JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

Interventions to Prevent Child Maltreatment
US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

IMPORTANCE In 2016, approximately 676 000 children in the United States experienced maltreatment (abuse, neglect, or both), with 75% of these children experiencing neglect, 18% experiencing physical abuse, and 8% experiencing sexual abuse. Approximately 14% of abused children experienced multiple forms of maltreatment, and more than 1700 children died as a result of maltreatment.

OBJECTIVE To update the US Preventive Services Task Force (USPSTF) 2013 recommendation on primary care interventions to prevent child maltreatment.

EVIDENCE REVIEW The USPSTF commissioned a review of the evidence on primary care interventions to prevent maltreatment in children and adolescents without signs or symptoms of maltreatment.

FINDINGS The USPSTF found limited and inconsistent evidence on the benefits of primary care interventions, including home visitation programs, to prevent child maltreatment and found no evidence related to the harms of such interventions. The USPSTF concludes that the evidence is insufficient to assess the balance of benefits and harms of primary care interventions to prevent child maltreatment. The level of certainty of the magnitude of the benefits and harms of these interventions is low.

CONCLUSIONS AND RECOMMENDATION The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of primary care interventions to prevent child maltreatment. (I statement)

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Author/Group Information: The USPSTF members are listed at the end of this article.

The US Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific preventive care services for patients without obvious related signs or symptoms.

It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.

The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.

Summary of Recommendation and Evidence

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of primary care interventions to prevent child maltreatment (I statement) (**Figure 1**).

Children with signs or symptoms suggestive of maltreatment should be assessed or reported according to the applicable state laws.

See the Clinical Considerations section for suggestions for practice regarding the I statement.

Rationale

Importance

In 2016, approximately 676 000 children in the United States experienced maltreatment (abuse, neglect, or both), with 75% of these children experiencing neglect, 18% experiencing physical abuse, and 8% experiencing sexual abuse. Approximately 14% of abused children experienced multiple forms of maltreatment, and more than 1700 children died as a result of maltreatment.[1]

Benefits of Interventions

The USPSTF found inadequate evidence that interventions initiated in primary care can prevent maltreatment among children who do not already have signs or symptoms of such maltreatment.

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Figure 1. USPSTF Grades and Levels of Evidence

What the USPSTF Grades Mean and Suggestions for Practice

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the Clinical Considerations section of the USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as the number, size, or quality of individual studies. inconsistency of findings across individual studies. limited generalizability of findings to routine primary care practice. lack of coherence in the chain of evidence. As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of the limited number or size of studies. important flaws in study design or methods. inconsistency of findings across individual studies. gaps in the chain of evidence. findings not generalizable to routine primary care practice. lack of information on important health outcomes. More information may allow estimation of effects on health outcomes.
The USPSTF defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.	

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The USPSTF deemed the evidence inadequate because of a lack of studies on accurate methods to predict a child's individual risk of maltreatment and the limited and inconsistent report of outcomes from studies of preventive interventions for maltreatment.

Harms of Interventions

The USPSTF found inadequate evidence to assess the harms of preventive interventions for child maltreatment.

USPSTF Assessment

Evidence on interventions to prevent child maltreatment is limited and inconsistent; therefore, the USPSTF concludes that the evidence is insufficient to determine the balance of benefits and harms of interventions initiated in primary care to prevent child maltreatment in children and adolescents.

