Breastfeeding Services and Supplies

Clinical Recommendations

The Women's Preventive Services Initiative recommends comprehensive lactation support services (including counseling, education, and breastfeeding equipment and supplies) during the antenatal, perinatal, and postpartum periods to ensure the successful initiation and maintenance of breastfeeding.

Implementation Considerations

Lactation support services include counseling, education, and breastfeeding equipment and supplies. A lactation care provider should deliver lactation support and provide services across the antenatal, perinatal, and postpartum periods to ensure successful preparation, initiation, and continuation of breastfeeding. Lactation care providers include, but are not limited to, lactation consultants, breastfeeding counselors, certified midwives, certified nurse-midwives, certified professional midwives, nurses, advanced practice providers (e.g., physician assistants and nurse practitioners), and physicians. Breastfeeding equipment and supplies, as agreed upon by the woman and her lactation care provider, include, but are not limited to, double electric breast pumps (including pump parts and maintenance) and breast milk storage supplies. Access to double electric pumps should be based on optimization of breastfeeding, and not predicated on prior failure of a manual pump.

EVIDENCE MAP

Comprehensive lactation support services, including counseling, education, and breastfeeding equipment and supplies.		
Systematic Reviews	**Additional Studies**	**USPSTF[1]**
2016 USPSTF review of 52 studies reported increased rates of any and exclusive breastfeeding at <3 months and at 3-6 months, and exclusive breastfeeding at 6 months for women enrolled in individual-level breastfeeding interventions versus usual care.[2]	None	For pregnant women, new mothers, and their children, the USPSTF recommends providing interventions during pregnancy and after birth to support breastfeeding (Level B; 2016)

A lactation care provider should deliver lactation support and provide services across the antenatal, perinatal, and postpartum periods to ensure successful preparation, initiation, and continuation of breastfeeding.		
Systematic Reviews	**Additional Studies**	**USPSTF[1]**
2016 USPSTF review of studies evaluating the timing of breastfeeding interventions (intervention during only one period [prenatal, perinatal, or postpartum] vs. across multiple periods). Results indicated increased breastfeeding when interventions occurred across multiple periods.	Two good-quality trials of effective breast feeding interventions in the U.S. included 5 in-person visits with a lactation consultant (two during prenatal clinic visits, one in the hospital, and one or two voluntary postpartum home visits).[3] These were supplemented by phone calls and EHR alerts.	For pregnant women, new mothers, and their children, the USPSTF recommends providing interventions during pregnancy and after birth to support breastfeeding (Level B; 2016)

Efficiency of double electric pumps.		
Systematic Reviews	**Additional Studies**	**USPSTF[1]**
Compared to other methods, double electric breast pumps more closely mimic the sucking actions of an infant, result in a greater volume of expressed milk, and come the closest to matching the milk removal efficiency of a healthy infant (85% of milk removed in 15 minutes versus 80% of milk removed in 5 minutes).[4]	None	Not addressed

Abbreviations: EHR=electronic health record; USPSTF=U.S. Preventive Services Task Force

SUMMARY OF EVIDENCE

Introduction

Breastfeeding is the process of feeding infants with human milk from a woman's breast, either directly from the breast or by expressing (pumping) the milk from the breast and bottle-feeding.[5] Breastfeeding counseling and support includes maternity care practices, such as discussions with healthcare professionals about breastfeeding; structured breastfeeding education, such as information and resources provided during the prenatal and intrapartum periods; employee benefits and services, such as designated private space and time for breastfeeding or expressing milk (now included under a provision of the ACA);[6] peer support, such as individual counseling and mother-to-mother support groups; professional support, such as lactation consultations; and marketing initiatives.[7]

Current Recommendations and Coverage of Service

The gap in services provided under the provisions of the Patient Protection and Affordable Health Care Act of 2010 previously identified by the Institute of Medicine (IOM) Committee was that comprehensive prenatal and postnatal lactation support, counseling, and supplies were not included.[8] Health insurance plans are now required to provide breastfeeding support, counseling, and equipment for the duration of breastfeeding including the purchase or rental cost of breast pumps (**Table 1**).[9] The IOM recommendation includes an explicit description of a more comprehensive set of services than the U.S. Preventive Services Task Force (USPSTF).

