Chapter 3
The Prevention Model and Problem Solving

Abstract With growing numbers of developmental needs expressed in communities, the way services are delivered to families must change to assist children. A prevention model which provides multiple levels of support from prevention efforts to extensive, individualized interventions can assist practitioners in meeting the needs of children efficiently and effectively. In addition, prevention and intervention efforts are more effective when problems are clearly identified and tied to specific interventions which are evidence-based. The use of a problem-solving process gives practitioners a specific way to think about child concerns and develop and track progress of interventions matched to the child or children's needs.

Keywords Primary prevention • Secondary prevention/intervention • Tertiary prevention/intervention • Problem-solving process • Problem identification • Problem analysis • Intervention implementation • Intervention evaluation • Collaborative problem solving

A need for children's services and support in communities across the United States is prominent. Approximately 1 in 5 children in the United States have a diagnosable behavioral health disorder and current statistics indicate that only 20 % of children with severe behavioral health concerns will receive any kind of assistance (Society for Research in Child Development, 2009; U.S. Public Health Service, 2001). These problems when left unaddressed can negatively affect their functioning and development (Brauner & Stephens, 2006). With such a large need present and a limited number of qualified professionals to meet the need, communities must adopt an efficient model of service delivery. By matching the intensity of a service with the needs of a family, more children can be helped to reach developmental milestones on time. In the next section, a tiered service delivery model, identified as the prevention model, is described. This model focuses on prevention and early intervention to promote positive outcomes.

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Primary Prevention

Primary prevention, also referred to as Universal, efforts consist of enhancing protective factors in families and community settings and are designed to prevent the future development of more negative child and family outcomes. An example of primary prevention is the *Back to Sleep* campaign, which is a public service campaign that is designed to educate all parents and caregivers about the importance of putting babies to sleep on their backs to prevent sudden infant death syndrome (SIDS). Prevention efforts can consist of general support and information provided through handouts or public service announcements. A key idea within primary prevention is to provide educational information to people who care for and/or work with children, so that they will be better informed about how to best promote healthy development. The guidelines presented in Chap. 1 for common behavior problems are examples of primary prevention efforts because all young children will benefit when those guidelines are followed. In the case of older children, school-wide social skills programs are considered to be primary prevention efforts because all children will benefit from social skills instruction. Primary prevention requires relatively little time and cost relative to individual intervention efforts, and is accessible to everyone in the community. Although some children and families will need more intensive interventions as well, the needs of 80–90 % of children and families are expected to be met with these low cost efforts. High quality, primary prevention efforts are also important as they can reserve resources to develop and provide services and supports to children and families in significant need.

Secondary Prevention/Intervention

Secondary prevention, also referred to as Targeted, involves activities slated for children who may develop problem behaviors as a result of certain risk factors, and as such need programs tailored to promote their success. Children growing up in poverty are an example of individuals for whom secondary prevention efforts such as developmentally appropriate preschool experiences can result in positive outcomes such as improved readiness for school. Secondary prevention activities are provided in groups and are often implemented through educational, health care, or social services. Head Start is an example of a federally funded secondary prevention endeavor that promotes school readiness and cognitive gains through the provision of educational, health, nutritional, social, and other services. Children and families are eligible for Head Start based upon income status and/or disability, thus targeting the needs of approximately 5–15 % of children. The Nurse–Family Partnership is another secondary prevention approach, in that it targets low income, first-time mothers and provides them with healthcare and development guidance.

Group parent training programs are yet another example of secondary prevention efforts, as they provide caregivers with information and support to improve parent–child relationships and proactive discipline skills.

Tertiary Prevention/Intervention

Lastly, tertiary prevention, or Clinical/treatment, includes more intensive and individualized supports for children with chronic issues and their families. As healthy development in young children includes both physical and mental health, these services are generally delivered by an interdisciplinary team and often across systems of care. Ideally, tertiary prevention/intervention will only be required by 5 % of families if quality primary and secondary prevention strategies are in place and accessible to families. Tertiary strategies should be aimed to maximize development and improve functioning, and as such, may prevent a problem from becoming worse or a related problem from developing. An example of tertiary prevention/intervention efforts would be Part C of The *Individuals with Disabilities Education Act* (*IDEA*) a federal law ensuring services to children birth to three with delays and/or disabilities. Over 6.5 million eligible infants, toddlers, children, and youth with disabilities are covered under this legislation (Retrieved December 10, 2012 from http://www2.ed.gov/policy/speced/reg/idea/part-c/index.html). Each child and family eligible for Part C services will receive an Individual Family Support Plan (IFSP) which documents developmental goals, objectives and outcomes, as well as age-appropriate services and supports for the child and family. Another example of tertiary efforts would be individual behavioral health services needed for children with significant disruptive behaviors that resulted in their suspension from daycare or preschool, and are designed to help them thrive in such environments. Children who have experienced trauma or chronic illness are another group who might need extensive evaluation and support from a mental health professional to improve coping strategies.