Clinical Considerations

Patient Population Under Consideration

This recommendation applies to children and adolescents 18 years and younger in the United States who do not have signs or symptoms of maltreatment (Figure 2). The Centers for Disease Control and Prevention define child maltreatment as any act or series of acts

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Figure 2. Clinical Summary: Interventions to Prevent Child Maltreatment

Population	Children and adolescents 18 years and younger
Recommendation	No recommendation. Grade: I (insufficient evidence)

Risk Assessment	Risk factors for maltreatment in children include young age (<4 years), having special health care needs, female sex, and past history of maltreatment. Children are also at increased risk based on factors related to their caregiver or environment, including having young, single, or nonbiological parents or parents with poor educational attainment, low income, history of maltreatment, and social isolation. Additionally, living in a community with high rates of violence, high rates of unemployment, or weak social networks are linked to child maltreatment.
Interventions	Although the USPSTF found insufficient evidence to recommend for or against preventive interventions in primary care settings, several strategies for preventing child abuse and neglect have been studied. Specific interventions include primary care programs designed to identify high-risk patients and refer them to community resources, parent education to improve nurturing and increase the use of positive discipline strategies, and psychotherapy to improve caregivers' coping skills and strengthen the parent-child relationship. These interventions are delivered in settings such as the patient's home, primary care clinics, schools, and the community.
Relevant USPSTF Recommendations	The USPSTF has a recommendation on screening for intimate partner violence, elder abuse, and abuse of vulnerable adults.

For a summary of the evidence systematically reviewed in making this recommendation, the full recommendation statement, and supporting documents, please go to https://www.uspreventiveservicestaskforce.org.

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of commission (abuse) or omission (neglect) by a parent or other caregiver (eg, clergy, coach, or teacher) that results in harm, potential for harm, or threat of harm to a child.[2] Words or actions that are deliberate and cause harm, potential harm, or threat of harm are considered acts of commission (eg, physical, sexual, and psychological abuse).[2] Failure to provide for a child's basic physical, emotional, or educational needs or to protect a child from harm or potential harm constitutes an act of omission (neglect).[2]

Suggestions for Practice Regarding the I Statement

Potential Preventable Burden

Approximately 676 000 US children experienced abuse or neglect in 2016.[1] Of those, 1700 died as a result of that maltreatment.[1] Younger children appear to be the most vulnerable, with nearly 25 per 1000 children younger than 1 year identified as having experienced maltreatment.[1] Abuse and neglect can result in long-term negative physical and emotional effects. Risk factors for maltreatment in children include young age (<4 years), having special health care needs, female sex, and past history of maltreatment. Children are also at increased risk based on factors related to their caregiver or environment, including having young, single, or nonbiological parents or parents with poor educational attainment, low income, history of maltreatment, and social isolation. Additionally, living in a community with high rates of violence, high rates of unemployment, or weak social networks are linked to child maltreatment.[3]

The USPSTF reviewed risk assessment instruments used to identify children for whom preventive interventions might be indicated and found limited and inconsistent evidence on the validity and reliability of these tools.[3-5]

Potential Harms

The USPSTF found a lack of evidence on the harms associated with interventions to prevent child maltreatment. Potential harms of preventive interventions include social stigma and effects on family functioning and dynamics.

Current Practice

Because of the recommended schedule of periodic health assessments, primary care clinicians, including pediatricians, family clinicians, and others, are uniquely positioned to identify child maltreatment. The Federal Child Abuse Prevention and Treatment Act sets minimum standards for state laws overseeing the reporting of child abuse and neglect.[4] Forty-eight states, the District of Columbia, American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands mandate that professionals who have contact with children report suspected child maltreatment to Child Protective Services (CPS).[6] An estimated 3.4 million children were referred to CPS in 2016[1]; however, there is evidence that many cases of child abuse and neglect are not reported.[7]

Several factors may play a role in the underreporting of child maltreatment, including missed diagnosis of intentional child injury, fear of alienating caregivers, and stigma related to CPS involvement.[8,9] Signs and symptoms of child abuse include, but are not limited to, frequent injuries or unexplained/inconsistent explanation of injury cause, signs of poor hygiene, or lack of medical care; frequent absences from school; being excessively withdrawn or fearful; unexplained changes in behavior; trouble walking or sitting; and displaying knowledge of sexual acts inappropriate for age.[8,10] Preventive

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interventions initiated in primary care focus on preventing maltreatment before it occurs.

