

**PACI Self-Management Support Treatment Manual
Pediatric Asthma Care Study**

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Preface to the Manual: A View from the Patient World

The PAC visit self management support material is carefully crafted to bring about a collaboration between two worlds, the world of best clinical and behavioral medical practice, and the world of a patient's life. Each of these worlds brings information that will affect the outcome of the PAC visit. The following ideas will help the clinicians (nurses or doctors) to hold both of these worlds in mind when interacting with patients.

All patients with chronic diseases already self manage.

Whether or not the patient manages well, it is important to remember that it is they who manage the disease everyday. Therefore, the first action any practitioner should take is to **acknowledge that the person is already managing** a difficult situation. Every person with a chronic disease needs to feel that it's understood that they are already living under challenging conditions. If the practitioner acknowledges this first, the person will feel affirmed and validated which will begin to establish an environment of trust that the clinician has some respect for and understanding of their perspective and their experience.

Productive interactions between patients and clinician can more readily occur in an atmosphere in which this trusting atmosphere has been engendered. Acknowledgment of the work already done by the patient to manage the condition, even if it is minimal, begins the process of **enhancing their self-efficacy** by helping them recognize that they have been managing a challenging condition. This sets the groundwork for productive interactions.

Health behaviors take place almost exclusively in the world of the patient and family.

It is helpful for the clinician to remember that the actual behaviors that may or may not change are all within the realm of the patients' day to day life. It is an illusion that we can change patient behavior; only they can change their behavior. Since control over health behaviors lies with the patient and family, to be really useful, the clinician's most important objective is to retain and support control over day to day management in the hands of the patient and family.

The practitioner has an understanding of clinical guidelines and a desire to have the patient behave in ways that will support improved physiological outcomes. Patients have knowledge of their symptoms and their lifestyle. The most effective way to bring the patient closer to behaviors in line with the guidelines is to **move from where the patient already is**. The goal for the clinician is for the patient to feel in charge, but supported with help from the clinician. This Self-Management Support Manual is carefully crafted to help you do just that.

I. INTRODUCTION AND OVERVIEW

A. How does self-management support fit in the PAC visit?

A major difference between the PAC visit and “usual care” is the systematic approach to self-management support. This approach is centered around creating a collaborative treatment plan (the asthma care plan) a process which the asthma nurse guides in collaboration with the patient, parent and provider. The success of this collaboration hinges upon **empowering the patient (and parents) to take on the challenges of self-management**. In collaborative self-management, the physician and nurse specialist serve as guides and resources to the patient. The health care providers recognize that the patient and/or parents play the active role in the asthma care plan and that they have the ability to gain the necessary knowledge and skills. The primary care provider and nurse are prepared to support the patient and parents in this role.

The PAC visit consists of 3 sessions: the first and third are with the asthma nurse. The second is with the primary care provider. In the first session, the asthma nurse gathers information that helps identify possible self-management goals for the patient/parent. In the second session the provider has two main tasks: (1) to make pharmaco-therapy decisions, and (2) to review the self-management goals with the patient. When reviewing the goals, the providers should help prioritize them. The provider’s endorsement will help focus the asthma nurse’s work in the third session. During this last part of the PAC visit, the nurse, patient and parent choose one or two goals and negotiate steps toward those goals. In addition, the asthma nurse uses this third session to reinforce cognitive and technical self-management skills.

After this first PAC visit, there should ideally be three further PAC visits in the first year of the study and another four during the second year (a total of eight over the course of the study). The goal is for patients to attend at least two per year. Additionally, three to five days after each PAC visit, and again, one to two months later, the nurse will follow-up with a telephone call to reinforce the goals of the PAC visit, check on progress, and problem-solve obstacles.

B. What does successful asthma self-management look like?

The general goals of self-management are to --

- 1) prevent chronic and troublesome symptoms (e.g., coughing or breathlessness at night, in the early morning, or after exertion);
- 2) maintain near normal pulmonary function;
- 3) maintain normal activity levels (including exercise and other physical activity);
- 4) prevent recurrent exacerbations of asthma and minimize the need for emergency department visits or hospitalizations;
- 5) provide optimal pharmacotherapy with minimal or no adverse effects; and
- 6) meet patients’ and families’ expectations of and satisfaction with asthma care.

Patients who successfully manage their asthma have **four** qualities --

- (1) **knowledge** about asthma and asthma management;
- (2) **skills** related to asthma -- both technical skills such as appropriate metered-dose inhaled technique, and personal skills such as an appropriate level of vigilance related to one's body (e.g., early bodily cues of tightness) and one's environment (e.g., awareness of potential triggers);
- (3) certain **attitudes** related to having asthma, such as the motivation and willingness to learn and do what is necessary to control their illness; and
- (4) certain **beliefs** related to asthma and its management, including confidence in their abilities and belief in his/her self-efficacy.

The asthma nurse will work to enhance patients' (and parents') knowledge, skills, attitudes and beliefs through a variety of techniques: didactic education, technical skills building, motivational enhancement and collaborative problem-solving. Didactic education and technical skills training materials are presented in the Patient Education Toolkit. The focus of this manual is on the psycho-social aspects of the self-management support session, namely, enhancing **motivation, self-confidence, and problem-solving** related to asthma self-care issues.

C. The “Collaborative Management of Illness” Model

Our work is based on the collaborative management of illness model as described by Von Korff and colleagues.¹ As health care providers our task is to strengthen and support patients' illness self-management. This approach places health care providers in the role of guide and resource to the patient with a chronic illness. In this model, the patient and provider have shared goals, understand their mutual roles, are accountable for carrying out assigned tasks, and are committed to a sustained partnership. Collaborative management emphasizes the enhancement of patients' motivation and self confidence, skills building, and problem solving specific to managing the chronic illness. Ultimately, this approach should empower patients to take charge of their own self-management. These principles will guide our approach to managing asthma in the pediatric population, utilizing specific intervention techniques.

D. About this Manual

This manual provides the basic information needed to conduct self-management support in the Planned Asthma Care Intervention. The manual is organized as follows:

<u>Section</u>	<u>Topic</u>	<u>Content</u>
I	Introduction & Overview	You're reading it! Theoretical background and rationale; overview and organization of the manual.

¹ Von Korff M, Gruman J, Schaefer J, Curry S, Wagner EH. Collaborative management of chronic illness:Essential elements. Ann Intern Med 1997;127(12):1097-102

II	Assessment	What you'll need to know to customize your intervention: developmentally appropriate expectations, the family system/larger environment, readiness to change, and self-efficacy.
III	Goals	Organizing and structuring the session to address the highest priority self-management issues; goal-setting.
IV	Techniques	Problem-solving and motivational enhancement techniques.
V	Integration	Bringing it all together.
Appendices	<Various titles>	Reference tools to help with assessment, goal-setting, and intervention techniques.

Here is a bit more information on what you can expect to find in each section:

II. Assessment This section focuses on what you need to know in order to tailor your intervention to the needs of the child (and his/her family), and how to evaluate these issues. These evaluation issues include developmentally appropriate asthma self-management, potential issues in the family system, readiness to do asthma self-management and confidence to carry out asthma self-management. Accurate assessment in these four areas will help you, the patient and parent choose **realistic goals** and negotiate **achievable steps** that make sense for that family.

III. Goals. The content of the self-management support session will contain three major components: **assessment, education/skills training, problem-solving**. This section describes using the information you collected in the assessment to develop self-management goals. Some patients will have multiple problems and goals – more than can be handled in one visit.

The order and emphasis in which these three components are addressed should be tailored to the patient and his/her individual needs. A specific educational point may be introduced early in the session to help negotiate a goal (e.g. effects of second-hand smoke on asthma) or later in the session in the course of problem-solving how to decrease the child's exposure to asthma triggers (e.g., laundry techniques to control dust mites).

Additionally, the **process** of conducting the session will employ specific intervention procedures including problem-solving and motivational enhancement (which are discussed in section IV.).

IV. Techniques to Enhance Asthma Self-Management. This section summarizes key points involved in how to do the intervention. A basic assumption underlying the use of these techniques is that the patient is already managing his asthma; your role is to help improve his self-management. Consistent with the spirit of collaborative management,

we use a motivational enhancement approach to conduct the educational, skills-building, and problem solving components. Motivational enhancement refers to a supportive interview style in which specific interventions are matched to the patient's level of readiness to tackle changing their behavior, and their confidence in doing so.

Motivational enhancement techniques are based upon facilitating patient change through the development of discrepancy between the individual's current behavior and their desired goals, rather than using coercion or preaching to initiate change. **Problem solving** will be used as a fundamental strategy to guide goal setting, goal attainment and trouble-shooting potential barriers.

II. ASSESSMENT

A. Overview:

The purpose of assessment is to determine how well-equipped the patient is to follow their asthma care plan. Identifying a need is the first step in providing appropriate self-management support. The four components of self-management that contribute to following the care plan are: knowledge, skills, attitudes and beliefs. The *specific* knowledge, skills, attitudes and beliefs that a patient needs depend upon the specific details of the care plan: e.g. whether the care plan includes daily controller medication, dust mite avoidance, symptom monitoring, etc...

This section will present four key areas that you will need to consider as part of assessing the patient's knowledge, skills, attitudes and beliefs. A careful consideration of these four key areas will allow you to tailor the self-management support to the child (and his/her adult caregiver) and ensure that the care plan consists of realistic goals and achievable steps toward those goals. The four key areas are:

(1) Developmental Stage: Matching Skills and Appropriate Expectations: How old is the child? How advanced is their intellectual, technical, and psychosocial development? What would be the developmentally appropriate asthma care behaviors for a child of this age? How developmentally appropriate are the child's self-management skills at this time? Are the child's skills 'ahead' or 'behind' of what would be expected of children his/her age?

(2) The Family System and Larger Environment: Who are the important collateral caregivers in the child's family system (e.g., parents, grandparents, older siblings, baby-sitters, teachers, daycare workers, etc.)? What does each do vis-a-vis the child's asthma care now? Are there problems in the family system that negatively affect asthma management, such as marital distress, or chaotic or oppositional asthma-related problem-solving between the parents?

(3) Readiness to Change: How motivated and willing are the child and his/her caregivers to engage in asthma self-management?

(4) Self-Efficacy: How confident are the child and his/her caregivers in their abilities to manage the child's asthma?

B. Developmental Stage: Matching skills and appropriate expectations

One of the challenges (and rewards) of working with children is the wide range of developmental levels. Children in this study range from pre-school to adolescence. Your approach to interacting with the patient will be very different depending on his developmental stage. In the younger ages, much of your self-management support will be directed at the parent. With older children, you will want to address the child directly

and include him in the dialog, along with the parents. For teens, you will focus primarily on the patient.

It is important to remind the parent that the child's involvement in a particular asthma care activity is not "all or none". A child may first use a peak flow meter with a lot of manual and verbal assistance from the adult caregiver. In time, the child may only require supervision and eventually be fully able to monitor their symptoms (and peak flows if indicated) independently. This progression of involvement provides learning in an "apprenticeship context" in which the child gradually takes on more and more responsibility for their own self care.

This section will discuss child development as it pertains to asthma self-management.² We'll consider three broad age ranges: preschool (ages 3-5), school age (ages 6-12), and teens (ages 13-17). For each age group, we'll cover the following topics:

Developmental stage. This includes psychosocial and intellectual development. Bear in mind that children develop at different rates, and developmental stage may be considerably advanced or delayed relative to chronological age. Also, in any one child, technical, psychosocial and intellectual development may not all mature at the same rate.

Appropriate skills. We'll outline the body awareness, technical and planning/monitoring skills that children at different ages can be expected to learn.

Talking about the care plan. Some tips on discussing the asthma care plan with the child and parent.

Useful strategies. We will give you some ideas for behavior change strategies that are geared toward different age groups.

B1. Preschool: Ages 3-5

Developmental stage.

Preschool children are moving into a larger social environment and beginning new activities. The parents (or caregivers) continue to be the central influences. These children have a great desire for opportunities to act independently of their parents.

Preschool children have great curiosity. They love to imitate (especially adults), play games and engage in imaginary play. Preschoolers are verbal and can participate in their care. Their problem-solving is intuitive rather than logical and thinking remains egocentric. Magical thinking can lead to fears, especially about their body. They are starting to develop a sense of their own effectiveness.

Appropriate skills

Children at this developmental level should be able to:

- Learn body awareness with verbal labels for wheezing, tightness

² This material was adapted from Klinnert and Tedesco, 1985; revised Klinnert and Lum Lung 1991; and from Nurses: Partners in Asthma Care, National Institutes of Health Handbook for Nurses

- Learn to use MDI with spacer with help
- Learn to use peak flow meter with help
- Learn to swallow pills

Talking about the care plan

- You will be addressing the parent primarily, while beginning to involve the child in the conversation.
- Medications. Give the child simple explanations like: “Taking this medicine will help you breathe better”, “... will help you with your cough”. Discuss possible side effects with parents.
- Triggers. Spending more of their time outside the home, they may encounter more triggers such as smoke, pets, chalk dust and upper respiratory infections.

Useful strategies for this age group include:

- Use of games to practice decision-making.
- Reward systems, e.g. star charts.

B2. School-age: Ages 6-12

Developmental stage.

The major task of the school-age child is to learn and achieve independence. A school-age child is inquisitive, engaging, conscious of peers, influenced by adults other than parents, and involved in outside-the-home activities.

During these years, children begin to develop decision-making skills and personal responsibility. Their intellectual growth makes them able to understand (in basic terms) the roles of different medications and learn the details of their own asthma care plan. School age children still rely considerably on their parents for support, especially if they are symptomatic. However, the thrust of self-management support should be to prepare the child for independent self-care.

Appropriate skills

Children in this age group should have sufficient body awareness to be able to:

- Demonstrate “listening to self” (the internal stethoscope); recognize and report wheezing to adults and treat asthma attacks early.
- Rest and relax at the first sign of wheezing/tightness. Eventually they should be able to demonstrate and use breathing exercises.

These children should have the technical ability to

- Demonstrate good MDI technique. (This should be checked at each visit.)
- Use peak flow meters correctly (with adult reminders at first, and eventually without them.)
- Demonstrate proper cleaning of equipment.

Their monitoring and planning skills should include:

- Keeping a copy of their care plan and being familiar with it.
- Taking medications correctly when adults remind them, and eventually without reminders.
- Recording results of peak flow.
- Requesting pre-treatments before exercise (if that is part of care plan).

Talking about the care plan

- Begin to address the child more directly when discussing the care plan.
- Medications: Teach useful terms such as “controllers and relievers”. Discuss possible side effects and contraindications (primarily with parent).
- Triggers: Talk about how to notice, report, and avoid triggers, and if appropriate early warning signs.
- How to manage an episode: Review signs and symptoms, following the Asthma Action Plan.

Useful strategies.

- Reward system, e.g. star charts.
- Use of stories to stimulate problem-solving.
- Role play to rehearse new skills in life-like situation (e.g. how to use their Asthma Action Plan in a make-believe scenario).

B3. Adolescence: Ages 13+

Developmental stage.

Teens are engaged in the process of developing individual identity, and ultimately, independence from their family. It is normal for adolescents to move back and forth between capable independence and more childlike behavior, making it difficult to predict how much responsibility they can assume at any given time. Their peer group defines acceptable behavior, and provides a vehicle for them to demonstrate that they are “doing

their own thing”. By the same token, belonging to a group becomes very important. Adolescents tend to be self-conscious and quite sensitive to the opinions of others.

In early-to-mid-adolescence (different ages for different individuals), abstract thinking develops, allowing the teen to consider hypothetical outcomes and weigh options more fully. Despite a growing cognitive sophistication, a teenager’s concerns regarding appearing different from his peers may outweigh health concerns.

Appropriate skills

Adolescents should be able to:

- Prepare and take medications independently
- Demonstrate good preparation and judgment by making arrangements for medications to be taken away from home.
- Keep written records of medications, peak flow, symptoms, with supervision
- Arrange for refill of prescribed medications when supply is low
- Assess symptoms before and after reliever medications

Talking about the care plan

- Discuss the care plan carefully with the teenager directly, involving the parent in a supervisory and supportive role.
- Keep the regimen as simple as possible.
- Anticipate possible side effects that may be bothersome to the adolescent (e.g. jitteriness due to albuterol). This is an important way to build trust.
- Ask the teenager to identify obstacles up front and plan ways to circumvent them. Ask : “What makes this plan hard to do?” and “How could we make it easier to follow?” This manual will go into more detail on this strategy in Section IV.E., Phase 6: Benefits and Barriers to Change.

Useful techniques for changing behavior.

- Modeling of new behaviors by the nurse.
- Role play can be useful in addressing the specific obstacles identified.
- Contracts between the patient and the physician or nurse can be used in unusually difficult situations, e.g. a teen who acts quite independently of parental influence, yet lacks the insight to engage in more collaborative problem-solving. A problem like use of albuterol MDI as a recreational drug would be well-suited to a contract approach. These patients may benefit from a very concrete plan that commits him to an agreed-upon behavior

C. The family system and the larger environment

Your patient's **family system** consists not only of the nuclear family, but all the caregivers in her life. These might include, for example, grandparents and other relatives, step-parents, foster parents, baby-sitters, teachers, and coaches. Understanding this family system is an important part of providing care for children with asthma, especially when it comes to supporting their self-management. As soon as the patient walks out the clinic door with an asthma care plan in hand, environmental influences come into play. Stressful family situations, difficult relationships with friends and relatives can derail even the most well-thought out asthma care plans. On the other hand, family members and caregivers can be supportive by endorsing the asthma care plan and helping with problem-solving on a day-to-day basis. Here are some examples:

- 11 year old Connor and his mother Alice agreed that their goal was for him to take his cromolyn TID. Daily routines are pretty hectic because Alice, a single mother of two, works evening shifts. In the mornings she has her hands full getting kids off to school. Connor's care plan had included taking his cromolyn inhaler to school so he could take it at lunchtime. His school requires a parental signature to allow him to self-administer medications, but he has misplaced the form twice and keeps forgetting to have his mother sign. He's taking his morning and evening doses, but he's letting the noontime dose slip because it's just too much hassle.
- 4 year old Jacob's parents set a goal of decreasing his exposure to tobacco smoke. Jacob's grandmother Diane takes care of him in her home 3 days a week. Unfortunately, his grandfather Harry is a heavy smoker. Jacob's parents feel dependent on Diane since she provides much-needed child care. They don't want to make an issue of Harry's smoking for fear of causing friction between the two.
- 15 year old Latonya's care plan states that her goal is to improve self-monitoring. She doesn't like to admit when she's having asthma symptoms because it makes her feel different. She is getting increasingly frustrated that her performance in basketball is suffering because she gets out of breath so easily. Latonya refuses to talk to her parents about self-monitoring and family discussions on this issue are tumultuous. However, Latonya's coach has asthma and has offered to help her work on checking her peak flows.

