



Fathers' Roles in the Care and Development of Their Children: The Role of Pediatricians

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Fathers' involvement in and influence on the health and development of their children have increased in a myriad of ways in the past 10 years and have been widely studied. The role of pediatricians in working with fathers has correspondingly increased in importance. This report reviews new studies of the epidemiology of father involvement, including nonresidential as well as residential fathers. The effects of father involvement on child outcomes are discussed within each phase of a child's development. Particular emphasis is placed on (1) fathers' involvement across childhood ages and (2) the influence of fathers' physical and mental health on their children. Implications and advice for all child health providers to encourage and support father involvement are outlined.

abstract

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INTRODUCTION

In the decade that followed since the original clinical report on the father's role was published by the American Academy of Pediatrics in May 2004,¹ there has been a surge of attention and research on fathers and their role in the care and development of their children. Three areas (academic study, policy initiatives, and socioeconomic forces) have fueled this increase. First, high-quality studies, both qualitative and quantitative, have improved the conceptualization and understanding of the myriad of ways fathers are involved in and influence the health of their children, regardless of marital status. Of key import are several national, father-inclusive longitudinal studies in families, such as the Fragile Families and Child Wellbeing Study, the Early Childhood Longitudinal Study of Birth and Kindergarten, and Early Head Start, which for the first time allow for the reporting of nationally representative findings relating father involvement and child and family well-being over time.

In the public policy arena, shifts have occurred away from "deadbeat dads" and what men are not doing for their families to a focus on more supportive perspectives on positive involvement² and the unique ways

fathers contribute to families and children. Another major policy development in the past decade is the adoption by several states (California, New Jersey, and Rhode Island) of paid family leave laws that were conceived as support for fathers' bonding and attachment with their newborn infants or young children.³ In 2015, a Massachusetts law took effect that entitles male employees to take 8 weeks of unpaid leave for the birth or adoption of a child if they work for a company with at least 6 employees.⁴ Despite this opportunity, men still face negative career effects if they take family leave time.⁵

Two major socioeconomic forces, the growth in women's educational achievement and the Great Recession of 2008, with its particularly severe impact on paternal employment, have led to more fathers having the opportunities to contribute at home or to become stay-at-home dads in families in which mothers are able to sustain family income. These influences, paired with the dramatic cross-cultural growth in academia, lay print, social media, television, and electronic publications focusing on fathers, have stimulated public discussion around fathers and their roles in families (eg, <http://www.citydadsgroup.com/>, <https://www.facebook.com/groups/dadbloggers/>, <http://www.meetup.com/ChicagoDadsGroup/>, <https://www.thefatherhoodproject.org>).⁶⁻⁹

The literature from the past decade and the increasing number of peer-reviewed studies published in major pediatric and medical journals focusing specifically on fathers^{8,10-16} have painted a more nuanced picture of today's fathers' roles, married or not. Drawing on important contributions from such disciplines as infant mental health, sociology, and psychology, this literature offers a critical assessment of the central and unique role of fathers in the health of their children, their influence on maternal well-being,

and their interactions with the health care system. These studies reported that fathers are present at the birth of their children, frequently attend well-child or acute care visits across childhood, and have unique roles in child health that may differ from those of mothers. The involvement of fathers has important consequences for child well-being, especially with regard to issues of diet/nutrition, exercise, play, and parenting behaviors (eg, reading, discipline).¹⁷ Barriers to health care involvement include systemic issues such as inconvenient office hours and lack of time off from work beyond the newborn period as well as individual issues, most notably employment, relationship quality with the mother and the potential of maternal "gatekeeping," and lack of parenting confidence.^{14,17} Although many of these issues affect all parents, especially if they work swing shifts, they are more common barriers for fathers.

The field of pediatrics remains slow to incorporate these findings into practice and into the conceptualization of family-centered care. Although mothers continue to provide the majority of care for the well and sick child, fathers are more involved than ever before.¹⁸ Yet, cultural and structural biases still play a role; pediatricians still see a majority of mothers at clinical encounters and therefore may not have changed their practices to be family-friendly in terms of available hours, comfort in interacting with men, and addressing fathers' unique concerns regarding their children. With few supportive parental leave programs in existence (at best for only 1 parent), fathers typically have to pit their workplace responsibilities against their home responsibilities at a very early stage in their transition to fatherhood. Pediatricians are often the first members of the health care team to engage fathers in their new role during this transition; failure to

make this connection may result in poorer downstream involvement and engagement. Given the changes in the stereotype of the father's exclusive role as breadwinner, child health care providers have an opportunity to have an even greater influence on child and family outcomes by supporting fathers and enhancing their involvement.¹⁹

The purpose of this report, therefore, is to update data on fathers' roles and to highlight the latest multidisciplinary findings related to fathers, children, and pediatrics. When possible, programs that are particularly innovative in supporting father involvement in children's health are highlighted as examples of approaches to family-friendly pediatric care.