Interventions

Although the USPSTF found insufficient evidence to recommend for or against preventive interventions in primary care settings, several strategies for preventing child abuse and neglect have been studied. Specific interventions include primary care programs designed to identify high-risk patients and refer them to community resources, parent education to improve nurturing and increase the use of positive discipline strategies, and psychotherapy to improve caregivers' coping skills and strengthen the parent-child relationship.[3,4] These interventions are delivered in settings such as primary care clinics, schools, and the community.

Most available research included in the evidence review is from studies of home visitation programs.[3,4] These programs usually involve a professional or paraprofessional (eg, peer educator or community health worker) providing periodic counseling, educational services, or support in a family's home. Families are identified and referred most often by health care professionals in the prenatal and immediate postpartum period. These services contain multiple components, including assessing family needs, providing information and referrals, providing clinical care, and enhancing family functioning and positive child-parent interactions.[3] All states and the District of Columbia, as well as tribal and territorial entities, have home visitation programs to support families with young children. In 2017, 942 000 home visits were carried out in the United States,[11] but eligibility criteria and services provided vary by location. The USPSTF reviewed evidence that included home visitation–based interventions. Although the USPSTF found insufficient evidence to assess the benefits and harms of preventing maltreatment among children without signs or symptoms of maltreatment, this recommendation does not assess the effectiveness of home visitation programs for other outcomes (eg, improving child and maternal health, encouraging positive parenting, or promoting child development) or in other situations (eg, secondary prevention of abuse and neglect).

Useful Resources

The USPSTF has issued a recommendation on screening for intimate partner violence, elder abuse, and abuse of vulnerable adults.[12] The Centers for Disease Control and Prevention provides Web-based resources for the prevention of child abuse and neglect.[13] The Administration for Children and Families offers resources on child maltreatment, including definitions, identification of signs and symptoms, and statistics.[6] The Child Maternal Health Bureau and the Administration for Children and Families jointly offer resources and funding for home visitation programs.[11]

Other Considerations

Research Gaps and Needs

The USPSTF recognizes the importance of this serious health problem and calls for the prioritization of research to address gaps in numerous areas related to child maltreatment. There is limited evidence supporting the use of risk-assessment instruments to identify children at risk of maltreatment. Further research to determine effective methods for clinicians to identify children at increased risk should be a priority.

Although most studies included home visitation, there was significant heterogeneity in study design and outcome measurements. Standardization of outcome measurement across trials would greatly strengthen the evidence base and improve the ability to pool data. Additionally, research on home visitation should base interventions on proven and well-designed theoretical models. Without this type of contextual information, it will be difficult to interpret whether inventions are successful and, if so, how those interventions worked. When investigating interventions and outcomes, the inclusion of diverse populations and settings would help improve the applicability of study findings. These would include families with known risk factors for child maltreatment (eg, history of substance abuse in the home) and settings with limited access to social services. In addition, future research is needed to determine whether there are unintended harms from risk assessment and preventive interventions.

Discussion

Burden of Disease

Rates of maltreatment are similar for girls and boys, but younger children are more likely to experience maltreatment.[1] Twenty-eight percent of maltreated children are younger than 3 years, with the highest rates among children younger than 1 year (24.8 cases per 1000 children).[1] Younger children also have higher mortality rates, with nearly 70% of all fatalities related to child maltreatment occurring in children younger than 3 years.[1] Children younger than 1 year fare the worst, with a case fatality rate nearly 3 times that among children aged 1 year (21.6 vs 6.5 deaths per 100 000 children).[1] Some data reveal racial/ethnic disparities in the incidence of maltreatment, but it is unclear as to whether this represents true disparity or reporting bias.

