2022

# 1000 Days Nutrition Needs Assessment Public Health Report

## SUMMARY FINDINGS OF UC IRVINE GRANT ON THE GAPS IN NUTRITION SERVICES AND RESOURCES

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# Introduction and Background

Researchers at the University of California, Irvine through the Institute for Clinical and Translational Science, in partnership with Dairy Council of California's Let's Eat Healthy initiative, conducted a cross-sectional, qualitative project titled, "A community needs assessment of nutrition support and resources throughout the first 1000 days of life in low-income families", to assess the status and gaps within nutrition education resources and services offered by local health care within California counties and community organizations during the first 1000 days of life, from conception to age 2.

Nutrition has far-reaching impacts on children's overall health and well-being, affecting their ability to succeed in school and life. Conditions, exposures and behaviors in this critical window of development may set the stage for later risk of neurodevelopmental problems and chronic diseases, including obesity, diabetes and hypertension. While the contributing factors are multifactorial, nutrition is a particularly salient factor that exerts a strong influence from as early as the time of conception. Maternal diet throughout pregnancy, early infant feeding practices, weaning practices, and the quality and quantity of complementary foods and beverages each play an important role in early child growth and development.

The prevalence of childhood obesity and related chronic diseases is substantially higher among low-income and historically marginalized populations who may be particularly vulnerable due to food insecurity, low health literacy, reduced access to healthy food, low social support, employment demands restricting breastfeeding practices and limited time for home food preparation. While public health programs such as the Special Supplemental Nutrition Program for Women Infants and Children (WIC) and the Supplemental Nutrition Assistance Program (SNAP) exist in the United States to provide food benefits and nutrition information to low-income mothers and children, these may not be sufficient to adequately relieve the burden of food insecurity or to provide nutrition security, defined as consistent access, availability and affordability of foods and beverages that promote well-being and prevent disease. Furthermore, doctors and nurses who frequently interact with families during the first 1000 days have limited time and nutrition expertise to adequately address nutritional concerns.

## Purpose of Needs Assessment

Community-based initiatives for health promotion and disease prevention have potential to change the health status or behavior of individuals through targeted or multilevel interventions that may address organizational, cultural, socioeconomic or environmental factors in a way that is tailored to the unique needs of a local community.[15] The Let's Eat Healthy initiative, launched in February 2020 by Dairy Council of California, held a convening that brought together experts in health to identify priorities to improve California children's nutritional needs titled, *Well-Nourished, Brighter Futures.* Strategic objectives from the convening identified the need for nutritional support in the first 1000 days in vulnerable communities. The initiative aims to improve infant health outcomes by reducing food insecurity and obesity and other diet-related chronic diseases in children—especially those within communities furthest from opportunity—through increased equity in access to nutritious foods, evidence-based nutrition education and safe and active environments.

The Individual plus Policy, System and Environmental Conceptual Framework for Action (I+PSE Framework) addresses direct services and their integration with policy, systems and environmental approaches. To inform this initiative, and its alignment with the Framework to address early life nutrition issues, the first need was to assess the status of nutritional resources and services provided to low-

income pregnant and postpartum women and their young children to understand in what capacity and through what means a comprehensive support program may best meet their needs during the first 1000 days of life.

The goal of this project was to conduct a community needs assessment among a variety of nonprofit, governmental and health care organizations that provide nutrition support and/or resources for low-income pregnant and postpartum women and children under age 2. The objectives were to gain insight and understanding of barriers and challenges families face with respect to:

- procuring and consuming a nutrient-dense diet during pregnancy and postpartum,
- initiating and sustaining breastfeeding,
- offering nutritious and complementary foods for weaning infants, and
- coping with psychological stressors that may impact eating behaviors, nutrient intake, breastfeeding practices and child feeding styles.

## I. Methodology

This needs assessment used a mixed-methods approach, consisting of a survey and interviews. Clinical providers and staff from any nonprofit, governmental or health care organization across California that provide nutrition-related services or resources to families at any stage during the first 1000 days of life were eligible to participate in the cross-sectional web-based survey. There were 148 responses to the survey, which was conducted from November to December 2021. The survey was available in both English and Spanish and was disseminated through the secure web platform REDCap. As an incentive to complete the survey, respondents were provided with an opportunity to be entered into a drawing for a chance to win one of four $50 e-gift cards. The survey focused on five key themes:

1. Accessibility
2. Delivery of nutrition education
3. Content of nutrition messages
4. Breastfeeding support
5. Professional development opportunities

Initial survey results were used to develop an interview protocol. Fourteen interviews were conducted and recorded using Zoom—11 with Orange County providers and three with non-Orange County providers—between January and February 2022. The focus of the interviews was to gain a greater understanding of the nutritional support provided, including challenges faced by mothers; types of education, support or service provision that could be most impactful; and barriers that may limit mothers from participating in or engaging in future services.

This needs assessment report summarizes findings from the survey and interviews, organized by the five key survey themes, and it provides recommendations for moving toward development of a framework for an integrated, community-based program across Orange County, spanning the full range of agencies and organizations serving mothers and young children. Through shared values and commitment, a collective countywide approach can elevate the health of children and families through the pursuit of lifelong healthy eating habits and serve to direct future statewide efforts.

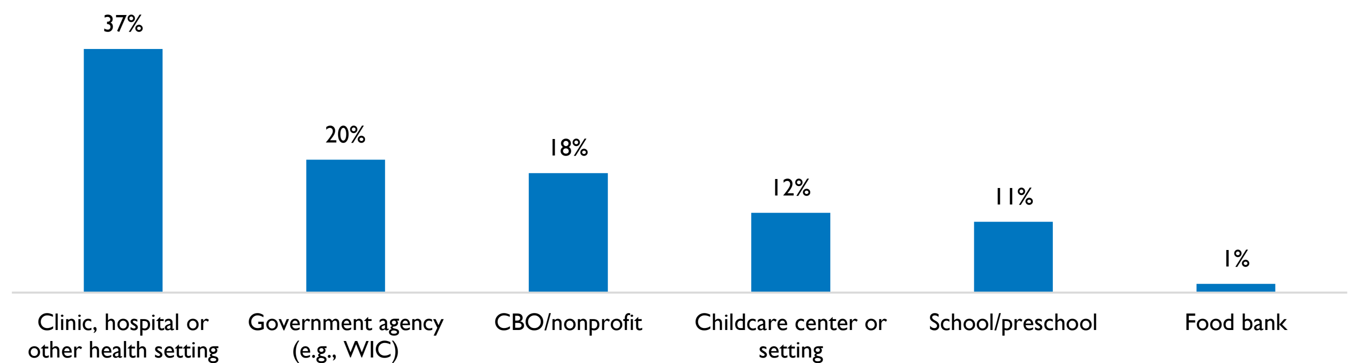
## II. Results

Data presented in this report provide a statewide snapshot of the survey and interview results, with implications for local efforts discussed in interviews with Orange County practitioners. Responses may total more than 100% for questions where survey respondents could select “all that apply”. In addition, due to rounding errors, some responses add up to 99% or 101%.

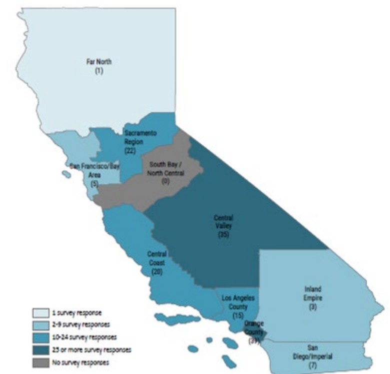
## Characteristics of Respondents and Their Organizations[1]

Organization type. Unique survey responses were obtained from 148 individuals, which included 37% from clinical/health care organizations and 20% from governmental agencies. The interviews included four medical doctors, one pediatric dentist, three public health managers and six allied health professionals with a full chart in the appendix. Three of the 14 interviewees were outside Orange County, with several medical doctors holding affiliations with UC Irvine.

**Respondent's Organization Type**
N=148




Role at organization. A plurality of survey respondents (32 respondents; 22%) were medical doctors, with more than two-thirds (22 of the 32 respondents; 69%) of those doctors having a medical specialty in pediatrics, eight respondents (25%) in obstetrics/gynecology and 2 respondents (6%) in family medicine. Health educators (23 respondents; 16%) were the next most common roles of the survey respondents. A table of respondents is in appendix A.



Regions served. The majority of respondents to the survey (39) primarily serve Orange County. Those who service the Central Valley were the next largest number of respondents (35), followed by Central Coast (20) and Los Angeles County (15).

Ages served. Providers generally reported working with multiple stages within the first 1000 days of life. More than eight out of 10 respondents indicated that their organizations serve children ages 1–2, and 78% of respondents indicated that their organizations serve infants (0-12 months). Only 41% of respondents indicated that they serve clients during preconception.

Participants served. Survey respondents indicated that their agencies serve mothers (89%), children (86%), fathers (77%) and other caregivers (68%) such as grandparents, foster parents or nannies. Six

[1] See Appendix A for additional charts and details on respondents.

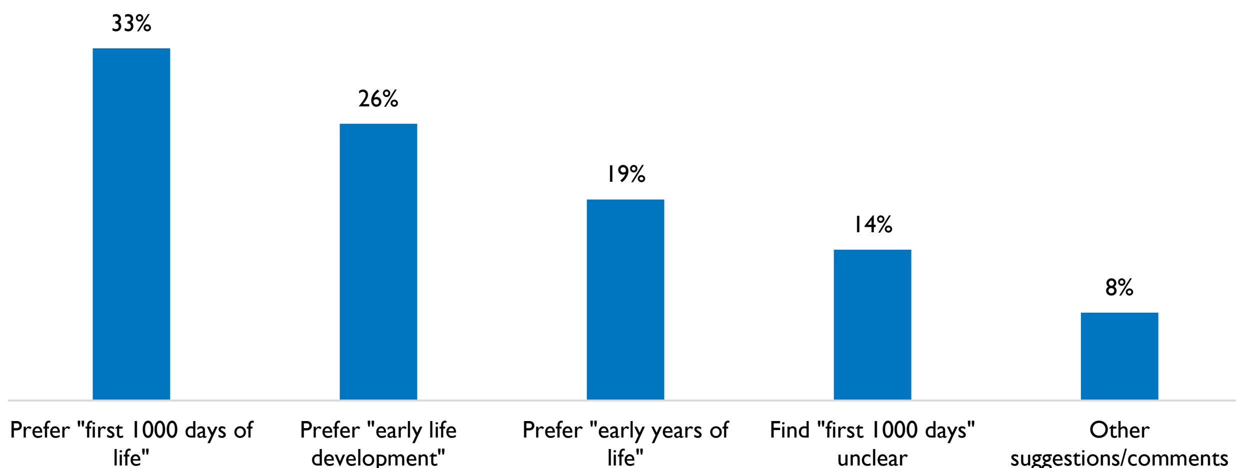
percent indicated they serve other clients, including siblings, school staff, physicians and childcare providers.

Number of clients served. Twenty-seven percent of responding agencies serve fewer than 20 clients who are in their first 1000 days, while 28% serve more than 400 of these clients per month. The remainder of agencies fall in between.

Medi-Cal. Almost three-quarters of respondents estimated that at least 75% of the clients they serve are eligible for government-funded health care (Medi-Cal). Twenty-seven respondents indicated "unknown" and were not included in this total.

Understanding "first 1000 days" terminology. Overall, 42% (62) of survey respondents indicated that they understand and like the term "first 1000 days." Of the 85 respondents who did not like or understand the phrase, one-third preferred "first 1000 days of life" and another 26% preferred "early life development." Suggestions for additional terms to use included:

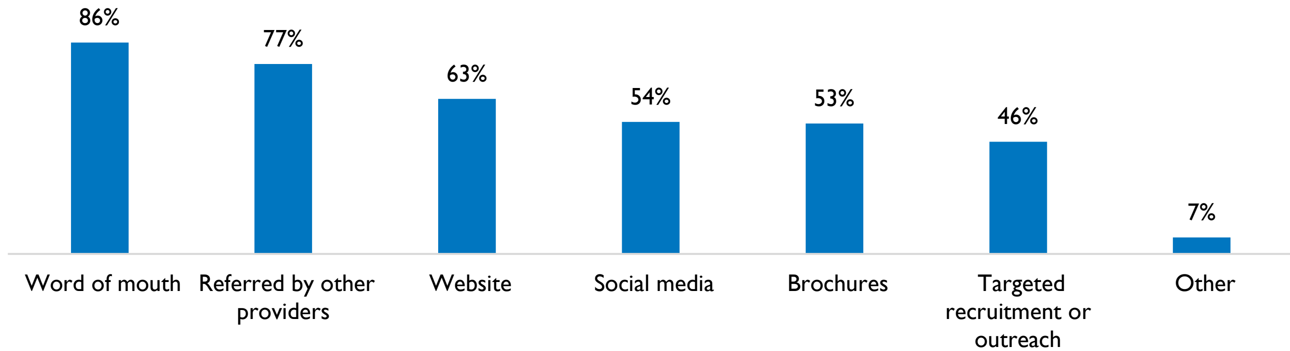
- The "first 1000 days" of a child's early life development
- First 1000 days: conception to 2 years old
- First two years
- From conception to their 2nd birthday – the first 1000 days of life!



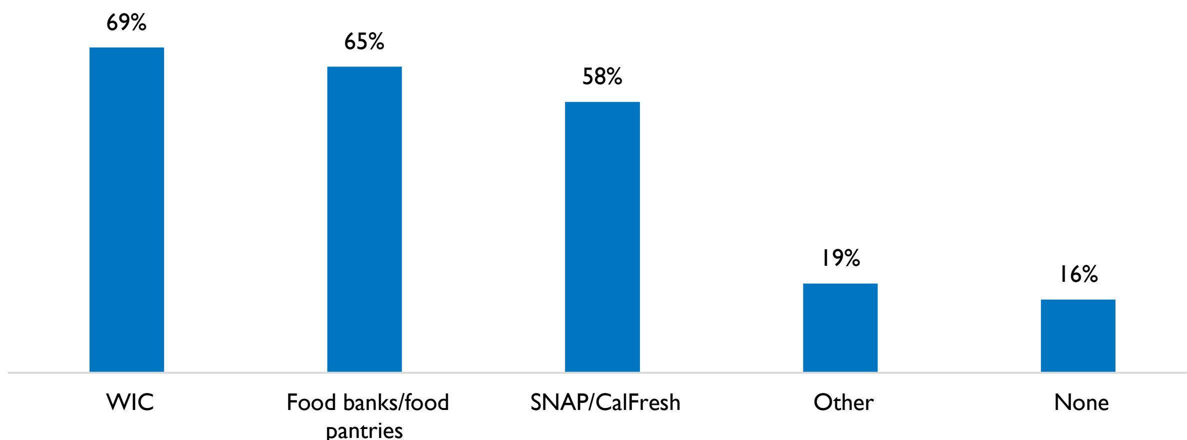

Interviewees who indicated they did not think the term "first 1000 days" was clear were asked to explain why not. One interviewee indicated that she had seen the term used in research but did not think that the general population would understand what it means. Another interviewee felt that the term was not impactful, and it requires one to calculate a time frame. Yet another interviewee indicated that she prefers "early life development" because of the importance of focusing on the well-being of the whole child.

## A. Accessibility

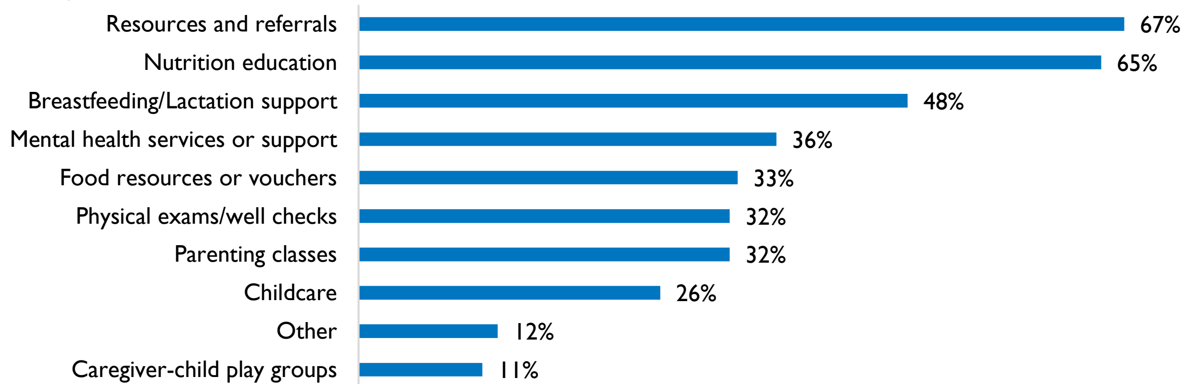
Word of mouth and provider referrals were the most frequently reported ways that clients hear about services among the respondents' organizations. Sixty-nine percent of respondents indicated that their agencies provide referrals to WIC, and 16% indicated that they do not provide referrals. For those 19% of respondents who indicated "other," referrals include (number of respondents in parentheses):




- Mental health/social services (9)
- Housing and basic needs (including rental assistance, utilities and more) (7)
- Medical referrals (7)
- Early intervention/Regional Center (2)
- Childcare/Head Start (3)
- Basic needs (car seats, helmets and more) (4)



Services provided. More than two-thirds of respondents indicated that they offer resources, referrals and/or nutrition education. One-quarter provide childcare, and 11% provide caregiver-child play groups (e.g., Mommy & Me).