FATHERS BY THE NUMBERS

Defining who is a father must account for the diversity of fathering that occurs. Most children have a father, whether he is currently residing with them or living separately. Some children have a single father or 2 parents who are both fathers. Children in a blended family may have both a biological nonresident father and a stepfather. Some gay men and lesbians have created families in which children have 3 or 4 adults in a parenting role, with 1 or 2 of them being fathers. Some children do not have a male figure involved in raising them (eg, those whose parent is a single mother, by choice or circumstance, and those whose parents are a lesbian couple). As in the previous report,¹ "father" is defined broadly as the male or males identified as most involved in caregiving and committed to the well-being of the child, regardless of living situation, marital status, or biological relation. A father may be a biological, foster, or adoptive father²⁰; a stepfather; or a grandfather. He may or may not have legal custody and may be resident

or nonresident. Data for many of these subgroups are quite limited and must not be extrapolated to all subgroups. Although parenthood status is usually straightforward, circumstances in which parenthood status and parental rights are unclear may involve complex legal issues, including implications in terms of parental access to the child's protected health information and ability to consent to care. Some states may legislate more restrictive definitions.

The number of fathers in the United States increased from 60.1 million in 2000, to 64.3 million in 2007, to 70.1 million in 2012.¹⁸ The number of single fathers raising children was 1.96 million in 2012, approximately 10% of single parents, an increase of 60% in the past 10 years. Stay-at-home fathers were counted by the Census for the first time in 2003 and totaled 98 000. By 2007, the number of stay-at-home fathers increased by more than 60% to 159 000, and in the 2012 Census the number was 189 000. Fathers represent 3.4% of all stay-at-home parents, and 32% of these men are married to women working full-time. They care for more than 200 000 children full-time and almost 2 million preschoolers part-time. Fathers whose partners work full-time and stay-at-home fathers are 2 groups likely to take their child to the doctor and to be primarily responsible for their child's health care, recreation, and school-related activities. The census numbers may be underestimates, according to a recent Pew Center report that suggested that, in 2010, there were 2.2 million stay-at-home dads. One-quarter of these men were home because they were unemployed, 21% chose to stay home to care for their child (increased from 5% in 1989), and 35% were home because of illness or disability. Half of these fathers were poor, and they were more likely to be older. Low-income minority fathers had great difficulty

finding available jobs. Although most stay-at-home parents are mothers, fathers' share of stay-at-home parenting increased from 10% in 1989 to 16% in 2012.²¹⁻²³ Although 1 in 6 fathers are nonresidential, only 1% to 2% of them do not participate at all with their children,²⁴ sometimes because they meet a new partner and father new children.

FATHERS' TIME SPENT WITH CHILDREN

Researchers have long suggested that a "new fatherhood" is emerging, one that allows for balance between workplace and home responsibilities. Although no state offers a distinct paternity leave, several states have addressed 1 of the major barriers for fathers in taking leave to care for children and family by establishing paid family leave policies. In 1 study in fathers working for Fortune 500 companies, 85% took some time off after the birth of the child, generally for 1 to 2 weeks (unpaid), and reported feeling more stressed about coordinating family-work conflicts than mothers did.²⁵ Generally speaking, in families, work and time with children often compete with one another, with parents spending more time in the workplace than they are able to spend at home. With the use of time-use diaries such as the American Time Use Survey, the Pew Research on Social and Demographic Trends reported that although mothers continue to do the majority of work at home and with children, fathers have increased their time in both categories over the years. Comparing 1965 with 2011, fathers more than doubled their time spent on housework (4 vs 10 hours/week) and child care (2.5 vs 7 hours/week).²⁶ Researchers point to this increase as evidence of a subgroup of "new fathers" who appear to preserve time with children, likely by cutting back on, or incorporating their children into, their leisure time, especially on weekends.^{27,28}