Matching the Level of Care to the Child and Family's Needs

The prevention model is often depicted as a pyramid, in which one thinks about how to prevent and intervene with developmental problems:

- *Tertiary prevention/intervention*: Smallest number of children/families who require more extensive support and therapeutic services.
- *Secondary prevention/intervention*: Higher risk children and families need increased support and guidance to strengthen their coping skills.
- *Primary prevention*: Most children and families benefit from general information and support.

Problem-Solving Process Embedded in the Prevention Model

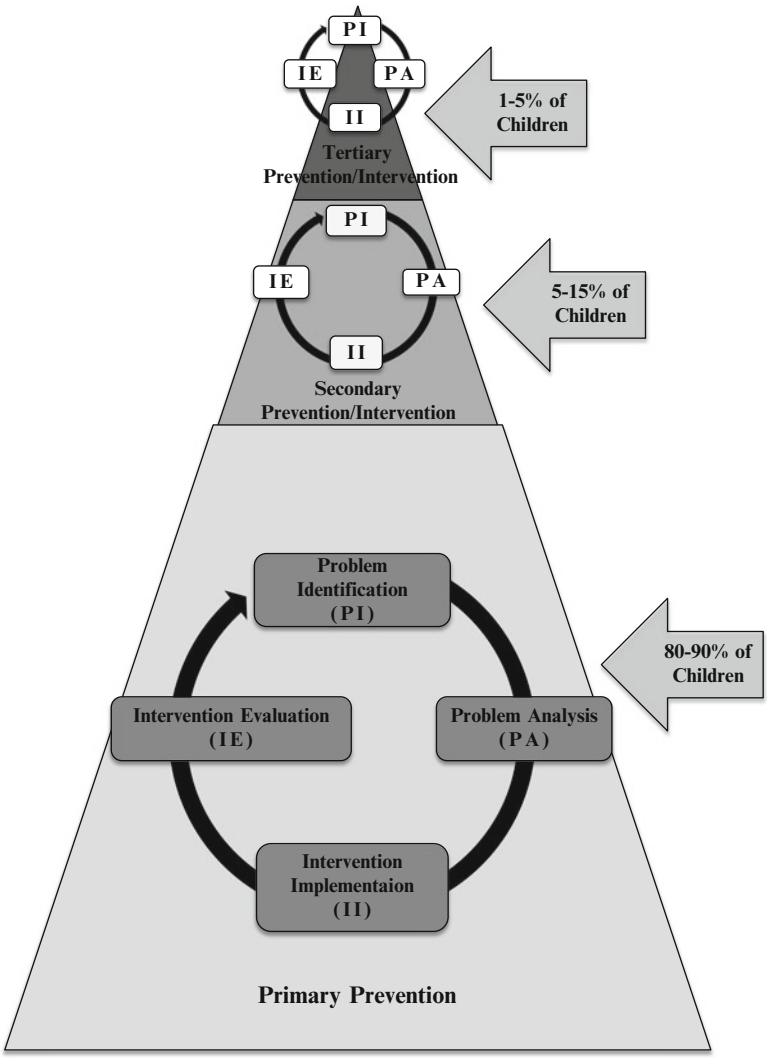

Fig. 3.1 The problem-solving process is embedded in the prevention model

Four-step problem-solving process:

1. **Problem identification**—*Is there a problem*? *What is it*?

   (a) Sub-step 1: Define the problem in specific behavioral terms

   - What does the behavior look like?
   - When did the behavior occur?
   - What was the child doing?
   - Who else was present and what were they doing?

   (b) Sub-step 2: Define the desired behavior in specific behavioral terms

   - What is the desired or replacement behavior?
   - What skills are needed to reach desired behavior goal?

   (c) Sub-step 3: Determine where the child's behavior falls in comparison to age expectations (this is also called Gap Analysis)

   - How does the child's present behavior compare to expectations for her age?
   - These expectations are also referred to as benchmarks or milestones.

   There are several methods one might use to help identify the problem, including structured interviews, screening tools, standardized rating scales, observations, and/or other assessments.

2. **Problem analysis**—*Why is the problem happening*?

   (a) The purpose of this step is to develop multiple hypotheses to explain why the child is not exhibiting the desired behavior.
   (b) Hypothesis Format: (Child) does (problem behavior) because…
   (c) It is important to think about the environment in which the child lives, family relationships and support systems, and health factors that may be contributing to the problem.

3. **Intervention implementation**—*What will be done about the problem*? *Who will do it*? *How often and for how long will they do it*? *How will we know if the intervention is working*?