Of the 12% who indicated they provide other services, those include:

- Home visit assessments
- Wellness policy, physical activity education
- Dental
- Medical diagnosis and treatment
- Prenatal care early intervention
- Pregnancy tests, ultrasounds, mother-baby supplies, car seats, and similar supports Infant massage, infant CPR, physical therapy, speech-language pathologist, occupational therapy
- One-on-one family meetings regarding unhealthy weight status and anemia, plus other nutrition-related topics if parent asks

Of the 49 respondents who indicated that they provide food resources or vouchers, 65% serve prepared foods, 41% provide food vouchers and 18% provide unprepared foods; 33% also indicated that they provide other food resources, including CalFresh benefits and referrals to agencies (e.g., churches and food banks).

An open-ended question asked respondents about their perception of additional needs for food resources among low-income families. Of the 39 respondents to this question, 56% cited access to fresh and healthy foods or transportation needs; 28% cited the need for more financial support or tangible resources such as cooking appliances; and 11% cited the need for guidance and skills-based training on topics such as sourcing healthy foods, handling food storage and preparation, and minimizing food waste. To achieve nutrition security, interviewees recommended that affordable foods through supplemental programs such as food banks be consistently nutrient dense and satiating.

> "Most of the families we serve are low-income. So when we talk to families about nutritious foods and how to switch up their diet to make it healthier, they say it's too expensive or isn't as filling as the unhealthier options."

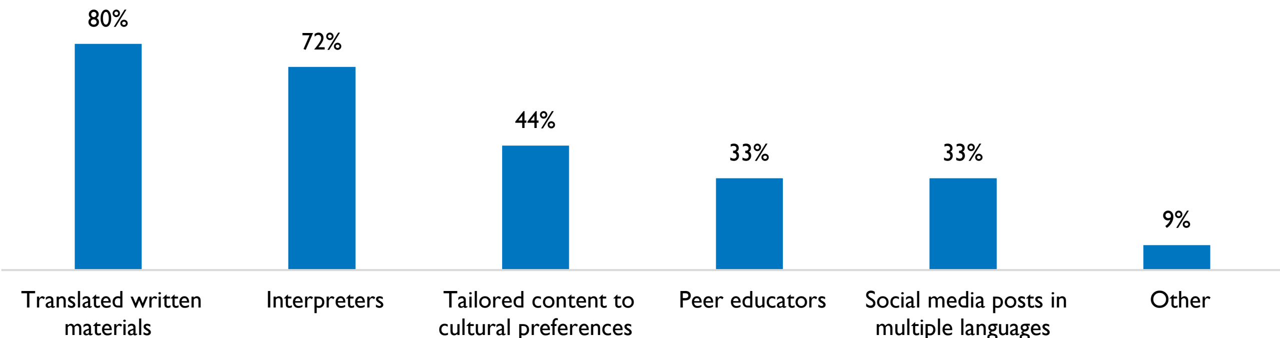
Effectiveness in referrals. Interviewees were asked about the effectiveness of communication between their organization and other agencies in referring people to the correct services. In general, interviewees indicated that the communication was clear, with some

exceptions. One interviewee noted that while referrals exist, absorption of information and utilization of the resources were questionable, and it was difficult to assess behavior change. Another interviewee indicated that while her organization is effective in referring people to services, she is not confident that other agencies are referring clients to her. And still another interviewee indicated that no formal referral system was in place, so she informally used her network to refer patients to services.

Interviewees were also asked about the types of resources that could benefit their clients, but where referrals were not currently being made. The most discussed resource need was for mental health, specifically the difficulty of accessing mental health resources for clients who have HMO/PPO rather than MediCal/Medicaid. One interviewee's organization incorporated a mental health component in its Move More Eat Healthy Campaign, as it is a "big factor that affects a person's nutrition and physical activity level." Additional cited resources included nutrition education or consultations, especially to learn about the importance of avoiding gestational diabetes; housing and transportation resources; and more programs for children ages 1–3.

Meeting clients' diverse needs. Providers report that cultural competency is essential for strong communication with families. Families are more trusting of staff that share their cultural background, yet this is not always possible. In response to strategies used by organizations to adapt their services to meet the linguistic and cultural needs of the communities they serve, the majority of survey respondents reported using translated written materials (80%) and/or interpreters (72%). However, only 33% reported translating social media posts to multiple languages, and 44% reported that messaging was tailored to meet cultural preferences. The 9% who indicated other strategies included having *promotoras* and hiring bilingual staff from the community.

**Ways organizations tailor services to meet linguistic and cultural needs of communities they serve**
N=148



Effectiveness of tailoring services to meet diverse needs. Interviewees were asked about the effectiveness of tailoring services to meet the diverse needs of their clients. In general, offering classes and services in different languages has been effective. For example, one organization started offering breastfeeding classes in Vietnamese, which helped increase its Vietnamese clientele. On the other hand, some agencies struggle to find staff who speak languages other than English or Spanish, and they rely on interpreters, which families tend to not prefer. Another interviewee discussed a Resident Leadership Academy where residents live in underserved communities and go through a training of the determinants of health to help them better understand how the environment impacts health; residents can then better understand the needs, culture and belief systems of the patients. If a first 1000 days program were to launch, those residents could help provide resources and education to the young moms. Several interviewees indicated the importance of understanding families' cultures and beliefs and having staff of the same culture so that families feel more comfortable opening up and engaging.

Meeting the needs of diverse communities. Interviewees were asked about ways their organizations can better tailor services to meet the needs of the diverse communities they serve. A few interviewees indicated that they evaluate their services constantly and are always learning and improving to better serve their communities. Providing materials (handouts, videos and other content) in multiple languages was also discussed as an effective way of meeting clients' diverse needs.

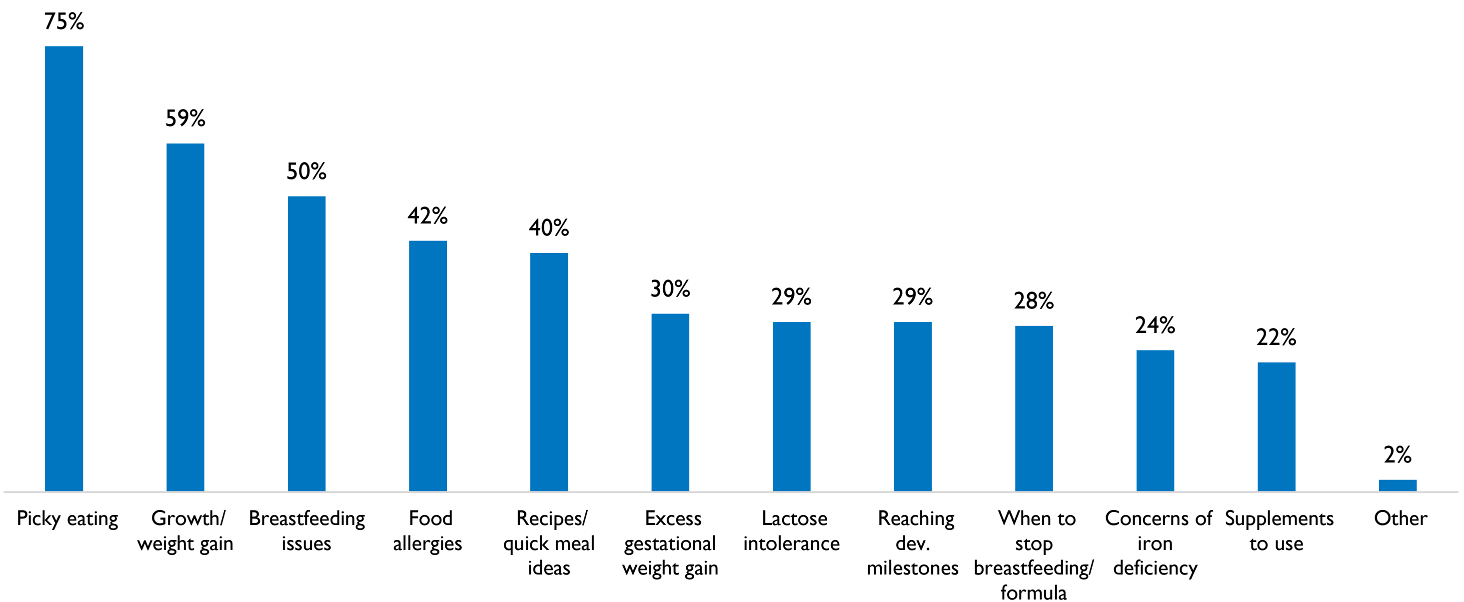
> "Clients feel more comfortable talking to someone who is part of their culture so they can relate to certain beliefs they have. Sometimes moms don't answer a phone call from someone from a different culture."

## B. Delivery of Nutrition Education

Nutrition questions. The nutrition questions/concerns that survey respondents most often hear from families are about picky eating (75%) and growth and weight gain (59%).

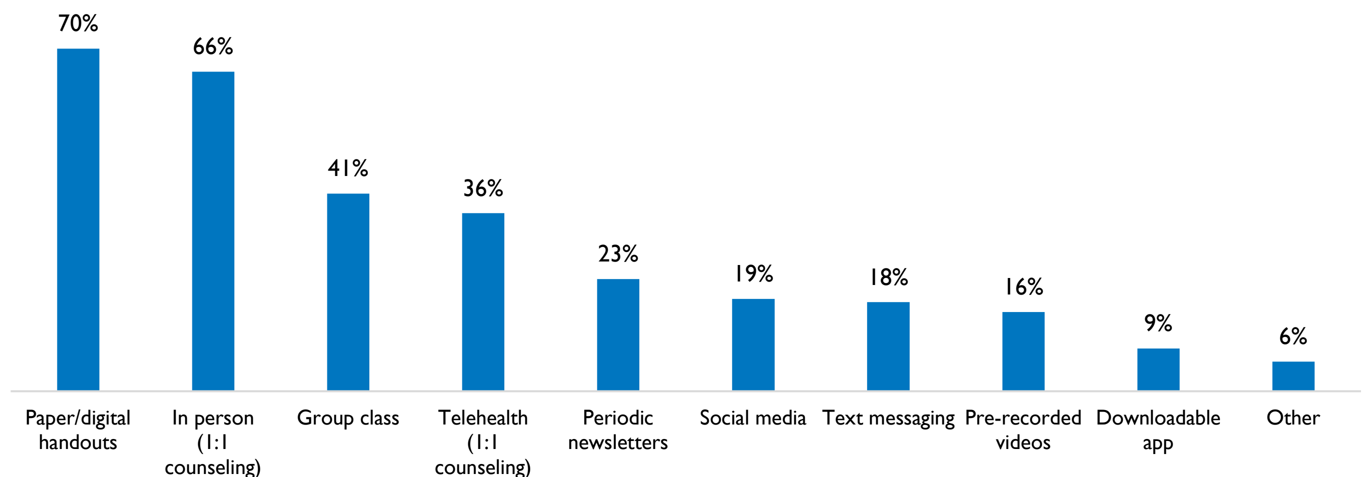
Interviewees were asked about unmet client needs. Lack of time was the main factor indicated by many of the interviewees. Other unmet needs included:

- Outreach and buy-in from families at the prenatal and gestational periods
- Additional nutrition classes on feeding infants and toddlers, especially regarding obesity prevention and meal preparation
- Feeding in general, including getting and keeping momentum for breastfeeding, education around formula feeding, transition to solids, and allergies (and determining if a child has an allergy versus an intolerance)
- Education and understanding of cultural food traditions and making healthy and safe food choices; ways of taking traditions of clients' cultures and making healthy and safe choices for their children




Modalities for delivering nutrition education. Paper/digital handouts and in-person (one-on-one) counseling were the most frequently reported modes of delivering nutrition education (70% and 66%, respectively).

**Modalities organization uses for nutrition education**
N=148




Interviewees were asked for details about the modes of delivering nutrition education they found most effective. While one-on-one counseling was deemed very effective, it is more time-consuming. Paper handouts were also considered very effective, especially when provided with counseling. One interviewee used handouts in tandem with the counseling to write down goals as they came up. Interviewees stressed the importance of keeping up with the needs of the population as modalities change and evolve. Modalities identified as "other" include resource emails to parents when requested, public events, online classes and virtual workshops.

Barriers in using modalities. Interviewees indicated a number of barriers, or limitations, they face when delivering nutrition education using the modalities indicated above. These include:

- *Virtual meetings*. Due to COVID-19, more providers are meeting and teaching virtually, which has its limitations, including families not having access to the internet, having poor-quality access to

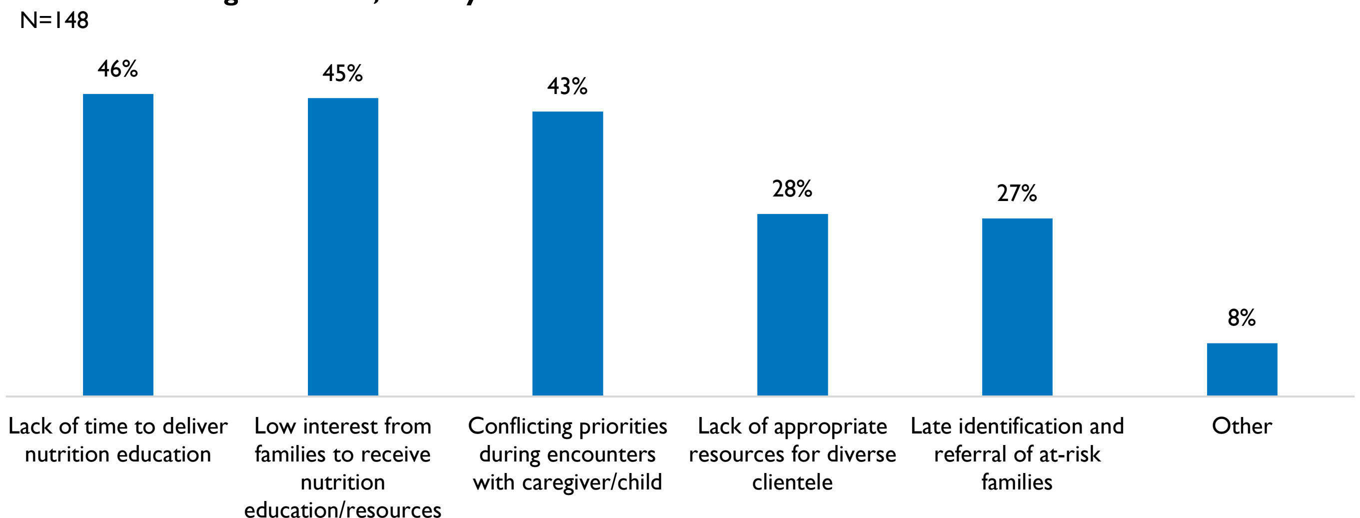
the internet (e.g., low bandwidth) and experiencing distractions by other family members during sessions.

- *Literacy levels*. Clients have a range of literacy levels, and written modalities (e.g., handouts, social media) have literacy levels that do not follow clear communication strategies.
- *Emails*. Emailing clients has limitations, as some clients have trouble accessing or finding their emails.
- *Texting*. While texting can be more accessible than email, some families have inconsistent phone usage. For instance, they can run out of minutes at the end of the month or change phone numbers and forget to update the provider.
- *Time*. Time is always a barrier as there is a lot of material to cover in a very short period.
- *Modality gaps*. No matter what tools are available, not everyone can currently be reached.

Additional modalities to consider. Interviewees were asked about additional modalities or ways to deliver nutrition education that they would consider or recommend. One interviewee suggested having TED-style talks, with counselors at a grocery store or similar place answering questions from callers about tips on shopping. A suggestion was also made that Dairy Council of California have a TED-style talk targeting a population that is least likely to drink milk. A couple of interviewees wanted to see short videos about nutrition that include quick and easy recipes. Developing an all-inclusive website of resources for new moms/families and providing incentives to promote healthier eating habits were also brought up by interviewees. Regardless of modalities used, interviewees emphasized the need for consistent messaging.

> "We need better understanding of cultural food traditions and [ways to] make healthy and safe food choices. How has a family fed themselves for three generations? How do we take those traditions of their culture and make healthy and safe choices for their child? We aren't doing a good job of that in our community."

Challenges in providing education/resources. Survey respondents indicated that lack of client time and low interest from families were the biggest challenges or barriers in providing education and resources during the first 1000 days (46% and 45%, respectively).