FATHER INVOLVEMENT AND CHILD OUTCOMES ACROSS THE CHILDHOOD LIFE SPAN

Perinatal and Newborn Period

The father's relationship with his child's health care provider is likely to begin in the early childhood years and can grow over time to a long-term relationship. Early encounters with pediatricians may occur as prenatal visits, visits in the newborn nursery, or any number of the well- or acute-care visits. Fathers have been shown to be involved prenatally by attending health care visits and assisting their pregnant partners; regardless of marital status, the vast majority of fathers are present at their child's birth.²⁹ Fathers have even been noted to have Couvade syndrome, wherein they experience insomnia, restlessness, and excess weight gain during their partner's pregnancy.³⁰ Prenatal involvement and residence at birth were the strongest predictors of paternal involvement by the time a child reached 5 years.³¹ Father involvement during pregnancy correlated with mothers being 1.5 times more likely to receive first-trimester prenatal care²⁹ and with reductions in prematurity and infant mortality.^{32,33} Among mothers who smoked, father involvement was associated with a smoking reduction of 36% compared with mothers whose partners were not involved.³⁴ Fathers' mental health/psychological distress during pregnancy has been correlated with adverse childhood emotional problems at 36 months of age. In a study comparing father skin-to-skin care with conventional cot care during the first 2 hours after birth, newborn infants in the father skin-to-skin group cried less, became drowsy sooner, and had less rooting, sucking, and wakefulness.³⁵ Simple interventions such as bathing demonstrations in the newborn period have been shown to have long-lasting effects on enhancing paternal involvement, as have

paternal support groups in a variety of contexts.¹⁶ Fathers can play a critical role in supporting maternal breastfeeding and, conversely, if feeling excluded and competitive, can undermine it. Many birthing hospitals have instituted programming designed for and marketed directly to expectant fathers to offer resources for them as key partners.

During infancy, fathers have been shown to be competent and capable of similar successful interactions with young infants and to have similar psychological experiences as mothers.¹⁶ However, their relationship is not redundant; the father is more likely to be the infant's play partner than the mother, and father's play tends to be more stimulating, vigorous, and arousing for the infant.^{16,36} Fathers were equally successful in matching emotions with their children (during social interactions, fathers were able to synchronize arousal rhythms with their infants just as successfully as mothers), but the quality of interactions (especially play) was more intense with fathers.^{37,38} These high-intensity interactions with fathers may encourage children's exploration and independence, whereas the less-intensive interactions with mothers provide safety and balance.^{9,16} Interestingly, it has now been shown in human males that testosterone levels are higher during conception and decrease during child rearing.^{39,40} Correlations between fathers' responses to their own versus other 2- to 4-month-olds have been shown between salivary testosterone levels and functional MRI responses in prefrontal and subcortical areas.⁴¹ Changes in paternal oxytocin levels have been correlated with exploratory play, and changes in prolactin levels have been correlated with affective synchrony during fathers' interaction with their 2- to 6-month-olds.^{42,43} Paternal plasma and salivary oxytocin levels were uniquely

associated with stimulatory contact but not with affectionate touch as with mothers. Previous contact with infants had a greater impact on fathers compared with mothers.⁴⁴ Responses on functional MRI in mothers and fathers in response to seeing their own infants on video are also different: mothers show more activation in the amygdala but fathers show more activation in the superior temporal sulcus (temporoparietal and frontal regions), a key structure of the mentalizing network.⁴⁵

Fathers' involvement during the newborn period is strongly associated with marital status. Forty percent of births are to unmarried couples, which has been accompanied by an increase in the number of nonresident fathers.⁴⁶ Although many unmarried couples are cohabitating at the time of the child's birth, recent studies showed that 63% of unmarried fathers are no longer living with the mother and their child after 5 years.⁴⁷ These nonresident fathers have less contact and involvement with their children than do resident fathers.⁴⁸ Several factors influence the level of involvement of nonresident fathers with their children, including age, level of education, employment status, geographical distance from their child, mental health status, and social support.⁴⁸⁻⁵⁰ The relationship with the mother, including the maintenance of a coparenting relationship, is also a major indicator of nonresident father involvement.^{47,51} Although nonresident father involvement has traditionally been thought to decrease over time, recent work shows that involvement can follow several different trajectories, including remaining stable and, in some cases, even increasing.⁴⁸ Increasing ongoing nonresident father involvement in a child's life can play an important role in child and adolescent well-being, even assuming traditional father responsibilities.⁵² Recent commentaries have disputed

the inaccurate stereotype that black fathers desert their offspring; in fact, most black fathers in the United States live with their child (2.3 million live with their child and 1.7 million do not). The fact that 72% of black children are parented by single women reflects several influences, including the following: (1) 600 000 of the 1.5 million black men not living with their child are incarcerated, (2) many black couples live together but do not marry, and (3) some men have children with more than 1 woman.⁵³

Given the increase in both nonmarital childbirths and nonresident father involvement, it is especially important to note that nontraditional forms of positive father involvement have been associated with children's academic achievement, emotional well-being, and behavioral adjustment.⁵⁴ Fostering father involvement in fragile single-parent families may reduce behavioral problems.⁵⁵ However, having a father move out of the house by 3 years of age was associated with infant temperament (ie, irregular schedule, difficult infant behavior), and it is not clear which is the precipitating factor.⁵⁶ Nonmarital father involvement drops sharply after the parents' relationship ends, especially when they enter subsequent relationships and have children with new partners.⁵⁷ Policy makers advocating for programs to strengthen low-income families have specifically called for better research on programs to enhance paternal involvement.⁵⁸