   (a) Using the information gathered through problem analysis, interventions are selected/developed and implemented.
   (b) The interventions should be closely aligned with the hypothesis for why the problem is occurring. For example, two children who exhibit tantrum behavior may have different reasons for doing this (Anthony: to get attention, Sarah: because she does not have the language to express her needs), and the interventions that would be most likely to be successful should match to the specific hypotheses. An intervention to address Anthony's tantrums may focus on strategies to seek attention appropriately and his parents may need to ignore tantrums. For Sarah, an intervention to increase her ability to

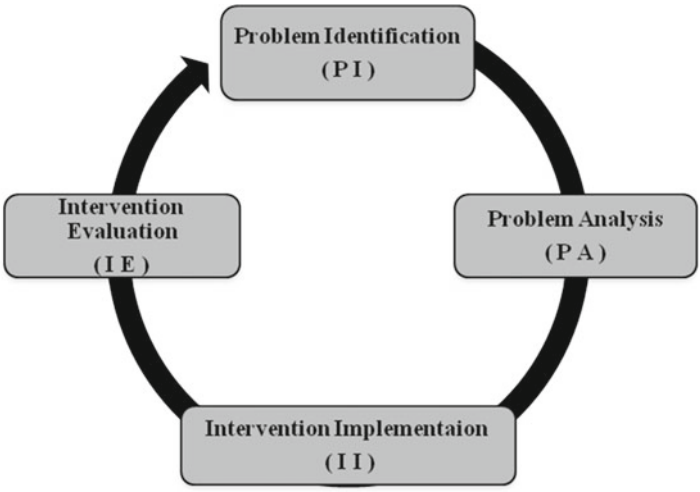

Fig. 3.2 The four-step problem-solving process

express her needs (e.g., teaching her words or sign) would be more likely to be effective.

(c) The following information must be specified in the plan:

- *Who* will do *what*?
- *When* it will be done?
- *How* long will it be tried?

(d) Also included in this step is determining the data collection method, which will be needed to monitor the response to the intervention.

- *How* will we know if the intervention is working?
- *When* will the intervention be evaluated?

4. **Intervention evaluation**—*Is the intervention working*?

(a) This step involves revisiting the problem originally identified and examining data to determine if the intervention is working.

(b) A determination is made (based on the data) whether the intervention needs to continue, be modified, or be discontinued.

(c) If the problem persists, the problem-solving process must be repeated in order to redesign a more effective intervention. New information is gleaned throughout the problem-solving process which can be used to better understand the problem and informing more effective future iterations of the intervention.

The problem-solving process appears in Fig. 3.2. and is applied in a case study in Table 3.1.

Table 3.1 Case study using the problem-solving process

Background Information: Ethan is 2 years old and has met most of his developmental milestones. Ethan's mother is concerned because he is not talking as much as his older sister did at 2 years old	
Problem identification	Through questioning it is determined that Ethan is delayed with respect to communication milestones. He has a vocabulary of about 10–15 words and does not utter any phrases. Communication milestones at age 2 include a vocabulary of at least 200 words, speaking in 2–4 word phrases, speech that is 50 % intelligible, naming six body parts, and following simple directions. Ethan can follow simple directions, turns to his name, and points to his body parts. Thus, we have determined that Ethan is showing a delay of about 6 months in expressive communication
Problem analysis	Further questioning reveals that Ethan passed an audiology screening and, therefore, hearing problems can be ruled out. A more in-depth speech and language assessment finds that his muscle development is suitable for speech and that Ethan is using strategies such as pointing, grunting, or whining to get what he wants. His family is very good at anticipating his needs, and his older sister often talks for both of them. We hypothesize that Ethan's expressive communication skills are delayed because his current strategies work well enough for him, and he has less practice talking with people as a result
Intervention implementation	The interventionist works with Ethan's mother to increase opportunities for Ethan to use words to obtain what he wants. Ethan is offered choices of high interest activities, snacks, or other items, which are labeled for him verbally by mother and other family members. Ethan is praised for any attempt towards using words, which results in his obtaining the choice. Mother also helps to expand word phrases by modeling phrase speech, such as "You want the big, red truck." His mother is keeping a log of new words and phrases that Ethan uses, which are graphed weekly, to document his progress
Intervention evaluation	Six months later, Ethan's vocabulary has skyrocketed, making it difficult to count the number of spoken words. He is also beginning to use more 2–3 word phrases, make environmental sounds, and singing songs. The graph of new words and phrases shows that he is making progress with this intervention

Collaborative Problem Solving

The problem-solving process works best when developed with a team of individuals who are familiar with the child and her family. Members of the team might include providers from preschool, child protective services, primary care, and mental health, with each one helping to develop the plan that builds on the child and family's strengths to establish effective services and supports. Including a collaborative team in the problem-solving process has the potential to improve outcomes in a number of ways. For instance, through collaboration a child's providers may be able to more

accurately define the presenting problem and generate hypotheses about why the problem is occurring. Through their coordinated efforts, this team will be more able to develop interventions that are linked to validated hypotheses as well as tailor them to the individual child and family.