Childhood experiences of maltreatment can affect child and adolescent development and have long-term effects. Child abuse and neglect are considered forms of complex trauma and are associated with many negative physical and psychological outcomes, including long-term disability, chronic pain, substance abuse, and depression.[3,14]

Scope of the Review

To update its 2013 recommendation,[15] the USPSTF commissioned a systematic review[3,4] of the evidence on interventions to prevent maltreatment in children and adolescents without signs or symptoms of maltreatment. This includes interventions delivered in the primary care setting or by referral to other resources such as home visitation programs, respite care, parent education, and family support and strengthening programs. Outcomes were characterized as direct or proxy measures. Direct measures include direct evidence of physical, sexual, or emotional abuse or neglect; reports to CPS; and removal of the child from the home. Proxy measures include injuries with a high specificity of abuse, visits to the emergency department or hospital, and failure to provide for the child's medical needs. Other measures reviewed include social, emotional, and developmental outcomes. The review focused on primary prevention; evidence on interventions in children with signs or symptoms of maltreatment or known exposure to child maltreatment is outside the scope of work of the USPSTF.

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Effectiveness of Preventive Interventions

The USPSTF reviewed studies of children without signs or symptoms of maltreatment who received interventions to prevent child maltreatment delivered in or referred from primary care. The main outcomes were reduced exposure to maltreatment; improved behavioral, emotional, mental, or physical well-being; and reduced mortality. The USPSTF reviewed a total of 22 randomized clinical trials (from 33 publications) of good or fair quality. Of those 22 trials, 12 were included in the 2013 review and 10 were newly identified. There were several similarities in study characteristics across the 22 included trials, including the mother's age (≥20 years) (15 trials), usual-care comparator (19 trials), US setting (16 trials), and, similar to the 2013 review, a home visitation component (21 trials).[3,4]

Although most trials featured home visits, the components of the interventions varied by content, personnel, intensity, duration, and use of other supporting elements. Fifteen of the 21 home visitation trials used clinical personnel in some capacity. These personnel included nurses (7 trials), mental health professionals (2 trials), paraprofessionals (4 trials), and peer home visitors (1 trial).[3] The remaining trials did not specify the training of the home visitors. Of the 21 home visitation trials, 8 featured home visits as the sole intervention.[3] Other associated components varied considerably but included transportation services, written materials, parent education and support groups, screening and referral services, and clinical care coordination. The duration of interventions varied from 3 months to 3 years, and the number of planned sessions ranged from 5 to 41.[3]

Overall, evidence on the effect of interventions did not demonstrate benefit, or outcomes were mixed. Fourteen trials provided results on CPS reports and actions and included data collected during, at the end of, or within a year of completion of the intervention.[3] Of the 10 studies included in the pooled analysis, there was no significant difference between intervention and control groups (pooled odds ratio [OR], 0.94 [95% CI, 0.72-1.23]).[3] Trials reporting additional results within 6 months or 1 year of the initial results also showed no significant difference between groups. Long-term follow-up (2.5 to 13.0 years after initial results) yielded mixed results, with 2 trials[16-19] reporting statistically significant differences and 1 reporting no difference.[20]

Five trials reported on removal of the child from the home.[21-26] Four trials were included in the pooled analysis, which measured results ranging from 12 months to 3 years after intervention. There was no significant difference between study groups (pooled OR, 1.09 [95% CI, 0.16 to 7.28]).[3] The fifth trial not included in the pooled results reported removal at birth.[25] This trial showed a nonsignificant effect for the intervention group compared with the control group (OR, 1.55 [95% CI, 0.61-3.94]).[25]