Early Childhood

Father involvement in the early childhood years is associated with positive child developmental and psychological outcomes over time, although most studies do not differentiate the benefits of having 2 parents from a specifically male presence as the second parent. For example, at 3 years of age, father-child communication was a

significant and unique predictor of advanced language development in the child but mother-child communication was not.⁵⁹ Despite this finding, infants from birth to 7 months of age were exposed to significantly more language from mothers compared with fathers.⁶⁰ Mothers tailor word choice to the child's known vocabulary, whereas fathers are more likely to introduce new words.⁹ Child health care providers have an opportunity to encourage fathers to speak to their infants more.

In a prospective study, when fathers were more involved (caring, playing, communicating) in infancy, children had decreased mental health symptomatology at 9 years of age.⁶¹ Fathers engaged in more roughhouse play, and their involvement in play with preschoolers predicted decreased externalizing and internalizing behavior problems and enhanced social competence.⁶² In a nationally representative household sample, positive father involvement was inversely associated with child behavior trajectories, such that more involvement was accompanied by less child maladaptive behavior; furthermore, the influence of maternal depressive symptoms on child problem behaviors varied by the level of the father's positive involvement.⁶³ This information suggests that the influence of involved fathers may compensate for the negative influence of maternal depression (eg, reduced responsiveness to a child's socioemotional needs), thereby reducing the risk of child problem behaviors and development.

Definitions of masculinity are in flux, from an emphasis on toughness to an emphasis on tenderness; racial/ethnic differences still persist in this domain. In 1 study, white fathers were more demonstrative with children younger than 13 years than were black fathers, hugging their children more and telling them they

loved them.⁶⁴ Intervention programs with 8- to 12-year-old black boys that enhanced the parenting skills of nonresidential fathers were associated with reduced aggressive behavior of the boys.⁶⁵

Adolescence

During adolescence, several recent national longitudinal studies have shown that father involvement is associated with a decrease in the likelihood of adolescent risk behaviors (even more strongly for boys)^{66,67} and predicts less adolescent depressive symptoms for both genders.⁶⁸ A recent meta-analysis of longitudinal studies of father involvement showed that father engagement was correlated with enhanced cognitive development, reduced behavioral problems in male adolescents, decreased psychological problems in female adolescents, and decreased delinquency and economic disadvantage in families of low socioeconomic status.⁸ Early father involvement with daughters has been associated with a decreased risk of early puberty, decreased early sexual experiences, and decreased teen pregnancy.^{9,69} Extrapolating from animal studies, exposure to fathers' pheromones may slow female pubertal development.⁹ Adolescents whose nonresident fathers are involved have been shown to be less likely to begin smoking regularly.⁷⁰ In general, increased father involvement has been associated with improved cognitive development, social responsiveness, independence, and gender role development, particularly in females.¹⁶ Fathers can now be seen to have a role expanded far beyond that of stereotypic disciplinarian, breadwinner, and masculine role model to that of care provider, companion, teacher, role model for parenting, and supportive spouse. The unique and complementary role of fathers is beginning to be understood. More

research is needed on fathers' role in promoting resiliency.

FATHER INVOLVEMENT WITH CHILDREN WITH SPECIAL HEALTH CARE NEEDS

Mothers are typically the primary caregivers when children have physical illness or developmental delay, and medical information passed on to the father may be interpreted or selected by the mother. Over time, the mother becomes the conduit to the health care provider and indirectly in charge of the child's care. This indirect communication can be frustrating for the father and can affect the parental relationship. Fathers of children with special health care needs have been found to be highly involved in the care of their children. Fathers have been shown to increase involvement with children with chronic illnesses, often advocating for their children's medical needs even if it means positioning themselves in the health care system as "unpopular" family members.^{71,72} Although mothers are generally more involved with their children's direct care, a father's participation in care has been linked to higher adherence to treatment, better child psychological adjustment, and improved health status compared with families with nonparticipating fathers.⁷³ Fathers of children with cancer and of infants recovering from cardiac surgery have been found, not surprisingly, to experience intense emotional reactions to their child's health and treatment.^{74,75} Intervention programs with parents of developmentally delayed children have far better child outcomes when fathers participate in the parent training along with mothers.⁷⁶ Among preterm infants in the NICU (especially those with low-income black fathers), increased paternal involvement was associated with improved cognitive outcome at 3 years of age, even after adjusting for family income, neonatal health, and paternal age.^{77,78} The population

of children with special health care needs has not been well studied and needs better research.