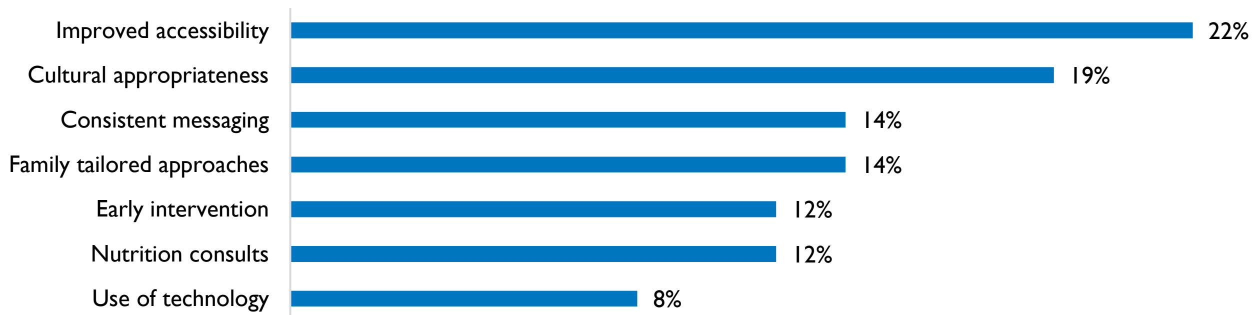


Challenges listed as "other" include lack of referrals to families, multiple and competing priorities in delivering nutrition education, client readiness to accept information and/or denial or thinking that it is their culture or genetics, and costs for those with private insurance.

> "We all need to give the same messages. The doctor is saying something, WIC says something, the grandma is saying something, your neighbor is saying something, the lady at the grocery store is saying something else. Everybody needs to say the same thing."

Overcoming barriers. Fifty-nine respondents provided unstructured feedback about how they believe barriers to providing nutrition education may be overcome. The most common emerging theme from these responses was improved accessibility (22%), that is, offering nutrition education through multiple modalities and considering transportation needs and time availability of clients. Other key themes that emerged were cultural appropriateness (19%), referring to multiple language translations, as well as addressing cultural beliefs, biases and preferences and delivering content in a culturally acceptable format; tailoring to families' needs (14%), by respecting time availability and preferences for mode of delivery and content of nutrition topics; and consistent messaging (14%), meaning congruency across clinical guidelines and federal agencies.

**Strategies to help families overcome barriers in receiving nutrition education**
n=59

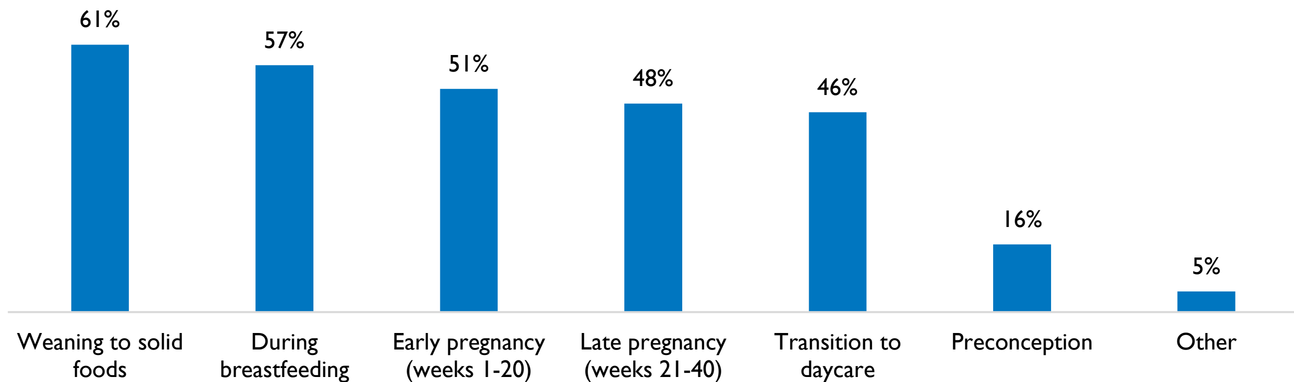



Additional resources to overcome barriers, which came out in the interviews, include having support groups, data sharing between organizations to make program application easier, consistent messaging, and bringing additional family members, especially grandmothers, into the conversation.

## C. Content of Nutrition Education

Best time to deliver nutrition education. Survey respondents were asked about when during the first 1000 days families are most open to learning about nutrition. While weaning to solid foods (61%) and during breastfeeding (57%) were top times. Only 16% of respondents felt that families were open to learning about nutrition during preconception. Instances noted in the "other" category (5%) include when a child is getting ready to start preschool and when a child has a nutrition issue (e.g., unhealthy weight, anemia or picky eating).

**Time during first 1000 days families most open to learning about nutrition**
N=148



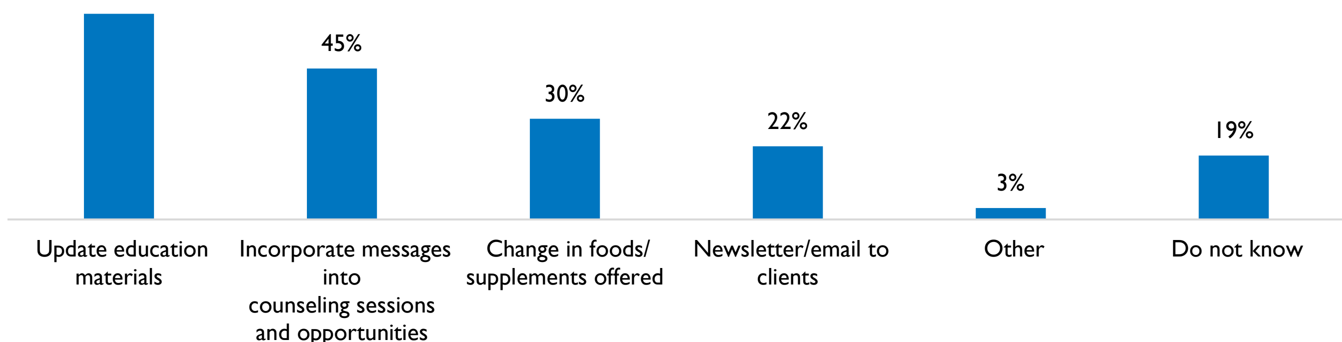

> "Mothers are open to learning almost always, particularly while breastfeeding and transitioning to daycare. While they are receptive to learning, recommendations are often not the social norm making it difficult to change behavior."

Interviewees were asked to expand on the time during the first 1000 days when families are most open to learning about nutrition. Similar to the survey responses, interviewees indicated that families are most open to learning about nutrition during stages such as when breastfeeding, transitioning to solid foods, transitioning to daycare and during periods when the child becomes a picky eater.

In addition, understanding the family's emotional state—including if the mom is excited about being a parent—and any pre-existing health issues affect receptivity to nutrition education. First-time moms also tend to be more eager to learn, as so much of the information is new to them. One interviewee indicated the importance of assessing families for their attitudes and skills—that a clinician should first address the attitudes that drive the desire, and then assess whether the family has the skills to implement.

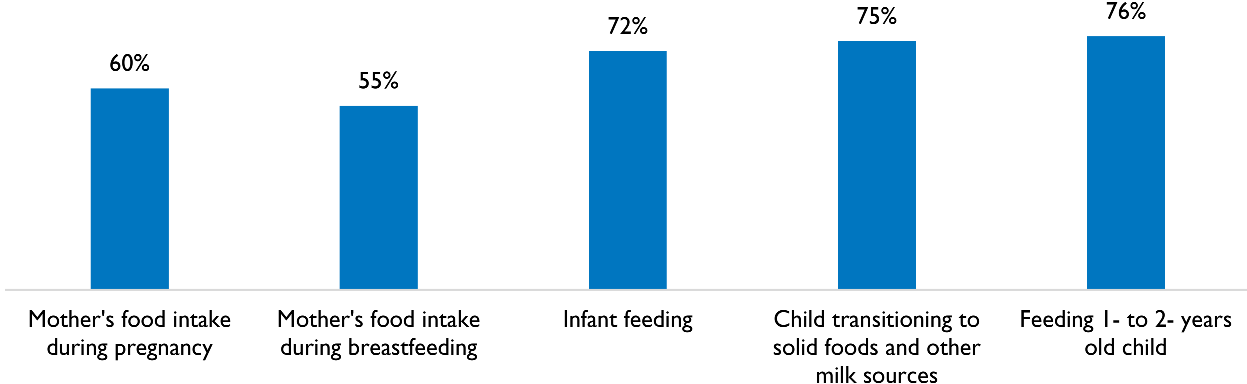
Ways organizations incorporate new information. Survey respondents were asked about ways that new nutrition guidelines or recommendations are incorporated into the resources or services their organizations provide. In general, this is done through updating the education materials (61%) and incorporating the new messages into counseling sessions and other opportunities (45%). Responses in the "other" category include updating the website and having staff in-service or trainings.

**How new nutrition guidelines or recommendations are incorporated into resources or services organizations provide**
N=148

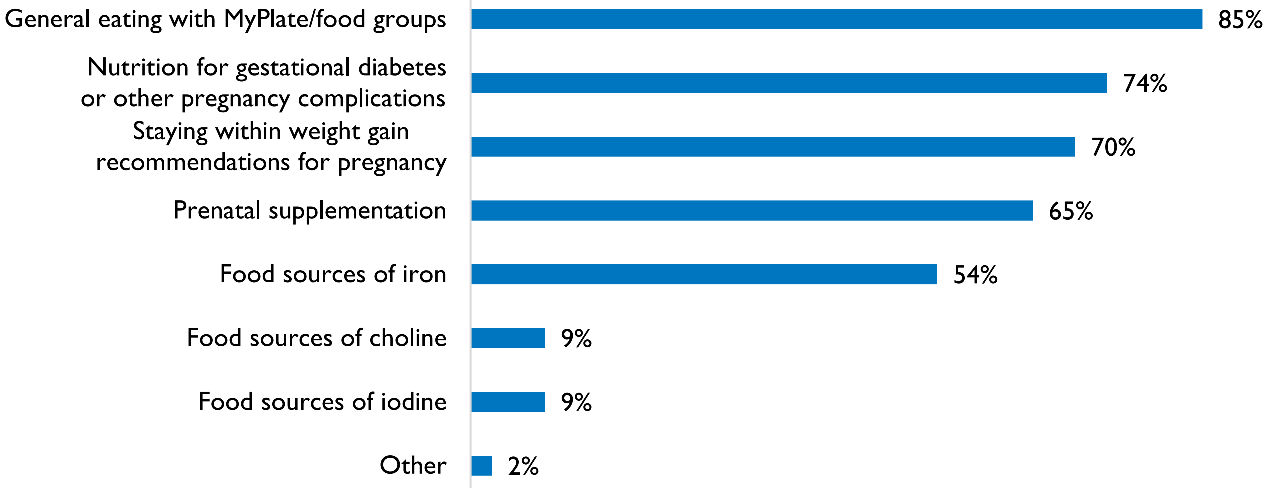



Key nutritional messages by audience. Providers often give nutrition information at all stages of the first 1000 days of life. Organization type plays a key role in whether nutrition education is provided. Community based organizations and federal programs such as WIC are most likely to provide

information (81%) with less than half of early childcare locations providing nutrition messages (44%). Healthcare providers often provided nutrition information (60%) although specialists working with high-risk patients were least likely to provide nutrition support. Healthcare providers have limited appointment times hindering opportunities to share nutrition concepts during this key life stage. Messages vary by pregnancy, infancy and the transition to solid foods. Most nutrition conversations occur toward feeding 1- to 2-year-old children (76%) and transitioning a child to solid foods and other milk sources (75%). Just over half provide education on a mother's food intake during breastfeeding.

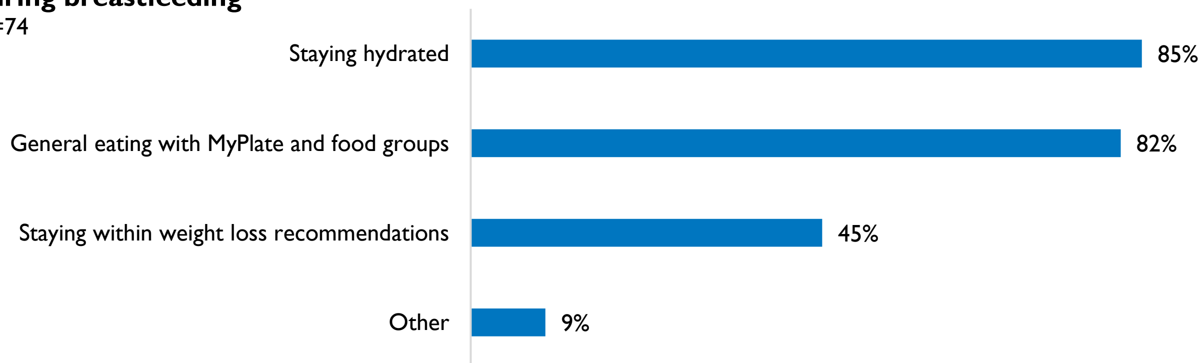



Mother's food intake during pregnancy. For those 81 survey respondents (60%) who indicated they focus their nutrition education on a mother's food intake during pregnancy, key nutritional messages address general eating using MyPlate or food groups (85%) and conversations around nutrition for gestational diabetes or other pregnancy complications (74%). For the 2% who indicated "other," they discussed iron supplementation and dietary sources of calcium.

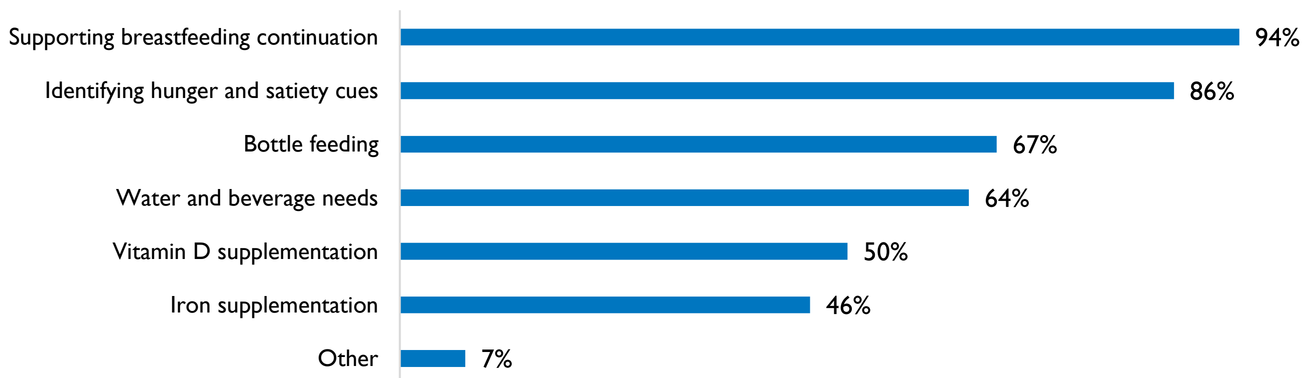



Mother's food intake during breastfeeding. For those 74 survey respondents (55%) who indicated a focus on a mother's food intake during breastfeeding, key nutritional messages are highlighted in the chart below. In the "other" category were dispelling food myths around breastfeeding, the importance of eating a variety of foods, introducing ethnic foods slowly and monitoring effects on baby, encouraging child self-

regulation while providing balanced choices, not trying to lose weight in the first six months, and foods to promote breastfeeding.

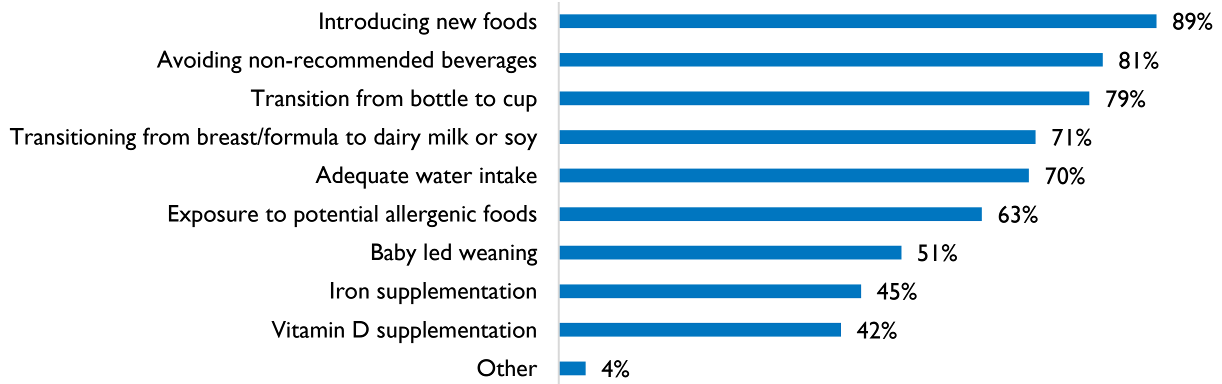



Infant feeding. For those 96 survey respondents (72%) who indicated a focus on infant feeding, the key nutritional messages supported breastfeeding continuation (94%) and identifying hunger and satiety cues (86%). Included in "other" were messages on safety in feeding breast milk in child care; keeping the milk cold enough; not re-feeding a partially fed bottle; washing hands before and after feeding; making a comfortable and clean spot for mothers to breastfeed their babies in the childcare home or center; not feeding juice to babies under 12 months; and controlling empty-calorie foods/drinks.