The evidence review demonstrated mixed results for several outcomes. Outcomes related to emergency department visits and hospitalizations were reported in 11 and 12 trials, respectively.[3] Pooled analyses were not performed because of variation in outcome definitions and follow-up periods. Statistically significant reductions in all-cause hospitalization, average number of hospital days, and rates of admission were demonstrated in a minority of trials.[27-30] However, most studies of hospitalization-related outcomes showed no difference between study groups.[3] Evidence was also inconsistent on the effects of emergency department visits. Only 2 studies that reported outcomes within 2 years of intervention noted statistically significant reductions in the average number of all-cause emergency department visits.[31,32] Long-term results (>4 years of follow-up) noted statistically significant reductions in emergency department visits in 1 of 2 studies.[30,33] Other outcomes with mixed results included internalizing (depression or anxiety) and externalizing (disruptive, aggressive, or delinquent) behavioral outcomes (3/6 trials reported statistically significant reductions in reported behaviors),[16,28,29,32,34] child development (1/7 trials reported statistically significant improvements in developmental outcomes),[34] and other measures of abuse and neglect (1/2 trials reported statistically significant reductions in abuse and neglect findings).[35]

Many of the outcomes reviewed by the USPSTF had limited evidence. Four trials reported on child mortality, all with follow-up between 6 months and 9 years.[21,24,26,36,37] Variations in timing and outcome specifications did not allow for pooled analysis. None of the mortality outcomes reported reached statistical significance,[21,26,36,37] although 1 trial did report higher mortality rates in the intervention group.[24] Five studies evaluated social, emotional, and other developmental outcomes[16,21,22,33,37-39]; all reported nonsignificant differences between study groups. One study reported on mental development at 24 months as well as school performance at 9 years and showed no statistically significant difference between control and intervention groups.[36,37] Trials that reported outcomes for failure to thrive (1 trial), injuries with a high specificity for abuse or neglect (1 trial), and failure to immunize (1 trial) all failed to demonstrate improvement in the intervention groups.[24,26]

No trials reported on harms of interventions to prevent child maltreatment.

Estimate of Magnitude of Net Benefit

Overall, the USPSTF found limited and inconsistent evidence on the benefits of primary care interventions to prevent child maltreatment. It found no evidence related to the harms of primary care interventions to prevent child maltreatment. The USPSTF concludes that the evidence is insufficient to assess the balance of benefits and harms of primary care interventions to prevent child maltreatment. The level of certainty of the magnitude of the benefits and harms of these interventions is low.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF website from May 22 to June 18, 2018. Several comments expressed concern that studies of other interventions (such as the Safe Environment for Every Kid [SEEK] model) were not adequately reviewed by the USPSTF. The USPSTF reviewed all suggested studies and found that they did not meet eligibility requirements for inclusion, primarily because the studies were rated as poor quality or did not report eligible outcomes. Studies that included the SEEK model were included in the sensitivity analysis but did not change outcomes. Comments also voiced concern about the accuracy of disparities statistics, noting that racial biases can affect reporting of child maltreatment. The USPSTF revised the recommendation in response to these comments. Comments noted that the USPSTF conflated the potential harms of primary prevention of maltreatment with harms associated with reporting maltreatment. The USPSTF revised the language to reflect only potential harms associated with preventive

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interventions. In addition, some comments asked for clarification about the clinician's role in preventing child maltreatment. The USPSTF recognizes the important role clinicians play in identifying and reporting child maltreatment. The Current Practice section indicates that this recommendation applies to children who do not have signs or symptoms of maltreatment and that professionals and caregivers are obligated by law to report suspected child maltreatment. The USPSTF also made changes to the Summary of Recommendation and Evidence section to emphasize this point.

Update of Previous USPSTF Recommendation

In 2013, the USPSTF found insufficient evidence to assess the balance of benefits and harms of primary care interventions to prevent child maltreatment. The current recommendation reaffirms this position.

Recommendations of Others

There are varying recommendations related to the primary prevention of child maltreatment. In 2013, the American Academy of Family Physicians concluded that the current evidence is insufficient to assess the balance of benefits and harms of primary care interventions to prevent child maltreatment.[40] The American Academy of Pediatrics has no recommendations on preventive interventions but strongly recommends clinician involvement in preventing child maltreatment and provides guidance and information on risk factors, protective factors, and clinical management.[8,41]

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Author Contributions: Dr Curry had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. The USPSTF members contributed equally to the recommendation statement.

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