As part of collaborative problem-solving process, establishing and maintaining rapport is essential. Initially building rapport may require a considerable amount of time and energy; however, the effectiveness and efficiency of the problem-solving process will improve as time goes on. For example, a caregiver must feel comfortable sharing sensitive information with the team such as whether or not they think they will be able to carry out the intervention as intended. If rapport has not been established, then the caregiver may agree to implement an intervention that they cannot carry out, and therefore, the benefit is lost. Developing and maintaining rapport involves active listening to the caregiver's perspective, developing shared goals, determining whether or not an intervention is acceptable and feasible to a caregiver, and sharing the importance of conducting the intervention as it is intended.

Conclusions

The prevention model is a notion which matches the level of care to a child's and family's needs. This model is frequently visually depicted by a pyramid, which outlines levels of support from least intensive to most intensive as based upon the needs of children and their families, and includes general education at the primary level which is expected to benefit most children and families, more focused guidance and support at the secondary level, aimed at children and families at higher risk, and extensive supports at the tertiary level, intended for those needing the most extensive support and intervention. The prevention model helps to guide the provision and funding of services and supports which are ultimately aimed to improve health and well-being of all children and their families. Within each level, the problem-solving process is used to pinpoint goals and objectives, and ensure that prevention and intervention efforts are appropriate and feasible. Lastly, data collection determines how well the intervention is working.

Assess Your Knowledge

1. Sandy enrolled in a group parent training class because her daughter Jenny has been throwing tantrums. Jenny has never been diagnosed with a disability, but recently has been engaging in more frequent tantrums. The group parent training class in which Sandy is enrolled fits best with which level of prevention?

   a. Primary
   b. Secondary

c. Tertiary
d. Problem solving

2. You have determined that the behavior of greatest concern with Kelly is hitting other children. You have determined that she does this three times more than her peers do. You have determined that the most likely reason for her behavior is that she does not have the skills to communicate her wants and need, which in turn leads to her hitting others. Using the problem-solving model, what would be your next step?

   a. Monitor the effects of your intervention
   b. Implement an intervention to teach Kelly communication skills
   c. Implement an intervention where you punish Kelly for hitting
   d. Identify the problem

3. Sophia's mother states that her daughter is behind in her motor skills. If you are following the problem-solving process what is your next step?

   a. Enroll Sophia in physical therapy
   b. Observe Sophia on the playground
   c. Gather information about Sophia's motor skills and compare this to established norms
   d. Send Sophia for evaluation by a specialist

4. Spencer was born 9 weeks premature and has experienced multiple developmental delays and difficulties in his early years (i.e., heart problems, feeding difficulties). Since Spencer has a number of needs, he receives an IFSP to promote his growth and development. This type of prevention strategy falls into what category?

   a. Primary
   b. Secondary
   c. Tertiary
   d. Problem solving

5. During what step of the problem-solving process should a team determine how they will measure the intervention's effects?

   a. Problem Identification
   b. Problem Analysis
   c. Intervention Implementation
   d. Intervention Evaluation

6. Effective prevention strategies at the secondary level should only be required by what percent of families?

   a. 75–85 %
   b. 45–65 %
   c. 15–25 %
   d. 5–15 %

7. Jessica is driving when she hears an ad for the "Let's Move" which provides information about improving nutrition and increasing activity so that individuals maintain a healthy weight. This campaign falls into what prevention tier?

   a. Primary
   b. Secondary
   c. Tertiary
   d. Problem solving

8. In the Intervention Implementation step, it is important to:

   a. Gather more information about the problem
   b. Evaluate the validity of each possible cause for the problem
   c. Examine the gap in skills between the children and their peers
   d. Determine who will implement the intervention and how long it will be tried

9. As the level of tiered services increases, what changes occur to progress monitoring?

   a. The frequency of progress monitoring increases
   b. Progress monitoring tools cost more
   c. The frequency of progress monitoring stays the same
   d. The frequency of progress monitoring decreases

10. If Ethan was not responding to the intervention conducted at home with his mother, what should the practitioner's next steps be?

    a. Continue the intervention
    b. Enroll Ethan's mother in a parenting class
    c. Implement a brand new intervention
    d. Recycle back through the problem-solving steps to generate a new intervention

Assess Your Knowledge Answers
1) b 2) b 3) c 4) c 5) c 6) d 7) a 8) d 9) a 10) d