Table 1. Summary of Recommendations Currently Covered by the Affordable Care Act

IOM Committee[8]	Comprehensive lactation support and counseling and costs of renting breastfeeding equipment. A trained provider should provide counseling services to all pregnant women and to those in the postpartum period to ensure the successful initiation and duration of breastfeeding.
USPSTF[10]	Provide interventions during pregnancy and after birth to support breastfeeding (Level B; 2016). Interventions may include more than one component and be delivered over prenatal, perinatal, and postpartum periods.

Abbreviations: IOM=Institute of Medicine; USPSTF=U.S. Preventive Services Task Force

Background

Breastfeeding is associated with several health benefits for infants including reduced risk of acute otitis media, non-specific gastroenteritis, severe lower respiratory tract infections, atopic dermatitis, asthma (young children), obesity, type 1 and 2 diabetes, childhood leukemia, sudden infant death syndrome (SIDS), and necrotizing enterocolitis.[11] Breastfeeding is not recommended in specific situations involving mothers who have been infected with human immunodeficiency virus (HIV) or human T-cell lymphotropic virus type I or type II; who are prescribed cancer chemotherapy agents, taking antiretroviral therapy or drugs, undergoing radiation therapies; using or dependent upon illicit drugs; or have untreated, active tuberculosis.[12]

The Surgeon General's call to action to support breastfeeding identified several barriers to breastfeeding in the United States.[13] These include lack of knowledge, social norms, poor family and social support, embarrassment, lactation problems, employment and child care issues, and lack of access to health services.

The Centers for Disease Control and Prevention (CDC) reported in 2012 that 80.0% of newborn infants started breastfeeding at birth, 51.4% were still breastfeeding at 6 months, and 29.2% at 12 months; 43.3% were exclusively breastfeeding at 3 months and 21.9% exclusively breastfeeding at 6 months.[14] These rates are close to the goals set by Healthy People 2020[15] (**Table 2**).

Breastfeeding rates vary greatly and are higher with increasing maternal age, education, and income, and among mothers who do not receive supplemental nutrition assistance (WIC).[16] Rates differ across racial/ethnic groups, with 83.2% of Asian/Pacific Islanders reporting initiating breastfeeding in 2012, 83.0% of whites, 82.4% of Hispanics, 71.5% of American Indian/Alaska Natives, and 66.4% of blacks. These differences are most apparent in the southern United States, with differences between whites and blacks ranging from 9% in Florida to 32 in Alabama.

Table 2. Rates and Goals of Breastfeeding Practices in the United States

Breastfeeding practice	Prevalence in 2012[14]	Healthy People 2020 goals[15]
Initiation	80.0%	81.9%
At 6 months	51.4%	60.6%
At 12 months	29.2%	34.1%
Exclusively at 3 months	43.3%	46.2%
Exclusively at 6 months	21.9%	25.5%

The American Congress of Obstetricians and Gynecologists (ACOG), the American Academy of Family Physicians (AAFP), the American Academy of Pediatrics (AAP), the American College of Nurse-Midwives (ACNM), and the World Health Organization (WHO) all recommend exclusive breastfeeding for the first 6 months, with continued breastfeeding along with appropriate complementary foods up to age 2 years or beyond. Most groups emphasize breastfeeding through the first year of life and then continuing as long as mutually desired (**Table 3**).

Table 3. Recommendations of Professional Organizations

Organization	Recommendation
American Academy of Family Physicians (AAFP)[17,18]	All babies, with rare exceptions, be breastfed and/or receive expressed human milk exclusively for the first 6 months of life. Breastfeeding should continue with the addition of complementary foods throughout the second half of the first year.
American Congress of Obstetricians and Gynecologists (ACOG)[19]	Exclusive breastfeeding is recommended for the first 6 months of a baby's life. Breastfeeding should continue up to the baby's first birthday as new foods are introduced. Continue breastfeeding after the baby's first birthday for as long as mother and baby would like.
American Academy of Pediatricians (AAP)[20]	Exclusive breastfeeding for about 6 months, followed by continued breastfeeding as complementary foods are introduced, with continuation of breastfeeding for 1 year or longer as mutually desired by mother and infant. Medical contraindications to breastfeeding are rare.
American College of Nurse-Midwives (ACNM)[21]	Exclusive breastfeeding for the first 6 months provides complete nutrition for growth and development, and ideally breastfeeding should continue throughout the first year of life.
American College of Nurse-Midwives (ACNM)[21]	Exclusive breastfeeding for the first 6 months provides complete nutrition for growth and development, and ideally breastfeeding should continue throughout the first year of life.
The World Health Organization (WHO)[22]	Exclusive breastfeeding is recommended up to 6 months of age, with continued breastfeeding along with appropriate complementary foods up to 2 years of age or beyond.