How can you decrease the chances that the family system will derail your patient's care plan and draw on the family system's strengths to help support the care plan?

1. Find out who makes up the patient's family system. Where does he spend his time during a typical week and who are the caregivers? Ask about extended family, baby-sitters, friends, daycare, school, after-school activities. How do the different caregivers get along and how do they relate to the patient?

2. Find out a little bit about how decisions get made in the family. Who is/are the people in charge of the household?

3. Determine who is involved in decisions about asthma care at home, at school and in other settings. Who has copies of the care plan? Do they understand it and endorse it? Are they able to help implement it?

4. Incorporate the family system into the problem-solving process. Once you have gathered this information, you can use it when you and the patient have identified a goal and are working on problem-solving to meet it (see section IV. E on Problem-Solving). You can ask your patient (or parent) to walk through the steps they envision taking to reach the goal. Help them to identify ways in which the family context could help or hinder their progress.

Cultural values may also affect family dynamics and attitudes toward chronic illness. For example, such concepts as “familismo” (importance of family) in Latino culture or respect for elders in Asian or Native American cultures, may exert strong influences on the patient’s or parent’s decisions. As you learn about the family system and how asthma-related decisions are made, be alert to cultural values that may be affecting asthma management.

D. Readiness to Change

An important part of goal setting is understanding what goals your patient (or parent) is ready to take on. Developing an elaborate plan to support medication adherence doesn’t make sense if the patient doesn’t “buy in” to the idea that she could improve her asthma by taking controller medication even when she’s asymptomatic. Encouraging a mother to quit smoking is futile if she believes the benefits of smoking (stress reduction, weight control) outweigh the benefits of quitting (“maybe my son would cough a bit less, but not really much less because I only smoke in my bedroom”).

You can use the “Stages of Change”³ model to assess participants’⁴ readiness to change, i.e., readiness to do what is needed to successfully manage their asthma.

The stages of change framework describes a process through which individuals move as they change a behavior, such as taking medications. According to this theory, an individual’s behavioral change process involves progression through **five stages**. *You should assess participants’ stage of change related to asthma self-care behaviors in order to tailor your intervention to their needs.* These five stages are:

1) **precontemplation:** No intention of behavior change; no perception or acknowledgment that their behavior presents a problem;

³ Prochaska JO, Assessing how people change. *Cancer* 1991; 67:805-7

⁴ Our use of the term “participants” means whoever you will be working with as the focus of your intervention: with a young child, it will be the primary caregiver; with a teenager, it will be that teen; with an older child, it may be both the child and his/her parents. All involved participants’ stage of change should be determined.

2) **contemplation:** Awareness of a problem but ambivalent about making a change. May be *thinking about* making a change but not ready to, or unsure how to change:

3) **preparation:** Ambivalence about changing shifts in the direction of making change; advantages for change outweigh disadvantages. Making plans for action without yet taking action is characteristic;

4) **action:** Active modification of behavior, environment, etc. is observed. Energy, commitment and skills are especially needed to remain focused and successful with the change goal.

5) **maintenance:** Continuing behavior change; may require less energy to keep up the ‘new behavior’ as the person accrues practice and experience. At the same time the maintenance period is a risky time for relapse to old behavior patterns as energy investment lessens.

For asthma-related clinical examples of each stage, see Appendix A.

How to assess readiness to change: Readiness to change should be assessed by the following question for each self-management issue :

“Here is a sort of ruler. How ready are you to <insert name or description of self-management goal here, e.g. take your Beclovent three times every day>?”

The readiness ruler can be found in Appendix B.

E. Self-Efficacy, or Confidence about Changing

Another important part of goal-setting is understanding how confident your patient/parent feels about their ability to do what they set out to do. Self-efficacy may have little to do with the person’s actual skills or capabilities, if they were measured by an expert. What is important here are the person’s *perceptions of their abilities, or confidence in their abilities*.

Let’s refer back to the examples given in the previous section. Medication adherence might be difficult even if the patient does buy into the importance of controller medications. She may lack confidence in her ability to remember to take her inhaler three time every day. A mother may be quite worried about the effect of tobacco smoke on her son. But if she has tried to quit and failed in the past, her confidence in her ability to quit may be very low.

How to assess self-efficacy: Self-efficacy should be assessed by the following question for each self-management issue:

“Here is another sort of ruler. Let’s imagine you decided you were totally ready to <insert name or description of self-management goal here, e.g., take your Beclovent three times every day>, how confident are you that you could do so?”

The confidence ruler can be found in Appendix C.

F. Summary

Section II of this manual has focused on four key areas in which you should assess your patient: developmental stage, the family system and larger environment, readiness to change and self-efficacy (or confidence about changing). A careful consideration of these four areas can give you a good picture of your patient’s functioning in each of the four components associated with successful asthma management: knowledge, skills, attitudes and beliefs, as shown in the table below.

Component of Asthma Self-management	How assessment can help identify self-management support needs
(1) <i>knowledge</i> (2) <i>skills</i>	your assessment of the <u>developmental appropriateness</u> of the child’s self-management skills, and the extent to which problems, deficits, etc. in <u>the family</u> or the child’s <u>larger environment</u> have negative effects on asthma management determines what didactic knowledge and skills should be taught.
(3) <i>attitudes</i>	such as the motivation and willingness: your assessment of <u>readiness to change</u> determines the extent to which advancing the person(s)’s stage of change should be among the foci of your intervention.
(4) <i>beliefs</i>	such as confidence and self-efficacy: your assessment of <u>self-efficacy</u> determines the extent to which enhancing confidence should be included as goals for your intervention.

In the next sections, we will move from assessing the patient’s current self-management to identifying goals, and then using self-management support techniques to work toward those goals.

III. GOALS

Once you have done an assessment as described in Section II, you are ready to start talking to your patient and his/her patients about goals. The product of the first (nurse) and second (provider) sessions will be the asthma care plan. In the PACI intervention, the asthma care plan is embodied by two paper forms that should be filled out or revised at each Planned Asthma Care Visit. The Long-Term Asthma Management Plan addresses goals pertaining to chronic issues. The Asthma Action Plan address acute management. Both forms can be found in the PACI Manual of Operations. The goals laid out in the care plan will provide a starting point for the third session in which the asthma nurse will help the patient and parent plan out a strategy for putting the plan into action.

The goals listed on the asthma care plan will be explicit, stated goals. Ask the patient what problems they are experiencing in asthma care and what goals they might have regarding those problems. As an astute clinician, you also might have goals for some participants which would be met with resistance, defensiveness, etc. if you verbalized them or unilaterally put those goals on the agenda. Therefore, you might have additional **unstated goals** that you *hope* to address in your session, and will be looking for an acceptable and skillful way to do so. For example, goals related to increasing participants' motivation are often of this unstated type. Here are two examples of assessments and the goals that emerged from them:

Example 1:

Problem: Eric (7 years old) is exposed to second-hand smoke in the home (father smokes).

Assessment: Knowledge -- Eric and his mother appear fully aware of the effects of second-hand smoke.

Skills -- Eric's mother lacks effective communication skills with his father.

Attitudes -- Both are ready and motivated to try to change the situation.

Beliefs -- Both lack confidence in their abilities to get the father to not smoke or smoke outside of the home on a regular basis.

Goal: Reduce and eventually eliminate Eric's exposure to second-hand smoke.

Unstated goal: There may be a good deal of marital distress. Try to make sure the mother can focus on Eric's needs without blaming him for making smoking a marital battle.

Likely Interventions:

Problem-solve possible solutions to reduce the child's exposure to smoke. Assuming part of the solution will be to ask the father to smoke outside,

give advice on how to broach the issue with the father; role-play this conversation with the mother to enhance skills and self-efficacy.

Example 2.

Problem: Samantha (10 years old) refuses to take her controller medication unless she is wheezing.

Assessment: Knowledge--Samantha's parents understand the role of controller medications in preventing inflammation and asthma symptoms...However, Samantha lacks an understanding of controllers and relievers.

Skills--Samantha does not assume responsibility for her medication schedule. She has poor MDI technique.

Attitudes-- Samantha has not been allowed to share in decision-making around asthma and as a result she is un-motivated to change her non-compliant behavior. Samantha's parents are motivated to enforce the medication regimen, but are getting tired of her opposition to them.

Beliefs--Both Samantha and her parents have low confidence in her ability to take a more active role in self-management.

Goals: Take controller medication three time a day, regardless of symptoms.
Improve MDI technique.

Unstated Goal: Start to shift more responsibility for medication to Samantha.

Likely Interventions:

Use didactic education to enhance Samantha's knowledge of controllers and relievers and their purposes and effects. Skills building should focus on learning good MDI technique. Motivational enhancement techniques with help Samantha move to a more committed position in terms of taking more responsibility for decision-making and action related to her asthma. For example, discussing the advantages and disadvantages of her doing her own asthma self-care versus her parents. Enhance self-efficacy by problem-solving asthma self-care situations in which Samantha worries she may not be able to make an appropriate decision or do what's needed.

IV. TECHNIQUES TO ENHANCE ASTHMA SELF-MANAGEMENT

A. Overview: Linking Goals with Types of Techniques:

You will draw from four kinds of intervention strategies during your Self-Management Support sessions:

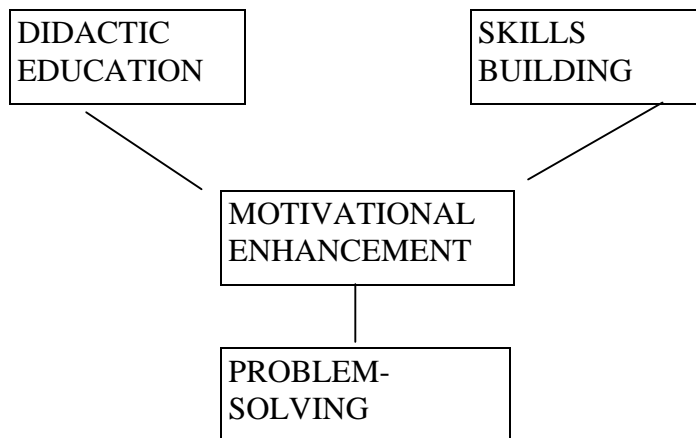
- (1) Didactic education;
- (2) Skills building;
- (3) Motivational enhancement
- (4) Problem-solving.

These interventions are used to work toward the highest-priority Self-Management Support goals in the following ways:

- Goals related to *knowledge and/or skills deficits* are addressed by didactic information-giving, demonstration, hands-on practice and other related techniques.
- Goals related to *lack of readiness or motivation to engage in asthma self-management* are addressed by motivational enhancement techniques until the participant endorses something s/he wants to do or change, then problem-solving is used to help make that occur.
- Goals related to *lack of self-efficacy or confidence to engage in asthma self-management* are addressed by problem-solving techniques.

Your use of these techniques should be individualized and your strategy tailored to take into account participant-identified problems. This diagram suggests a way for you to envision one way these four different types of techniques might be used in sequence:

beginning of Diagram: Using these four techniques in sequence



end of diagram

Didactic education and skills building may be used to establish a foundation for self-management. Then, the focus turns to putting the knowledge and technical skills to work in the patient's day-to-day life. This means identifying something he wants to change through motivational techniques. Finally, when the patient is ready to make a change, problem-solving is used to support this commitment.

B. Didactic Education

B1. What is didactic education?

Didactic education is a one-way teaching style in which the teacher (nurse, in this case) provides information to the learner. Didactic education is appropriate for all participants. It is an efficient way to impart a relatively complex body of knowledge. For patients with little knowledge of asthma and medications, you will need to start at square one. For patients who seem comfortable with the basics, it's still a good idea to review those fundamental concepts, just to be sure. In the course of didactic teaching it is useful to gauge the learner's comprehension by asking them to repeat what they learned and by giving them ample opportunity to ask questions.

Didactic teaching provides a stepping stone to other techniques, such as motivational enhancement and problem-solving. For example, a didactic interaction about controller medication can lead to talking about obstacles to adhering to the regimen.

You may also choose to return to the didactic mode toward the middle or end of a session if your discussions (using other techniques) reveal a knowledge deficit that needs to be addressed. For example, you may have been using problem solving techniques to address logistical barriers to regular medication use when you discover some fears about steroids lurking under the surface. Some didactic teaching about steroid side effects can help dispel myths and allow parents to weigh risk and benefits in an informed manner.

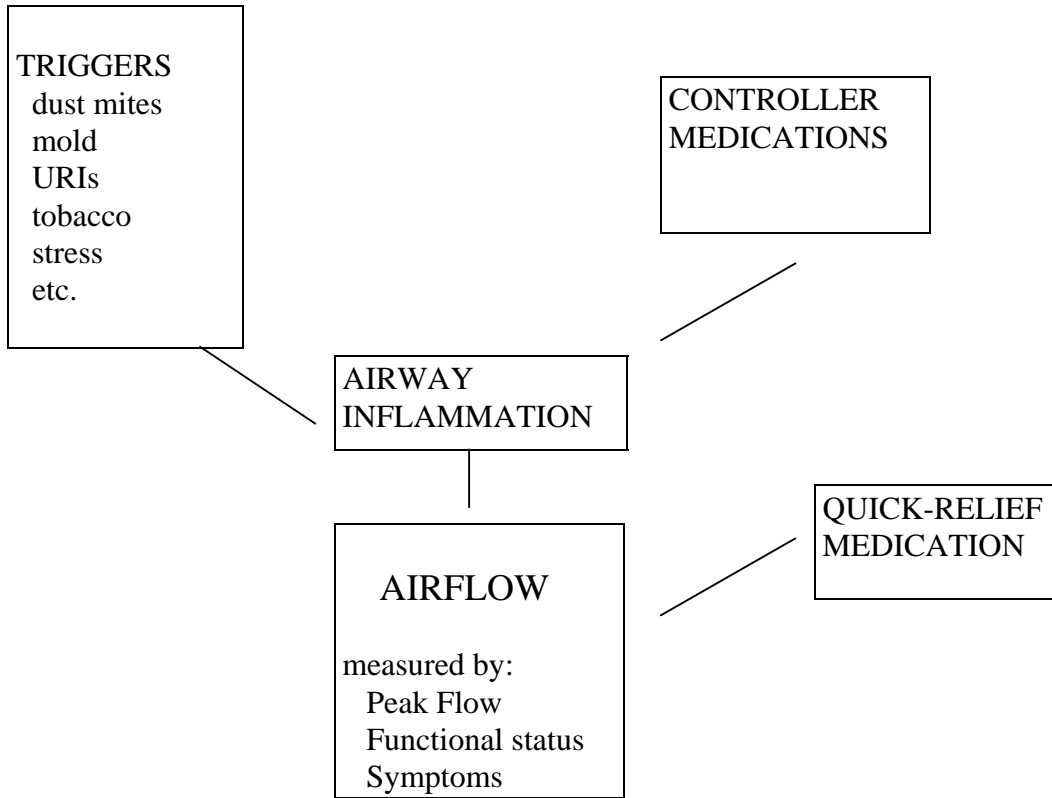
B2. Using a Disease Model to Organize Didactic Education

The large amount of information that we give to patients with asthma can be overwhelming and disjointed. Without a way to organize the information, much of it can be forgotten between one visit and the next. This section describes a simple "disease model" that can serve as a framework on which to place didactic material. The model (see diagram) centers on airflow, a concept that both providers and patients can relate to. Airflow is directly related to inflammation, which in turn is influenced by exposure to triggers and use of controller medications. Airflow can be measured in a variety of ways, as shown. Many topics in asthma care can be fit into this framework.

In addition to organizing didactic material, this model also provides a rationale for monitoring disease activity (i.e. airflow). By following peak flow (or an alternative measure of airflow), patients and parents can see the effects of their hard work (e.g. tobacco smoke avoidance or medication adherence) on disease activity (airflow). The asthma nurse can use the results of monitoring to reinforce self-management skills or

help identify barriers. With some patients/parents, it may be useful to use this diagram as a visual aid.

beginning of Diagram: Disease Model for Asthma



end of diagram

C. Skills Building

C1. General Principles of Teaching Technical Skills

In this section we will discuss ways of teaching patients to use four asthma care devices: peak flow meters, metered dose inhalers, spacers and dry powder inhalers. The goal of skills building is to enhance the patient's technical skills and confidence, thereby increasing their ability to follow through with the treatment plan.

- Reiterate the rationale
When you discussed the asthma care plan with the patient and parent, you probably explained the rationale behind using the device in question (PF meter, MDI, etc.) However, it's worth re-emphasizing the role that this device will play in his care as you prepare to go through the technical details. Remind him that the PF meter will be used to measure his airflow during colds, for example, or that the spacer ensures that more of the medication goes in to the lungs. **Always reiterate the name of the medication** in the MDI (or DPI) and **refer to it as a controller or reliever**.
- Orient the patient to the device. Show the patient the device and teach him the names of its important parts (e.g. mouthpiece, canister, chamber). Encourage him to examine it. Point out differences between MDIs that will help him tell the controller and reliever canisters apart.
- Anticipate pitfalls. Warn your patient about the specific challenges she may face in using the device. Give strategies for correcting errors.
- Hands-on coaching. We recommend that you have the patient practice the technique during the visit. First, go over the technique step-by-step. You may want to model the technique for her. Then ask the patient to demonstrate. Remember to **reinforce and praise** her for what she did correctly. Then give **corrective feedback** and ask her to try it again. Acknowledge that the technical side of asthma care can be challenging for patients of all ages.
- Use visual aids (or actual sample devices) where possible. Some people learn better when they have a picture of an MDI, or an actual canister in front of them to augment the verbal instructions.

In the next four sections, you will find information about the specific devices as well as technical pointers that you can review with your patients.

C2. Peak flow meter technique

Some children with asthma will have peak flow monitoring as part of their care plan. The peak flow meter gives a reliable, objective measure of lung function by measuring

how much air one is able to move through the large airways in one second. When used properly, peak flow meters can give the patient a more accurate assessment of their asthma than symptom monitoring alone. Peak flow monitoring can be used to help identify early deterioration of control and reinforce the need for and efficacy of controller medications and for early use of reliever medications. Daily monitoring of peak flow can help the clinician, patient and caregivers see daily variations in lung function. Peak flow meters can help identify triggers that cause asthma episodes and can also be an adjunct in diagnosing exercise-induced-bronchospasm. Peak flow meter teaching provides an opportunity to teach patients to identify triggers and warning signs of an exacerbation . Many children over 5 years old should be able to use a PFM. Most children under 5 will need to be assessed based on signs and symptoms.