IMPROVED UNDERSTANDING OF OTHER GROUPS OF FATHERS

With the growing understanding of the role of fathers, there has been an appreciation of the context within which fathering occurs. Although there are many universalities for fathers in terms of how men see their roles in caring for their children, the diversity of cultural and social norms and expectations is wide. As physicians who care for children from many backgrounds, pediatricians need to be aware of the issues relevant to these particular groups.

An emerging sociodemographic trend currently under study is the increasingly common family phenomenon in which parents have biological children with multiple partners (multipartner fertility). Almost 1 in 5 fathers between the ages of 15 and 44 years have children with more than 1 partner.⁷⁹ The prevalence of births with multiple partners varies significantly with demographics, with a higher rate of multipartner fertility among racial and ethnic minorities and those who are economically disadvantaged.^{79,80} Age at first sexual experience, age at birth of the first child, and relationship status of partners are also indicators of multipartner fertility.^{80,81} Men whose first children are born outside of marriage are 3 times as likely to experience multipartner fertility than are men who are married to the mother of their first child at the time of birth.⁷⁹ Children are affected by their fathers' multipartner fertility, because it leads to complex family structures and diminished resources for each child.^{82,83} Children with nonresident fathers with multipartner fertility experience less overall parent-child interaction than children

with nonresident fathers without multipartner fertility.⁸⁴ Nonresident fathers also provide less monetary support for their children when they have a child with a new partner.⁸³ A link exists between multipartner fertility and depression in fathers, although the causal direction of this association is unclear.⁸⁵

A variety of other groups of fathers are benefiting from the growth in fathering research. For example, in military families, not only have more fathers been deployed overseas in the past 10 years^{86,87} but more mothers have also been deployed, leaving fathers to be the single parents of children while their mothers are away. Researchers who have described the sources of support for deployed fathers are currently testing a smartphone app designed to bolster support while a parent is serving overseas.⁸⁸

Another population that is the subject of increased study is black fathers. Although black fathers have been noted to be less likely to marry and more likely to live apart from their children than white fathers (24% vs 8%),^{24,89} black nonresidential fathers are more likely to provide daily child care support, such as bathing, dressing, and reading to their children, than white nonresidential fathers.²⁴ Interventions with nonresident black fathers designed to prevent risky youth behaviors by preschool-aged children showed some success in paternal monitoring and intentions to avoid violence but no effect on reducing aggressive behavior.⁹⁰ Black fathers involved in raising their preschool-aged children note unique concerns about keeping their children safe in violent neighborhoods and seek strategies for monitoring and educating children about safety and ways to improve community life.⁹¹ Pediatric health care providers should be aware that, although black fathers are indeed eager to learn about child rearing, researchers report

they prefer to receive information from relatives or community-based organizations rather than from health care providers,⁹² so making connections within the community may be the best way to reach fathers and families. More data are now available on the diversity of Hispanic fathers and the importance of understanding cultural differences, but there are still large research gaps in our understanding of at-risk children of non-English-speaking fathers or displaced undocumented immigrant fathers and of cultural differences more broadly.⁹³

According to 2010 census data, there are 352 000 gay male couples in the United States, and approximately 10% of them are raising children.⁹⁴ This number does not include gay fathers who share custody with a child's mother after a divorce or single fathers parenting alone, who are not counted in the census. Many gay fathers became fathers in the context of a heterosexual relationship, although increasingly, gay male couples are adopting children, partnering with lesbian mothers, or using surrogate carriers to father children.^{95,96} Children with gay parents are comparable to children with heterosexual parents on key psychosocial developmental outcomes.⁹⁷⁻⁹⁹ Large sample surveys from the 2003-2013 American Time Use Survey ($N = 44\ 188$) showed that women with same-sex partners as well as opposite-sex partners and men with same-sex partners spent more time with their children than did men with opposite-sex partners.¹⁰⁰ Same-sex couples (both men and women) also reported more equal sharing of child care compared with heterosexual couples, who tend to specialize care (ie, mothers provide more child care than fathers).⁹⁸ A study from the United Kingdom examining adopted children 3 to 9 years old in gay father, lesbian mother, and heterosexual parent families found more positive

parental well-being and parenting in gay father families and fewer externalizing behaviors compared with heterosexual families.¹⁰¹ With continued focus on families with gay male parents and improved data collection allowing for more generalizability across the population, a greater understanding of the family dynamics and contributions to child development in families that include 2 fathers is certain to evolve.