Child transitioning to solid foods and other milk sources. For those 100 survey respondents (75%) who focus on a child transitioning to solid foods and other milk sources, key nutritional messages addressed introducing new foods (89%) and avoiding non-recommended beverages (81%). Interviewees described the need for more education on guidelines for introducing solid foods. Recent changes suggest babies should begin solids at 6 months old when good neck control is achieved rather than previous guidelines of 4–6 months old. Dissuading use of juice, even 100% fruit juice, is a recommendation from medical professionals for 6 months to 2 years old.

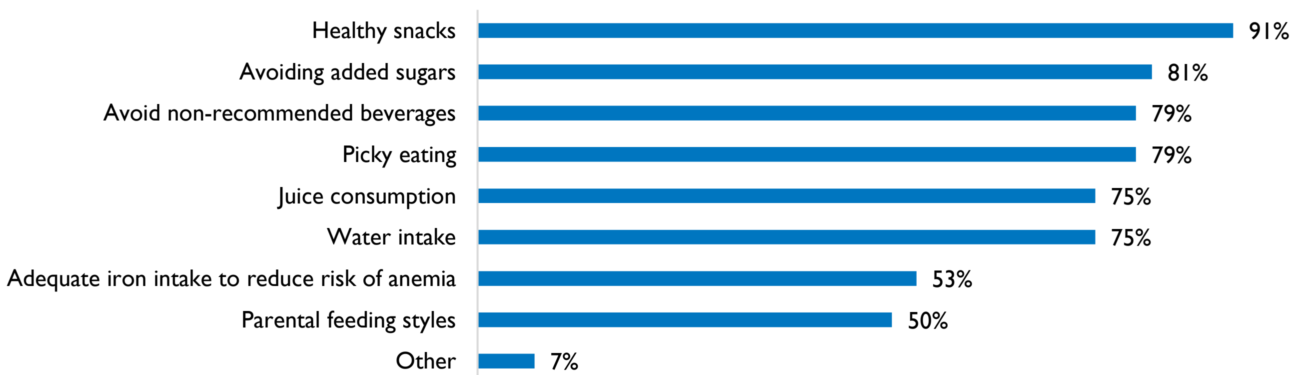
**Key nutritional messages organization provides regarding children transitioning to solid foods and other milk sources**
N=100




Feeding a 1- to 2-year-old child. For those 102 survey respondents (76%) who focus on nutrition education for feeding 1- to 2-year-old children, healthy snacks (91%) and avoiding added sugars (81%) were key nutrition messages. Interviewees frequently mentioned counseling on eliminating 100% juice consumption which they found to be high particularly if families receive WIC vouchers. Providers working with Hispanic families were often concerned about the use of toddler milks over cow's milk at age one.

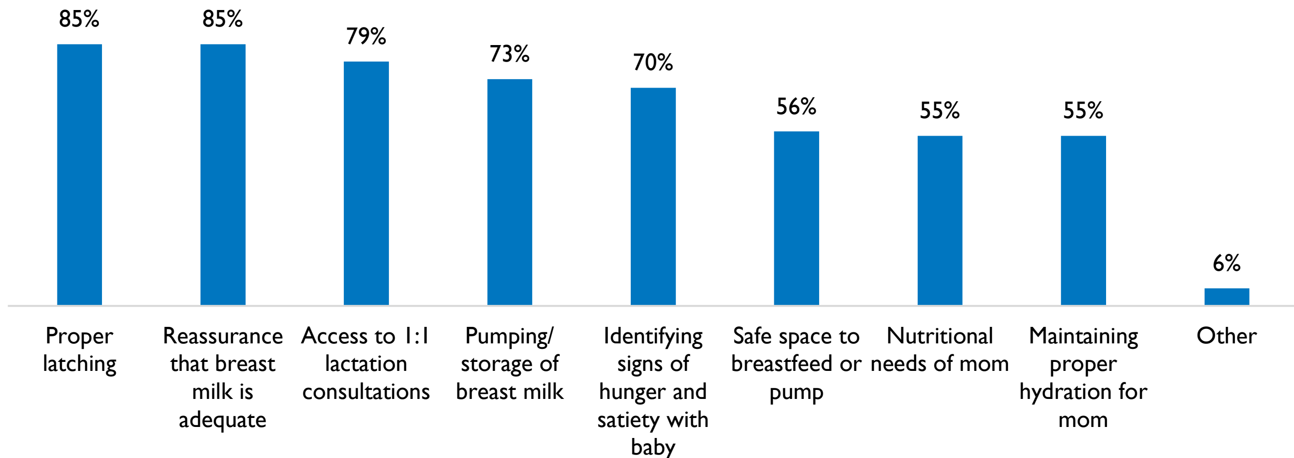
Training on implementing division of responsibility when feeding and using other responsive feeding techniques for parents and childcare providers was highlighted in the "other" category.

**Key nutritional messages organization provides regarding feeding children ages 1 to 2 years**
N=102

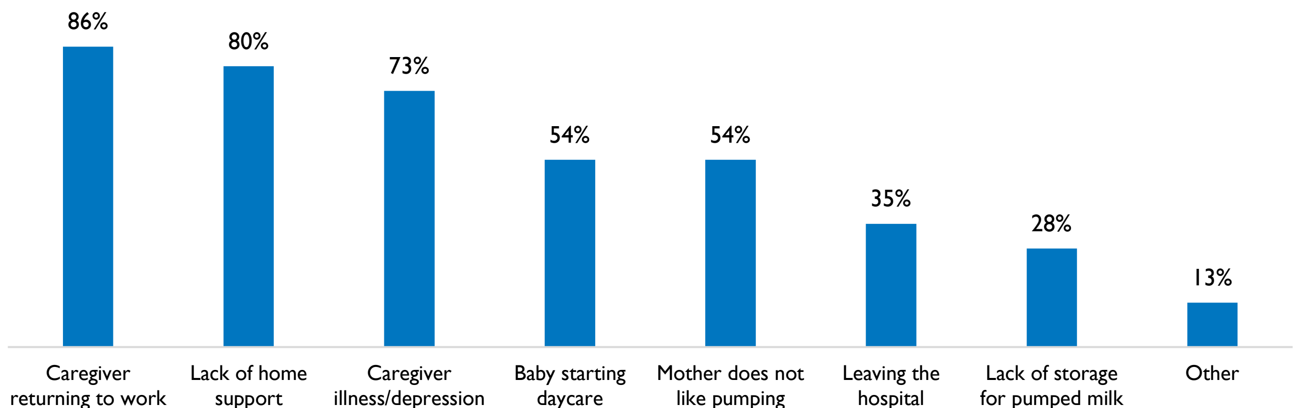



## D. Breastfeeding Support

Forty-eight percent of the survey respondents reported providing services related to breastfeeding support. Those respondents were asked about which issue(s) they felt were most important to address to support the adoption and continuation of breastfeeding. Proper latching and reassurance that breast milk was adequate to support healthy child growth had the largest proportion of responses (85% each). The "other" category (6%) included topics on lactation at work, the first week of a baby's life, and breastfeeding support groups and other peer support.




Declines in breastfeeding. Those survey respondents who indicated that they provide breastfeeding services were asked about what they consider to be risk factors for breastfeeding decline or termination. The top risk factors to reducing or ending breastfeeding are the mom returning to work (86%) and lack of support in the home (80%). Risk factors in the "other" category included lack of confidence, lack of support outside the home and having multiple children.




Ways organizations can support adoption and continuation of breastfeeding. Interviewees were asked about ways that their organization can adapt or improve services and/or programs to support the adoption and continuation of breastfeeding. Many of the interviewees discussed the need for lactation support, including support that is outpatient, no cost and available 24 hours a day. The need for peer support was also discussed.

One interviewee discussed the need to identify grants and other funding sources to support certification by the IBCLC (International Board of Lactation Consultant Examiners), as the process is expensive, and many students are paying out of pocket. Another recommendation was to have more coordination between hospitals and WIC to promote breastfeeding and support mothers who wish to breastfeed.

The importance of proper messaging around breastfeeding was brought up by another interviewee who indicated that while clients know that breast milk has more benefits than formula, the message may not be appropriate for some audiences from a trauma-informed approach. Instead of telling mothers that "breast is best," the interviewee recommended asking mothers their intent and discussing breast milk but not pushing it. As this interviewee noted, her organization adheres to the approach that the "client is the expert in her life and the RN [nurse] is there to walk with the mom."

Ways organizations can support breastfeeding during transitional periods. Interviewee suggestions for better supporting breastfeeding, especially during transitional periods that lead to breastfeeding declines, mostly centered around the need for trained lactation consultants or educators to provide consistency and support as needed. Additional suggestions included having a follow-up visit with a pediatrician within the first week of discharge from the hospital, letting moms know about their right to pump breast milk at work and accessing free (or cheap) breast pumps.

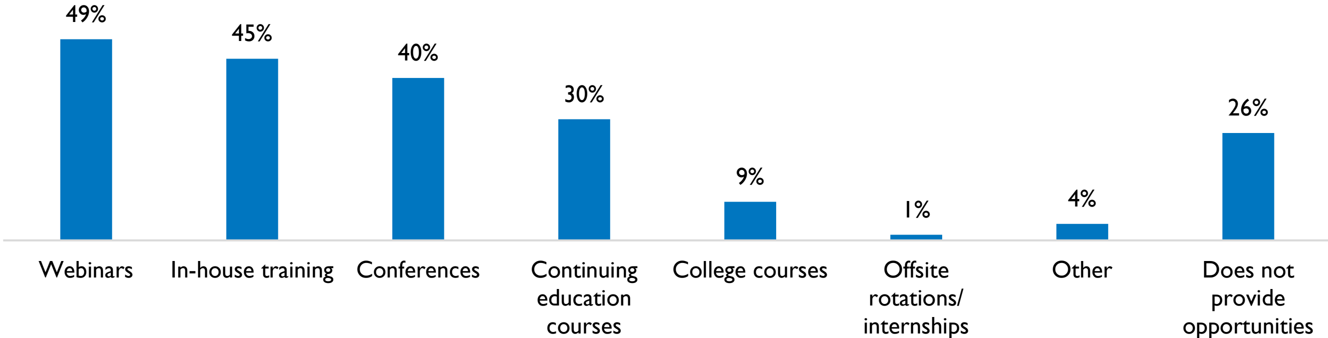
Ways organizations can support families transitioning children to solid foods. Interviewees were asked about ways their organizations support families transitioning children to solid foods. Interviewees mentioned the importance of starting the conversation early—at about 4 months—and discussing readiness, methods and good nutrition (e.g., head control before introducing solids, vegetables before fruit, one food at a time, hunger cues, ideas for making homemade baby food). Discussing with families the importance of introducing little to no juice was also brought up. One interviewee said, "This is my opportunity to vent about juice," and she was not sure why agencies such as WIC provide juice rather than substituting a healthier food. Four interviewees mentioned the need to talk with families about avoiding some popular milk substitutes such as NIDO, a powdered milk beverage, which is not FDA regulated and is high in sugar. Another interviewee mentioned assessing a family's childcare situation and then contacting the childcare provider to target nutrition education.

## E. Professional Development Opportunities

Trainings and professional development. Survey respondents were asked about the types of family nutrition training and professional development offered or encouraged to staff. More than one-quarter (26%) indicated that their organization does not provide professional development opportunities. Almost half (49%) offer webinars, and 45% offer in-house training.

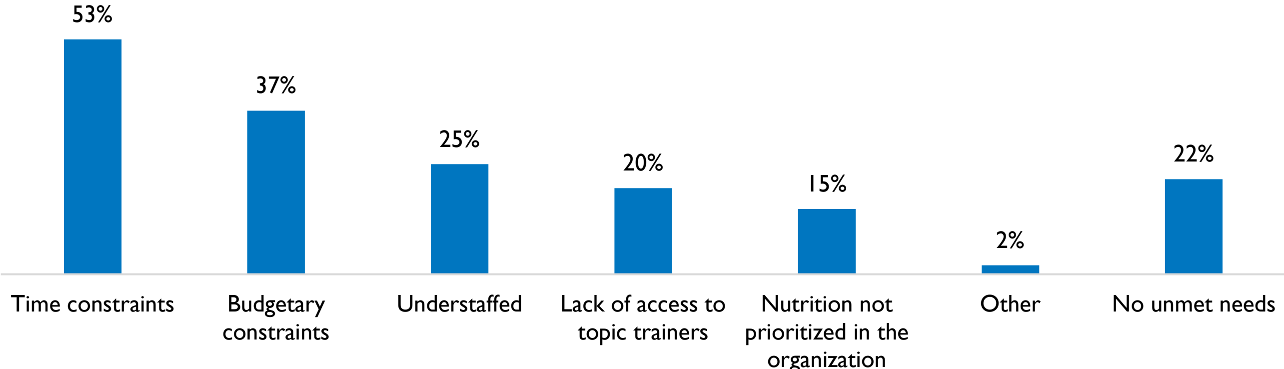
**Types of training and professional development opportunities organizations offers staff, or encourages their engagement in, around topics of supporting families' optimal nutrition**

N=148



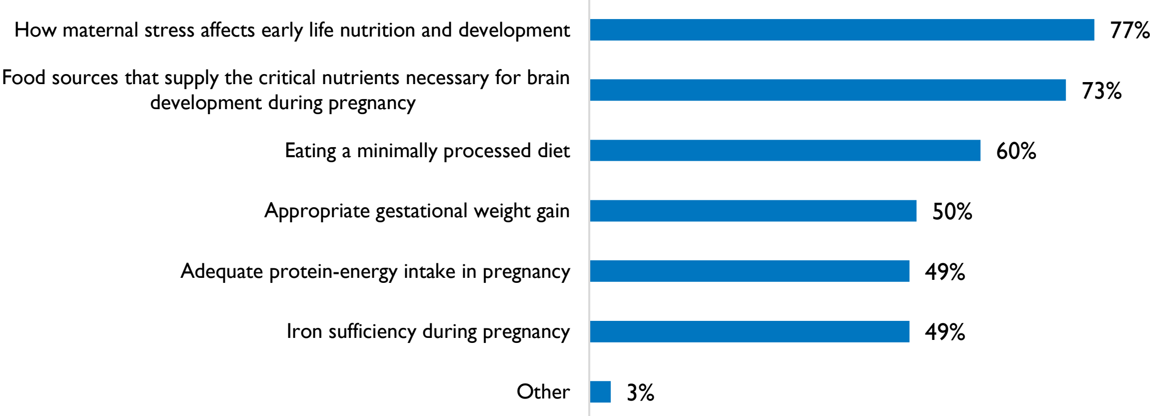
Unmet professional development needs. Survey respondents were asked about any unmet needs their organization has around providing professional development on nutrition to staff. Twenty-two percent indicated they have no unmet needs. More than half (53%) of respondents indicated time constraints, and 37% indicated budgetary constraints. Space constraints were noted in the "other" category.

**Unmet needs organization has in regard to providing professional development to staff**
N=148

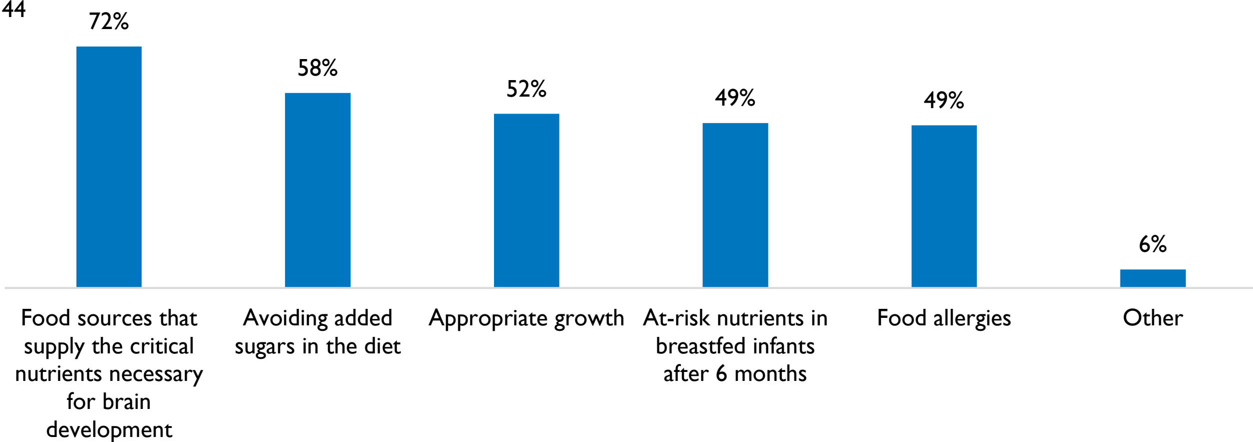



Professional development topics on nutrition during pregnancy. Survey respondents were asked about nutrition-based pregnancy risk and intervention topics that would benefit providers/staff within their organization. Maternal stress and critical food sources were the most requested topics (77% and 73%, respectively). Mental health and breastfeeding were noted in the "other" category (3%).