Peak flow meters are effort dependent with the possibility of false highs and lows. Falsely high readings can be caused by coughing, spitting or allowing the tongue to get in the way while blowing. Falsely low peak flows may be caused by blowing too slowly (not hard and fast), not placing the lips around the mouthpiece to form a seal, or inadvertently blocking the vent or marker with a finger. Athletes and children who play wind instruments will often have higher peak flow readings.

TECHNIQUE:

1. Always have the patient stand.
2. Have patient remove any food or gum from the mouth.
3. Make sure the mouthpiece is tight around the peak flow meter and the marker is at zero.
4. Have patient take in a slow deep breath.
5. Place mouthpiece on tongue and close lips around it forming a tight seal.
6. Blow out hard and fast.
7. Read results.
8. Repeat process two more times.
9. Record the highest reading

If the care plan calls for the patient to check peak flow when exposed to certain **asthma triggers**, it may be useful to review this list of possible triggers:

- Allergens such as furry animals, dust mites, molds, pollens
- Infections such as colds or sinus infections
- Aspirin or aspirin related products
- Exercise
- Irritants such as cigarette smoke, perfume, household cleaners, paint fumes
- Foods such as wheat, nuts, shell fish or sulfites
- Emotional situations such as stress, laughing or crying
- Weather conditions such as ozone or cold air
- Gastroesophageal Reflux

If the care plan calls for the patient to check peak flow at the **first warning signs of an exacerbation**, it may be useful to review this list of warning signs:

- Coughing, chest tightness or shortness of breath
- Feeling tired

Sneezing, head congestion or watery eyes
Itchy throat
Circles under the eyes
Fast heart rate
Problems exercising
Headache
Feeling sad, grouchy, restless, nervous or depressed
Feeling confused or “spacey”

C3. Metered dose inhaler technique

Most controller and reliever medications are available in MDI canisters. Inhaled medication has many advantages over oral preparations. Because the drug is delivered to the airway, lower doses are effective. By the same token, there are fewer systemic side effects than with oral steroids or beta agonists. The response to beta agonist medication is more rapid for inhaled than oral forms. Finally, MDI canisters are convenient to have on hand.

However, MDIs do pose some problems. Optimal MDI technique is quite difficult to achieve. Improper MDI technique can result in the medication not being delivered to the airways properly. For this reason, MDI technique should be reviewed at each visit. It is difficult to tell when a MDI no longer contains medication. Propellant often remains in the canister even after the medication has been used up. Patients may shake the canister and conclude that there is medication in the canister when in reality it is only the propellant that they hear and feel. The ideal way to know whether or not there is still medication in the MDI is to know how many actuations the MDI has (doses vary across preparations) and to calculate how many puffs are used per day and then plot this out with a calendar so the precise number of puffs are counted. However, sometimes patients are not aware of this or just cannot keep track of the puffs used. In this case, patients should be instructed to discard their inhalers after one month and obtain refills. (The commonly used floating canister test is not an optimal method because some MDIs get clogged when submerged in water.)

Some technical pointers and pitfalls are listed below. In addition to these technical issues, you should warn your patients that metered dose inhalers may cause coughing or acute bronchospasm.

TECHNIQUE

1. Remove the cap and hold the inhaler upright.
2. Shake the inhaler.
3. Tilt head back slightly (medication has a more direct access to the lungs).
4. Take a deep breath in and exhale completely
5. Position the inhaler either by the open mouth technique (holding inhaler 2 inches from the mouth) or by using a spacer device. Show the patient how far 2 inches is for

them, e.g. three finger-widths. If a spacer device is used make sure the patient inserts the mouthpiece of the inhaler correctly into the end of the spacer.

6. Patient positions the inhaler with the index finger on top of the medication canister and thumb supporting the bottom of the inhaler.
7. If a spacer is used, the patient must place the spacer tube between the teeth and close mouth around the tube to form a seal.
8. Start to inhale slowly then press down on the MDI. Slow inhalation promotes greater distribution of drug to the lung and produces significantly higher FEV1s than the fast inhalation of bronchodilator.
9. Continue to inhale slowly for 3-5 seconds
10. Hold breath for 10 seconds to allow the medication to reach deeply into the lungs.
11. Slowly exhale
12. Repeat these steps for second inhalation. Wait 1 minute before second inhalation.
13. Spacers are useful for all patients. They are particularly recommended for young children and for the use of inhaled steroids. (See section below.)

COMMON PITFALLS

- Patients forget to breathe out to empty their lungs before they breathe in with the inhaler.
- Patients press twice in a row instead of one puff at a time with a minute between puffs.
- Patients inhale too fast and don't hold their breath long enough.
- Patients breathe in through the nose.

C4. Spacer technique

Spacers (also called holding chambers) are devices that help improve the delivery of medication from metered dose inhalers to the airways. Children age 4 or older should be able to use an MDI with a spacer. Under age 4, it is often possible to use an MDI/spacer with a face mask.

When medication enters the spacer, the propellant begins to evaporate from the smaller medication particles. This increases the ability of the particles to reach the smaller bronchioles and reduces deposition of medication in the oropharynx (and risk of systemic absorption). The spacer also provides a space where the medication can be stored while the patient inhales slowly over 3-5 seconds. This is particularly helpful in young children for who coordination of inhalation with actuation is difficult.

TECHNIQUE

1. Remove cap from inhaler and place in the end of spacer.
2. Place mouthpiece of spacer on tongue and close lips around it to form a seal.
3. Activate inhaler with one puff into the spacer.
4. Breathe in slowly and deeply for 3-5 seconds.

5. Hold breath for 10 seconds to allow time for medication to be deposited in the small airways.
6. Remove spacer from mouth.
7. Wait a full minute before repeating the above steps for a second puff. Remember never to activate two puffs at the same time. Only one puff at a time.
8. Emphasize the importance of rinsing his/her mouth after using the spacer with a corticosteroids medication.

C5. Dry powder inhaler technique

Currently there is one asthma medication available in a dry powder inhaler in the US. Budesonide, a corticosteroid is sold under the brand name Pulmicort Turbohaler. Unlike MDIs, Pulmicort is breath activated. It delivers 200mcg of fine powder to the lungs upon deep and forceful inhalation. The Turbohaler contains 200 doses.

The DPI has several advantages over the metered dose inhaler. It is not necessary to coordinate actuation and inhalation. Spacers are not needed. The DPI has no taste or smell. The lack of chlorofluorocarbons makes this delivery system more environmentally friendly than the MDI. Children over 6 years may be dosed at 1 puff bid. The device is designed with a dose indicator window that signals when there are 20 doses left.

Of course, there are disadvantages as well. Patient may get confused with different technique if he/she is also using an MDI, or used one on the past. Although the DPI is generally easier to administer than an MDI, there are some technical constraints in its use. The DPI must be held in upright position to load dose. The patient must not blow into or shake the inhaler after loading the dose. It is important that the patient inhale deeply and forcefully. This inhaler is affected by humidity and must be stored in a dry place at room temperature (68 - 77 degrees F or 20 -25 degrees C). It is possible that usage will be overestimated because a dose is counted with each click of the brown grip, regardless of whether the dose was administered.

TECHNIQUE

1. Twist the cover and lift off
2. Hold turbohaler in upright position
3. Twist the brown grip fully to the right as far as it will go. Twist it back again fully to the left. Y
4. Turn head away from the inhaler. Inhale deeply and blow out completely.
5. Place mouthpiece between your lips and inhale deeply and forcefully. Repeat process if a second dose is required. Wait a full minute between doses.
6. Pulmicort only administers medication if held upright or horizontally when inhaling.
7. When finished, place cover back on and twist shut.
8. Rinse mouth with water and spit it out.

D. Motivational Enhancement

D1. Overview

Why work on enhancing motivation? Because people undertake behavior change when their level of distress or discomfort about a situation reaches a certain level. Therefore, **motivation** to change is enhanced when the negative consequences of behavior are highlighted, and when the positive consequences associated with behavior change outweigh the negative consequences. Consider the following list of advantages and disadvantages of using asthma medications (these are all potential **consequences** of medication use!):

Advantages

I feel better
I can do more activities

Disadvantages

Meds are embarrassing to take
Meds taste bad
Meds are expensive
Meds take too long to take

A patient with this list would need to value feeling better and being more active *more than* the potential disadvantages of using asthma medications. See Appendix F for an expanded list of advantages and disadvantages of asthma care to prompt discussion if needed. Through the self-management support sessions and follow-up telephone calls, one goal would be to shift the advantages vs. disadvantages balance to favor advantages to enhance your participants' motivation to change. Thinking back to the Readiness to Change Assessment (section II), you can view motivational enhancement as a way of encouraging progress along the stages of change.

Motivational enhancement is an interviewing technique comprised of a certain *stance* you'll assume, and specific *principles and strategies* you'll use. The next three subsections of this manual describe these in more detail.

D2. Therapeutic stance

As an asthma nurse practicing motivational enhancement, you assume a therapeutic *stance* which is:

- collaborative
- flexible
- empathic/accepting of the patient's circumstances as understandable
- hopeful of the possibility of change
- believes that change can occur through different possible pathways
- assumes the patient must carry out the behavior related to their goals
- recognizes that the patient has wisdom about their situation and is a resource of potential solutions

The therapeutic stance is not:

- argumentative
- judgmental

“preachy”
authoritarian
rigid
parental
condescending

D3. Principles

There are five core principles of motivational interviewing. They are: Express empathy, Develop discrepancy, Avoid argumentation, Roll with resistance, Support self-efficacy. We'll describe these five principles and give some examples:

1) Express Empathy is a core principle to develop a certain quality of relationship with the patient and/or caregiver. Empathy can be expressed through interpersonal warmth, acceptance, reflective listening, and understanding the individual's potential ambivalence toward potential behavior change.

Jimmie's Mother: “It's so hard to keep on top of Jimmie's medicines with all the other things I have to do, especially in the mornings when I'm trying to get him washed and to eat something, as well as me! (note that this statement comprises a problem definition - see problem-solving strategies, below)

Nurse: “It's really hard on you.” (empathic statement)

Jimme's Mother: “Yeah, and he doesn't like to take the medicines, doesn't like how they taste, so we end up fighting, and I hate starting my day like that!...I can't imagine how it's ever going to get better.”

Nurse: “It's hard to imagine things changing.” (empathic reflection of ambivalence)

2) Develop Discrepancy means amplifying the discrepancy between the individual's present behavior and their larger goals. Providing feedback also plays an integral part in developing discrepancy between current perceptions and the information provided by more objective data.

Nurse: “You've told me about a number of things that make it really hard for you to help Jimmie take his asthma medicines, but it also scares you when he wheezes.” (a double-sided reflective summary of 'good-and-not-so-good' things about dealing with Jimmie's asthma)

Jimmie's Mother: “Right, I was so worried when his school called me that time.

Nurse: “So what really concerns you about Jimmie having asthma?” (open-ended question; exploration of concerns)

Jimmie's Mother: "I worry he won't be a normal kid and do normal kid-stuff and have friends if he's sick all the time." (Note that this statement is another problem definition)

3) Avoid Argumentation is a core principle that highlights the importance of not engaging in a battle of right and wrong, pejorative labeling, defending a particular view, or any of the other qualities that are *not* involved in the therapeutic stance described above. A nonjudgmental, interactive exploration of the patient's situation provides a place where open communication is possible. This does not mean that you cannot offer advice, give feedback, or other similar, more directive strategies. However, it does mean that these directive strategies be offered while maintaining the therapeutic stance described.

Jimmie's Mother: "His teacher implied I should be more careful with what I allow him to do or not do because of his asthma. Do you think I'm a bad mother?"

Nurse: "I don't like to use labels like that. But I wonder, what are you thinking about changing in terms of how you deal with Jimmie's asthma?" (open-ended question; attempt to elicit self-motivational statements)

Jimmie's Mother: "I've wondered if I could get those morning medicines in him all the time if he could play baseball." (Note that this statement defines a problem-solving goal)

Nurse: (Knowing his peak flows were 75% of predicted) "What would be helpful? Would it be helpful to spend a few minutes looking at the information we have to see how Jimmie's asthma is doing now and how medicines might affect that?" (offer feedback)

4) Roll with the Resistance refers to acknowledging the individual's reluctance and ambivalence as *expected aspects in the process of change*, rather than as "noncompliant," "difficult patient," etc. View the ambivalence as having a door half open rather than a door half closed, to help yourself respond with empathy. Remember also that any behavior change is the responsibility of the patient; accept their wisdom about their own situation. You can take an active role in collaboratively generating a menu of options of why and how this change can happen.

Jimmie's Mother: "I can't believe his breathing is that bad compared to other kids his age!"

Nurse: "You're surprised." (reflective statement, avoid confrontation)

Jimmie's Mother: "He's never seemed that bad to me. What can I do?"

Nurse: "We can think together on what you might try to make sure he gets his medicines every morning, and I can tell you what I've heard other parents try, but what you decide to do is up to you. Should

we make up a list of ideas?” (reinforce Jimmie’s Mother’s control and support her self-efficacy; introduce brainstorming phase of problem-solving)

Jimmie’s Mother: “Yes.”

5) Support self-efficacy refers to taking steps to build confidence in the patient and/or caregiver’s ability to handle a particular situation or perform a specific task successfully.

Nurse: “What have you tried already to deal with this issue of Jimmie taking his morning medications?”

Jimmie’s Mother: “I let him put a sticker on the calendar every morning after he took his medicines.”

Nurse: “How well did that work?”

Jimmie’s Mother: “He really liked the stickers, but I ran out and haven’t had time to get more.”

Nurse: “So you’ve identified one strategy that helped Jimmie take his medicines. What else have you tried?” (reinforcing success)

D4. Strategies

In addition to the core principles, there are several general therapeutic strategies to use:

1) Ask open-ended questions. Open-ended questions get participants involved and talking. Notice the difference between open-ended questions such as, “What concerns do you have about Amanda’s asthma?” and closed-ended questions such as, “Has Amanda had problems with taking her medications like she should? Is she staying home from school too much? She’s allergic to dogs and cats -- was it your idea or your wife’s to let her have a pet?”

2. Listen reflectively. Reflective listening means guessing, as best as you empathetically can, what the participant is saying (and remembering that you might not have it quite right). A reflective statement is a much more powerful reflective tool than a reflective question. Making a simple reflective statement is especially important after an open-ended question:

Nurse: “What concerns you about Amanda’s asthma?” (open-ended question)

Amanda’s Father: “I know she’s allergic to cats but my wife let her keep a stray and I haven’t said anything about it. Now she’s really attached to the cat... and her asthma seems worse since she’d had it.”

Nurse: "It's been worse." (reflective statement)

Amanda's Father: "Yeah and she'd be devastated if she couldn't keep it but I know giving away the cat is the right thing to do."

Nurse: "You don't want Amanda to be sad, but the cat makes her breathing worse." (double-sided reflection)

Notice how the simple reflections keep the conversation going in the direction of *talking about what concerns Amanda's dad, which is what he'll be most motivated to change!*

3. Affirm. Reinforce participant movement toward change and self-efficacy by the judicious use of genuine compliments and statements of appreciation and understanding.

Nurse: "It's courageous of you to tackle this problem."

4. Summarize. Summaries link together what's been discussed, and reinforce certain key things the participants have said. You also can use summary statements as useful transitions -- you summarize, then take the conversation in a different direction and move it along to the next step.

Nurse: "This is a tough situation. On the one hand Amanda's become attached to the cat and you don't want to upset her by giving it away. On the other hand you've noticed her asthma is worse. What's the next step for you?"

Amanda's Father: "I need to talk to my wife about it. If we could figure out something else she'd like that she's not allergic to, that might make it easier."

5. Elicit Self-Motivational Statements. The participants must voice their reasons for change. These statements may be categorized as problem recognition ("His asthma's worse than I thought."); expressions of concern ("I get scared about my breathing sometimes."); statements of intention to change ("I don't know how, but I've got to get this under control."); and optimism about change ("Well, I could try taking my medications before I eat meals.").

You can ask evocative questions to elicit these sorts of motivational statements from the participants. The sorts of questions you ask parallel the types of motivational statements you are likely to hear:

Your Eliciting Question

Possible Participant Self-Motivational Statement

"What problems have you had" "I ended up at the doctor's a lot in the Spring because

with your asthma?"	the allergies make my asthma worse." (problem recognition)
"What worries you about your asthma?"	"When I can't breathe at night and can't sleep. I'm so worn out the next day." (statement of concern)
"What would be the advantages of doing more to control dust mites?"	"It'd be a hassle, but I might be able to relax a little more about Beth's breathing." (intention to change)
"If you decided to take your medicines, what might work for you?"	"I could ask Mom to buy more inhalers so I could leave them a bunch of places and not have to remember to carry them all the time." (optimism about change)

D5. Summary

The principles and strategies described in this section can help move patients toward increased readiness to change their behavior. This interviewing technique is useful in a wide variety of patients, but especially those who start out relatively unmotivated. Appendix G (Intervention strategies for use in each stage of change) suggests some ways of tailoring your strategy to the participant's stage of change. For example, with participants in the pre-contemplation stage, a good deal of work may be done to simply allow them to accept the information. Goal and action plans at this stage are 'first steps', e.g. "to think about what activities that I value and enjoy that may be affected by asthma flare-ups." However, with more motivated and confident participants, you may find that it does not take long for them to willingly undertake behavior change. Here's where the next major task begins: How do you take a participant with the necessary asthma knowledge, skills, and motivation and optimize their chances of success as they start to tackle some difficult self-management problems? The next section will describe a technique know as "problem-solving" that addresses this task.

E. Problem-Solving

E1. The Step-Wise Problem-Solving Process: How it Relates to Readiness to Change.

Problem-solving is a widely used strategy for helping people with many sorts of difficulties. Problem-solving is achieved through a step-wise process of identifying a specific problem to focus on, defining an achievable goal related to the problem, brainstorming potential solutions, choosing one or more solutions to constitute a plan of action, and trouble-shooting any potential barriers to implementing the plan. Please see Appendix H, the **Problem-Solving Worksheet**, which is a tool you can use during your self-management support sessions.

With participants with **high readiness to change**, the order of phases is likely to be:

- 1) identify (participant-defined) problem;
- 2) set goal;
- 3) awareness/education;
- 4) explore options/brain storming;
- 5) develop plan;
- 6) discuss benefits and barriers to change, build in rewards for change; and
- 7) assess progress and results.

The next section of this manual will describe those seven phases in that order. However, you will find that with some participants with **low readiness to change**, you will have to adapt this seven-phase approach—move the order around and change the emphasis. Specifically, you will want to emphasize motivational enhancement **FIRST**, to define a problem the child/parent are ready to work on. For a participant with low readiness to change, the order of phases is likely to go as follows:

- **identify participant-defined problem**; but if difficulty identifying a problem, then go to phases that are more consistent with motivational enhancement first; such as:
- **awareness/education** regarding the identified problems, with the aim of enhancing participants' commitment to change or raising of awareness that problems exist (e.g., feedback on peak flows relative to norms);
- **discuss benefits/barriers to changing** these self-management problems (e.g., the 'good things and not-so-good things' discussion).