Recommendations provide additional guidance on how to promote and support breastfeeding. Several recommendations suggest the adoption of the WHO/The United Nations Children's Emergency Fund (UNICEF) Ten Steps to Successful Breastfeeding (**Table 4**).[23]

Table 4. The 10 Steps to Successful Breastfeeding[23]

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in the skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within one hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.
6. Give infants no food or drink other than breast-milk, unless medically indicated.
7. Practice rooming in, allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no pacifiers or artificial nipples to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.

UPDATE OF EVIDENCE

Interventions to Support Breastfeeding Initiation and Duration

A systematic review[2,24] was recently published to support the 2016 USPSTF recommendation[1] on breastfeeding. The review is an update of a prior review published in 2008, and includes new studies and re-evaluation of studies included in the prior review.

The review includes 52 studies assessing the effectiveness of breastfeeding support interventions in increasing initiation of breastfeeding and prolonging breastfeeding, either exclusively or with supplementation. The review included only randomized controlled trials (RCTs) for individual-level interventions, and controlled before and after studies and prospective cohort studies for system-level interventions. Studies were conducted in either the prenatal, peripartum, or postpartum phase, or a combination of phases.

Of the 52 studies, 43 provided data about individual level interventions,[3,25-71] while the other nine studies provided data on system level interventions.[72-80] Individual-level interventions include professional support (one-to-one support during hospital stay or outpatient visits, home visits, or telephone support from health professionals); peer support (counseling or social support from peers or lay persons); and formal or structured education (structured education sessions or classes directed at mothers or other family members, typically provided in group sessions). System-level interventions include policies, programs, and staff training (Baby-Friendly Hospital Initiative [BFHI], implementation of a new policy or protocol, or training of health professionals); and other maternity care practices (encouragement of skin-to-skin contact, rooming-in, restricted pacifier use, or distribution of breast pumps).

Individual-Level Interventions

Meta-analyses of trials of individual-level interventions to promote and support breastfeeding reported in the 2016 USPSTF review indicate statistically significantly higher rates of any breastfeeding at less than 3 months (RR 1.07; 95% CI, 1.03 to 1.11; 26 trials) and at 3 to 6 months (RR 1.11; 95% CI, 1.04 to 1.18; 23 trials), but not on initiation of breastfeeding or breastfeeding at 6 months (Table 5).[2] The review also reported statistically significantly higher rates of exclusive breastfeeding at less than 3 months (RR 1.21; 95% CI, 1.11 to 1.33; 22 trials), 3 to 6 months (RR 1.20; 95% CI, 1.05 to 1.38; 18 trials), and at 6 months (RR 1.20; 95% CI, 1.05 to 1.38; 17 trials).

Table 5. Summary of Results of Meta-analysis of Trials of Individual-level Interventions to Promote and Support Breastfeeding[2]

Breastfeeding practice	Time Point (months)	Studies, n	Mothers, n	RR (95% CI)	I^2 (%)
Any	Initiation	14	9,428	1.00 (0.99 to 1.02)	22.8
	<3	26	11,588	1.07 (1.03 to 1.11)	72.0
	3 to <6	23	8,942	1.11 (1.04 to 1.18)	46.5
	6	20	9,715	1.07 (0.98 to 1.16)	57.5
Exclusive	<3	22	8,246	1.21 (1.11 to 1.33)	52.4
	3 to <6	18	7,027	1.20 (1.05 to 1.38)	44.6
	6	17	7,690	1.16 (1.02 to 1.32)	14.3

Number of Individual-level Intervention Sessions. The USPSTF review did not specifically assess the optimal number of sessions required for successful breastfeeding.[2] Results from individual studies are mixed, although higher numbers of professional intervention sessions generally increased breastfeeding rates at less than 3 months, 3 to 6 months, and 6 months. For example, among seven studies of single-session interventions, none showed statistically significant effects on breastfeeding rates at less than 3 months. In comparison, in six studies of 2 to 10 intervention sessions, the intervention was consistently associated with higher rates of breastfeeding, although only three studies reported statistically significant differences. Results were similar for 10 or more intervention sessions, based on 3 studies.