**Professional development topics providers/staff would benefit from on specific nutritional risks and interventions during pregnancy**
N=92




Professional development topics on children under 2 years. Survey respondents were asked about topics on specific nutritional risks and interventions for children ages 0–2 years that would benefit their providers/staff. Almost three-quarters (72%) of respondents wanted professional development on food sources critical for brain development. Professional development suggestions from the "other" category (6%) included choosing healthy culture-specific foods; at-risk deficiencies in the extremely picky eating child with autism; eating on a budget and with limited time for preparing healthy meals; nutrition as it relates to adverse childhood experiences (ACEs); and recommendations on baby's first foods.




Ways professional development can benefit families served. Interviewees were asked how, if at all, further professional knowledge on nutritional topics could benefit the families they serve and the type of audiences who would best receive this education. A few interviewees indicated that if families had information about maternal stress and links to early life development, they would be better able to optimize their nutrition. Mothers, in general, were considered the best audience to receive this information on maternal stress. Also, building staff knowledge provides better support for families, especially those that may be isolated. For instance, some families come from rural areas and have never received any formal nutrition education—the moms may be eight months pregnant when they come to the organization, having never received any nutrition education. If staff are well-trained, they can best support families. In general, the materials families receive should be entertaining (engaging), quick and to the point.

Professional development for providers in medical settings. Knowing that education and professional development on nutrition is very limited for clinical providers, interviewees who work in a clinic or hospital setting were asked about nutrition topics of interest and how they would like to receive continuing professional education on evidence-based nutrition guidance for early life development in the first 1000 days. Topics of interest included food insecurity, housing security, available resources, socioeconomic impacts on health, gestational weight gain and diabetes, and transitioning to solid foods. In addition, interviewees mentioned the importance of training medical staff to have better and consistent communication, especially with individuals who have a different socioeconomic background, sexual orientation and/or gender identification—and the importance of patient-centered education (where the participant tells the provider what they want to focus on). Some interviewees mentioned the use of technology and professional development and the importance of training staff on how to be filmed professionally for recorded webinars or videos (e.g., background, lighting, sound), as well as how to enter information into a web-based system, how to make referrals via QR codes/electronically and who can triage if networks go down. Interviewees also mentioned the importance of having team-building exercises and learning from each other (e.g., lunch and learn).

Professional development in community-based or government settings. Knowing that time and budget constraints are common limitations to professional development on topics related to early life nutrition, interviewees who work in community-based and government settings were asked about receiving free educational resources on optimal nutrition for the first 1000 days if made available to their organization. Responses identified the following resources: webinars (pre-recorded or live) that lead to a certificate of completion or CEUs; professional development as part of mandatory trainings for all staff; lunch and

learn sessions with handouts; and Dairy Council of California resources (e.g., handouts, classes). Also, because professional development is expensive, an interviewee indicated that it is best to first determine how staff learn and then provide a hybrid of options.

Part of a collaborative. Nine of the 14 interviewees indicated that they were part of one or more collaboratives. The benefits of being in a collaborative included using common messaging and creating an environment for clients to know that there is one consistent message. Specific collaboratives included:

- American Academy of Pediatrics- Orange County
- Community Action Partnership of Orange County
- County Nutrition Action Plan
- State Early Childhood Workgroup (two interviewees)
- Head Start
- Orange County Nutrition and Physical Activity Collaborative
- Orange County Department of Education
- Orange County Health Care Agency
- Orange County Perinatal Council (four interviewees)
- School wellness committees
- Second Harvest Food Bank Orange County
- WIC associations (national and state)

Not part of a collaborative. Those interviewees who were not part of a collaborative were asked whether they saw a benefit to joining a collaborative and what, if any, barriers to access existed. Noted benefits to joining a collaborative included ability to provide more resources for the organization and families; easier way to have messaging more consistent across agencies; ability to better centralize resources (e.g., have a one-stop place to answer obesity-related questions); and help with transition of age groups (e.g., under 2 years and 2–5 years). The main barrier identified was lack of time.

# IV. Summary

This cross-sectional grant project identified several challenges and gaps in the content, provision and delivery of nutrition-related services and resources to expecting parents and children ages 0–2 years in California. Three key emerging themes provide insight on obstacles faced in the first 1000 days of life.

1. Accessibility to services and resources will ensure appropriate usage and implementation.
2. Messaging that is consistent, relevant and delivered through multiple methods will improve food choices and enhance support for breastfeeding mothers.
3. Provider training will strengthen nutrition for early life development.

**Accessibility**

Results of this study highlight inaccessibility to healthy food and linguistic needs that are culturally adapted as barriers to achieving nutrition security. Limited access to markets and healthy food are factors that adversely impact maternal and child health outcomes. Food affordability and time to

prepare foods are challenges for busy working families. Interviewees and survey responses indicate that transportation and time commitments make it difficult for parents to attend appointments reducing services provided. Multiple services offered at a single location would improve accessibility potentially increasing services provided and improve uptake of nutrition education with the aim of improving food choices.

Survey results also suggest that inability to meet the unique linguistic needs and cultural experiences of some ethnic communities could pose a barrier to providing families with relevant and useful nutrition messages and educational resources. Although most respondents reported that translated written materials were made available by their organizations, few reported that social media postings were available in languages other than English, limiting usability. Furthermore, the contents of nutrition messaging may only be adapted to suit cultural preferences less than half of the time. This is an important consideration as diversity in traditional cuisines and culinary approaches to food preparation may make standard nutritional guidelines appear confusing or inappropriate. Developing more inclusive guidelines and educational resources that reflect the nutritional needs of a diverse population are needed. Staff that reflects ethnicity of its clientele can establish trust thus improving communication improving outcomes.

Improving accessibility in how nutrition education and support is delivered to families in the first 1000 days was also highlighted. Caregiver work demands, caring for other children at home and transportation barriers were some of the reasons mentioned that limit families from attending appointments or classes during which nutrition education and resources could be provided. While the growing availability of telehealth particularly by government services may partially help to overcome these barriers, families of low income and low educational status still face inconsistent internet service and availability to attend online sessions. Thus, the families most at risk for nutrition insecurity in the first 1000 days may not receive the resources they urgently need. Local community outreach programs that provide assistance at the medical office, through Resident Leadership Academy resources, home visitation services on flexible schedules (e.g., lactation support, nutrition consultations for early child feeding) and greater leverage of online communication such as text messaging and social media platforms to disseminate on-demand information to families may help bridge these gaps.

### Messaging

Survey results indicate that the content of nutritional messaging during the first 1000 days largely focuses on government-issued, evidence-based dietary guidelines for prenatal, infant and early childhood nutrition. Yet, there is lack of clear, consistent, simple and culturally relevant messages that providers can use with their clients based on government recommendations. Some respondents and interviewees stated that not all providers are aware of current guidelines leading to misinformation particularly for bottle feeding, when to begin complementary foods and appropriate beverages. Few respondents reported providing specific counseling about food sources of key micronutrients of concern during this critical period of development. Convening experts to solidify key messages based on stages within the first 1000 days of life for health professionals and early childcare providers may build content that is more readily adopted by diverse providers.

Several barriers in adequately delivering nutrition education to families were identified, including lack of time during encounters with medical doctors and a perceived low interest among families to receive

nutrition education. Some survey respondents highlighted the lack of access to dedicated dietitian nutritionists who are qualified to provide in-depth nutritional counseling to families. Tailoring messages to cultural preferences including foods and language should be addressed.

Government agencies telehealth…..

### Professional Education

Continuing education opportunities that focus on nutrition during the first 1000 days were reportedly lacking among one-third of survey respondents. Emphasis on nutrition during medical school training is low[1], which likely persists throughout the career for medical doctors. Education on nutrition principles and how to deliver clear and relevant messages is valuable not only for physicians but also for all levels of staff. Opportunities for families to hear consistent messages from multiple staff may free primary care providers time and allows clients to connect with other trusted staff.

"Time constraints are hard, having adjunct staff (front office) talk about nutrition is valuable."

Childcare settings require minimal nutrition education through state licensing. The Child and Adult Care Food Program (CACFP) sets nutrition standards that can improve food offered in childcare settings. Educating these providers with information on nutrition and on how to serve credible meals and snacks within CACFP program may improve children's food quality and how foods are served by using responsive feeding techniques. Working with all childcare to share the value of enrolling in CACFP expands educators who receive nutrition education and can support nutrition security using their meal requirements.

Survey and interview respondents showed high interest in a variety of training topics related to nutrition during pregnancy and in early childhood. By making professional development training programs on optimal nutrition for the first 1000 days readily accessible for providers, such as through web-based platforms, client support services will benefit. Providing continuing education credit hours whenever possible is valuable to medical professionals who need to keep credentials current through lifelong learning.

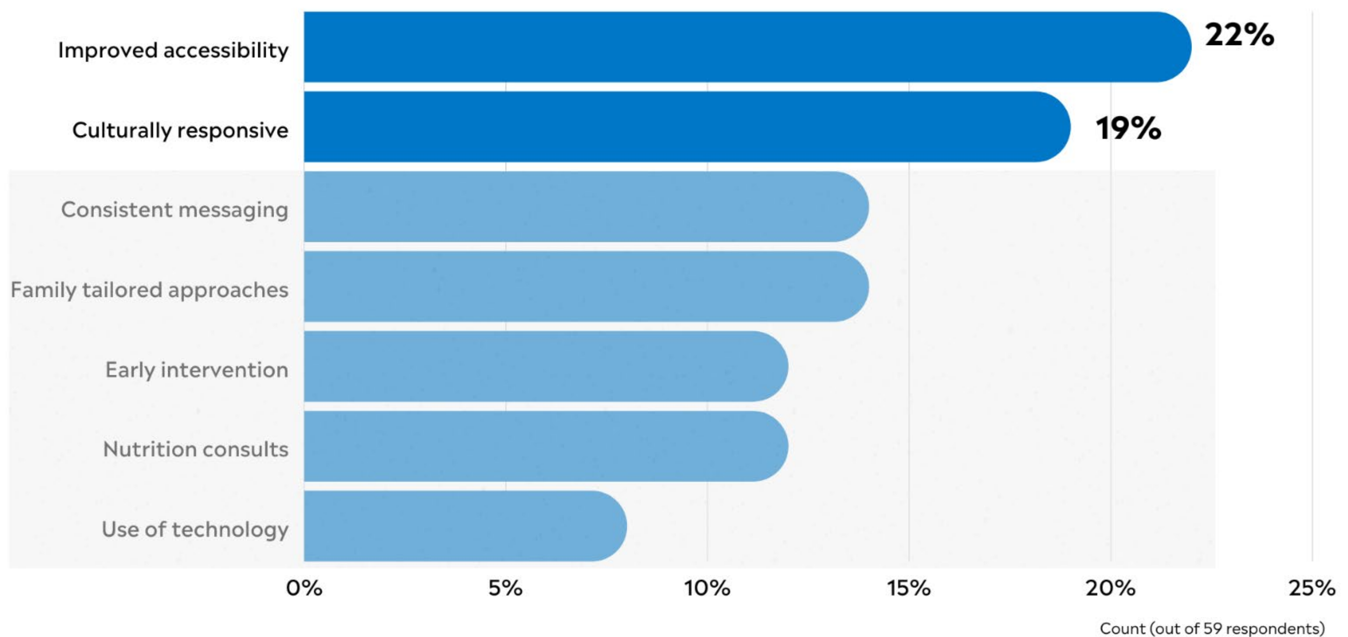
## V. Recommendations and Next Steps

Optimizing nutrition in the first 1000 days requires a multidimensional approach that integrates education, resources and social support of the entire family unit, while addressing the social determinants of health and structural barriers that exist in achieving health equity and nutrition security. This California project is among the first to address the knowledge, attitudes and practices of personnel who are best suited and able to address community nutrition needs. Provider

"There comes a point where we need to stop just pulling people out of the river.
We need to go upstream and find out why they're falling in."

— Desmond Tutu

survey insights can be summarized within seven areas that require collaboration and partnership to improve care and nutrition through a model that emphasizes prevention using resources and services (Figure).




Based on the findings from the survey and interviews, five of the seven strategies from the I+PSE Framework are recommended as a starting point to improve nutrition resources and services. The model begins with an assessment, which is the UC Irvine project described here, “A community needs assessment of nutrition support and resources throughout the first 1000 days of life in low-income families”. The second phase is to implement strategies that are complementary from the policy, system and environmental levels to solve complex problems and listed below.[2]

1. **Strengthen Individual Knowledge and Behavior:** Survey respondents and interviewees agreed that families are most open to learning about nutrition during milestone events such as when breastfeeding, transitioning to solid foods, transitioning to daycare, and at periods when the child becomes a picky eater. Nutrition education at these times can be coupled with a prevention approach, given that early intervention is optimal to supporting long-term health. Directing resources and efforts to increasing access to nutritious foods and nutrition education for the preconception life stage, including younger women of reproductive age who are not yet contemplating pregnancy, may yield improved health outcomes for future generations. Conducting a focus group with families would provide the perspective of the families to corroborate the findings from this project, or identify alternative needs to address.
2. **Activate Intermediaries and Service Providers for Equitable Systems:** There is a need to develop, translate and enact nutrition messages that are clear, culturally relevant, consistent and disseminated throughout care in a collaborative process. This step requires professional education on fundamental nutrition concepts and key nutrition topics such as the bidirectional relationship between maternal stress and dietary quality, the benefits of prenatal nutrition to support fetal brain development and the value of nutrition to support early child brain

development. Building knowledge and messages that are clear and relevant and using agreed upon common language improves understanding and encourages healthier choices. For example, the 2020–2025 Dietary Guidelines for Americans recommends focusing attention on eating patterns for key life stages and highlighting nutrients of concern during the first 1000 days—specifically, iodine and choline for pregnant and lactating women; iron for infants; and calcium, vitamin D, potassium and dietary fiber for all age groups. The project found that providers offer general nutrition education but do not tailor recommendations to high quality diets that provide the majority of nutrients essential for growth and development in the first 1,000 days of life. A substantial proportion of pregnant and lactating women are reported to under-consume micronutrients such as choline, iodine, vitamin C, copper and magnesium, even considering intake from supplements. Others may be at risk of either under- or overconsuming folic acid and iron depending on usual dietary intake and supplement use. Thus, tailored dietary counseling may be required to support healthy pregnancy outcomes and optimal child growth and development.

Create Visual on what nutrients are important at key ages

| Nutrients | Pregnancy & Lactation | Infants |
|---|---|---|
| Iodine and Choline | X | |
| Vitamin C, copper, magnesium (even with supplement usage) | X | |
| Iron | | X |
| Calcium, vitamin D, potassium | X | X |

3. **Facilitate Partnerships and Multisector Collaborations:** California families need to connect with culturally relevant, healthy, safe and affordable food sources. Addressing the social determinants of health and system barriers impacting communities at increased risk of health issues is critical. Achieving nutrition security during the first 1000 days will ultimately require multisector collaboration, advocacy and action to fully support families where they live, learn, work, play and gather. This includes providing families access to food resources, removing barriers such as transportation and enhancing cooking skills to provide foods in a supportive environment. Comprehensive educational programs are needed that include practical skills-based learning around food procurement, preparation and storage in a culturally responsive way, as well as direct provision of high-quality, nutritious foods for low-income families whose

access is otherwise limited. Expanded utilization of federal programs including WIC can help reduce the gap in access.

4. **Align Organizational Policies and Practices:** Furthermore, policies that increase access to registered dietitian nutritionists and lactation consultants during the first 1000 days could help improve families' food choices, ensure micronutrient needs are met and support initiation and continuation of breastfeeding.

   DEIA
   Breastfeeding
   CACFP guidelines
   Reducing stressors

5. **Foster Physical, Natural and Social Settings/Multilevel Support:** Prioritizing accessibility at the organization and systems level can address structural competency, which is a framework for conceptualizing and addressing the relationship between race, class and symptom expression in clinical settings to create coordinated and systemic changes to nutrition education and resources that are culturally appropriate and linguistically relevant, including expanded access through translated resources. Promoting referral to and utilization of federal nutrition assistance programs could help close gaps that currently exist to provide optimal nutrition for the first 1000 days. Models that provide services within a self-contained location can maximize efficiency and effectiveness to reduce the current fragmentation across a range of organizations and implementation models. Resource navigators to guide families through processes can reduce barriers and improve uptake of services.

   Expand the use of technology to provide both passive and interactive nutritional support that is consistent in its content and available on demand. Telehealth can save providers and clients up to 142 minutes compared to in-person interactions. For example, to improve nutrition security, federal meal programs and food banks can use technology to make food procurement easier by minimizing transportation barriers.

## VI. How to Get Involved

Implementing the next phase of solutions to improve resources and services based on the results of the survey and interviews within the first 1000 days of life requires coordination and collaboration among diverse partners. There is opportunity to develop networks at the state level and within local communities to better address the microenvironments of a diverse population. There are many ways to be involved to build healthier communities, including the Let's Eat Healthy Initiative, which is a starting point to ensure all children are supported to grow healthfully through coordination, collaboration and co-creation.