If, in the course of proceeding through these three phases, the participant identifies a problem that they are willing to work on, you can then go back to:

- **identify problem** to clarify the issue, then proceed with a modified version of the phases listed above for the participant who is ready to change:
- **set goal**;
- **explore options and address self-efficacy**;
- **build in rewards for change**; and
- **assess progress and results**.

The seven specific phases of problem-solving are presented in the next section, in the order that is likely to be common among participants who show high readiness to change.

E2. Description of the seven phases of Problem-Solving

Phase 1: Identify Problem

Purpose and Procedure: Clearly Identify the Problem

This phase consists of formulating an exact, specific definition of the problem from the participant's perspective. This phase is crucial to the success of problem-solving since the clarity of the problem definition is directly linked to the clarity of the goal, and the likelihood that viable potential solutions can be identified and implemented. Clarifying questions include:

“What is the problem?”

“What about that situation presents the biggest problem for you?”

“When does the problem happen?”

“Where does the problem happen?”

“What else is ‘in the picture’ in this problem - who is involved, or any other patterns?”

“Can you tell me about a couple of recent examples when the problem happened?”

Common Clinical Concerns at this Stage

- Problem is vague. (Solution: ask for specific examples.)
- Problem is a tough one. The most common threat to making progress in problem-solving is when the participant doesn't have direct control of the problem, e.g., when the problem involves *someone else changing their behavior*, like smoking. (Solution: caution about the limitations of relying on someone else to change his/her behavior, guide them to working on an aspect of the problem that they can likely influence directly.)
- Problem is too big/overwhelming (solution: break down problem into its component parts and tackle one of the components so that progress can be made) or too small/insignificant (solution: tackle more than one problem or link smaller problems together so that progress can be ‘felt’ and motivation consequently enhanced).

Possible Questions to Gauge Comprehension/Participation

Strategy: present a summary of the problem identification and ask what else is important to know, or to understand about the problem, or to get a full picture of the situation the person is dealing with. For example:

“OK, what I have so far is that your breathing gets in the way of you sleeping -- being comfortable lying down, sleeping through the night. And that this happens more nights every week than not... about 4 times each week you're awake for a couple of hours and can't sleep because of your breathing. What else is important to know about this problem?”

Roadblocks

- Child/Parent not good observers of behavior, feeling, etc. (Solution: ask for specific examples. Listen for what's left out and what doesn't fit together. Ask clarifying questions until a clear picture of the situation emerges.)

Transitional Statements to Phase 2 (Set Goal):

“I think we have a really good definition of this problem. Let’s talk next about what your goal is related to this problem.”

Phase 2: Set Goal

Purpose and Procedure: Assist patient/caregiver in deciding what they want to accomplish.

This phase consists of formulating a goal that ‘answers’ the problem. The goal should be specific, achievable, and short-term. Queries to help formulate the goal include:

“What *is* your goal related to this problem?”

“What do you have in mind for a goal? What I mean is, how would we know if you’d solved your problem, or had taken a successful step to address this problem?”

“What’s the first step for you, in terms of what you want to see happen with this problem?”

“How would you like this situation to change? Where would you like to get to?”

Common Clinical Concerns at this Stage

- Goal is vague and ill-defined. (Solution: Ask for behavioral specifics. Prompt them to think in terms of observable outcomes, “If I were to see you in 2 weeks, what could I see or hear that would let me know your problem situation had changed?”)
- Goal is too long-term. (Solution: Say something to shape the goal to a shorter-term one like, “That is a fantastic longer-term goal. I can see why you’d want to have that happen. I’m thinking, though, that you’ve had this problem for a time, and if you broke your goals down into shorter-term, middle-term, and longer-term goals it might be more rewarding to work on. What would the first, shorter-term step be?”)

Possible Questions to Gauge Comprehension/Participation:

Strategy: Like the Problem Identification Phase, present a summary of the goal and ask what else is important, left out, etc.

“The way I understand your goal is that you’d like to feel like your asthma isn’t acting up when you go to bed, and you’ll know this by how comfortable you feel when you lie down. And if you feel uncomfortable, doing something so you can feel comfortable. Also, you’d like to not wake up so much with breathing problems during school nights because you’re tired the next day. Did I get that right?... OK, what else would you add to these goals?”

Roadblocks

- Child/parent get demoralized or hopeless about being able to achieve their goals, or concerned about how much work it’ll take. (Look for sinking in the chair, less eye contact - eyes downcast.) (Solution: Make goal scaled back to only one, or more

proximal, or simpler in some way. ‘Cheerlead’ about your belief in their abilities. Empathize that it could be hard; ask for an example of a hard thing they tackled that had success in the past as evidence they can do it again.)

Transitional Statements to Phase 3 (Awareness/Education):

“Problems with <insert problem definition here, such as feeling comfortable lying down and sleeping through the night> are common problems among other people with asthma. I’d like to (show you some materials/tell you about a few things) that you might be able to use to help you with your goal.”

Phase 3. Awareness/Education

Purpose and Procedure: Raise Awareness & Provide Information

This phase consists of didactic education (described above).

Common Clinical Concerns at this Stage

- Common misperceptions about asthma and asthma medications. (Solution: Gently ‘mind-read’ a bit to probe for misconceptions, for example, “Some people think that asthma is ‘all in your head’ and you should be able to control it by will-power. Have you ever heard that? What do you think about that?,” then matter-of-factly and non-judgmentally present information that refutes the misconception.)
- Skills deficits, such as difficulties perceiving tightness. (Solution: Assess and provide means, such as a peak flow meter, so that the patient doesn’t have to rely on unreliable feelings.)

Possible Questions to Gauge Comprehension/Participation:

“Of the information that we’ve talked about so far, what information is the most new or surprising to you?”

“What questions do you have so far?”

“I am wondering what the new idea or information is that you’ll take home with you from what we’ve talked about so far?”

Roadblocks:

- Child/Parent unwilling to disclose areas of ignorance or ask clarifying questions if they think they’re hearing something different than what the physician told them. (Solution: Ask directly, “How is what we’ve talked about different from what you’ve heard before?” Or empathetically mind-read a bit, “When I go to my doctor, s/he is busy and sometimes I leave there with questions or concerns in my mind I wish’d I’d asked. I’d like to make sure that doesn’t happen today.” (Then, ask one of the questions to gauge

comprehension/ participation, above. Let some silence pass. **Don't rush through this stage.)**

Transition Statements to Phase 4 (Explore Options/Brainstorming):

“Okay, so you have some new, and hopefully useful information about asthma. Let's see if we can figure out together exactly what you could try to meet your goal of <restate specific goal>.”

Phase 4: Explore Options/Brainstorming

Purpose and Procedure: Brainstorm options for accomplishing the goal.

This phase consists of brainstorming possible options for achieving the specific goal that's been defined. One of the tenets of the therapeutic stance related to motivational enhancement is *crucial* in this phase: recognize that the patient has wisdom about their situation and is a resource of potential solutions. That is, let the child/parent do most of the work of coming up with potential solutions. A potential solution might be obvious to you but the parent/child isn't suggesting it: first, try to steer them to it. If they don't come up with it, you may suggest it, but what is relevant for you may simply not be relevant for their life (and they may not incorporate your idea into the choice of plan in the next phase).

The essence of brainstorming is to generate a list of all possible solutions **without** evaluating them at this time. (Evaluation comes in the next phase when the potential solutions are examined or combined into a plan of action. Concurrent evaluation while brainstorming inhibits the creative process needed for successful brainstorming.)

You can facilitate the brainstorming process by asking an introductory question, then following each idea with encouragement for more options; “How else could you <restate goal>?”:

“You want to <restate goal>. Let's make a list of all the ideas we can think of, of how you can make that happen. Don't worry about if they seem to be ‘good’ ideas or ‘bad’ ideas, let's see how many ideas we can put down. How can you <restate goal>?”

“What else could you do?”

“How else could you <restate goal>?”

Common Clinical Concerns at this Stage

- You will soon know how clearly the problem and goal were defined by how well the potential solutions seem to ‘fit’ the defined problem and goal. Potential solutions that are vague will need clarification.

Possible Questions to Gauge Comprehension/Participation:

“I know we haven’t solved this problem yet, but I wanted to check in with you: how’re you feeling about our work on this problem so far?”

“Can you imagine this process might be useful to try on other problems?”

Roadblocks

- Child/Parent can’t think of a single potential solution. (Solution: Help them get some distance from their problem. Ask, “Imagine if a good friend came to you and asked you for advice on a similar problem, what might you suggest they try?”)
- Only 2 or 3 possible solutions are generated. (This is not necessarily a problem. It could be that 2-3 solutions is reasonable. Or that one possible solution is so compelling that further brainstorming is unnecessary.)
- Parent/child is ‘missing’ an obvious solution. (Solution: Gently guide them to it, perhaps suggested in general terms. It’ll be more powerful and they’ll ‘own’ the solution more if they come to it on their own. For example, if the goal is for Jimmie to take his morning medicines every morning (see previous example) and his mother’s potential solutions don’t include anything related to positive reinforcement, you could say, “Some kids respond really well to rewards for doing things. I’m wondering if Jimmie is like that and if there are any potential solutions that involve rewards?” Jimmie’s mother might say, “Oh, yes! He loves TV, so an extra show might be a reward. And maybe after a whole week of taking his medicines he could name whatever he wanted for dinner - he likes to do that. And...”)
- Participant takes a passive stance, agreeing with ideas you propose, but not engaging in brainstorming. (Solution: **give them time**. Don’t push. Be comfortable with waiting in silence.)

Transitional Statements to Phase 5 (Develop Plan):

“You have come up with a number of ideas. Let me (show you/read to you) the list (reads list)... The next thing we need to do is to make a plan from these possible solutions.”

Phase 5: Develop Plan

Purpose and Procedure: Evaluate potential solutions. Formulate the short-term plan to address the specific goal. Specify the steps needed to implement the plan.

This phase brings together the work in the previous stage of brainstorming to the formulation of a specific plan to implement. Participants often will be able to identify the potential solution or combination of solutions that make sense to try first. If your initial question is met with hesitation, you may want to guide the parent/child through an evaluation of each potential solution in turn, to help clarify which to use.

“From these solutions, which would you (like to try/makes the most sense to try) first to reach your goal of <restate goal>?”

“Which of these potential solutions is most likely to work, in terms of reaching your goal?”

“Is there a particular solution, or combination of them, that strikes you as the best choice of what to do first in terms of reaching your goal?”

If there is hesitation, you can evaluate the possible solutions to clarify which is preferable:

“Let’s look at each of these potential solutions a bit in terms of their (pros and cons/advantages and disadvantages/costs and benefits). The first idea you suggested was for Jimmie to get to watch an extra TV program on those days when he took his medicines in the morning... what (pros/advantages/benefits) of this idea might there be?...”

Then you can ask the parent/child which solution or combination of solutions makes the most sense to try first, but if there still is hesitation, you can offer feedback:

“OK, after looking at each of the options, it seemed like <idea X> and <idea Y> had the most pros and fewest cons. How did it seem to you?”

After one or more solutions are chosen, any details of the plan that haven’t been specified need to be ‘fleshed out’. Be sure to insert some praise and genuine positive statements as appropriate. Clarifying questions related to these details might include:

“This sounds like a great plan! Let’s pin down a few details. When do you want to try this? (get a specific day, and possibly time)”

“If that doesn’t work for some reason, is there a back-up day that’d be good for you?”

“Is there anything you need to do before you can implement your plan?”

Possible Questions to Gauge Comprehension/Participation:

“What do you think of this potential plan?”

“Can you imagine this plan working?”

Roadblocks

- Vagueness of the plan, or lack of coherence to the solutions when they are put together as a plan. (Solution: continue to rely on behavioral specifics. Use ‘devil’s advocate’ strategies to elucidate weaknesses in the plan as it seems to hang together or not. “I just want to check... if Jimmie does all of his medicines for a week is an extra TV program a day *and* making a special meal of his request really OK with you?”)

Transitional Statements to Phase 6 (Discuss Benefits and Barriers to Change):

“This is a great plan to <restate plan>. Before we finish, I’d like to take a bit of time to think through if there is anything that could get in the way of you being able to do this, and then see how we could get around that.”

Phase 6: Discuss Benefits and Barriers to Change

Purpose and Procedure: Explore benefits and barriers to implementing the chosen plan to achieve the goal. Evaluate confidence level that the plan will succeed; address barriers that decrease confidence.

Use the same strategy of talking through the pros vs. cons (or advantages vs. disadvantages, or cost vs. benefits) of the *plan* as you might have done with each *solution*. The rationale for doing this is to reinforce motivation for following through with the change plan, and to elucidate any weaknesses with the plan that, in turn, need ‘mini’ problem-solving to enhance the likelihood that the plan will work. Questions include:

“What are the advantages of <restate plan>?”

“What are the disadvantages of your plan?”

“What could get in the way of your plan happening?”

“Is there anything that you need to do first, to make sure you can carry out the plan?”

Possible Questions to Gauge Comprehension/Participation:

Procedure: utilize motivational enhancement strategies in the form of open-ended questions to elucidate concerns.

“What worries you about this plan?”

“We’ve been talking together about a plan for you to <restate goal>. What concerns do you have at this point?”

“How confident are you that you can do <restate plan>? What might get in the way of it happening?”

Roadblocks

- The parent/child doesn’t seem to be able to put themselves into the situation enough to be able to predict problems in implementation of the plan. Solution: Try enhancing their ability to imagine following through on the plan:

Nurse: “I’d like to see if we might not have thought of something that could get in the way of your goal. Can you get an image in your mind of tonight? Dinner is finished, and you’re going to talk to your husband about your visit here today. You’re imagining what you’ll say about what you learned about the effects of his smoking on Eric’s asthma, and how you’ll bring up your ideas about how the two of you could work together to decrease Eric’s exposure to smoke... Can you get a picture of the scene in

your mind? Is there anything else we didn't already talk about that is part of the picture that could get in the way of your plan?"

Eric's Mother: "Yes, his favorite TV show, NYPD Blue, is on tonight and nothing interrupts that! And, after dinner, he's tired and usually not up for talking."

Nurse: "Is there another day or time that you could talk to him when you'd have a good change of having his full attention, and he's not so tired?"

Eric's Mother: "If I wait until Saturday morning, that's usually a quiet time around the house. I could talk to him then."

Transitional statements to Phase 7 (Assess Progress and Results):

"I wrote down your goal and plan on this sheet of paper for you to keep. I'll look forward to hearing how it went. If you can achieve this goal, I think you're going to <insert reasonable statement of advantages of problem-solving, like 'feel better about having asthma' or 'become more comfortable with your medicines'>."

Phase 7: Assess Progress and Results

Purpose and Procedure: Assist parent/child in how to check results and make mid-course corrections as needed. If goal is not met or sustained, then try another option or address problems with sticking to the plan. This step may take place in subsequent PAC visits or telephone follow-up.

In this final phase, you want to:

- summarize the problem, goal and plan;
- provide encouragement;
- make plans for the next contact; and
- talk through what to do if the plan fails. The discussion might go like this:

Nurse: "OK, to recap... the problem you wanted to work on was Eric being exposed to his dad's cigarette smoke since his dad smokes in the house. We talked about how it can be tough to try to get other people to change, but you think your husband has been thinking about this already, so your goal was to talk to him about the effects of second-hand smoke on Eric - what you learned more about today - and to specifically ask him if he would smoke outside or in the garage. So Saturday morning about 10:00, after coffee! (laughs) you're going to talk to your husband about your goal of decreasing Eric's exposure to cigarette smoke at home and see if the two of you can find a way to do that that's agreeable. What did I leave out?"

Eric's Mom: "That covers it."

Nurse: "I think this has been a very productive talk, how are you feeling about it?"

Eric's Mom: "Good... good. It's helped me be clear on exactly what to do first."

Nurse: "I'd like to give you a call in about 2 weeks and see how it went, OK? That'd be Wednesday the 14th. What time would be good?"

Eric's Mom: "About 9:30 would be good, right after I get home."

Nurse: "That works for me. What if, worse case scenario, your husband doesn't want to talk about it, gets mad, or something like that... then what?"

Eric's Mom: "Well, I suppose I could just try again another time, or could make him commit to talking at a specific time, or try one of the other solutions we talked about, like threatening to leave him! (laughs)"

Nurse: "Great, which one would you want to try next, if the first try didn't go so well for some reason?"

Eric's Mom: "Oh, I think I could get him to talk about it, it just needs to be a good time. I can ask him to bring it up sometime in the next week."

Nurse: "Sounds good. When we talk we can see how it went and what the next step is, with tackling this problem, or a different one."

V. INTEGRATION

The previous sections of this manual presented the individual components of the Self-Management Support session: Didactic Education, Skills-Building, Motivational Enhancement, and Problem-Solving. In these sections, examples were given that demonstrated a bit of how the components work together. Every PAC visit will have, in greater or lesser degrees, all of the components. The relative emphasis on each component will vary based on the individualized needs of the parent/child: unskilled children need more time devoted to skills building; motivated and knowledgeable parents facing obstacles to the implementation of their child's care plan need relatively more help with problem-solving; teens who seem not to care about if their breathing is easier or harder need more time devoted to motivational enhancement before education, skill building or problem-solving can be tackled directly with success.

This final section on integration focuses on bringing the components together. We have chosen to do this using four hypothetical examples. For each example, you'll find a set of filled-out PAC visit forms followed by a full transcript of the self-management support session.

The first example is Karin, a teen who is ready to change, but lacks knowledge, skills and confidence. The forms from her visit are found in Appendix I and the transcript is Appendix J.

The second example is Stephanie, a teen who lacks motivation to change and knowledge relevant to asthma self-management. The forms from her visit are found in Appendix K and the transcript is Appendix L.

Appendices M and N describe a session with 7 year old Emmett, whose mother is motivated to do what she can to improve her son's asthma.

And finally, we have a scenario involving 4 year old Mary Ann, whose asthma needs stepped-up care but whose mother is satisfied with the existing plan. The forms and the session transcript are in Appendices O and P.

Two other appendices that might be useful as you think about integrating these techniques are Appendices F and G. Appendix F is a list of advantages and barriers of asthma self-management; this list might be useful to show to some parents/teens to clarify their ideas of the pros and cons of asthma management, particularly for participants having difficulties verbalizing their feelings. Appendix G matches specific intervention strategies according to the individual's stage of change.