Providing breastfeeding interventions during the prenatal, peri-, and postpartum time points was more effective than interventions provided at one or two time points. Of 10 studies of interventions provided at all three time points, all found higher rates or breastfeeding relative to control at <3, 3 to <6 and 6 month measures, although for three of these studies the risk estimate was not statistically significant.

A best evidence approach that examines the most effective and most relevant studies provides an estimate of the number of intervention visits needed for effective breastfeeding in the United States. Of the eight studies conducted in the U.S.,[3,27,31,48,60,67] only three studies reported statistically significantly increased breastfeeding rates at any of the follow-up time points,[3,27] and one[48] reported rates with borderline statistical significance at one time point (**Table 6**). The Bonuck 2014 studies (two trials reported in one publication) are among the largest studies, and the only U.S. studies with statistically significant results that met criteria for good study quality. Results showed consistently increased rates of breastfeeding at less than 3, 3 to 6, and 6 month follow-up times. Although the interventions in both trials required 20 sessions, only 5 of these sessions were in-person visits with a lactation consultant (two during prenatal clinic visits, one in the hospital, and one or two voluntary postpartum home visits). The prenatal visits averaged 1 hour, hospital visits 40 to 50 minutes, and postpartum

contacts greater than 1 hour. The other sessions included prompts in the EMR at prenatal visits or regular phone calls postpartum. In comparison, the fair-quality Bonuck 2006 trial included 4 intervention sessions, and achieved statistically significant rates at <3 and 3 to 6 months, but not at 6 months follow-up.

Table 6. U.S. Based Studies of Individual-level Interventions to Promote and Support Breastfeeding – Effectiveness According to Number of Sessions[2]

Author, year N; Quality	Number of sessions	Timing of intervention	Intervention type	Risk estimate (RR; 95% CI) Intervention vs. Control
Outcome: any breastfeeding, <3 months				
Bonuck 2014a[3] N=666; *Good*	20	Pre; Peri; Post	Lactation support and brief education	1.26 (1.03 to 1.54)
Bonuck 2014b[3] N=275; *Good*	20	Pre; Peri; Post	Lactation support and brief education	1.23 (1.08 to 1.40)
Bonuck 2006[27] N=382; *Fair*	4	Pre; Peri; Post	Lactation support	1.32 (1.10 to 1.57)
Pollard 2011[67] N=86; *Good*	4	Peri; Post	Self-monitoring	1.21 (0.89 to 1.64)
Paul 2012[48] N=1154; *Fair*	2	Peri	Home visits	1.09 (1.00 to 1.18)
Hopkinson 2009[60] N=552; *Good*	1	Post	Lactation support	0.99 (0.93 to 1.05)
Outcome: any breastfeeding, 3 to 6 months				
Edwards 2013[31] N=248; *Fair*	23	Pre; Peri; Post	Lactation support	1.88 (0.65 to 1.20)
Bonuck 2014a[3] N=666; *Good*	20	Pre; Peri; Post	Lactation support and brief education	1.49 (1.09 to 2.03)
Bonuck 2014b[3] N=275; *Good*	20	Pre; Peri; Post	Lactation support and brief education	1.37 (1.07 to 1.73)
Pollard 2011[67] N=86; *Good*	4	Peri; Post	Self-monitoring	1.11 (0.65 to 1.90)
Outcome: any breastfeeding, 6 months				
Bonuck 2014a[3] N=666; *Good*	20	Pre; Peri; Post	Lactation support and brief education	1.28 (0.85 to 1.94)
Bonuck 2014b[3] N=275; *Good*	20	Pre; Peri; Post	Lactation support and brief education	1.48 (1.01 to 2.17)
Bonuck 2006[27] N=382; *Fair*	4	Pre; Peri; Post	Lactation support	1.34 (0.98 to 1.84)
Pollard 2011[67] N=86; *Good*	4	Peri; Post	Self-monitoring	1.12 (0.62 to 2.03)