### Build a Community Network

The need to collaborate with local service providers and better connect clients with resources was a recurring theme, particularly in the interviews. To build a community network, local and statewide activations can encourage engagement and collaboration around the first 1000 days of life.

### Improve Nutrition Security

Nutrition security focuses not just on access and availability but also on consuming nutritious foods that support optimal health and prevent disease. Nutrition assistance programs like SNAP, WIC and CACFP are vital to improving access to nutrient-rich foods for low-income pregnant women, infants and young children. However, there is still a need to enhance accessibility to these services; improve convenience of finding safe, culturally relevant, healthy foods and nutrition education; and promote the skills needed to prepare nutritious meals. Multisector advocacy is needed to strengthen new and existing meal assistance programs and establish actionable, equity-centered solutions that advance participation in assistance programs for eligible families, increase opportunities to secure wholesome nutritious foods statewide and provide nutrition resources essential to creating healthy meals that meet the dietary needs and preferences for all cultures.

### Create Professional Development Opportunities

Continuing nutrition education for medical and childcare staff was a high priority for respondents. Trainings on topics such as foods that optimize brain development, responsive feeding to minimize mealtime struggles, avoidance of added sugars and ways to reduce maternal stress can improve knowledge for a wide range of staff who interact with families. Online modules that are self-paced, short and offer continuing education credits follow a flexible model that is inclusive and effective. Providing resources that support key topics reinforces patient education.

### Build a Repository of Resources

There are gaps in the resources available to share with families. Community and governmental organizations can partner to vet and identify high-quality resources that align with health literacy recommendations. Materials also need to be translated and made available in multiple formats. For example, in addition to paper handouts and booklets, content can be released as short videos, text messages, social media and other mediums that can support counseling. As resources are developed or revised, it is imperative to determine if content is being understood correctly through key message testing. Translating content, particularly for social media posts, would improve accessibility to trusted resources.

Improved resource promotion allows for easier access and consistency in messages that providers use. Content can be consolidated and shared on an open platform specific to the first 1000 days of life. Partners can contribute content, cross-promote a centralized resource and add resources on their websites to improve visibility. The First 1000 Days listserv and other community networks will help build awareness of available resources.

### Convene Implementing Partners to Develop Culturally Relevant and Inclusive Content

Respondents emphasized that having a common language and messages that are shared by diverse groups provides consistency and better understanding of concepts. The first step is to convene a group of working partners to help develop clear, consistent and culturally relevant nutrition messages for the first 1000 days of life within California. This group can prioritize strategies identified in this report to overcome barriers to families receiving relevant nutrition education and additional food resource needs to reduce disparities in child health outcomes related to nutrition and food insecurity. Development of the content is an initial step that will determine the direction of professional development topics and resource creation.

### Conduct Additional Research

The survey and interviews did not assess the opinions of the end-users of interest, i.e., the families. Further research is required to investigate experiences and attitudes of families toward nutrition during the first 1000 days so that comprehensive nutrition resources and programs tailored to individual needs can be developed. Surveys or focus groups of parents with diverse backgrounds can substantiate findings from health professionals and early childhood education providers.

It would be valuable to determine the status of food insecurity and nutrition security in the first 1000 days. An improved understanding of maternal-child health in local communities using existing data could reveal areas for improvement. Results can be shared via newsletters, listservs and in a future convening to work upstream in addressing social determinants of health through policies and environmental changes.

## VII. Conclusion

Achieving collective impact through diverse partners that share a vision and commitment to improve nutrition status in the first 1000 days of life can improve the coordination of needs, resources and activities. The aim is to be more efficient and effective in optimizing nutrition through a system that addresses issues and capitalizes on opportunities to promote prevention in the early years of life to optimize long-term health outcomes.

After a convening of health experts in 2021 to identify nutrition priorities in California, stakeholders determined a critical need in the first 1000 days of life, particularly for those in vulnerable communities. Using the I+PSE Framework, the first step was to complete this needs assessment, which collected insight from service providers by survey and interview.

Improvements in accessibility, message content and delivery, breastfeeding support and professional development were found to be avenues to significantly enhance the current system, using a cooperative approach that would provide more consistency and nutrition expertise among the nonprofit, governmental and health care organizations of local communities.

The next phase will be to work with stakeholders to implement a series of strategies that will strengthen nutrition knowledge, activate messaging, facilitate new partnerships, align organizational policies and improve access to nutritious and culturally appropriate food.

Thank you to UC Irvine and the National Institutes of Health for funding and partnering on this needs assessment to identify gaps in the provision of comprehensive nutrition support during the first 1000 days. This project would not have been possible without the many health professionals and early childhood education providers who completed the survey and shared their experiences and insight through personal interviews.

**Join the Let's Eat Healthy Initiative to Support a Well-Nourished, Brighter Future for Children**

The listserv is housed under the Let's Eat Healthy Initiative to provide collaborators who are passionate about improving outcomes to build multisector partners and advocate for reducing disparities and increasing nutrition security. It is a space to share science-based and accurate resources and ideas, provide links to professional development and discuss needs within local communities of service. As the community grows, subgroups based on topics or regions will be added to address local needs. [https://listserv.healthyeating.org/g/First1000Days]

1Bassin SR, Al-Nimr RI, Allen K, Ogrinc G. The state of nutrition in medical education in the United States. *Nutr Rev*. 2020;78(9):764-780. doi:10.1093/nutrit/nuz100

[2]Tagtow A, Herman D, Cunningham-Sabo L. Next-Generation Solutions to Address Adaptive Challenges in Dietetics Practice: The I+PSE Conceptual Framework for Action. *J Acad Nutr Diet*. 2022;122(1):15-24. doi:10.1016/j.jand.2021.01.018

## Notes for Trina

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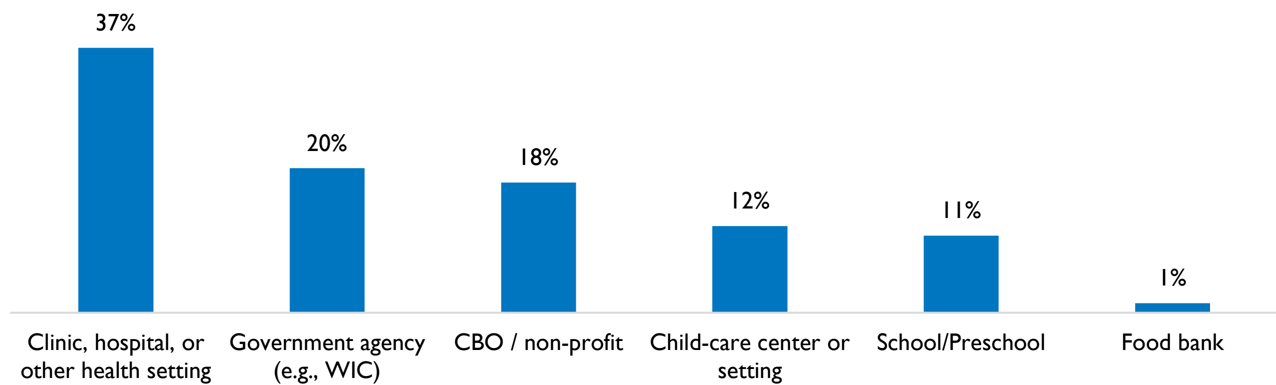
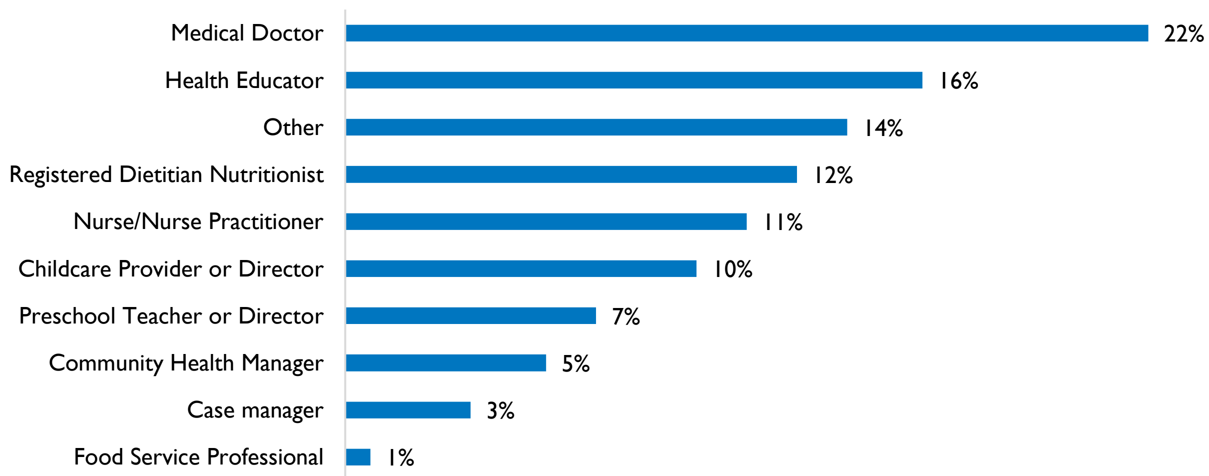
Pages 26, 32, 42

**Type of Organization.** Unique survey responses were obtained from 148 individuals, which included 37% from clinical/health care organizations and 20% from governmental agencies.

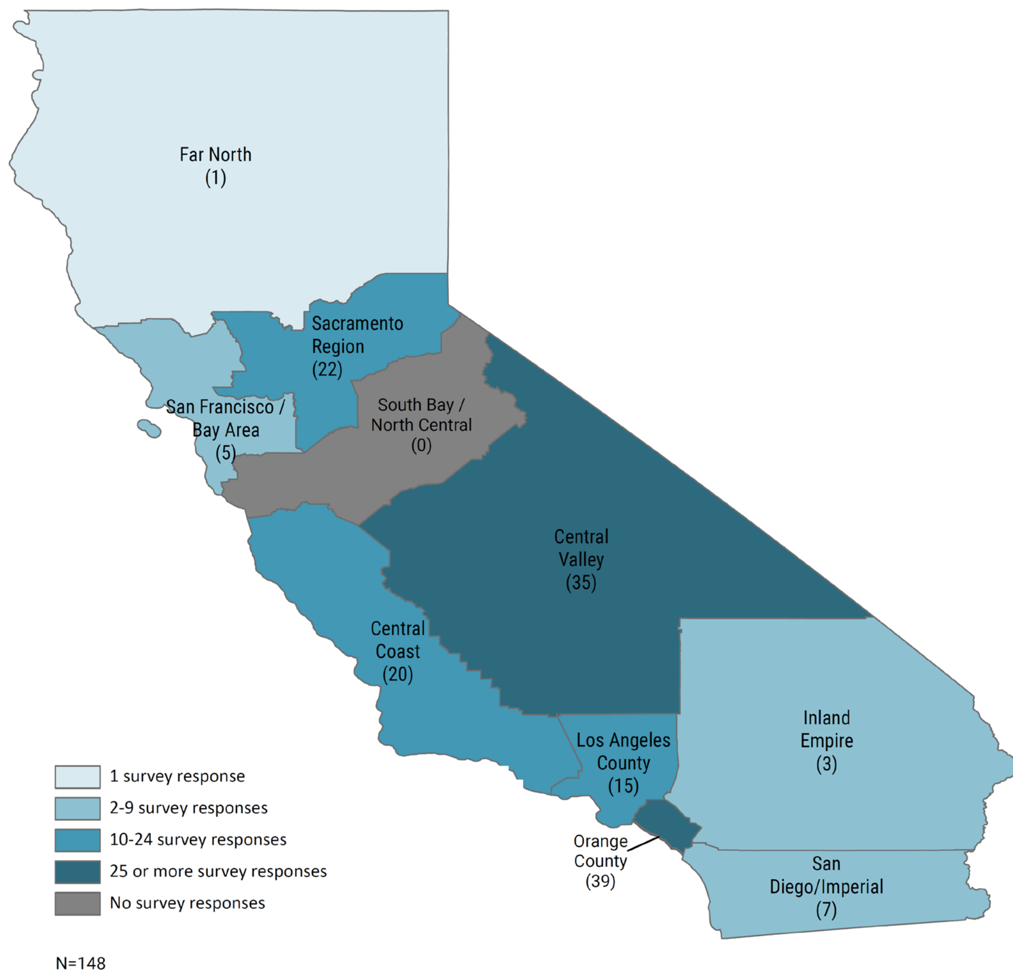



**Role at Organization.** A plurality of survey respondents (22%) were doctors, with more than two-thirds (69%) of those doctors having a medical specialty in pediatrics; one-quarter in obstetrics/gynecology and 6% in family medicine. Health Educators were the next most common roles (16%) for the survey respondents. Of those who indicated some "other" role at their organization, 7 respondents were Program Managers/ Directors.



**Regions Served.** A plurality of survey respondents (39) primarily serve Orange County, with those who service the Central Valley comprising the region with the next largest number of respondents (35).

**Number of Survey Responses by Region**



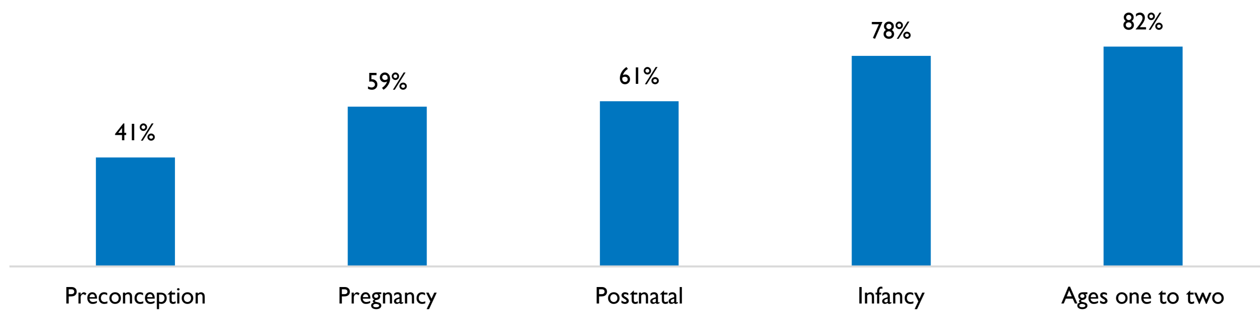

## Respondent by Region

The interviews focused on Orange County providers and included key staff beyond the local region.

| Respondent Type | Quantity | Location | | Organization Type | | |
|---|---|---|---|---|---|---|
| | | Orange County | Elsewhere in CA | Clinic/Hospital Setting | Government Agency | Community based organization / Nonprofit |
| Pediatrician | 2 | X | | X | | |
| OBGYN | 2 | X | | X | | |
| Pediatric Dentist | 1 | | | X | | |
| Public Health Manager (WIC, Daycare Licensing Program, Public Health Agency) | 3 | X | X | | X | |
| Nurse | 1 | X | | | X | |

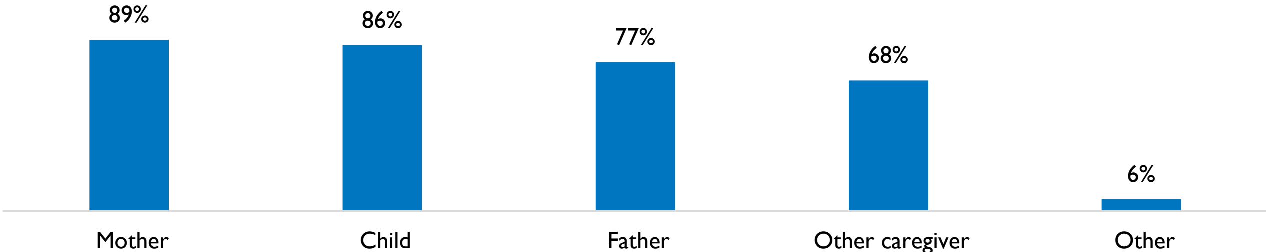
| | | | | | | |
|---|---|---|---|---|---|---|
| Registered Dietitian Nutritionist | 2 | X | X | X | | |
| Community Health Staff or Promotora, Maternal Child Health, Parent Coach, Latino Leadership, Welcome Baby, Moms OC | 3 | X | X | | | X |

**Ages Served.** More than eight out of 10 respondents indicated that their organizations serve children ages one to two, and 78% of respondents indicated that they organization serves children in their infancy. Respondents could select all the life stages that apply, thus the total may be more than 100%.



**Participants Served.** Survey respondents indicated that their agency mostly serve mothers (89%) and children (86%). Two-thirds or respondents serve other caregivers, such as grandparents, foster parents, or nannies. Those who indicated "Other," include siblings, school staff, physicians, and childcare providers. Respondents could select all types of participants that apply, thus the total may be more than 100%.