Appendix A: Clinical Examples of the Stages of Change

Participants may cycle in and out of these stages, not necessarily going through them in a step-by-step manner:

Precontemplation (No intention of behavior change; no perception or acknowledgment that their behavior presents a problem.)

Parent: *I really don't think that my smoking has anything to do with Mark's asthma because his symptoms are the same even when I'm not smoking. How could anyone possibly manage all the molds and dust mites in the house? I don't think that's very realistic.*

Parent Report: *David seems to be scared of the nebulizer; we really don't feel comfortable getting him to use it.*

Child: *I don't like using that medicine.*

Teenager: *I know that I'm not going to remember to keep track of the peak flow meter; I can't even keep track of what homework I have the next day.*

Contemplation (Awareness of a problem but ambivalent about making a change. May be *thinking about* making a change but are not ready to or unsure how to change.)

Parent: *I realize that my smoking could be contributing to her asthma. I know I've got to do something, but I don't think I'm ready to give it up.*

Parent Report: *Sara would like to be able to use her medication at school, but she doesn't think she can remember.*

Child: *I don't like using that medicine in front of other kids at school, but I know if I don't, I can't play at recess.*

Teenager: *Yeah, I know that all those peak flows and things would help me not get attacks, but I don't know why I stop keeping track after awhile.*

Preparation (Ambivalence about changing shifts in the direction of making change; advantages for change outweigh disadvantages. Making plans for action without yet taking action is characteristic.)

Parent: *Chris's asthma is getting really bad; we'd like to know what we can do to minimize the household allergens.*

Parent Report: *We haven't used the nebulizer with David because he's been afraid of it, but we'd like to learn how to help him decrease his fear.*

Child: *I don't like it when the other kids tease me about using my medicine. What should I say back?*

Teenager: *What's the minimum that I need to do to help me keep on top of this asthma?*

Action (Active modification of behavior, environment, etc is observed. Energy, commitment and skills are especially needed to remain focused and successful with the change goal.)

Parent: *We realized that the dust mites were terrible for Anthony so we already stripped the carpets from his room, bought a cover for this mattress, and started washing the sheets in hot water every week.*

Parent Report: *We've started trying out ways to get David to use the nebulizer; he knows that he can have an ice cream cone after he's finished.*

Child: *I started to use my inhaler to school; I can play outside with all the other kids.*

Teenager: *Tracking my peak flow is kind of cool; I see how it can help me prevent bigger attacks even though it's kind of a pain.*

Maintenance (Continuing behavior change; may require less energy to keep up the 'new behavior' as the person gets more practice and experience; at the same time the maintenance period is a risky time for relapse to old behavior patterns.)

Parent: *We know it's important to keep track of the humidity and continue to wash the sheets frequently, but it requires a lot of effort to keep it up.*

Parent Report: *Sometimes we just don't have the patience to get David to do the nebulizer for as long as he should because he puts up such a fight.*

Child: *We have a substitute teacher for two weeks; I don't want to use my inhaler if Ms. Hutchinson can't help me.*

Teenager: *It was interesting to keep track at first, but then the novelty wore off, I guess*

Appendix B

READINESS RULER

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

NOT READY

UNSURE

**SOMEWHAT
READY**

**VERY READY &
TRYING**

Appendix C

CONFIDENCE RULER

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

NOT CONFIDENT

UNSURE

**SOMEWHAT
CONFIDENT**

VERY CONFIDENT

Appendix D: MDI Skills Assessment Form

BAILEY-MDI USE ABILITIES

Please show me how you use the inhaler.

Note: This test can be performed with a Placebo Canister.

Desirable Behaviors:	Yes	No	N/A
a. Patient shakes canister for 5 seconds.	<input type="checkbox"/>	<input type="checkbox"/>	
b. Patient attaches spacer or Inspirease bag correctly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Patient positions finger on the top of the medication canister and provides support.	<input type="checkbox"/>	<input type="checkbox"/>	
d. Patient places the spacer tube or mouthpiece into the mouth between the teeth.	<input type="checkbox"/>	<input type="checkbox"/>	
e. Patient closes lips around the spacer tube or mouthpiece.	<input type="checkbox"/>	<input type="checkbox"/>	
f. Patient exhales normally.	<input type="checkbox"/>	<input type="checkbox"/>	
g. Patient correctly presses down the top of the medication canister to release the medication.	<input type="checkbox"/>	<input type="checkbox"/>	
h. Patient inhales medication deeply and slowly.	<input type="checkbox"/>	<input type="checkbox"/>	
i. Patient holds the medication inside the lungs a minimum of 10 seconds before exhaling.	<input type="checkbox"/>	<input type="checkbox"/>	
Total Score (number of items marked yes)	<input type="text"/>		
Maximum Score (9 if uses spacer, 8 if no spacer)	<input type="text"/>		

Appendix E: Peak Flow Meter Skills Assessment Form

PEAK FLOW METER USE ABILITIES

Please show me how you use the peak flow meter use the Mini-Wright Model.

	Yes	No
a. Stand up straight.	<input type="checkbox"/>	<input type="checkbox"/>
b. Make sure the arrow on the peak flow meter is at the "0" or "L/MIN" position.	<input type="checkbox"/>	<input type="checkbox"/>
c. Take a deep breath.	<input type="checkbox"/>	<input type="checkbox"/>
d. Place mouthpiece behind your front teeth and seal your lips around the mouthpiece.	<input type="checkbox"/>	<input type="checkbox"/>
e. Blow fast and hard into the peak flow meter.	<input type="checkbox"/>	<input type="checkbox"/>
f. Read the number next to the arrow and write it down.	<input type="checkbox"/>	<input type="checkbox"/>
Total (number of items marked yes.)	<input type="text"/>	

Appendix F: Advantages and Barriers of Asthma Self-Management

You can use this list to prompt participants' thoughts about asthma.

Advantages of asthma self-management

- I have a sense of control
- I can handle the outdoors more easily
- I can do more things more easily
- Some symptom flare-ups (and therefore, discomfort) are prevented
- The benefits of medications outweigh any side-effects
- I don't cause my friends and family (teachers, etc.) to worry
- I can be more active
- Self-management is easier than going to the doctor or hospital
- I live myself better when I manage my asthma well
- My overall health and sense of well-being improves
- I can breathe more easily
- I feel more energetic

Barriers to asthma self-management

- I believe taking medicines is necessary only when I don't feel OK
- Taking medications and monitoring my symptoms is too much of a hassle
- Medicine side-effects make me feel bad
- Medicines are dangerous
- I'm too busy to deal with my asthma
- I don't know how to manage my asthma
- I don't like schedules
- The medicines just don't make that much of a difference
- I just forget to take my medicines
- I feel embarrassed taking my medicines
- I feel dependent or addicted when I use medicines
- Other people don't like it that I have asthma
- Asthma stuff (medicines, peak flow meter, etc.) are too bulky to carry around
- Asthma medications are too expensive
- Asthma management (e.g., taking medicines, going to doctors) isn't consistent with my ethnic/cultural/religious values

Appendix G. INTERVENTION STRATEGIES FOR USE IN EACH STAGE OF CHANGE

This chart shows the GOALS appropriate for each stage of change and useful INTERVENTION STRATEGIES for each stage. We use as an example problems having to do with taking medications as prescribed.

Precontemplation	Contemplation	Preparation	Action/Maintenance
<p>Goal: Raise Awareness; promote ambivalence; personalize information</p>	<p>Goal: Increase Motivation & Confidence; Create Positive Expectations</p>	<p>Goal: Resolve Ambivalence; Get Commitment to Change; Emphasize Problem-Solving</p>	<p>Goal: Sustain Motivation; Increase Self-Efficacy; Reinforce & Fine Tune Plan of Action</p>
<ul style="list-style-type: none"> • Ask open-ended questions • Describe typical day when using meds as prescribed • “What would need to be different for you to consider making some changes in how you use your medication (s)? • “You said you’re at a _____ on the readiness ruler; what would need to change for you to move to a _____?” • Was there a time you were at a _____ (higher number, indicating higher motivation, on the readiness ruler)? What has changed to make you see yourself here now? 	<ul style="list-style-type: none"> • What concerns you most about not taking your meds as prescribed? • Explore pros & cons of changing vs. not changing • What would your life look like tomorrow if you awakened & your (your child’s) asthma symptoms were under control? How would taking your meds as prescribed fit into this? • Summarize, emphasizing self-motivational statements, then ask, “Where does this leave you now?” • Support statements of desire for change, e.g., “I think you’re very perceptive when you say this would be a good thing for you to do.” • If still exhibiting hesitancy, ask, “What would have to happen for you to want to use your meds as prescribed?” • What would you like to do next? • State that you believe in their ability to change if he/she wants to. 	<ul style="list-style-type: none"> • Brainstorm menu of options, offer your advice when appropriate • Have patient take responsibility for choosing best plan for him/her –write out specifics • “What roadblocks do you anticipate with this plan?” • Explore roadblocks; brainstorm alternatives to overcome roadblocks; create alternative plan • Have patient choose realistic short-term goals for achieving plan • Choose rewards for achieving goals • Have patient restate plan • Reinforce patient, support self-efficacy 	<ul style="list-style-type: none"> • Review successes & rewards of change. • Describe typical day since decision to become med-compliant. Contrast with day before med compliance. • Review difficulties in keeping with the plan; formulate tune-ups or alternatives to the plan. • Further advice, recommendations, referrals, if appropriate. • Patient recommitment to plan & to any agreed-upon revisions • Develop long-term goals

Appendix H
PROBLEM-SOLVING WORKSHEET

Name: _____

Date: _____

What is the problem?

What is my goal?

What are possible solutions to reach my goal?

1)

2)

3)

4)

5)

6)

Which solution, or combination of solutions, is best to try first? (If I need to evaluate the solutions, list pros vs. cons by each possible solution, above.)

What do I need to do to be able to put this plan into action?

Appendix I: Karin’s Self-Management Support Session: Supporting a teen who is ready to change, but lacks knowledge, skills and confidence

Participant: Karin, who is 14 years old
Self-Management Goals: (1) improve overall lung function (peak flow is 70% of predicted);
(2) increase activity level and decrease avoidance of activities due to asthma.

1. Establish rapport, ask open-ended questions:

Nurse: “How did your visit with Dr. Dorffel (primary care provider) go?”

“During her discussion with you, Dr. Dorffel listed some possible health goals, what do you think of these (showing list to Karin)?”

“Which of these goals is most important to you?”

Karin: “I’d like to be able to exercise more. I haven’t been doing it since my asthma got worse.”

Nurse: “Get your asthma under control so you could exercise more. Great! I’m happy to work on this with you.”

(Phase goal: identify highest priority self-management goal/problem: this is the ‘define the problem’ step in problem-solving. Note that since the goals are often intertwined, it is not necessary to steer the teen’s choice because the other factors are likely to get discussed.)

2. Complete the assessment:

Nurse: “I’d like to learn a bit more about a few of things that should help us work toward this goal, ok?”

“What role does anyone else, like family or friends, play in helping you take care of your asthma?”

Karin: “My Mom buys my medicines and sometimes yells at me for not taking them. My best friend Shar, she gets worried when I can’t breathe too well, but she doesn’t really do anything to help me take care of my asthma. Is that what you mean?”

Nurse: “Yeah, that’s it exactly. What kind of a system do you and your mom have for getting your medicines?”

Karin: “I tell her when I’m out, she calls the pharmacy, and then picks them up a couple of days later.”

Nurse: (Notes that this system means that the Karin appears to be without meds for a few days, and wonders if the Karin could be responsible for getting her own meds.)

“A couple of days later. What about the yelling, when does that happen?”

Karin: “She yells at me when I tell her I need medications, she says it’s too much of a hassle.”

Nurse: “Yells at you. Let’s talk about your exercise goal. How does your use of asthma medications fit into this?”

Karin: “My doctor says I could take my blue puffer before and it might help me.”

Nurse: “What do you make of that?”

Karin: “I could try it.”

Nurse: “OK, I’d like to show you this sort of ruler. How ready are you to work on getting your asthma under control so you could exercise more?”

Karin: “(Points) About here...pretty ready...I miss going to aerobics with my friends.”

Nurse: “Great! OK, I’d like to show you another sort of ruler. Let’s imagine you decided you were totally ready to work on getting your asthma under control so you could exercise more, how confident are you that you could do that?”

Karin: “Hm. (Points.) Kinda shakey, I guess.”

(Phase goal: Assess knowledge, skills, motivation and self-efficacy. Karin seems lack knowledge and self-efficacy, perhaps not skill - it’s hard to tell with unconfident patients like this one until you see her use an inhaler. However motivation isn’t a problem.
Conclusion: the remainder of this self-management session will focus on education, skills-building and problem-solving.

3. Intervention Phase

Nurse: “I’d like to share some information with you that might help you get your asthma under better control so you could exercise more.”

Karin: “OK.”

Nurse: (Refers to materials in the Patient Education Toolkit related to Asthma Medications; Inhaler Use; Asthma Self-Management Skills; Staying Active. Gets a peak flow meter and a placebo inhaler. Informs about effects of ‘blue puffer’, demonstrates inhaler use, Karin then practices a few times with positive, shaping feedback from the nurse until nurse feels she can do it and Karin expresses more confidence, demonstrates peak flow meter use, then Karin does it, they look up her ‘zones’ - and maybe the nurse’s too if there’s time, and talk about pre-treating before exercising.) “How are you feeling about what we’ve done so far today?”

Karin: “It’s a lot; I’m glad it’s written down.”

Nurse: “Good. Let’s talk about how this new information will fit into your goal of getting your asthma under control so you can exercise more... we talked about how if you

take your reliever medication (the blue puffer) 30 minutes before you exercise, it should help your breathing stay OK, at least if you're breathing hard it won't be the asthma, it'll be your work-out! (both laugh)

Karin: "But if I got worried it *was* my asthma, I could use the peak flow meter to check, right?"

Nurse: "Exactly!" (If Karin hadn't asked the question, the nurse could've followed her joke with, 'seriously, though, if you were working out and you were worried your breathing hard was your asthma, how could you check that?' to reinforce teaching about use of PFM)

"What might get in the way of doing what we've talked about to control your asthma so you can exercise more?" (Exploration of barriers to change)

Karin: "Well, I'd need to have a puffer around all the time, and sometimes I don't."

Nurse: "When has that happened? (Circling around again to identify a new problem and go through the problem-solving process)

Karin: "When I run out, or when I leave it at home -- the gym's closer to school than home."

Nurse: "When you run out, or leave it at home when you need it with you." (Reflection)

Karin: "Um hm."

Nurse: "Let's see if we could figure out a way for that not to happen. So one goal would be to never run out, or not have an inhaler. And another goal is to have one with you all the time, especially when you're going to the gym, did I get that right?" (Goal setting)

Karin: "Yeah."

Nurse: "Let's put our heads together on this. How could you never run out? (Introduce exploring options)

Karin: "Well, my mom usually just gets one at a time. If I had more than one, that might work."

Nurse: "OK, more than one inhaler, that's a good idea. What else might work?" (Prompt for more options)

Karin: "If I knew *before* I was going to run out, and then got another one."

Nurse: "OK, you're on a roll! What else?" (Reinforcement and prompt for more options)

Karin: "Can't think of any. Can you?"

Nurse: "You've come up with the ideas that work for most people. Let's talk about which idea would be best for you. Any advantages to having more than one inhaler?" (Introduces 'pros and cons' as a way to evaluate the possible solutions.)

Karin: "It seems safest."

Nurse: "OK, any disadvantages to that solution?"

Karin: “My mom gets so crabby when I ask her to pick up my medicines.”

Nurse: “OK, is there a way to avoid her getting crabby?” (Exploring barriers to change)

Karin: “If I told her I’d do something that she usually does while she goes to the pharmacy that might help. And I could remind her that if we can get 3 at once, she’ll go a little less often. Or if I could pick up my own medicines.”

Nurse: “Great ideas, what could you try first, if you decided to go with having more than one inhaler?”

Karin: “It’d soften her up if I did some housework while she went to the pharmacy.”

Nurse: “OK, what would you want to volunteer to do?” (Asking for specifics)

Karin: “I could pick up the living room.”

Nurse: “Sounds good. OK, let’s explore the other option of getting a new inhaler before you ran out. What are the advantages to this solution?”

Karin: “Not much. It seems tougher. I’d like to go with having more than one inhaler.”

Nurse: “OK. There is a way some people use to keep track of when their inhaler is about to run out. First, you figure out how many days or weeks it should last. You know there are ___ puffs in this canister when it’s full. And you know that you take about ___ puffs per week. So, if you’re using it that often, you should throw away this canister on Monday, March 20th. If you’re using it more or less than usual, you can try to write down how many puffs you take, and figure out when it’ll run out. Or, just to be on the safe side, throw the puffer away one month after you start using it.

Karin: “Oh, OK.”

Nurse: “So you’d like to have 3 inhalers at once and it sounds like the first step is to talk to your mother about going to the pharmacy. What concerns do you have about this plan?”

Karin: “It’ll be OK.”

Nurse: “When do you want to talk with her?” (Asking for specifics. Karin truly does seem OK about the conversation. If she hadn’t the nurse could offer to role-play the conversation until more confidence was apparent.)

Karin: “I could do it tonight.”

Nurse: “OK. Let’s talk about how to get your other goal to happen -- having an inhaler with you all the time...” (They go on to explore possible options for having an inhaler with her, especially when she goes to the gym, so she can pre-treat. Also set a timeline for when she’ll try pre-treating exercising.)

(Phase goal: Complete problem-solving related the highest priority asthma self-management goal. Have discrete, behaviorally specific action plans.)

4. Summary and Planning Telephone Check-in

Nurse: “I’ve been taking notes to give to you about our work together today. (Hands Karin the completed Problem-Solving Worksheet.) So we talked about how you could get your asthma under control so you could exercise more. Your plan is to talk with your mom tonight about getting 3 inhalers so you can have one at home, in your school locker, and your gym locker, and to pick up the living room while she goes to the pharmacy. And then you think there’s an aerobics class you could drop into on Friday to see how it feels to take your inhaler before you exercise. I’ll look forward to hearing how all this goes! I’d like to call you in a few days. How about next Monday?”

Karin: “That’d be fine.”

Nurse: “We’ll see how it went and go from there. If we didn’t think of something, that’s OK, we can talk about it on the phone or at our next visit.”

(Phase goal: Summarize goal and action plan, reinforce collaborative working relationship, set up time for next appointment, which will be a phone check-in.)

Appendix J: Stephanie's Self-Management Support Session: Supporting a teen who lacks motivation to change

Participant: Stephanie, who is 16 years old.

Self-Management Goals: (1) try to start using Azmacort;
(2) discuss swimming and asthma;
(3) change sheets weekly and wash in hot water.