Subgroup Differences. Seven trials provided direct comparisons of the effect of the intervention based on characteristics of the mother (age, education, insurance status, country of origin, primary language spoken, delivery type, parity, prior breastfeeding experience, and breastfeeding intentions). Maternal country of origin and language spoken were the only significant findings. Breastfeeding rates were lower among women in the U.S.-born control groups than in the U.S.-born intervention group and all foreign-born participants[28] at 13 and 52 weeks; and Spanish-speaking women at 4, 12, and 26 weeks, but not English-speaking women at 4 weeks.[68]

Adolescents and Young Adults. Four trials[31,44,49,69] were limited to adolescents or young adults. The three U.S. trials reported statistically significant differences between intervention and usual care groups, while the trial conducted in Australia showed no effect.[49] A U.S. trial[81] provided mothers with support by a community doula during the prenatal, peripartum, and postpartum phases. Mothers in the intervention group were more likely to initiate breastfeeding than the usual care group (63.9% vs. 49.6%; p=0.02) and to breastfeed for at least 6 weeks (28.7% vs. 16.8%; p=0.04), but there was no difference in breastfeeding between groups at 16 weeks (8.3% vs. 4.4%). Another U.S. trial[69] of mothers receiving group prenatal education and given electric breast pumps beginning in the second trimester and through postpartum reported higher rates of breastfeeding initiation compared with usual care (79% vs. 63%) and longer median duration of any breastfeeding (177 days vs. 61 days). The third U.S. trial[44] provided mothers with postpartum peer telephone support, and reported statistically significant longer durations of exclusive breastfeeding than those receiving usual care (median 35 days vs. 10 days; p=0.004).

System-Level Interventions

Three good-quality studies[74,79,80] reported the effects of hospital policies or BFHI accreditation on breastfeeding rates. One study found that women with lower education (≤12 years) who delivered at a BFHI accredited hospital had higher rates of exclusive breastfeeding at 4 weeks or more by 4.5 percentage points compared with women who delivered at non-BFHI accredited hospitals (effect estimate 0.045; 95% CI, 0.01 to 0.08; p=0.02).[79] No effects were found in other studies.

Three fair-quality trials[72,73,78] of the effects of maintaining mother and baby contact following delivery reported mixed results with only one trial demonstrating an effect. The trial included women scheduled for cesarean section deliveries who were randomized to either a new protocol for minimizing maternal-infant separation following birth or usual peripartum care (infants were removed immediately from the operating room and transferred to the obstetric recovery room with brief or no physical contact with their mother).[78] Women in the intervention group reported higher rates of breastfeeding at hospital discharge (76.0% vs. 52.0%) and at 4 weeks (72.7% vs. 33.3%) compared with usual care (unadjusted RR 2.18; 95% CI, 1.17 to 4.06). Three good-quality trials[75-77] reported no differences in breastfeeding rates between mothers instructed to delay or restrict pacifier use and those not given these instructions.

Efficiency of Different Breast Pumps

Over 80% of mothers need to express breast milk during the first 4 months postpartum.[82] Breast milk can be expressed by hand or through the use of a breast pump. Breast pumps fall into three general categories: manual, battery-operated, and electric. In addition, breast pumps can be single (expressing milk from one breast at a time) or double (expressing milk from both breasts simultaneously) action pumps. Manual and battery-operated breast pumps tend to be single action while electric pumps can be either single or double action.[83]

Reviews of breast milk expression methods have found little direct evidence on which type of breast pump is ideal, and have concluded that the best method of milk expression is likely dependent on individual factors.[84,85] For example, a recent Cochrane review of breast milk expression methods found few differences between breast pump type and maternal satisfaction, adverse events (including milk contamination and breast pain or damage), or volume of milk expressed.[85] The milk expressed by both hand expression and electric pumps had a higher protein content than that expressed by battery-operated pumps, but there were no differences between pump type and other nutrient levels. Only one study included in the review compared electric and manual pumps and the effect on time spent pumping, finding that woman using an electric breast pump spent 20 minutes less per day pumping milk compared to manual pump users.[86] The studies included in the review were heterogeneous in terms of population (both mothers and babies) and the review ultimately concluded that the best method of breast milk expression may be dependent on individual circumstances.