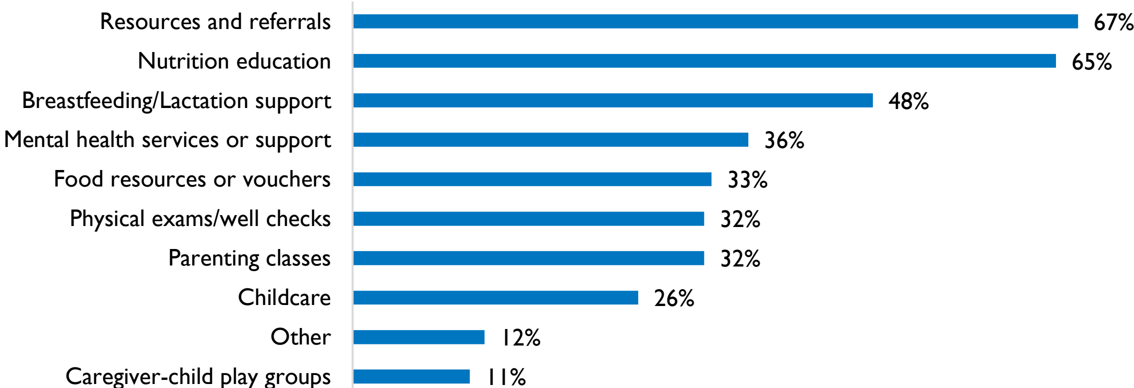
**Types of Participants who access organizations' services**
N=148



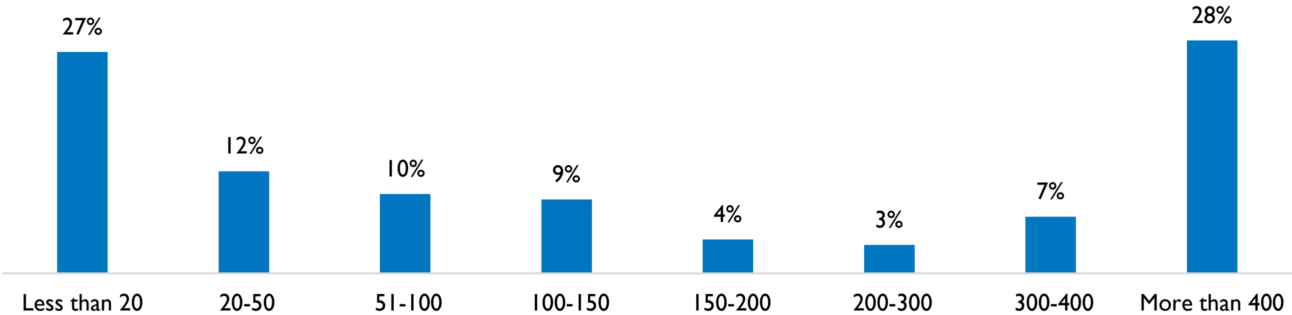

**Services Provided.** More than two-thirds of respondents indicated that they offer resources and referrals and/or nutrition education. One quarter provided childcare and 11% provided caregiver-child playgroups (e.g., Mommy & Me). Of the 12% who indicated they provide "other" services, those include:

- Home visit assessments
- Wellness policy, physical activity education
- Dental
- Medical Diagnosis and Treatment
- Prenatal care
- Early intervention
- Pregnancy tests, ultrasounds, mother-baby supplies, car seats, etc.
- Infant Massage, Infant CPR, PT, SLP, OT
- One-on-one family meetings regarding unhealthy weight status and anemia, plus other nutrition related topics if parent asks.

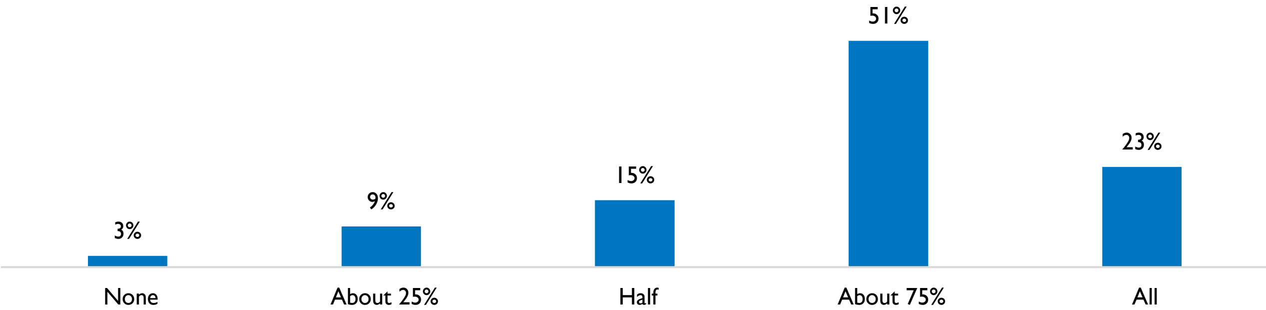
**Types of services provided**
(N=148)



**Clients Served.** The number of clients within the first 1000 days life stage (conception to age 2) that organizations serve varied greatly with approximate even amount serving fewer than 20 and more than 400 clients per month (27% and 28%, respectively).




**MediCal.** Most of the respondents work at organizations that serve a majority MediCal or MediCal eligible clients. Note that there were 27 respondents who indicated "unknown", which were not included in the analysis below.



## Appendix B: Interview Responses

**1. How effective is your communication with other agencies in referring people to the correct services they need? Please expand.**

- Referrals exist but the absorption of the information and utilization of the resources are questionable. It is hard to assess if behavior change is actually happening.
- Communication has been effective.
- Communication is not always clear.
- The agency does a great job and works with a lot of organizations to provide clients counseling, food, diapers, and clothing for kids. They are well connected in the community
- They are effective in referring people out to services. But she is not confident it's true the other way around. They are always seeking out other programs to provide referrals to WIC. Part of their core services is providing services to other programs such as CalFresh, MediCal, Social Services, dental offices, programs for unhoused families or those suffering with domestic violence and special needs services for kids. They work directly with the Orange County healthcare agency, which helps with making referrals. They also have a strong relationship with Help Me Grow Orange County. They make it their mission to connect families.
- Most women already know of services such as WIC. She used to have an RDN but no longer who dealt with high needs diabetes, hypertension so she didn't have time to work with children. CalOptima is best contact but not sure how well they work. Child Guidance is a program but they change quickly and patients can't find them. Patients want someone to follow up and she can usually only provide a form requiring patient initiative to get services.
- Good at getting parents to WIC and most patients know about it already. They have social security or community outreach to talk to them if they are resistant. Less knowledgeable of food banks but the community outreach can share. Their dolce program is 0-6 month support for legal help, depression, and other services. CHOC seems excellent in that it provides more comprehensive services.
- Fine, minimal interactions here since she is often seeing patients late in their pregnancy. Patients usually brings the form for her to fill it out.
- They are often referred to. Their aim is 3 goals- changing trajectory with improve pregnancy outcomes, 2- child health, 3- family economic status. Fairly effective with public health nurses who are used to doing referrals. They do a lot with self-efficacy to build skills to help moms do this on their own.
- She thinks so. The resources they give to their clients are WIC, SNAP/Calfresh, and food banks/pantries. The handouts they use are from Dairy Council of California and XXX mentioned that the patients can go onto Dairy Council's website for more information if needed.
- Her organization provides warm handoffs, which is a direct way to give families services. Other ways to refer services include; presentations from other organization to the families at meetings, baby showers, and families are also comfortable with asking questions about resources needed.
- Zero systems set in place within the health center. Informally she networks with other clinicians to refer pts to services. An idea is to get dental and medical to have an EMR system to cross-linkage. Usually don't have access and so can't share patient information.
- She works for state agency EMSA, who licensed facility providers are required to complete trainings. It is only the facility director who is required to have 1 hour of nutrition training but not classroom teachers but all home providers take it since they are independent. One hour is not repeated. Specific standards are set by EMSA to share about orgs like CACFP training and WIC.
  She's not direct contact with providers or parents. They offer no follow up other than what is on their website, which does link to many of the resources. EMSA sets the standards, review the curriculum and that is where their responsibilities end. They don't have staffing to do that.
- Very effective communication. Even though they are a non-profit organization, they work closely with the county.

1b. **What other types of resources exist, if any, that could benefit your clients but where referrals are not currently being made?**

- Mental health has been a "prime request" recently, especially in the last 3 months. The difficult part is knowing what aspect of mental health the patient struggles with, especially since today's environment is different than before as the family unit has changed. Their target population is low income and the number of singe households led by a single mom has increased and that has a significant impact on the equity issues serving the target population. Understanding the definition of a household unit and how does that household unit function and impact the ability of the mother or father to raise the infant in the first 1000 days of life is important. Also, there are many resources out there, but XXX and her team doesn't have time to figure out which resource to use. They have to filter the information and see how it fits their population based on literacy, how graphically appealing the resource is and if it speaks to their language. Lastly, even if they have the resources available, the participant may not be ready to accept it if the participant does not find it to be important for them at that time.
- Their campaign, Move More Eat Healthy, is about nutrition and physical activity and they have incorporated the mental health component because they know that mental health is a big factor that affects a person's nutrition and physical activity level.
- There should be a screening tool for social determinants of health for her HMO/PPO patients. For her HMO/PPO population, regardless of socio-economic status, they have a hard time getting mental health services. Mental health services are easier for those who have medical/medicaid, as they have access to a social worker.
- Clients need nutrition education or consultations, especially to learn about the importance of not getting gestational diabetes. Right now, there is only one place they can refer clients to for free nutrition consultations. They need more places to refer pregnant clients for nutritional advice that have no or low cost fees.
- They have access to many resources the problem is that organizations change. For example, they could have a service provider in their referral system, but when they contact them, they find out the provider is no longer providing the needed service, or their caseload is full.
- Her clinic is in Santa Ana, which is inner city with mostly Medical patients who are Spanish speaking. She sued to do classes on cooking and physical activity through a grant that ended pre-COVID. There is an onsite kitchen and many families need to learn cooking skills or how to cook healthier foods.
- Don't have feedback loop with WIC. Wants to know why juice is given.
- No other referrals even when probed.
- Foremost, housing in OC is hard to connect. Families fall through the cracks. Need more assistance. Second, more culturally relevant and geographically accessible mental health resources. Also, basic services. Safe baby cribs and other needs like highchairs. Start from birth on how to eat as a family in a highchair not on a lap or on the floor if there is a safe environment. Want to create good habits from birth . Chair instead of being on the floor with a bag of Cheetos.
- They do identify patients with mental health issues to social workers and social workers can refer patients to doctors if need be. Not sure if WIC has counseling.
- More programs for the ages 1-3, there is a huge gap at that age. At 3 years, we can refer them to Head Start. But children need to be enrolled as early as two months for a lot of home visiting programs where families get direct support. If families don't know about those programs (at or before two months), they miss out on the support.
- Nutrition services would benefit. No nutritionist to refer to. Refer to Raleys Hospital for obese and overweight. Sugar sweetened beverages is the biggest topic. Also overfeeding and what to put in the bottle. She has kids as young as six months old that are getting, juice, chocolate milk, coke. Juice is cultural and WIC provides it. Chocolate milk if won't take regular milk and soda to help them sleep.
- EMSA reviews curriculum, once approved it is implemented by the third party. UCSF does most of the training for nutrition. Reviewed every two years. Department of Education pays for the training. Bobbie Rose along with Mira are curriculum leads at UCSF. Do train the trainer trainings. They have a network referral throughout the state. Follow AAP standards, do a great job.

- Housing and transportation resources. They partner with the food bank and churches regarding nutrition.

### 2. Unmet needs around providing professional development

2a. For Clinic, hospital or Academic interviewees: **Education and professional development opportunities on nutrition is very limited for clinical providers. How would you like to receive continuing professional education on evidenced-based nutrition guidance for early life development in the first 1000 days?**

- Need to train staff to better communicate, especially with a culture of low literacy. Need more trainings on how to best communicate to individuals with different socio-economic backgrounds, sexual orientation and gender identification and to use appropriate terminology (breast feeding vs chest feeding). And to make sure that the communication follows the methodology of patient centered education, in which the participant tells you which area they want to focus on and how they are ready to do it. Additionally, before XXX's staff does telehealth, they need training on how to be filmed professionally regarding background, lighting, etc., as well as how to enter information into a web-based system, how to make referrals via QR codes/electronically, and who can do triage if networks go down.
- XXX had marked "no unmet needs" as professional development is part of their goals.
- Would like more professional development on food insecurity, housing security, as well as to know what resources are available for patients. More information on socio-economic impacts on health as well.
- She selected "no unmet needs" on the survey. Her organization provides opportunities to attend classes, but it is not mandatory for all staff to attend. Though the classes are highly recommended by the organization. Staff has access to nutrition classes that offer a refresher on subjects like breastfeeding.
- They are always striving to provide PD for staff. They used to be able to provide more PD pre-pandemic. But one of the benefits of the pandemic is organizations (like California WIC Association) have provided conferences virtually, meaning they can send more people to receive this education. For the last two years, all staff – from clerical staff to professional staff to warehouse workers – have been able to attend conferences and receive PD. That has been a big bonus.
- She loves to learn but time is an issue.
- Varies, they developed Feeding the future program for young parents on nutrition so she doesn't need to reference. It frees up your time. Her staff might benefit from training, front and medical assistants.
- No education regarding nutrition. Dr Lindsay gave a lecture but that is it.
  Would like gestational DM, no resources for patient education on this. UCI doesn't have a diabetes program and how to counsel on diet. They have a nurse that does diabetic education and program at St Joe but not many of her patients qualify.
  She talks a little about breastfeeding.
  Would like more education on gestational weight gain as she only knows the basics.
- National office works to stay current with AAP. Gave example of allergenic foods with info changing and so need ongoing updates from AAP on how to introduce complementary foods with the new changes in guidelines. They have plenty of funds for prof development with the county. All nurses become CLEs (certified lactation educators) so they don't have to refer out into the community.
  Their nurses cover in specific areas based on what client conservations lead them to cover.
- More team building- "using each other as a tool to learn more." Since XXX is a certified diabetes educator, her CEUs revolve around diabetes. She would like healthcare professionals to help their colleagues out more by doing like a lunch and learn. For example, a pediatric dietitian could give a session about information she has learned most recently. XXX has done this. She has given a quick presentation on weight management to nurse practitioners from her background as a dietitian since nurse practitioners speak to their patients about weight management but more from a medical perspective.
- Time constraints, with home visiting you have to be flexible with your clients. Sometimes we have to cancel meetings with staff due to the client's needs.
- Her org doesn't have this. If it's not about a tooth, it's not covered.

- Their website, which they don't check much https://emsa.ca.gov/childcare-nutrition/ We have people, technically right now are probably providing care, who've been childcare providers maybe 25 years so they never ever had to take any of the new trading childcare science, the science of keeping children healthy and safe has evolved, there's new stuff all the time you know there's thoughts about changing them.
  Children with comorbidities in care that is not provided ongoing training, potential health issues are going to be more expensive than that initial training and, and we know that there is difficulty for many people to pay for the training it's not cheap, but it's also you know preventive health once in a lifetime.
- Staff doesn't receive formal training on nutrition. They have a nutritionist on-site who provides education, and they will listen to her talk to the families, but they need more trainings on the transition from breastfeed/formula to cow's milk, education on alternative milk beverages, etc.

2a. For Community-based or government interviewees: **Time and budget constraints are common reasons that limit opportunities for professional development on topics related to early life nutrition. If free educational resources on optimal nutrition for the First 1000 days could be made available to your organization, how would you best like to receive this information?**

- Possibly need a hybrid of live classes, pre-recorded webinars/tutorials and digital handouts because staff all have different ways of learning. Professional development can be expensive, so it is best to determine first how staff learns.
- Webinars are wonderful, especially if they are taped because then you can take them whenever you can fit in the time.
- More professional development on diet. Common questions from patients include "what can I eat?, what can I not eat?, is this prenatal ok?" Online training would be best so doctors can fit it in at their leisure, but she also likes formal teaching sessions. More practical guidelines that can be incorporated in the screening of patients that are clinically easy.
- Provide professional development as part of mandatory trainings for all staff. Prefers live Zoom trainings.
- One of the challenges is scheduling staff for professional development time. Any PD or class time takes staff away from them providing services for clients. Leadership must also consider the amount of mandatory state trainings staff are required to take. The best option for delivering PD is to provide staff with a one-hour recorded session that staff can complete on their own.
- She's always open to learning, particularly if it is to the point. She wants to receive resources she can use with families along with education for her.
- Lunch and learn workgroup with handouts if available. Not interested in online training video. AAP has a great set of resources.
- As an OBGYN SHE would want anti-natal, pregnancy nutrition information. Her RN and medial assistant might benefit. But she doubts they get any questions. Her patients are high risk so they have bigger concerns.
- They have more flexibility to attend trainings than most agencies. With pandemic they have learned how to use webinars and see the value in virtual environments rather than in person conferences. Even prerecorded. Beneficial to have certificate of completion or CEUs are always a benefit.
- XXX would like Dairy Council to give a class with CEUs or a booklet on how Dairy Council creates their resources. A lot of people are using the handouts as they are colorful and free. Dairy Council's resources are used in the different clinics and other healthcare professionals use them like in pediatrics.
- Pre-recorded webinars with a questionnaire before and after the lesson and a certificate. If a training doesn't have a certificate, staff will not want to take it because it doesn't count towards their hours of professional development. (2) Presentations from other organizations at staff meetings. Staff meetings are required twice a month for an hour. (3) Classes that can be completed at your own pace.
- All staff and dentists. Some families come in monthly so they can start the conversation and she and her staff are trusted. They can get them started and where they need to go to the next steps.
- Hospitals are a good place when new moms go home. Parents need to receive frequent and simple messages. Start giving messages with OBGYNs before birth. Need it often, simply and at different places,

where they are going to be. If you say it once, it is not enough. Phone messages works for SIDs education and she recommends this model. Also, school is a place moms are.