Other observations from the assessment thus far:

(1) Stephanie and Stephanie's mom don't agree on how well controlled her asthma is: Stephanie marked "very well controlled" on the Patient Interview form and her mother marked "somewhat well controlled."

(2) Asthma symptoms are affecting activity ≥ 2 x/wk, Stephanie is using her Albuterol 2-6 puffs q d, but "doesn't want to use" Azmacort, and doesn't have a spacer.

(3) Swimming is important to her and her coach has a copy of the care plan. Peak flow monitoring is part of the care plan but she doesn't have a peak flow meter.

1. Establish rapport, ask open-ended questions:

(Nurse meets with Stephanie alone.)

Nurse: "What do you think about your visit so far today?"

Steph: "I can tell you guys, just like my mom, want me to use that other inhaler. But I'm really busy. It's a big hassle to use that one inhaler before my swim team workouts. That other one, it doesn't help my time trials any."

Nurse: "Tell me about your swimming... what are your events?"

Steph: "(brightens considerably) I do the relay, and the 400 meter butterfly. I'm trying to improve my backstroke so coach would try me in that event. We're pretty good, we finished 3rd in the state finals last year."

Nurse: "Sounds like you're on the varsity team - ?"

Steph: "Yeah."

Nurse: "That's great! How long have you been swimming competitively now?"

Steph: "About 3 years. I did some 'fun meets' when I was little, but they don't really count."

Nurse: "I'd like to explore how your asthma fits into your busy life. From your visit so far today, here is a list of some possible goals related to your asthma. Which of these goals is most important to you?"

Steph: "Truth? None of them."

(Stephanie endorses none of the goals. The nurse guesses, though, that if she can link better asthma self-management with better swimming, Stephanie would be motivated to work on that. Problem-solving at this point won't work because Stephanie is not collaborative about working on any of the self-management goals. The nurse will go instead to assessments of readiness to change and confidence to verify her sense of Stephanie's low motivation to change and introduce some concepts they can then work with. Bottom line: Stephanie needs to define a goal she is committed to.)

2. Complete the assessment

Nurse: "OK, I appreciate a straight answer. I'd like to understand a bit more about how asthma fits into your life. I noticed you and your mom had different ideas about how well controlled your asthma is (shows Patient Interview form). What do you make of that?" (segue into assessment of family factors in asthma)

Steph: "Oh, she worries too much, she's always in my face about school and asthma and stuff she *doesn't need* to bug me about. It's not that bad."

Nurse: "The asthma's not that bad."

Steph: "Yeah, like she comes to some of my meets and I do distances so of course I'm breathing hard when I finish my race! Everyone else is too. But she embarrasses me by making a big deal about it and asking me if I'm OK."

Nurse: "Embarrasses you. How about your dad?"

Steph: "Oh, he works all the time. He doesn't care. He lets my mom deal with stuff."

Nurse: "I'd like to show you a sort of ruler. How ready would you say *you* are to try to start using your Azmacort?"

Steph: "Not ready." (points to an '2' on the ruler, notably not a '1')

Nurse: "How about this goal, of talking about how swimming and asthma fit, or don't fit together?"

Steph: "Here." (points a little higher, about '3', edging toward "unsure")

Nurse: "How about this last one, changing sheets each week and washing them in hot water?"

Steph: "No way, that's my mom's thing!" (points to '1' not ready')

Nurse: "Let's imagine you decided you were totally ready to take a look at how swimming and asthma fit together, how confident are you that you could make some changes so that your asthma wouldn't interfere with your swimming? Can you show me on this different ruler?" (targets goal she is most ready to work on)

Steph: "Well, since I haven't figured out how to totally ignore it yet, maybe a '6'."

(Stephanie is not very ready to work on any of the self-management goals outlined in her visits with the physician, or her previous visit with the nurse. There is the potential of some overconcern on her mother's part, potentially to balance

Stephanie’s underconcern. The first priority in the intervention will be to use motivational enhancement strategies to raise Stephanie’s level of concern, hopefully to define a discrete problem that matters to her, and that’s amenable to education and problem-solving.)

3. Intervention Phase

Nurse: “OK, that gives me a clearer sense of where you are with your asthma care. I wonder how your asthma and asthma care fits in with your swimming...”

Steph: “(irritated) Well, that’s it, it doesn’t!”

Nurse: “Can you take me through a typical day when you swim, and where your asthma and asthma medicines fit in?”

Steph: “(sighs) Well, we practice after school, about 3:30. If I’ve been feeling tight, I use my inhaler, the Albuterol one, before practice, and sometimes after. That’s it.”

Nurse: “It seems like your swimming is an important part of who you are. Do you do anything else because of being a competitive swimmer... how else does being a swimmer affect your life?”

Steph: “Like other exercise?”

Nurse: “Right, and anything else.”

Steph: “We do some free weights for strength and some cross-training on bikes and rowing machines.”

Nurse: “Anything else?”

Steph: “I’ve tried to change my diet a little, and I can’t do as much after-school stuff, but that’s OK.”

Nurse: “It’s OK to change your diet and miss out on some after-school stuff because swimming is important.”

Steph: “Yeah.”

Nurse: “I wonder, what would need to change for you to move from where you are (points to ‘3’ on the ruler) to somewhere in here (points to the area labelled ‘ready’), in terms of trying some different ways to take care of your asthma... in other words, like you do with your swimming?”

Steph: “(fairly long pause) Well, if I could breathe better for swimming, I might be willing to try it.” (goal setting)

Nurse: “So if you could breathe better, really be convinced that what you were making the effort to do was helping your breathing and swimming, you might try it.”

Steph: “Yeah.”

Nurse: “Seems to me that the whole thing, then, would depend on knowing that you’re breathing better, or not.”

Steph: “Yeah.”

Nurse: “Would you like to talk about ways that people can tell how good their breathing is?”

Steph: “I guess so.”

Nurse: “All right. Stephanie, how tall are you?” (pulls out a peak flow nomogram)

Steph: “I’m 5’3”.”

Nurse: “You know that the big problem with asthma is breathing out, right? (nods) So that’s why you’ve done some tests where you blow out as hard as you can. People have also figured out, based on being female, 16 years old, and 5’3”, that you should be able to blow out into this meter (shows a peak flow meter) to about 460. So a 400 would mean that your lungs need some help, like some medicine, because they’re not as good as they could be. Shall we see how far you can move the needle? Here are a couple of things you can do to get the best number (demonstrates good technique). OK, your turn.”

Steph: “(blows and looks) It’s only 350!”

Nurse: “Hmm. Why don’t you try again and see if you can get it a little higher.”

Steph: “(blows and looks) It’s even lower! Only 330. I tried really hard, too!”

Nurse: “What do you make of this?”

Steph: “I guess my lungs could be better... Would that other thing, that other medicine inhaler that people keep talking about do anything?”

Nurse: “Would you want to find out?”

Steph: “Yeah, like an experiment or something, I’m not saying I’ll take it forever or anything... how long would I have to take it to see results?”

Nurse: “An experiment, that’s a great way to go at it. You could use this peak flow meter to see if the numbers go up, and if they go up nearer to 460. And see how you feel when you swim; if your times improve.”

Steph: “Do you really think my times could improve? How long would this other medicine - what’s it called? - take to work?”

Nurse: “Your times could improve. Let’s talk about this medicine, the Azmacort, and how it works because, doing this might be like changing your diet for swimming... something you do out of the belief it’ll be a good thing in the longer run, even if you can’t feel or see the results right away.”

Steph: “I get that.”

Nurse: “(after teaching about controller medicines, spacer use, using the peak flow meter, and peak flow diary) So you’ve got an experiment to see if using this new medicine, Azmacort, will make the peak flow numbers go up and if your swimming gets better because you’re getting more air. What concerns do you have about this plan?”

Steph: “(long pause) My mom, she’ll be all over me, asking ‘did you use it? did you use it?’ I just want her to leave me alone.”

Nurse: “Given that she *is* a mom (both laugh), what do you think is a reasonable goal, a reasonable way she could leave you alone about taking this medicine, and your asthma?”

Steph: “If she didn’t get in my face in front of my friends, like at meets, that’d be a start.”

Nurse: “What would ‘not getting in your face’ look like?” (asks for specific of goal)

Steph: “Not asking about medicines or asthma. At all.”

Nurse: “It can be tough to change someone else’s behavior, but let’s think about what you could do to try to get her to not ask about asthma or medicines in front of your friends. What could you try?”

Steph: “I could ask her not to.”

Nurse: “OK, ask her not to. What else?”

Steph: “I could tell her it’s embarrassing in front of my friends, but I know she’s just being a mom, so it’s OK to ask when they’re not around.”

Nurse: “OK to ask when they’re not around. Any other ideas about what you could try?”

Steph: “I could try to just tell her more often I’m breathing OK before she asks.”

Nurse: “Tell her more often. Anything else?”

Steph: “(some silence) Nope. That’s it.”

Nurse: “If you were going to pick one of these ideas to try first, or some combination of them, which would you want to do? -- I wrote down (1) ask her not to, (2) tell her it’s embarrassing in front of my friends but OK when they’re not around, and (3) tell her more often when she hasn’t asked.”

Steph: “Maybe both the second and third one.”

Nurse: “OK, both ask her not to when you’re friends are around because you get embarrassed but it’s OK at other times, and you volunteer how you’re feeling when she hasn’t asked.”

Steph: “Yeah.”

Nurse: “Great plan! What do you need to do first, to put this into action?”

Steph: “Well, I need to talk with her about it. Just the first part, I don’t want to tell her about the second part, I just want to do it.”

Nurse: “When do you want to talk to her about not asking about medicine and asthma in front of your friends?”

Steph: “Maybe on the way home from here.”

Nurse: “On the way home from here.”

4. Summary and Planning the Check-in

Nurse: “I’d like to give you a call in a couple of weeks and hear what those numbers are doing, how swimming is going, and how it’s going with your mom, OK? And if something’s not going quite right, we can come up with some ideas and then a plan to make it better, like you just did with the situation with your mom.”

Steph: “OK.”

Nurse: “I wrote down your plan on this sheet, it’s yours.”

Steph: “Thanks... bye.”

Appendix K: Emmett’s Self-Management Support Session. Child whose Mother is Motivated to Do What She Can to Improve her Son’s Asthma

Participant: Emmett, who is 7 years old, and his mother.

Self-Management Goals: (1) use spacer for controller medications to ↓ bad taste;
(2) start using a PF meter;
(3) get cat out of Emmett’s bedroom.

Other observations from the assessment thus far:

- (1) Emmett is a strong-willed child and mother is a ‘push-over’ and lacks confidence to take care of Emmett’s asthma;
- (2) Emmett and mother need ideas on what could be done to decrease the bad taste of the controller medicines, e.g. spacer use, rinsing mouth, a tasty treat after;
- (3) There is no asthma care plan at home or school.

1. Establish rapport, ask open-ended questions:

(Nurse meets with both Emmett and his mother, Judy.)

Nurse: “From her discussions with both of you, Dr. Ayala listed some goals to help Emmett’s breathing. Which of these goals do you think we should work on first?”

Mom: “I don’t know, Em, what do you think?”

Em: “(preoccupied by looking around the office) I hate them!”

Nurse: “I’d like to hear from you, Judy, about what *you* feel is the most important goal. Children Emmett’s age need parental guidance, and frankly, firmness for the sake of their health.” (Addresses directly the mother’s developmentally inappropriate request of her son.)

Mom: “OK, but I’m not too good about being firm.”

Nurse: “Not too good about being firm.” (reflective listening)

Mom: “Right, he’s just so precious; I miscarried before I had him and that’s just stayed with me, how fragile life is.”

Nurse: “Fragile. One very important way you can care for him is helping him take care of his asthma. Is there something you’ve had to struggle to do for yourself, but you did it for your health?” (looking for an example to support self-efficacy)

Mom: “Oh yeah, losing weight. I just love my desserts. I kept telling myself that over the long run, I’d feel better about myself if I were thinner.”

Nurse: “Yes! That’s a great example. Kids Em’s age generally don’t have adults’ capabilities to think about consequences for their behavior, especially long term ones. So you have to help him tackle taking care of his asthma, and he also learns an important skill. Does that make sense?”

Mom: “So you’re saying that by being a little tougher about his asthma, it could actually be good for him?”

Nurse: “Right.”

Mom: “OK I see that.”

Nurse: “So which of these goals do you think we should work on first?”

Mom: “Dr. Ayala seemed to be saying that if he took his controller medicines that’d make the biggest difference. Let’s go with that.”

Nurse: “Sounds good.”

2. Complete the assessment

Nurse: “I’d like to ask you a other few questions. Who else is involved, or should be involved in Em’s asthma care, specifically your goal of him using his controller medicines?”

Mom: “His dad helps him do his bedtime medicines. His teacher and the school nurse need to know what he is supposed to take when, but they don’t.”

Nurse: “His dad, teacher and school nurse, OK. Now I’d like to show you a sort of ruler. Can you show me how *ready* you are to work on this goal of getting Emmett to use his controller medicines?”

Mom: “Oh, if I could I would. Definitely very ready, not sure how hard I’ve tried, though.”

Nurse: “About a ‘8’ on the ruler. Now let’s imagine that you were totally ready to get Emmett to use his controller medicine, how *confident* are you that you could do it?”

Mom: “It’s that fragile thing I said... maybe about here (points to ‘3’, in the ‘not ready’ range on the confidence ruler).”

Nurse: “You’d like Em to use his controller medicines but are uncertain how to get it done.” (summary)

Mom: “That’s it.”

Nurse: “OK, let’s work on that!”

(Judy lacks confidence but is wanting her son to be in better health. Her husband may need an update on the care plan, and the school needs to be included in the care plan.)

3. Intervention Phase

Nurse: “The goal you want to work on first is how to help Em take his controller medicines three times a day regularly, is that right?”

Mom: “Right.”

Nurse: “I’d like to get a sense of what happens when he doesn’t take his controller medicines. What have you noticed about the pattern of when taking those medicines has and hasn’t happened?”

Mom: “Well, the mid-day dose never happens. I just haven’t had time to talk to his teacher and the school nurse about it. The bedtime dose happens the best, maybe half of the time. The morning is just nuts, and that dose almost never happens. He’s willful and difficult to get ready anyway, and my husband drops him off on his way to work, so to help my husband keep on schedule I just forget it.” (Mom looks a little wilted and defeated just talking about it.)

Nurse: “OK, that’s really helpful. Does this feel like a big problem; a little overwhelming?”

Mom: “Oh, yes!”

Nurse: “Then let’s break it down into smaller problems, and tackle each one of those in turn. That’s the best way I know to deal with a big problem that seems overwhelming. Sound OK?”

Mom: “Yeah.” (She doesn’t look too convinced but that’s to be expected for someone for whom low confidence, and perhaps skills, is a limiting factor in the asthma management.)

Nurse: “OK. I am thinking there are several smaller problems. One, the school doesn’t know to prompt and supervise Em on taking his controllers, so that hasn’t been happening. Two, the morning dose isn’t happening, and this problem seems to be because you’ve been concerned not only with Em, but with your husband’s schedule as well. Three... about the bedtime dose, do you think it’s a problem he’s taking it about half of the time?”

Mom: “Yeah, Dr. Ayala said so. I guess I’ve been glad to get even that much in him. I know it’s not what it should be, but it’s a challenge, you know?”

Nurse: “So on the one hand, in a perfect world it might be 100%, but given how challenging it’s been, 50% is pretty good!” (double-sided reflection of discrepancy, affirmation of the the positive)

Mom: “Yeah!”

Nurse: “Any other parts to this problem of Em not taking his controller medicines?”

Mom: “No, just those three parts.”

Nurse: “OK, which one do you want to tackle first?”

Mom: “How about school? It’d be nice to let someone else deal with it.”

Nurse: “OK, the first problem is that Em’s school doesn’t know about his controller medicines and when and how he’s supposed to take them, is that right?”

Mom: “Yep.”

Nurse: “So what do you have in mind for a goal related to this problem?”

Mom: “I guess the school needs his Asthma Action Plan. They need to know which inhaler, when, and how many puffs. They need to know about how to tell if the inhaler’s empty or full, how he’s supposed to use it, and all that stuff.”

Nurse: “OK, sounds like a reasonable and important goal. I’d like to give you some information material -- you could keep a copy for your family, as well as give one to Em’s school. I know Em’s been reading quietly, but this would be a good time for him to listen in if you could get him to put his book away while I dig up some things I want to give you, OK?” (Nurse wants to observe how mom gets him to do something at a specific time.)

Mom: “Uh, OK... Uh, Em, honey...? Please listen to mommy. Come on over here. The nurse has something to show us. Come on, honey. Be a good boy.” (Mother uses a soft, almost baby-talk voice. Em ignores her. The nurse gets her materials together then observes for a moment. Mother looks at the nurse and shrugs.)

Nurse: “Shall we try an experiment? How about asking him what you want him to do very specifically, and making your voice lower and slightly louder on purpose. By ‘specifically’ I mean to close the book, put it down on the floor by the chair, get up and move to this chair here (points). If he’s lost in his reading you might need to tap his leg to get his attention.”

Mom: “Em. (slides her chair over and taps his leg, he looks up) Please close your book now - here’s a piece of paper you can put in it to mark where you are reading - put it down on the floor there (points), and move over to this chair here so you can join in this conversation with me and your nurse.”

Nurse: “Thanks, Emmett, I appreciate you stopping your reading so we can all talk together. (models labelled praise) OK, so let’s look at a few things together. Here is your asthma care plan that Dr. Ayala wrote out. It shows when you should take what medicine, how many times. Dr. Ayala talked about controller and reliever medicines, Em, you remember what color your controller medicine is?”

Em: “Yeah, it’s yellow.”

Nurse: “Right, the controller medicine is in a yellow container.”

Em: “Yeah, but it tastes bad.”

Nurse: “OK, let’s talk about some ways to deal with the taste. One of the reasons it tastes bad is because it gets in your mouth. If you put this thing, called a spacer, on the yellow inhaler that has your controller medicine in it, you can puff it, and then the medicine will go into the spacer, and then you can breathe it in. It goes down into your lungs that way, and very little gets stuck in your mouth. Let’s try it. (Nurse demonstrates using placebo inhaler and spacer; gives one to mom and Emmett.) The first thing to do after you take your controller medicine is rinse out your mouth, like you do when you brush your teeth: take a mouth full of water and swish it around, then spit it out. Another thing you can do is have something around to suck on or eat.”

Mom: “OK, in the morning it could be one of those vitamin C drops, those would be OK with me for him to have and they taste good. At school it could juice or gum, and dessert could wait until after the evening dose of controller medicine.”

Em: “Why do I have to take these medicines?”