A more recent review evaluated aspects of different methods of breast milk expression.[4] Using the human infant as the "gold standard" for milk expression, electric breast pumps more closely mimicked the sucking actions of an infant and were more efficient at expressing milk when compared with hand expression. The use of double electric breast pumps, particularly in situations where the breast pump is acting as a replacement for an infant unable to breastfeed, resulted in a greater volume of expressed milk.[4] In addition to volume of breast milk expressed, double electric breast pumps come the closest to matching the milk removal efficiency of a healthy infant (85% of milk removed in 15 minutes versus 80% of milk removed in 5 minutes).[4] The efficiency of milk expression is an important factor in breast pump choice for working mothers who may have limited time to pump or mothers of infants unable to breastfeed (e.g. neonatal intensive care unit infants) who must pump many times a day.

Related to breast pump volume and efficiency, is the mother's level of dependence on milk expression. For women who are completely dependent on a breast pump to regulate their lactation level, the review concluded that hospital-grade electric pumps are the best choice because of their efficiency and convenience.[4]

For mothers unable to breastfeed during the first days postpartum, electric breast pumps are also important in order to avoid subsequent lactation failure, and their use remains important once lactation has been established.[4] For mothers of healthy breastfeeding infants with established lactation, who are partially or minimally dependent on breast pumps, convenience may be the most important factor in pump choice. Electric pumps may be the best choice for these women.

Harms of Interventions to Promote or Support Breastfeeding

Two trials[29,33] reported harms related to breastfeeding. In one trial,[29] mothers in the intervention group expressed feelings of anxiety, decreased confidence, or concerns about confidentiality, while the other trial[33] reported no statistically significant differences between the intervention and usual care groups on the State-Trait Anxiety Inventory at 2 weeks.

Relevant Studies Published Since the USPSTF Draft Systematic Review

Other Reviews

A recent systematic review included observational studies as well as trials of interventions to improve breastfeeding outcomes (initiation of breastfeeding, exclusive breastfeeding, continued breastfeeding, and any breastfeeding) and reported similar pooled results as the USPSTF report (**Table 7**).[87]

Table 7. Meta-analysis of Trials and Observational Studies[87]

Breastfeeding practice	Studies, n	OR (95% CI)	I^2
Initiation	49	1.25 (1.19 to 1.32)	90.6
Exclusive up to 6 months	130	1.44 (1.38 to 1.51)	91.0
Continued past 6 months	18	1.61 (1.17 to 2.20)	92.0
Any breastfeeding	118	1.30 (1.23 to 1.37)	92.1

Abbreviations: CI=confidence interval; OR=odds ratio

Ongoing Studies

Ten randomized controlled trials of interventions to promote or support breastfeeding initiation and prolong breastfeeding are currently in progress.2 Three trials include telephone support; two focus on earlier versus later (usual care) timing of the intervention; one assesses lay person support; one targets low-income mothers; and another targets populations at risk for childhood obesity. Two Cochrane systematic reviews of interventions for promoting and supporting breastfeeding among overweight or obese women[88] or among women with multiple pregnancies[89] are currently in progress.

CONCLUSIONS

Breastfeeding is associated with health benefits, and clinical guidelines encourage women to breastfeed exclusively for 6 months and breastfeed with solid food supplementation up to 1 year. However, multiple barriers discourage breastfeeding including lack of knowledge, inadequate support, lactation problems, constraints of employment, and limited access to appropriate health services and lactation supplies. Randomized controlled trials of individual-level interventions administered by professionals, peers, or lay persons, provided during prenatal, peripartum, or postpartum phases indicate higher rates of breastfeeding initiation and duration than women not receiving interventions. This includes increased rates of any and exclusive breastfeeding at less than 3 months and at 3 to 6 months, and exclusive breastfeeding at 6 months.

Trials evaluating the timing of breastfeeding interventions (intervention during only one period [prenatal, perinatal, or postpartum] versus across multiple periods) indicate increased breastfeeding when interventions occurred across multiple periods. Two good-quality trials of effective breast feeding interventions in the United States included five in-person visits with a lactation consultant (two during prenatal clinic visits, one in the hospital, and one or two voluntary postpartum home visits). These were supplemented by phone calls and alerts in the electronic health record. A review of breast pump methods indicates that double electric breast pumps more closely mimic the sucking actions of an infant, result in a greater volume of expressed milk, and come the closest to matching the milk removal efficiency of a healthy infant.

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