?

_____
_____
_____
_____
_____
_____
_____

b. What other issues or concerns might affect your State's performance in asthma care? Are there additional factors that you and your team need to consider in determining your starting point and setting initial goals for quality improvement in asthma care?_____
_____
_____
_____
_____
_____
_____
_____

5. Using appropriate benchmarks, draft goals for a State quality improvement effort.

a. Look at your answers to question 1c in Module 1 and question 3a-3d in Module 4 on how your State compares with benchmarks on the asthma measures presented here. (If necessary, also review pages 59-60 and Appendix G in the *Resource Guide* for a discussion of types of benchmarks and why different benchmarks might be chosen in different circumstances.)

1) To begin your quality improvement effort, which benchmarks for the following measures would you select for your State? Place a check (✓) in the blank of the measure you select. If you check "Other benchmark" for your State, describe it (for example, a regional average).

Measure	U.S. average (✓)	Best-in-class average (✓)	Other benchmark (describe)
Planned/routine care for asthma (2 visits in past 12 months)			
Advice to quite smoking			
Flu shot (in past 12 months)			
Medication use for asthma (in past month)			
Urgent care visit (in past 12 months)			
Emergency room visit (in past 12 months)			
Asthma hospitalization rate (per 100,000): ◦ Children ◦ Adults <65 ◦ Adults 65+			

2) For each measure, why did you select that benchmark? Write your reasons below.

Planned/routine care for asthma (2 visits in past 12 months):
Advice to quit smoking:
Flu shot (in past 12 months):
Medication use for asthma (in past month):
Urgent care visit (in past 12 months):
Emergency room visit (in past 12 months):
Asthma hospitalization rate (per 100,000): ◦ Children ◦ Adults <65 ◦ Adults 65+

3) Set a preliminary goal to reach the benchmark for the measures you have selected. The following are some examples of goal statements:

- Increase the percent of adults with asthma who receive a planned care visit for asthma once every 6 months to the level of the best in class average—40.4 percent—within 2 years. (The

specifics on these measures (e.g., which measures and period of time to reach the goal) should be established by your quality improvement team).

- Increase use of inhaled corticosteroids medication for adults with persistent asthma to the level of use on average across the Nation—71.1 percent of adults with asthma—within 2 years.
- Increase the percent of adults with asthma who receive flu vaccinations to the best-in-class average—53.3 percent—within 2 years. (An aggressive program might set an even higher goal or tighter time frame.)
- Reduce the hospitalization rate for asthma to the best-in-class averages (for children, 72.3 per 100,000) and for adults under age 65, 60.2 per 100,000).
- Identify the barriers to obtaining planned/routine care visits, smoking cessation counseling, or flu vaccinations.

<u>What are the preliminary goals for the following?</u>

Planned/routine care for asthma (2 visits in past 12 months):

_____
_____
_____

Advice to quit smoking:

_____
_____
_____

Flu shot (in past 12 months):

_____
_____
_____

Medication use for asthma (in past month):

_____
_____
_____

Urgent care visit (in past 12 months):

_____
_____
_____

Emergency room visit (in past 12 months):

_____
_____
_____

Asthma hospitalization rate (per 100,000):

Children_____
_____

Adults <65_____
_____

Adults 65+_____
_____

b. You may want to go beyond the measures listed above. Refer to Appendix E (pages 113-131) in the *Resource Guide* for additional BRFSS asthma measures you may want to consider in your quality improvement effort. Some of these measures are listed below. Are any of these measures appropriate for your State? Note those you want to investigate further.

Asthma attacks/episodes (in past 12 months):

_____
_____
_____

Limited activity days (in past 12 months):

_____
_____
_____

No sleep difficulty due to asthma (in past month):

_____
_____
_____

Doctor visit for asthma (in past 12 months):

_____
_____
_____

Asthma symptom-free days (in past 2 weeks):

_____
_____
_____

Asthma symptoms everyday (in past 2 weeks):

_____
_____
_____

Other:

_____
_____
_____

Guidance for Setting Goals:

- Consider this goal setting exercise as preliminary to enhance your understanding. (Stakeholders who will become partners and champions of the initiative must have a part in goal setting for the program. Clinicians in your community who are experts in asthma care may want to enhance the goals listed above. Only by engaging local experts will the goals reflect the circumstances that the community faces and be more likely to be supported by leaders in the health care community.)
- Note whether your State is extremely low, close to the national averages, or within the best-in-class averages. Your position relative to these benchmarks will indicate how far your State must go to be among the best performing health care systems. Do you want to set long-range and short-range goals?
- Remember that you will have to identify and address the underlying issues that affect your State's position.
- The measures featured here are only a subset of the meaningful goals and are not necessarily the only goals for asthma quality improvement in your State. (Refer to Appendixes D and E in the *Resource Guide* for additional asthma measures.)
- As you move through the planning process and discover new information, you can come back and change your goals to reflect your new knowledge.
- Your quality improvement program for asthma care should ultimately be designed to reach the goals set by the full quality improvement team.

Source: Adapted from B. Kass. *Diabetes Care Quality Improvement: A Workbook for State Action*. Rockville, MD: Agency for Healthcare Research and Quality, 2004.

Module 5: Moving Ahead – Implications for State Action

Learning Objective

Upon completion of Module 5, the user(s) will be able to:

1. Summarize the essential elements in planning and implementing asthma care quality improvement in your State. In undertaking a systematic effort to improve the quality of asthma care, State leaders must provide vision, involve key partners, set goals specific to State needs and resources, and develop a strategy to measure improvement and identify gaps.

1. Summarize the essential elements for an asthma care quality improvement effort in your State.

Read pages 74-76 in the *Resource Guide* which discusses the essential elements of developing and implementing a State action plan. Note your strengths and any needs in these areas:

a. Providing leadership and vision. Identify leaders to champion the quality improvement effort and develop a common vision for improving asthma care.

Strengths/needs:_____

b. Forming partnerships and collaborations. Identify key stakeholders and strategic partners in quality improvement; recruit other groups—public and private, formal and informal—to further the effort (such as policy staff, asthma care experts, Medicaid or other health program staff, data and program evaluation experts, and other networks, workgroups and coalitions).

Strengths/needs:_____

c. Identifying measures and data sources. Identify data and other information resources that will support an asthma quality improvement effort as well as any gaps in data and measures.

Strengths/needs:_____

d. Assisting planning and goal setting. Based on the needs identified and the data resources and quality measures available, set initial goals for asthma care quality improvement.

Strengths/needs:_____

e. Assuring evaluation and accountability. Determine the purpose, goals/objectives, and intended users of the evaluation; the methods to be used in gathering, analyzing, and interpreting the results; and any potential limitations of the information.

Strengths/needs:_____

f. Creating incentives. Explore ways to reward providers for delivery of high-quality care, such as financial incentives, bonus awards, or other incentive programs.

Strengths/needs:_____

_____
_____
_____
_____
_____
_____
_____

g. Spreading the change statewide. Disseminate lessons learned and best practices beyond the quality improvement team to spread improvements in asthma care throughout the State.

Strengths/needs:_____
_____
_____
_____
_____
_____
_____
_____
_____

A Final Note

By answering the questions in this *Workbook,* you have used the Plan-Do-Assess approach to determine your State's needs and available resources, identify measures to be used, set initial goals, and begin considering an evaluation strategy for quality improvement; now you are ready to take action. The goal of improving asthma care quality in your State may at first seem overwhelming. Yet, with small, smart steps, you can make that happen.

Assemble your staff or your network of State leaders and discuss the idea. Most likely you will want them to read the *Resource Guide*, do the exercises in this *Workbook*, and prepare some ideas for a preliminary plan even before you meet. Identifying and recruiting public and private partners for health care quality improvement—other State agencies, purchasers, provider groups, consumers, and experts who fill in the gaps in your knowledge—is critical. Find out who the change agents for health care quality are in your State.

Any work plan must be shared with key stakeholders who may modify it in slight or drastic ways. A preliminary plan sets the stage for discussion and interaction with health care providers and policymakers. Flexibility within these interactions will be important to making progress and implementing improvement statewide.

Remember, without committed leadership and involvement of professionals at the forefront of health care, there can be no quality enhancement. As we have noted throughout this *Workbook* as well as in the *Resource Guide*, the full stakeholder group should be involved in designing the goals, approach, details of implementation, evaluation plan, and strategy for spreading change. Only with an effective team will the health care system in your State be able to change and provide better care for residents.