Nurse: “Mom, you want to handle this question?”

Mom: “Sure. Em, it’s because this medicine keeps you from having asthma attacks. It’s like eating. Sometimes we eat because it’s time to eat, even though we’re not really hungry yet. But we know if we waited to eat until we got hungry, we might be really hungry and our stomachs could hurt. These controller medicines are like that, they keep your asthma under control, keep your breathing good, so you can play soccer with Sammy and Garth... just like food keeps you going, gives you energy and keeps you from getting hungry and uncomfortable.”

Em: “I guess.”

Nurse: “Thanks. Here are some written materials. Judy, I’m giving you two copies of each, one for you, Em and his father, and another for the school.”

Mom: “I’d like two extras for school, please, so I have one for the nurse and one for his teacher. That spacer is great; it helps the medicine gets right where it should be, rather than on the back of the throat.”

Nurse: “Do either of you have any questions, about the care plan, the spacer, controller medicines, anything?”

Mom: “Not me, how about you, Em?”

Em: “No, can I read now?”

Mom: “Yes, I’m going to keep talking for a bit, you can read. Thanks for asking.”

Nurse: “Shall we go back to talking about how you can solve the problem of the school

not knowing his care plan?”

Mom: “Sure.”

Nurse: “I thought we had good definitions of the problem and your goal. The next step is to figure out together exactly how you can accomplish your goal. What ideas do you have about how to get the school informed about his care plan?”

Mom: “I could make an appointment with his teacher and nurse... Em’d need to be there so he could show them how to use the inhalers, especially the one with the spacer.”

Nurse: “OK. A 4-way appointment with you, Em, his teacher and the school nurse. Em would demonstrate. What other ideas do you have for solutions?”

Mom: “I need to give them copies of the care plan, and those handouts you just gave me.”

Nurse: “OK, what else?”

Mom: “I can’t think of anything. I just need to do it.”

Nurse: “Alright, sounds good! Let’s pin down how you’re going to put this into action. You suggested two ideas - a 4-way meeting, and giving the school information. Would you *not* want to do either of these ideas?” (clarifying choice of solution)

Mom: “No, really I need to do both.”

Nurse: “OK, what’s the first step?”

Mom: “Well, you gave me extra copies of the written materials. So I need to call both the teacher and the nurse, I already know mine and Em’s schedule, and make an appointment.”

Nurse: “When would you call them?”

Mom: “I can do it tomorrow morning. I also need to put 2 extra inhalers with the materials so that the nurse has inhalers in case he runs out or forgets to put them in his backpack. Also, I need to buy some gum or candy I feel OK about him having after taking the medicines for a different taste in his mouth and a reward.”

Nurse: “That’s thinking ahead! OK, what could get in the way of this plan happening?”

Mom: “Uh, I guess I’m worried about what they’ll do if he refuses, because I don’t know how to handle that myself sometimes.”

Nurse: “I’m glad you brought that up. How would you like to address this?”

Mom: “I guess they’re professionals. They might have some ideas about dealing with those refusals that would help me, even. Maybe after the main part of the meeting, Em could go play and just the teacher, nurse and I could talk for a while. I’ve been thinking that the next time I go to the bookstore I’d look for a book on different ways to deal with child behavior.”

Nurse: “Those sound like fabulous ideas. I also noticed today that even though you seemed a little stymied at first by how to get Em to do what you wanted, you did get him to do what you wanted by trying something different.”

Mom: “Yeah, like he didn’t tune me out. I don’t like to feel tuned out. I’ll need to try that again.”

4. Summary and Planning the Check-in

Nurse: “As you’ve noticed, I’ve been making notes as we’ve been talking. (Gives mom the sheet of paper) Here I wrote down your goal, and the steps you outlined: calling the nurse and teacher, getting extra inhalers, getting candy and gum, getting a book on ways of effective parenting for different child behavior, and having the meeting with Em, his teacher and the school nurse. Did I leave anything out?”

Mom: “No, this has been helpful.”

Nurse: “Do you remember this ruler I showed you earlier about how *confident* you were about being able to get Em to use his controller medicine?”

Mom: “Yeah.”

Nurse: “Where would you say you are now?” (can re-do the ruler to check progress)

Mom: “About here (points to ‘7’, in the ‘somewhat confident’ range on the confidence ruler).”

Nurse: “Alright! You were at an 3 before, so that’s some progress!”

Mom: “Yeah, I feel like I know more what to do now. What about the other problems - Em taking his controller medicines in the morning, and more often in the evening?”

Nurse: “I’d suggest that you think about applying the same sort of step-wise approach to those problem as we did to this problem of the school not having Em’s care plan. You specifically defined the problem, then brainstormed ideas about how to solve it, chose a solution, and thought through what needed to happen, when, to put it in place. Maybe you, or you and your husband, could work on that together?”

Mom: “Sure, Em’s dad has been worried about his asthma too.”

Nurse: “OK, I’d like to give you a call in about two weeks and check in to see how the meeting went. That’s be around Friday the 19th. What time would be good?”

Mom: “About 10:00 in the morning would be perfect.”

Nurse: “Let’s also check-in about how the thinking and discussions went about the morning medicine problem, and taking the medicine even more often in the evening. Do you think you might have had time to think those through by the 19th?”

Mom: “Yes, my husband and I always swore to each other we’d go out to dinner at least once a week, just us, if we had kids. We don’t do it once a week, but manage about every-other. And we’re due! So that could be a good time to talk it over. I’m starting to think about possible solutions already! I think I could negotiate with my husband that he needs to deal with the morning medicines since it’s his schedule that matters. If I take primary responsibility for the evening medicines and keeping the school on board with the mid-day medicine, doesn’t that sound fair?!”

Nurse: “Yes! (both laugh) I’ll look forward to hearing how it’s going on the 19th.”

Mom: “Em. Time to leave now. Please close your book, pick up your jacket and let’s go home.”

Appendix L: Mary Ann’s Self-Management Support Session. Child whose Asthma is Moderately Persistent and Needs Treatment Stepped Up; However, Mother is Satisfied with Existing Plan

Participants: Mary Ann, who is going on 4 years old, and her mother, Nancy.

Self-Management Goals: None that Nancy endorses. Nancy reports being “very confident” of her ability to care for Mary Ann’s asthma, and “very satisfied” with Mary Ann’s asthma care.

Other observations from the assessment thus far:

(1) Mary Ann had 5 ED/UC visits in the last year and two hospitalizations in the last 2 years; Mary Ann was hospitalized in the last week.

(2) The family lives with Mary Ann’s paternal grandmother. There are 3 cats in the home who are kept out of Mary Ann’s bedroom. Mary Ann’s mother and grandmother smoke in the basement or their bedrooms; Mary Ann spends time in her grandmother’s bedroom. Nancy says, “I was told that her asthma was my fault because I smoke. I am very careful where I smoke. I am angry with you medical people who keep blaming me.”

(3) Mary Ann gets Albuterol nebs at least 3x/day, but no controller medicine; a moderate-dose inhaled steroid needs to be added to her treatment.

(4) Nancy identified URIs and weather changes as triggers. Mary Ann had an appointment for a flu shot which wasn’t kept or rescheduled. Education about triggers and keeping an asthma diary to identify triggers are indicated.

1. Establish rapport, ask open-ended questions:

(The asthma nurse, Jeri, meets with Nancy alone.)

Jeri: “So Mary Ann was in the hospital because of her asthma last week?”

Nancy: “Yeah.”

Jeri: “What happened that led up to that?”

Nancy: “Oh, she’d been wheezing and I’d given her a bunch of nebs and she didn’t get better so I took called the clinic and they said bring her in, so they wanted to keep her when they saw her.”

Jeri: “What in particular seemed to trigger her asthma, to make it worse than usual?”

Nancy: “I suppose you’re thinking I was blowing smoke in her face. You people, you’re all the same. I’ve had enough, I don’t need this.” (starts to gather up her things to leave)

Jeri: “Nancy, that was not what I was thinking. You’ve done a great job with Mary Ann. What harm could come from seeing if you and I together could come up with some new ideas for what *else* you could try... would you be willing to brainstorm together for a bit longer and see if we can? Maybe we can, maybe we can’t -- but I’d like to try. What do you say?”

Nancy: “OK, but she’s just a sick kid and I’m doing the best I can.”

Jeri: “A sick kid.” (reflective statement)

Nancy: “Yeah.”

Jeri: “What’s that like for you, to see her having trouble breathing?” (attempt to elicit self-motivational statement)

Nancy: “She’s so miserable. She’s so little anyway, she was a ‘preemie’ you know, and I think that’s why she has asthma, her lungs are just weak.”

Jeri: “So miserable...” (reflective statement)

Nancy: “Yeah.”

Jeri: “That sounds scary.”

Nancy: “I suppose. I just try to focus on her, not on how I feel. She’s doing OK, her asthma’s pretty well-managed.” (Nancy seems to reject Jeri’s attempt to emotionally empathize with her situation)

Jeri: “On the one hand her asthma seems well-managed to you, but on the other hand Mary Ann still gets miserable because of her asthma.” (double-sided reflection to develop discrepancy)

Nancy: “Yeah.”

Jeri: “I wonder... what would make it less miserable for Mary Ann?”

Nancy: “I don’t know... seems OK.” (voice a little less certain)

Jeri: “You know, you may be interested in an article I just read. It said that, looking at thousands of kids with asthma, kids with asthma average about one emergency room or urgent care visits per year. 98% of kids have less than 5 visits. (pause, flips through paperwork a bit) I think you said Mary Ann’d had five emergency room visits in the last year...?”⁵

Nancy: “Yeah.”

Jeri: “Hm. So that means if you put 100 kids with asthma in a room, a child like Mary Ann would’ve been in the emergency room more than all but two of them. (pause) What do you make of that?”

Nancy: “Well, her asthma’s just worse than most kids’ and she needs more treatment.”

Jeri: “She needs more treatment.” (reflective statement)

Nancy: “I suppose.”

Jeri: “What do you think of the idea of taking a look at her treatment and seeing if you can control more of it, which you’re good at, rather than her needing to go to the emergency room or be hospitalized?” (supports self-efficacy)

Nancy: “Well, what do you mean?” (sounding a little interested)

Jeri: “Well, Dr. Upset said that you could try some different medicines, which you could give at home. You know that with asthma and kids, sometimes you have to be a bit of a detective or a scientist -- keep track of things in Mary Ann’s life around the same time as her asthma flare-ups and see if you can uncover something new that seems to be having a not-so-good effect on her asthma, and then see if there’s something you can do about that -- like keep her away from it.”

Nancy: “Oh, there you go on the smoking again.”

Jeri: “I was thinking about things like changes in the temperature, being around people

⁵ The reference for these statements is Lozano P, Fishman P, VonKorff M, Hecht J. Health care utilization and cost among children with asthma who were enrolled in a health maintenance organization. *Pediatrics* 1997;99:757-764. Given that children averaged 1.52 ED/UC visits per year with a SD of 1.80, 5 visits are nearly 2 SDs greater than average which means that only about 2% of a normally distributed sample would have more than 5 visits per year.

with colds, things like that - I could give you a list of things that other parents have noticed. You can keep track of her exposure to smoke if you want.”

Nancy: “Oh. OK.” (backs down)

Jeri: “OK, so we could look at her medicines and you can do a Detective Columbo on possible triggers, is that right?” (summarizes direction to take the remainder of the SMS session; tries to lighten the mood)

Nancy: “Yeah.”

Jeri: “Great!”

(With an initially unmotivated but confident mother who was satisfied with her daughter’s care, the goal was to lead the mother to question her satisfaction with her daughter’s asthma care and then identify a different plan of action. This task was accomplished by amplifying Nancy’s statements that Mary Ann had bad asthma and needed a lot of treatment.)

2. Intervention Phase

(Jeri offers Patient Education Toolkit materials and informational discussion on controller medicines and triggers. They formulate a diary system whereby Nancy will keep track of Mary Ann’s medication need/use, her symptoms, and trigger exposure. They review a list of possible triggers and Nancy chooses the ones she wants to ‘track’; the list does not include smoke exposure, but does include exercise, being around people with colds and cats. Nancy showed some curiosity about dust-mites so Jeri gave her information on mite-proof pillow and mattress covers. Jeri didn’t push Nancy to commit to buying them and using them, but will remember this for future visits.)

Jeri: “We’ve covered a lot of ground, don’t you think?”

Nancy: “Yeah.”

Jeri: “What other issues you would like us to talk about?” (open-ended question)

Nancy: “This about does it.”

Jeri: “What other questions do you have?” (open-ended question)

Nancy: “Can’t think of any.”

3. Complete the assessment

Jeri: “OK I would like to show you a sort of a ruler -- this’ll help me understand where you are with all this -- How ready would you say you are to try the Azmacort and keep the trigger diary we came up with?”

Nancy: “Oh, I’m ready (points to a ‘8’)”

Jeri: “OK, here’s another ruler about how confident you feel to give Mary Ann the Azmacort and keep the trigger diary, what would you say here?”

Nancy: “Oh, I’m good at this stuff (points to a ‘10’)”

Jeri: “Great! I think you’re good at it too. What, if anything, could get in the way of you giving Mary Ann the Azmacort and keeping the trigger diary?”

Nancy: “Nothing I can think of. If something comes up, I’m pretty sure I can find a way

around it.”

(With a specific action plan and high self-reported readiness and confidence, no further problem-solving seems indicated.)

4. Summary and Planning the Check-in

Jeri: “OK, here is the prescription for the Azmacort and the blank trigger diary. How do you plan to fill the prescription?”

Nancy: “I’ll go downstairs and fill it on my way out.”

Jeri: “Great! I’d like to give you a call in a couple of weeks and see how it’s going, and how Mary Ann is doing, OK?”

Nancy: “Sure. I’m home all the time.”

Jeri: “OK. You may be surprised at how much this new medicine might help her. And I’ll be curious to hear what you’re noticing about the triggers. If nothing seems to be emerging from that, maybe we can come up with some new ideas of what to keep track of, or go over the trigger list on the phone, how would that be with you?”

Nancy: “Fine.”

Jeri: “OK, I’ll talk to you then.”

Appendix M: PROMPT LIST

Overview

- matching current self-management skills to developmentally appropriate expectations
- the family system and larger environment
- readiness to change
- self-efficacy

Therapeutic stance

- collaborative
- flexible
- empathic/accepting of patient's circumstances as understandable
- hopeful of the possibility of change
- recognizes that the patient has wisdom about their situation and is a resource of potential solutions
- believes that change can occur through different possible pathways
- assumes the patient must carry out the behavior related to their goals

Principles of motivational interviewing

- express empathy
- develop discrepancy
- avoid argumentation
- roll with the resistance
- support self-efficacy

Strategies to use

- ask open-ended questions
- listen reflectively
- affirm
- summarize
- elicit self-motivational statements

Stages of change

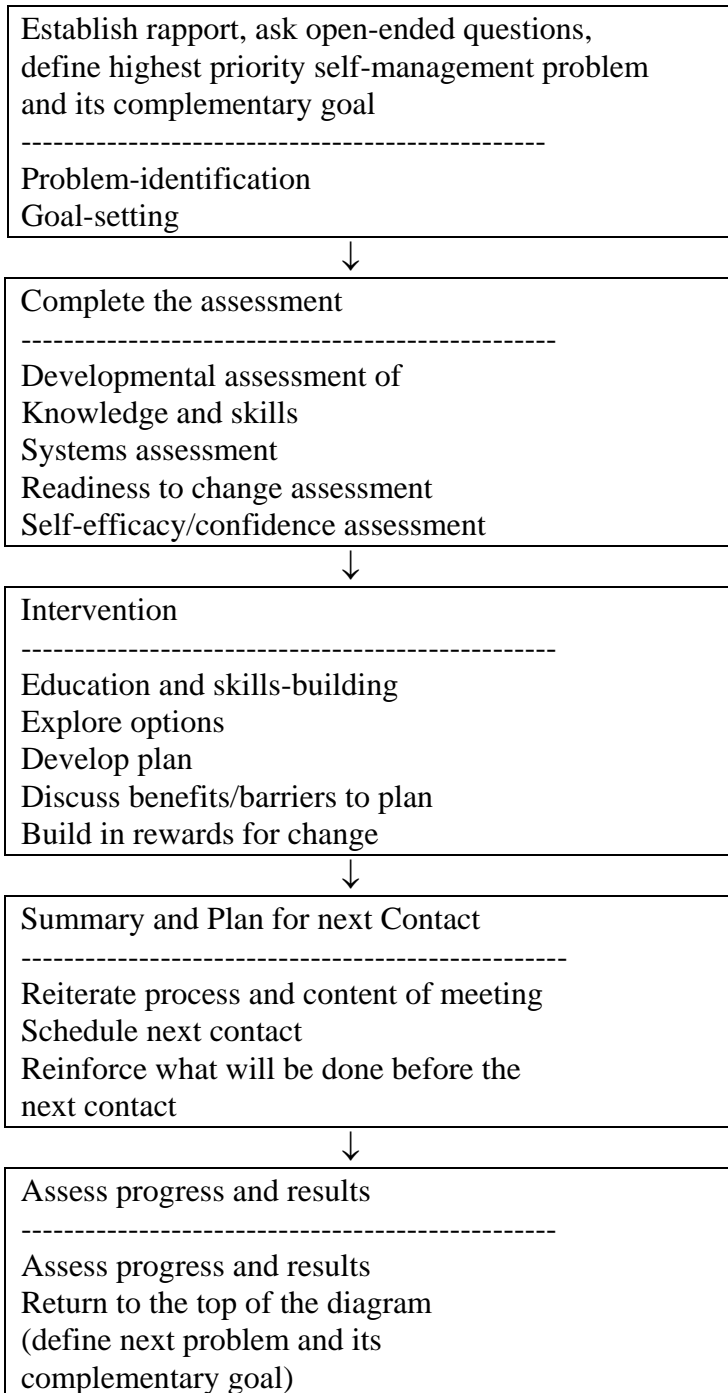
- precontemplation
- contemplation
- preparation
- action
- maintenance

Problem Solving

- identify (participant-defined) problem
- set goal
- awareness/education
- explore options and address self-efficacy
- develop plan
- discuss benefits and barriers to change, build in rewards for change
- assess progress and results

Appendix N

Flow of the Self-Management Support Session



Appendix O: Self-Study Quiz

After reading sections I through IV of this manual, you can use the corresponding quiz to assess your understanding of the material. Most of the following items are statements to which you should choose True or False; some items do ask for short-written answers. The answer keys are found following each quiz.