Vulnerable and marginalized fathers, such as those who are socially or economically disadvantaged, adolescent, immigrant, or incarcerated but who wish to remain connected with their children, are especially important for pediatric outreach. More than 750 000 fathers are absent serving time in prison.¹⁰² A new program at the Boston Children's Museum called Father's Uplift brings previously incarcerated fathers to the museum to reengage with their children in a welcoming, imaginative, child-centered learning environment that supports diverse families in nurturing their children's creativity and curiosity through joyful play. In a qualitative study, previously incarcerated black fathers expressed a need for employment, social support, and health care to rebuild healthy relationships with their children.^{102,103} Increasingly, the relationship of children and incarcerated fathers is an area of study.¹⁰⁴ The fathers of children born to unmarried teenaged mothers (resident or nonresident) may be an important protective factor if they remain involved in their children's lives. The involvement of these fathers during their partners' pregnancy has been associated with improved outcomes such as low birth weight and infant mortality and has become an increasing area of research.³³

INFLUENCE OF FATHERS' MENTAL AND PHYSICAL WELL-BEING ON CHILDREN'S AND FAMILIES' HEALTH

A father's own well-being can also influence the well-being of the

child. Since the initial clinical report from the American Academy of Pediatrics was published, major research advances have been made in understanding paternal mental health problems.

Reviews of the literature in the postpartum period established a prevalence of depressed fathers that ranged from 2% to 25%, with an increase to 50% when mothers experienced postpartum depression.¹⁰⁵⁻¹¹⁰ New fathers were 1.38 times as likely to be depressed as comparably aged males.¹¹¹ A recent study found that nonresident fathers reported higher depression symptoms during the transition to fatherhood, but resident fathers had a 68% increase in their depressive symptoms in the first 5 years of fatherhood.¹¹² Because of higher rates of several stressors (eg, racism, unemployment, poverty, incarceration, and homelessness) not as commonly associated with white fathers, black fathers may be at higher risk of depression and other poor mental health outcomes.^{49,113,114} Screening for postpartum depression by using the Edinburgh Postnatal Depression Scale has been validated for fathers as well as for mothers.¹¹⁵

The onset of depression in the postpartum period also occurs later for fathers (ie, up to a year postpartum) than mothers (ie, first 3 months postpartum).¹⁰⁶ The expression of depression is different in men than in women, with men more likely to avoid emotional expression, deny vulnerability, and not seek help, which explains the discrepancy in prevalences between men and women.^{116,117} Psychology researchers who study men and masculinity also contend that men experience depression in uncharacteristic ways, such as alcohol- and drug-related comorbidity, compulsive and antisocial behavior, and interpersonal conflict marked with anger and defensive assertions.¹¹⁸

This behavior can lead to marital stress and domestic violence, can undermine breastfeeding, and can increase the risk of marital breakup. Conversely, a healthy father can mitigate the adverse effects of maternal depression on the infant. This example is only 1 of the ways in which fathers can buffer toxic stress, such as maternal substance abuse, a family death, or previous abuse. Recent research has shown that depressed fathers are 4 times as likely to spank their infants than nondepressed fathers and less likely to read to them.^{105,119} Fathers' ratings of 16 domains/activities of their lives ranked the emotional experience of parenting along with work-life conflict as the most negative and the most tiring activities.¹²⁰ Longitudinal studies of paternal depression scores from the National Longitudinal Health Survey showed the highest score for nonresident fathers on entry to fatherhood.¹¹² Resident fathers have increased depression scores during early fatherhood (children 0-5 years of age), with a 68% increase by the time the children reach 5 years of age.¹¹² More than one-fifth of fathers have experienced depression by the time their child is 12 years of age.¹²¹ Child health care providers may find it useful to ask fathers with a history of mental illness how being with their children affects their mental illness and how their symptoms affect the way they interact with their children.^{122,123}

Like maternal depression, which has long been known to affect the mother-infant relationship and child development, recent data reveal that paternal depression also has negative effects on child behavior, mood, and development. Depression in fathers is a risk factor for excessive infant crying.⁹ The Avon Longitudinal Study of Parents and Children, a sample of 12 884 fathers, showed that paternal depression in the postpartum period was associated

with an increase in child conduct problems at ages 3 and 5 years, even when maternal depression and other sociodemographic correlates were controlled for.¹²⁴ Depressed fathers affect child outcomes by way of mothers (ie, both mothers' depression and couple's conflict), which, in turn, adversely affects the child's emotional and behavioral outcome.¹²⁵ In a study in a community sample of parents and adolescents ($N = 775$), maternal depression and paternal depression were both significantly associated with depression in adolescents.¹²⁶ A meta-analysis of fathers' mental health and child psychopathology found that paternal depression was significantly correlated with child and adolescent internalizing symptoms.¹²⁷ Other studies have shown that father involvement is associated with a decrease in externalizing behavior problems.⁸ Recent research highlights the epigenetic risk for older fathers, who are at higher risk of conceiving children with autism or schizophrenia,¹²⁸ attention-deficit/hyperactivity disorder, academic problems, Marfan syndrome, dwarfism, and substance abuse.^{9,129}