QUIZ 1 (Introduction and Overview)

1. Good knowledge and skills are sufficient to manage asthma.
2. The Collaborative Management of Illness model emphasizes healthcare providers' expertise and the need for patients to do exactly as they've been told.
3. The ultimate goal of collaborative management is for the patient to have the skills, knowledge, etc. needed to take charge of the majority of their illness management: doing as much as they can themselves, and asking for help appropriately.
4. The goal of asthma self-management should be realistic, like curing it.
5. The self-management support sessions involve paying specific attention to the patient or caregiver's level of motivation or "readiness" to work on improving asthma self-management, as well as their confidence that they can effect a change.
6. The self-management support sessions are tailored to the patient's and caregiver's level of readiness, confidence, knowledge and skill.
7. In the self-management support sessions, it's likely that you'll encounter patients with multiple problems, not all of which will be able to be addressed in the first session.
8. Successful asthma self-management was noted to have four qualities. Problems with which of these four qualities are best addressed by the motivational enhancement and problem-solving techniques, respectively? Please complete the following sentences:

Motivational enhancement helps address problems with ...

Problem-solving helps address problems with ...

QUIZ 1 ANSWER SECTION (Introduction and Overview)

1. FALSE. Certain attitudes and beliefs also are necessary components of successful asthma self-management (Section I B). A person can be knowledgeable and skillful, but if s/he doesn't *want* to apply that knowledge and those skills, self-management won't occur.
2. FALSE. The collaborative management model emphasizes that the patient and provider have shared goals and mutual roles (Section I C). Therefore, collaborative management involves the integration of the healthcare providers' expertise with the realities of the patient's life and circumstances.
3. TRUE. Collaborative management, like any other good long-term relationship, evolves over time and responds to changing needs (Section I C).
4. The first part of the sentence is TRUE, the second part is FALSE; since the second part of the sentence negates the truthfulness of the first part of the sentence, FALSE is the best answer to this item. Realistic goals are more likely to be achieved than unrealistic goals. Curing or eradicating asthma is unrealistic. See the description of successful asthma self-management in Section I D.
5. TRUE. Motivation or readiness to change, and confidence or self-efficacy, are necessary attitudes and beliefs, respectively, involved in self-management (Section I C).
6. TRUE. Self-management support is personalized and specific to each patient's and family's needs (Section I D - Goals).
7. TRUE. The order in which self-management goals are tackled is determined by the patient's knowledge, skills, attitudes and beliefs (see Section I D - Goals).
8. The four qualities were knowledge, skills, attitudes and beliefs (Section I B). Motivational enhancement helps address problems with attitudes, such as not wanting to change or feeling change isn't necessary. Problem-solving helps address problems with beliefs, especially to counteract beliefs about low confidence or self-efficacy (Section I D - Techniques).

QUIZ 2 (Assessment)

1. A colleague of yours who has many years' experience in an adult allergy clinic just started a new job at a pediatric allergy clinic down the hall from you. She admits that her pediatric skills are rusty, especially communicating with kids and parents. After her first week on the new job, she asks to go over some cases with you. For each case she tells you about (below), identify the problem she has encountered and suggest an alternative or corrective strategy:

a. "It was frustrating trying to identify the triggers for 5-year-old Allison. She's very smart and verbal, but she didn't seem to understand when I asked if she wheezes at school, at home, around dogs and cats...simple questions like that."

The problem is:

Another approach you might try is:

b. "Early this week, I talked at length with Mrs. Jackson about 9 year-old Nathan's care plan and I set up a schedule for him to take his medication at school. She understands how important it is for him to take it. But when I called her today, it sounds as though he's refusing to follow the plan."

The problem is:

Another approach you might try is:

c. "I had a really good interaction with this newly-diagnosed asthmatic, 15-year-old Liza. She understood my spiel about avoiding tobacco smoke, and acknowledged that being around her friends when they are smoking makes her feel terrible. I got this feeling, though, that she was not very confident about her ability to stay away from smoke. And sure enough, I saw her later that afternoon in the clinic parking lot, with two other kids who were smoking cigarettes."

The problem is:

Another approach you might try is:

2. A parent who says, “I know you said that Megan’s bedding has these little bugs in them that she’s allergic to, but I keep a clean house and she doesn’t sneeze or anything when she’s in bed, so I just don’t see how that has anything to do with her asthma,” is likely in which stage of change?
3. A teen who says, “I used to skip my medicines all the time. But for the past year, I’ve been trying and doing pretty well. It’s boring but I can feel a difference and I just need to keep reminding myself,” is likely in which stage of change?
4. Someone who is confident about their ability to change their asthma self-management, is always ready to, too.

(If you said “False,” please describe briefly a patient who doesn’t fit the above statement:)

5. People aren’t ready to change their asthma self-management because they aren’t confident about being able to do so.

(If you said “False,” please describe briefly a patient who doesn’t fit the above statement:)

6. A rating of “2” on the readiness ruler means you might expect a challenge identifying advantages of changing asthma self-management behavior.

QUIZ 2 ANSWER SECTION (Assessment)

1a. The problem is: Young children may not have word labels for sensations such as wheezing and chest tightness.

Another approach you might try is: Elicit her descriptions of her asthma symptoms. Then use her words to explain the definition of “wheezing”. For instance, you could say, “Allison, did you know that lots of kids with asthma have that squeaky noise you just told me about that happens when you get out of breath and when you are sick? We call that ‘wheezing’.”

1b. The problem is: Nathan was not directly involved in discussions about the care plan and sees no reason to participate.

Another approach you might try is: Talk with him directly during the visit, not exclusively to the mother. Assess his level of understanding and his concerns. Give him incentive to stick to the plan. Star charts work well at this age group.

1c. The problem is: Obstacles to the plan were not identified and tackled. The importance of peer relationships and the intense desire to blend in with the group were overlooked.

Another approach you might try is: Ask her what might make it difficult to avoid cigarette smoke. Try role plays in which she asks her friends not to smoke around her. Alternate roles, so that she tries out some strategies, and then you show her some other ways to talk with her peers. Realize that asking her not to hang out with her friends is unlikely to be successful.

2. This parent is likely in the *precontemplation* stage of change since the parent is contradicting what s/he’s been told about dust mites and is not acknowledging any problem exists (Section II D). (This parent might rate around a ‘1’ on the readiness ruler.)

3. This teen is likely in the *maintenance* stage of change characterized by trying and succeeding to take his/her medicines as prescribed, while aware of the possibility of relapse into nonadherence (in this case, because of boredom). See Section II D. We’d expect this teen to have a rating in the 8-10 range on the readiness ruler.

4. FALSE. Confidence and readiness go together often, but not always. For example, a person in the precontemplation stage of readiness to use their medications as prescribed might say, “I know how to use them. I just don’t feel like it. I don’t need them, anyway.” See Section II E.

5. FALSE. This statement is the converse of item #3, above. For example, a teen girl with low confidence and high readiness might say, “I really want to take my medicines more regularly... I know it’s important and they do help my breathing. But when other

people notice me using them, I get really embarrassed and don't know what to say. They look at me like I'm a sicko, and then I feel like that, too." (See Section II E).

6. TRUE. A person in the 'not ready' or precontemplation stage of change will not, by definition, admit to advantages of changing asthma self-management behavior (see Appendix B).

QUIZ 3 (Goals)

1. Dealing with patients and caregivers isn't necessarily straightforward. For example, your clinical assessment of the goals and needs for the patient and caregiver may differ from what the patient and caregiver is ready to work on, or perceives as problematic.
2. The best way to deal with the above situation is to make your agenda (i.e., your clinical assessment) the goals of the self-management support sessions.
3. It is likely that problems that have nothing to do with asthma per se may in fact present formidable barriers to asthma self-management.

(If you answered "True," above, can you list a few examples of these non-asthma things that pose barriers to asthma self-management:)

QUIZ 3 ANSWER SECTION (Goals)

1. TRUE. You are likely to encounter patients for whom you'll observe problems, and their related goals, that are unstated for some reason. Reasons for unstated goals include the patient being in the precontemplation stage; psychosocial problems such as a chaotic or dysfunctional family situation; or problems that are not revealed because of shame or privacy concerns, such as financial distress.
2. FALSE. Recall that *collaboration* is a key concern in self-management support. We know from studies of psychotherapy process and physician-patient communication that teaching, confronting, closed-ended questions and giving directives increase patient resistance and decrease satisfaction.⁶ Self-management support will involve using skillful, unintrusive means to see if some of the 'unstated goals' will eventually be endorsed by the patient as problems that s/he wishes to work on.
3. TRUE. In the two examples in this section, marital distress (in the first example) and inappropriate developmental expectations and behavior (in the second example) present problems for asthma self-management. Even though the inappropriate developmental expectations and behavior in the second example relate to asthma, one might predict that Samantha may not have developmentally appropriate expectations in other ways, such as having chores, doing school homework before TV or other activities that are often used as 'rewards', and so forth.

⁶ See Patterson GR, Forgatch MS. Therapist behavior as a determinant for client noncompliance: A paradox for the behavior modifier. *Behavior Therapy* 1985;53:846-851, and Roter DL, Stewart M, Putnam SL, Lipkin M, Stiles W, Inui TS. Communication patterns of primary care physicians. *JAMA* 1997;277:350-356.

QUIZ 4 (Techniques to enhance asthma self-management)

1. Please describe briefly the difference between didactic education and skills building:
2. In the disease model of asthma, the control and avoidance of triggers, together with controller medicines, decrease airway inflammation and therefore the likelihood of asthma attacks, but should problems occur, quick-relief medicines help airflow.
3. Patients and caregivers will know how well the asthma is controlled by measuring peak flow, functional status, and symptoms.
4. Please list a few examples of “functional status” measures for, first, an 8 year-old, and next, for a 14 year-old.

8 year-old:

14 year-old:

5. People change their behavior when others who they perceive as having more authority, being smarter, more well-educated, being older, etc., tell them to do something differently.
6. You’re the professional and have a lot more knowledge about asthma than your patients or their caregivers, so it’s important that you ‘take the upper hand’ and immediately correct any misconceptions they might have throughout the course of all of your appointments with them.

(Can you write a few words about why you chose the answer you did to the above question?)

7. Assuming that there are good reasons why people do what they do (including what they “shouldn’t” do), please list a couple things in your life you knew you should do more (or less) of, but didn’t, and why:

<u>Behaviors I “should’ve” changed</u>	<u>The advantages of what I did/Why I didn’t change/The disadvantages of change</u>
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8. Now, please take one of your examples from the list above and write a double-sided reflective statement to yourself as an example of the motivational enhancement principle of “develop discrepancy.”

9. Please think of a very difficult, defensive, tough-to-like patient or caregiver you’ve worked with and write an example of a “support self-efficacy” statement you could’ve said. (If you can’t think of any material on which to base such a statement, then please write some questions that might’ve generated some information that you could then use in such a statement.)

10. With this same patient or caregiver, what are some questions you could’ve asked to try to elicit self-motivational statements?

11. It’s important to steer the patient or caregiver to choose the most important self-management goal to work on first.

12. It’s important to be willing to work with a patient or caregiver on a goal or plan that seems like a very small step, in the overall scheme of the patient’s needs.

(Can you write a few words about why you choose the answer you did to the above question?)

13. With low readiness to change participants, you move the discussion of awareness and education, and the benefits and barriers to change early in the self-management support session, i.e., before the core problem-solving steps of goal-setting, exploring options, and so forth.

14. The best way to deal with a patient or caregiver who is overwhelmed by their problems is to reassure them, and press on with the problem-solving.

15. If the patient or caregiver comes up blank when s/he tries to think of potential solutions to their problem, a good strategy is to tell them to imagine a good friend of his/her’s was in a similar solution and ask what might s/he suggest the friend try.

QUIZ 4 ANSWER SECTION (Techniques to enhance asthma self-management)

1. Didactic education typically involves one-way teaching of new information to the learner. Skills building also involves learning new information, but skills involve actively changing behavior -- good, effective technique for a metered-dose inhaler -- and typically are more interactive with the AN than the more passive role of the student who is gaining intellectual knowledge during didactic education (Sections IV B and C).
2. TRUE. See the diagram of the disease model for asthma.
3. TRUE. Again using the disease model of asthma, peak flow, functional status, and symptoms are affected by airflow, which reflects disease activity.
4. Functional status refers to how well people can carry out different roles and activities such as social activity, physical activity, family activity, work or school, and are free from emotional distress or bodily pain and discomfort. For both 8 and 14 year-olds, indicators of functional status includes school attendance vs. absenteeism; involvement vs. limitation in physical activities such as sports; and ability to participate in family life.
5. FALSE. Behavior change occurs when the negative consequences of the status quo outweigh its positive consequences. Input from authoritative others are neither necessary nor sufficient, but can be influential. Authoritative others may affect the change process by, for example, giving information that tips the 'decisional balance' between negative and positive consequences for the patient (Section IV D1).
6. FALSE. The timing of all interventions is crucial, even didactic and skills building. For example, with participants who do not endorse any problems, or at least any problem that they're ready to work on, the focus of the SMS must be the gentle, collaborative exploration of information that might tilt the decisional balance toward admitting to and working on a problem (Sections IV D2 and IV D3).
7. Here are several popular targets for behavior change and some ideas of why people don't change.

<u>Behaviors I "should've" changed</u>	<u>The advantages of what I did/Why I didn't change/The disadvantages of change</u>
Eat more healthy foods	Don't taste as interesting Sometimes more expensive Take longer to prepare Hassle: I cook x 2 b/c my family won't eat them
Exercise 3x/week	I'm too busy already, I don't have time It'd be uncomfortable b/c I'm out of shape It's boring I don't have money to join a club

It's too rainy to exercise outside
It takes too long to see any results

Stop smoking

It's a good reason to get away from my desk
I feel calmed when I'm nervous when I smoke
My partner and friends do, I couldn't not smoke
It's too hard to stop, I've tried before and failed

8. You'll need to come up with some reasons for change, to be able to formulate double-sided reflective statements (Section IV D3 (2)).

Behavior

Double-sided reflective statement

Healthy food

“On the one hand the foods you've thought of as 'healthy' seem boring, expensive and more of a hassle, but on the other hand, you've been concerned by what you've read about cholesterol, especially because there may be some heart disease risk factors in your family -- that your father had a heart attack when he was 47. I wonder, what's the next step for you?” (note, only the first part is a reflective statement)

Exercise

“So a number of things that get in the way of you exercising, but you enjoy the feeling in your muscles after you exercise and the sense of accomplishment.”

Smoking

“You've smoked for a long time and there are reasons why you've done so, but you're also worried about the effects that smoking could have on your health.”

9. You could look at the last scenario in the Appendix of Nancy and Mary Ann. Jeri could say, “I respect your confidence and decisiveness in how you deal with Mary Ann's asthma.” While these attributes initially presented as roadblocks for Jeri, in the end they are likely to be a part of Nancy's ability to follow-through with the newly set self-management goals for Mary Ann. (See Section IV D3(5) for the definition and examples of supporting self-efficacy.)

10. Some generic sorts of questions that can be used to elicit self-motivational statements are outlined in Section IV D4(5). Examples for the behavior change areas listed above under item #8 follow:

Behavior

Possible questions to elicit Self-Motivational Statements

Healthy food

“What would be the advantages of eating more healthfully?”

Exercise

“If you did decide to exercise, what might work for you?”

Smoking

“What concerns you about smoking?”

“You were at a ‘2’ on the ruler about readiness to cut down or stop smoking; what would need to happen for you to be at a ‘8’?”

11. FALSE insofar as choosing the same ‘top’ goal as the AN might choose is not necessary. Participants will typically have had several self-management goals suggested to them in the course of the appointment with the physician. Participants should retain the power of choosing among those high priority goals; recall that participant empowerment is a basic premise of collaborative management.

12. TRUE. Being willing to work on a ‘small’ step is important especially for low readiness to change participants, for whom admitting to and being willing to work on *any* problem may be a huge step. In some cases, you may feel that the participant can handle more. In such a situation, it is fine to ask if the participant might feel able to tackle a larger problem, or an additional smaller problem.

13. TRUE. See the discussion in Section IV E1 and the beginning of page 28. With participants with low readiness to change the first task is to identify a problem area s/he is willing to work on.

14. FALSE. Defining manageable-sized problems is a skill. You can help the overwhelmed participant break an overly large problem into smaller chunks that are easier to tackle (Section IV E2, Phase 1).

15. TRUE. Participant-generated solutions are preferable to the clinician’s own ideas, but if the participant is stuck, this technique can help them get enough distance from their problem to think of potential solutions (Section IV E2, Phase 4).

APPENDIX P: PATIENT EDUCATION TOOLKIT CONTENTS

1. INTRODUCTION

1. Pediatric Asthma Care Study Letter
2. Toolkit Inventory List

2. WHAT IS ASTHMA?

1. Information About Asthma—more basic information
2. One Minute Asthma—Booklet* limited quantity* AN to determine distribution

3. MEDICATIONS

1. Learn About Asthma Medicine—Controllers and Relievers
2. Giving Your Child Cromolyn or Nedocromil
3. Giving Your Child Inhaled Steroids
4. Giving Your Child Oral Steroids
5. Giving Your Child Albuterol
6. Questions and Answers about Steroid Concerns

4. INHALER, SPACER, NEBULIZER USE

1. Using an Inhaler
2. Spacers: Making Inhaled Medicines Easier to Take
3. Using a Breathing Machine/Nebulizer
4. Cleaning the Nebulizer

5. ASSESSMENT AND MANAGEMENT

1. My Asthma Warning Signs Are:
2. How to Use Your Peak Flow Meter
3. Student Asthma Action Card
4. Asthma Action Plan - Peak Flow (In process)
5. Asthma Action Plan - Symptoms (In process)
6. Peak Flow Diary
7. Long Term Management Plan (In process)

6. TRIGGERS AND ENVIRONMENT

1. Common Asthma Triggers
2. Find Your Asthma Triggers
3. Pollen Control
4. Animal Dander Control
5. Tobacco Smoke Avoidance
6. House Dust Mite Control
7. Mold Control
8. Cockroach Control
9. House Dust Allergy—Catalog for ordering products *limited quantity* not pt. education
10. Passive Smoke... (Reeva in process)

7. MAKING DECISIONS

1. Signs for Deciding to Go to School or Stay Home
2. Five Emergency Signs
3. Story of Sandra

8. PEERS AND SCHOOL

1. Taking Asthma To School *limited quantity* AN to determine distribution

9. STAYING ACTIVE

1. Plan for Staying Active (for Children)
2. How to Set Appropriate Guidelines for Your Child's Activities
3. Story of George—Part 1
4. Story of George—Part 2
5. Exercise Induced Asthma

10. COPING AND COMMUNICATION

1. Coping with Asthma--Tips for Families
2. Traveling with Asthma

11. RESOURCES

1. Books, Newsletters, Web-site Information
2. Information Resources
3. Camps