Mental health problems of parents have predictable and negative consequences on parental child care habits, father involvement, and coparenting. Depressed parents tend to spend less time with their children (aged 3 years and younger) and limit physical contact (ie, hugging and cuddling) and are more likely to express frustration in child rearing.^{105,130} In a study in families of children enrolled in Head Start, nondepressed fathers were more involved with infants than were depressed fathers.¹³¹ Similarly, depressed fathers in the Fragile Families and Child Wellbeing Study reported less father-child activities (engagement and reciprocal play), lower levels of relationship quality with the mother,

and lower levels of coparental relationship supportiveness than did nondepressed fathers.¹³² Conflict in the coparental relationship may heighten the risk of the development of depression in fathers,^{106,108,125} but more research is needed in this aspect of family life and paternal depression. Mental health problems in fathers are also highly correlated with later emotional disorders in their children.^{133,134}

Becoming a father can be a transformative experience for men's physical health as well, during which men become motivated to take better care of themselves. President Barack Obama, in his Father's Day 2008 speech,¹³⁵ said, "When I was a young man, I thought life was all about me—how do I make my way in the world, and how do I become successful and how do I get the things that I want. But now, my life revolves around my 2 little girls." Research shows that many men credit becoming a father as a reason to improve their diet, decrease risky behaviors and alcohol use, and increase physical activity.¹³⁶ For children and families, this commitment to improved health behaviors bodes well, because a healthy father can protect against poverty by contributing to the family finances, sharing in child rearing, and often serving to introduce their offspring to the workplace in the form of first-time or summer jobs.

Just as children serve as motivation for fathers to improve their own health, 1 example of how a father's physical well-being may affect a child's well-being is obesity. Current research now suggests that when only 1 member of the parenting couple is in a higher weight status category, it is the father's and not the mother's weight status that is a significant predictor of later child overweight and obesity.^{137,138} In fact, the odds of a healthy mother and overweight father having an obese child 4 years later were 4.18 (95% confidence interval: 1.01–17.33),

and the odds of a healthy mother and obese father having an obese child 4 years later were 14.88.¹³⁹ These results suggest that fathers are a key influence in shaping the family environment that leads to the development of child obesity.

Another example of how fathers can influence their children's health and well-being is pertussis immunization. Pertussis continues to infect, on average, more than 3000 infants and results in more than 19 deaths per year,¹⁴⁰ with the majority of cases, hospitalizations, and deaths occurring in infants younger than 2 months who are too young to be vaccinated. In 1 report, fathers were the source of 15% of infant infections.¹⁴¹ The Centers for Disease Control and Prevention recommends that infants be protected before they receive the first pertussis vaccine at 6 to 8 weeks of age by vaccinating pregnant women and their close contacts in the peripartum period, but this recommendation has had limited success among fathers.¹⁴⁰ A paternal pertussis vaccine is reported to avert 16% of pertussis cases.¹⁴² Because of the need to reach fathers, some hospitals and health care providers have successfully provided the vaccination in the maternity ward or during pediatric encounters,^{143,144} further emphasizing the need to include the consideration of fathers when considering the health of children.

The increases in fathering research outlined in this clinical report yield new understanding and insight into the important role and influence of fathers in the health, care, and development of their children and, in turn, have resulted in innovative approaches to support fathers. For example, New York City introduced a Young Men's Initiative in 2011, committing \$3 million, part of which established a City University of New York Fatherhood Academy to boost fathers' parenting skills, resulting in a 15% decrease in teenage

pregnancies.¹⁴⁵ The White House launched My Brother's Keeper,¹⁴⁶ an initiative aimed at bettering outcomes for some of the nation's most at-risk young men. In addition, the White House recently expressed support for paid parental leave and held a White House summit on working fathers.¹⁴⁷ A Dad 2.0 Summit was held in Houston¹⁴⁸ in the winter of 2014 to link multiple bloggers on fatherhood to corporations interested in marketing to a previously ignored group of men. The message is clear: fathers do not parent like mothers, nor are they a replacement for mothers when they are not at home; they provide a unique, dynamic, and important contribution to their families and children. Parenting interventions to encourage father involvement seldom acknowledge fathers' coparenting role and need fundamental change.¹⁴⁹ Pediatricians are encouraged to stay abreast of this information and take advantage of specific opportunities to intervene¹⁵⁰ to support the overall family as a way to ultimately improve child outcomes.

ADVICE FOR PEDIATRICIANS/CHILD HEALTH CARE PROVIDERS

Pediatricians are likely to see a growing number of fathers involved in the health and health care of their children. With so many advances in the understanding of the roles fathers play with their children, a number of suggestions on how to encourage and support fathers in a pediatric setting are provided. Pediatricians can begin by adopting 1 or 2 suggestions the next time they see a father with his child.

Fourteen Pediatric Opportunities to Involve Fathers in Ongoing Care

1. Welcome fathers and express appreciation for their attendance. Speak directly to the father as well as the mother or partner and solicit his opinions. Encourage office staff and nurses to actively encourage father

involvement at all pediatric office visits, especially during the early critical years. Starting with the prenatal visit, actively engage the father (eg, at the prenatal visit, ask the father about his decision whether to circumcise the infant if male).

2. Introduce yourself to the father and the mother or other parent, especially if this is the first visit. Politely explore the father's relationship to the other parent (eg, married, living together or not) and his cultural traditions and personal beliefs about his role in caring for the child. Assess differences in parenting beliefs and help parents negotiate, if necessary.
3. Recognize that mothers and fathers may not always agree on how best to raise a child. For example, parents may disagree on the approach to discipline or issues of firearm safety. Pediatricians can serve as a mediator in such discussions, meeting with both parents or caregivers together to discuss these and other behavior-management issues, and should avoid (whenever possible) siding with 1 parent or the other on important parenting issues.
4. Emphasize how children look to their fathers as role models of behavior and are likely to imitate behaviors they see. Use this in a positive way to encourage the increased use of seat belts and helmets for bike riding and decreased tobacco, alcohol, and other substance use.
5. Screen fathers for perinatal depression. Useful screens include the Edinburgh Postpartum Depression Scale (EPDS) or the version that uses the partners report (EPDS-P), the Gotland Male Depression Scale (GMDS), and the more general Center for Epidemiological Studies Depression Scale (CES-D) and Patient Health Questionnaire-9 (PHQ-9). As with maternal depression screening, have a plan in place (referral to own physician) if either parent screens positive or exhibits depressive symptoms.
6. Review the need for parents to keep up to date on adult vaccines and recommend any needed updates for vaccines, such as pertussis and influenza immunizations.
7. Stress the unique role many fathers play in encouraging age-appropriate physical play and modeling physical activity such as exercise.
8. Explore the family composition, cultural beliefs about fathering and men's roles in families, physical health of both parents, and the division of child care tasks within the family. If parents are not both living in the household, discuss living and visiting arrangements, time together, and custody arrangements. In the event of a parental separation or divorce, encourage both fathers as well as mothers to continue to communicate individually with the pediatrician.
9. Encourage fathers to assume some roles early on in the care of the child, and encourage the mother to let the father be involved and learn from his own mistakes. Early time alone with the child helps a father gain confidence and develop his own style of interaction and provides a mother or other parent with much-needed time alone. Ask fathers what skills they feel are lacking and develop a list of local or online resources to support fathers in gaining confidence and skills in parenting.

10. Inform the family about the normal elation, fatigue, and challenges of being a father. Discuss openly the usual interruptions in sleep for the whole family, the decreases in sleep for the whole family, the decrease in energy, the alterations in time together as a couple and individual free time, and the changes in intimacy and the sexual relationship. This may be the first time some fathers will have discussed these issues openly.
11. Educate fathers about the practicalities of breastfeeding and how to support mothers' nursing. If mothers plan to return to work after the first few months at home, they may need the infant to be flexible about taking a bottle while they are at work. If so, this represents an opportunity for fathers to participate in feeding by offering a daily bottle of the mother's milk (once breastfeeding is well established) to foster the necessary infant flexibility to take a bottle in addition to continuing to breastfeed whenever possible. In addition, fathers provide important skin-to-skin care and help the mother in routine tasks that facilitate rest, bonding, and continued breastfeeding.
12. Discuss how the couple is adapting to parenthood (with each child). Asking questions such as "How is your relationship (or the family) adjusting to the new infant?" or "How is it now that your child is older?" opens the door to reflection and discussion and can remind parents of the importance of their own partner relationship and the need to nurture and maintain it. Encourage parents to continue to dedicate time for adult activities without children.

13. As advocates for children and families, pediatricians can identify current and necessary future public policies that support fathers' involvement with their children. Promote the use of policies such as the Family Medical Leave Act (codified at 29 CFR S825 [1993]) and flexible work schedules as ways to balance employment and family responsibilities. "Use it or lose it" paternity leave policies abroad have resulted in more than 90% of new fathers taking brief paternity leave to bond with their newborn infants.
14. In most cases, permission for medical procedures can be granted by either legal parent, but in some cases it may be important to include both parents in such discussions and even legal documents. Even if not legally required, it is usually advisable for pediatricians to include fathers who share custody, whether residing with the child or not, in written communications about the child, such as results of testing or subspecialist evaluations.

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