- Given we live in the covid era, pre-recorded webinars are best because they are more convenient.

**2b. Many survey respondents expressed interest in learning about nutrition for early life brain development and how maternal stress affects nutrition and development. How, if at all, do you feel that further professional knowledge on these topics could benefit the families you serve? What type of audience would be best to receive this type of education? What about other staff?**

- Need to find the best medium for the learner and it has to be entertaining.
- XXX thought that it would benefit the families greatly because if they understood the impact that maternal stress has on the growing fetus then they would take measures to reduce their stress, make sure that they are eating well and that it would have positive outcomes for the baby. She believed that any woman who is thinking of having a family should receive this education, as well as anyone who goes to an OB-GYN. Other people who should receive this education are those who go to WIC, the dietitians at WIC, early childhood development programs, community centers and anywhere where there is food distribution. She would like simple written tips that could be distributed with food and that were available in multiple languages including English, Spanish and Korean.
- She thinks that a lot of patients would want to know more about nutrition for early life brain development and how maternal stress affects nutrition and development. She does not know this information as a doctor. Dr. XXX said that all patients would make dietary changes if they knew that there were dietary modifications or recommendations that would optimize brain development. Mothers would be best to receive this information. Not sure about other staff. They have more medical assistants than nurses and Dr. XXX was not sure if learning about this information is in the scope of work for medical assistants, but if it falls in their scope of practice, it might be worthwhile
- She would like more information to share with moms who are under a lot of stress. She would like more knowledge about how to talk to mom about stress reduction, self-care, and post-partem depression.
- This is extremely valuable information for parents especially because they deal with high-risk populations and those who at most risk for pregnancy complications. However, any nutrition education that they provide to families has to be vetted by the state WIC program. One of the platforms used by WIC is WIChealth.org. Clients can sign up to take as many classes as they want. To provide this education for parents, she suggests reaching out to the state WIC program and propose these classes. WIC is moving away from in-person education and providing more virtual classes. They receive about 15-20 virtual attendees at a time. Pre-pandemic the clients complained about going to classes. Now with virtual live classes, families are signing up for multiple classes, staying engaged and asking lots of questions. And if they are taking WIChealth.org classes, moms can complete these on their own time. The attitude from parents is much different compared to when they mandated clients to participate in in-person classes (pre-pandemic).
- Yes, but needs it to be quick, to the point. Want resources to go along with it. She wants to refer to an adjunct location/office for services.
- Yes, providers such as doctor, NP or physician assistants. Not other staff. Sounds interesting more important for OBGYN.
- The patients would benefit. She deals with high risk patients. She sees a lot of late transfers so not a lot of early interaction.
- Think that is a fantastic topic. They do a lot on perinatal mood and anxiety disorders. Understand what to look for and the impact of trauma on themselves and the child. Look at infant brain development and SDOH and how it affects brain development.
  Talk with families on impact of violence and brain development. Start at pregnancy. Teach baby starts to hear at 16 weeks and encourage reading to baby. Goal is to create stability and structure in the home. Impact of violence in utero and first few years of life. Everything they learn they pass on to their families.

- She thinks that maternal stress is an important topic that is not addressed for her patient population. So many of the patients that they serve have maternal stress and are overly stressed-the patients are working 2 jobs or they have many people in the household; some come from parents who are drug addicts. XXX said that if the healthcare professionals could teach the moms methods to help with that stress or connect them with a social worker who can do that as well. XXX's clinic has 2 social workers for the moms for that reason. XXX mentioned that patients don't always see the link between stress and outcomes for their child. If patients knew the importance of managing stress that would benefit the baby in the long run, the patients might be more willing to manage their stress. Also stress management is important for postpartum moms as well (especially first time mothers)- XXX had a postpartum patient struggling to lose weight and was really stressed.
  Additionally, XXX revealed that she was curious to know whether stress hormones were released in breast milk.
  Lastly, XXX said that the mom, the nurse practitioner and midwife (anyone that comes in contact with the patient) should receive this type of education about maternal stress and nutrition and development.
- More knowledge about this would encourage us to speak about nutrition with mommies more. A lot of the time, we focus on aversions to food instead of focusing on foods good for brain development. Workshops for moms would be beneficial so they can learn how to incorporate those foods (good for brain health) in her child's diet in the future. Giving a parent a cookbooks or recipes is not the same as having the in-person lesson. Include WIC foods into the lesson since many moms depend on WIC foods and teach them why they should eat these foods.
- Maternal stress is a huge issue and she'd like to know how to screen for it and how to recognize it. Financial stresses are an issue and lots of grandparents raising grandkids and they may not be following good practices. Then she would like to know how they can get services. She defers to social workers as that is the only option.
- Her providers would be interested in brain development which is part of one of their standards. They don't provide parent resources but ask directors to share resources with teachers to share with the families. But while they are required to this, they don't audit. UCSF, who created the nutrition education, does audit.
- She thinks that it would benefit the families greatly. There are families that have to jump through a lot of hurtles so it is important to give them the tools. Some families come from rural areas and have never received any formal nutrition education. Moms can come to their organization when they are 8 months pregnant and have never received education.

**3. Part of Collaborative – YES**

- XXX said that they share a couple of workgroups: County Nutrition Action Plan (food and nutrition program to address nutrition insecurity); Nutrition and Physical Activity Collaborative (nutrition and physical activity across all spectrum); Early Childhood Workgroup; Orange County Perinatal Council; Headstart; etc.
  The benefits include using common messaging and creating an environment for their families to know that there is one consistent message.
- They are involved in a number of collaboratives including school wellness committees, the healthcare agency, Orange County Department of Education, Second Harvest Foodbank, Community Action Partnership Orange County and they work closely with the city staff and city council. The benefits include greater impact and reach.
- Yes, they network with agencies that they can refer their moms to for further services.
- XXX tries to get involved with as many committees as possible. She is very engaged with national WIC association and on the board of CA WIC association. In Orange County she is involved in food insecurity groups, OC perinatal council, and other groups that address health, nutrition + diabetes.
- She's in a large practice so that is most of her collaboration within UCI three centers and medical students. AAP local and environmental health committee with Marni Granados, MD peds at CHOC, CMA, but that is it. Pre-covid did volunteer work on Casa ? shelter for moms on cooking meals. Also volunteer for OC MOMs.

- Board member for AAP OC chapter and with CHOC subgroups, ECOP.
- Not that she is aware (she didn't talk much, as an MD at a University, I think she would have more than most)
- OC Perinatal Council. Small grant with First 5 OC to fund home visitation on child development and access and use of health care to keep kids on target.
- No, but she is involved COI, San Diego County Childhood Obesity Initiative, California for less soda, and Anderson center oral health dept advisory board, which is about advocacy and outreach to help patients get referrals. These are all on her own.
- They are part of the Early Childcare Ed committee. XXX seems very connected through her 30 years of work
- They work with Kids First and Lincoln Lighthouse, which helps them to reach more people.

**3. Part of Collaborative – NO**

- Not that I am aware of. Lack of awareness is a barrier to accessing such a collaborative.
- She'd like an organization that had all the resources centralized. A one stop to answer all obesity related questions. Patients keep gaining wt so what they are doing isn't working, especially after pandemic. Most pts, especially after the pandemic are gaining weight. She has kids gaining 20 to 40 pounds in a year and they should be gaining 5 lb/year. They aren't active enough and are eating poorly.
- A lack is consistent message and AAP members would like to sign up for a local listserv. AAP has a nutrition resource for national. She'd like local for referrals. The AAP OC has a no child hungry project that links to WIC and Candice was working on a nutrition work with Mike Weiss.
  This is the link to AAP to program and project so they are lacking. Maybe we can add us here?
  https://www.aap-oc.org/initiatives/no-child-hungry/
- So busy can't do more. But a listserv is okay.
- Yes, they finish at 2 years old and supportive services after age 2 and before they get to early Headstart or Kinder, so between age 2 and 5 years old. Help kids stay on track. So a collaborative on who has library services, play groups, other services that work to keep kids on track before they get to school. Listserv have enough professional input but would like to talk about local needs, such as how to get into specific local services accessed. Would want subgroups of a listserv.
- Yes, there is a benefit - provides more resources for the organization and families. Barrier is time.
- She would like more interaction that is structured through her system.

**4. You expressed in your survey response that… and Q18 fourth response, are common nutrition-related concerns you hear from families in the first 1000 days. What, if any, unmet needs do you experience in adequately addressing or alleviating these concerns for families?**

- Time to give families resources and time for the families to want to learn it. Also, there are so many resources out there and it is important to know which resources are valid from a credible source and practical for families.
- One of the biggest challenges is getting families on board prenatally and then during gestation. She doesn't think that people realize how important it is to be at a healthy weight before getting pregnant and that there are specific guidelines about how much weight women should gain when they are pregnant and she doesn't know if that is being communicated via the OB doctors. During pregnancy, it is important for patients to know what to eat and that what they eat goes directly to the baby. They should have information on whole foods vs processed foods. Then once those babies are born, there should be a focus on breastfeeding, and helping moms understand how to make breastfeeding work.
- Lack of time
- Need more nutrition education classes for moms about feeding infants and toddlers. During video calls with moms, staff will notice babies look too heavy for their age. Moms are often overfeeding with bottles. "Chunky doesn't mean healthy."
- Breastfeeding rates are low even though they have a huge breastfeeding department and many resources. Getting and keeping momentum for breastfeeding is difficult.

- Need more resource for overweight. It was hard to keep her focused on 0-2 year old, so this represents broader peds. She recommends setting smart goals. She wants to have clients come monthly vs 3 months. Make the appointments quick to emphasize what doctor said. Need more help with additional types of staff to divide out responsibilities since she can't do it all in a 20 min appointment. Patients have only so much time. All moms and dads know how to cook issue is eat breakfast and lunch at school and parents buy FF and junk food. She thinks SFS is why we have obesity. Choco milk, juices, lots of corn dogs, nachos, burgers. How can these be good for you for 10 months. Salad aren't spinach and only Ranch dressing, little carrot. Eating school meal and what they brought from home. Also, lack of exercise. Safety, no parks and don't have bikes.
  Don't but probably should screen for food insecurity. Parents ask about how to feed in addition to what to eat, so behaviors and body image.
- Most of this already happened. In community not enough on iron deficiency and ways to prevent issues through treatment beyond giving iron, which isn't always the right solution. Optimize iron intake but don't treat or don't do other testing to find issues. Lack of knowledge by OBGYN community.
- Formula- how much formula, because WIC doesn't give all you need for formula so how do families plan for that. WIC doesn't explain they don't offer all that they need.
  2. A lot of food insecurity in OC. They ask hunger questions such as "if afraid not to get enough food."
  3. Lots on inconsistent info from Pediatricians on how and when to intro complementary foods and what to put in bottle is different than what they say. Some MD say to put food in bottle to help baby sleep through the night or start feeding even if don't have good neck control. Need similar messages, universal education similar to the clear message to put babies in a car seat. We don't have Pediatricians consistently and how to safely introduce food. Very confusing to families. 4. We need better understanding of cultural food traditions and make healthy and safe food choices. How has a family fed themselves for three generations? How do we take those traditions f their culture and make healthy and safe choices for their child? We aren't doing a good job of that in our community.
- Regarding the topic of food allergies, XXX thinks that there is a disconnect in the referral as there may be the question as to whether the patient has a true food allergy vs intolerance. She would like more communication with the doctor to determine if the patient has a true food allergy vs intolerance and for doctors to do tests to determine the true cause. This is important as XXX does not want to tell parents to do something that could hurt the child, such as be too restrictive.
- Mixed messages between doctors and organizations providing services. There's a disconnect when mom goes to the doctor and then comes to us. We will praise the mom for having a healthy, growing baby. But then she goes to the doctor and they tell her she is overweight or overfeeding the baby. Mom is constantly concerned about giving the baby enough nutrition. Which can lead to parents putting cereal in the baby's bottle instead of focusing on breast milk or formula. Concern about teething: when babies start to teethe, instead of offering the baby a fruit or vegetable, parents will use the pacifiers, which takes away the baby's ability to talk or signal to mom they are hungry. Concern about starting solids: Parents sometimes puree fruits and veggies and put it in the bottle because they say the baby isn't chewing yet so the baby gets used to sucking. Instead of offering all pureed fruit and veggies, they should be offering solid food when the baby is ready.
- Breastfeeding rates are pretty good for her population and culturally accepted. The hospital offers lactation support. They ask if they should stop breastfeed and she says stick with it as long as you want but need to educate to brush teeth, healthy diet etc.
  Picky eating one of the most important to parents and she talks about it's an appropriate development stage to reduce food intake. Culturally it is an issue if not eating enough, particularly with grandparents. Another issue is filling up on juice before meals.
  Weight gain is an issue. Very cultural especially with grandparents raising healthy kids, they see more weight as a sign of good health.
- Topics covered are many such as food introduction, gardening, prepare foods, must introduce foods with parent permission for allergies. Don't have time to add anything. They are giving an intro, not in depth, which would be better.
- Not being able to always help families from day one is an unmet need. They receive referrals from schools, hospitals, social workers but organizations still don't know they exist.

5a. **Which modality do you find most effective?**

- In person is always most effective. Due to covid, XXX and her team teach virtually but try to create environments that emulate being in-person. They have found that people can actually be more active virtually off camera due to the chat function. It's a different way of being heard.
- In person is better because you can make eye contact and observe body language. It is important to provide a variety of techniques because there are different types of learners. For example, they have campaigns that focus on physical activity, eating healthy and mental health. They ask the participants to commit to one goal and then they hold the participants accountable by calling them to see how they are making progress.
- Handouts and digital links/resources are useful, and one on one counseling. Paper handouts are great for patients with medical/medicaid.
- Paper handouts. The handout reinforces the messages provided to the mom. Often uses the Dairy Council of California pregnancy program to teach moms about food groups and portion sizes.
- The modalities can change and evolve. The key is keeping up with the needs of the population and ages they serve and addressing how they like to learn. For example, spreading these messages on the most popular social media at the time (now TikTok). Five years ago, they agency did their own graphics and social media posts. But now, they have a graphic designer and artist to ensure their messages are accepted.
- Have one handout that is good everyone can use. She has one that a medical student made of how much sugar, 6 tsp/day, after age 2. Want less sugar/juice. Likes it because everyone drinks juice to bring awareness to families of the sugar. Need consistency between what all providers share. Need very simple messages.
- Counseling is most effective but most time intensive which is why they created program. Need 26 hours with provider to make nutritional change for obesity according to US prevention task force.
- One on one counseling
- Hands on, is #1 and visuals. Have teaching boxes that appeal to visual, tactical, etc…Give them a food label handout and then pull out of their kitchen a food label. Some families have HS or lower education so they use teach back to make sure the get the information. She thinks tactial and visual are most effective. Telehealth is also working well.
- The modality that is most effective is the paper handouts, because XXX does counseling with the handout in front of her, which allows her to jot down goals when they come up. She will also write on the handout and tweak them for her patients. For example, for her pre-diabetic patients, XXX will indicate that starchy vegetables like corn and potatoes, as well as beans, will affect the patient's blood sugars differently. XXX mentioned that she cannot yet do telehealth via the computer as they do not have a computer camera. When she educates over the phone, it can be difficult without the handout so she will mail the handout to the patient and then schedule a call with them once they have the handout.
- Virtual telehealth interviews: can talk to mom and answer her concerns and can look at her to see if she understands. A benefit to telehealth is you can show a handout to her at the same time and explain it.
- She offers paper and digital but finds that neither are effective. She uses the rethink your drink tip sheet and likes the two Potter the otter books.
- UCSF programs are free. They update it every two years. 90% of programs use UCSF education. It was in person and with pandemic it can be online it interactive. Zoom works well for rural areas. Asking if they can offer to continue online, under consideration. Option for those who don’t have transportation.
- In person is best. Besides in person, zoom classes will do for now because it's the covid era.

5b. **What barriers or limitations, if any, do you find in using these modalities?**

- Because of covid, XXX and her team teach virtually. Limitations to virtual learning include network access, quality of network access, and distractions from families members.
- Not everyone has internet/technology.

- One on one time with physician is not feasible, but she would love to have a dietitian talk to patients, especially those with limited resources or obesity or pre-existing diabetes, for example. Other barriers include literacy levels and access to digital handouts. For her HMO/PPO patients, they can access their medical record electronically so digital links are accessible but digital access is more difficult for medical/medicaid patients.
- She emails the handouts to clients after Zoom meetings. Some clients have trouble accessing their email, or finding her email, so in that case, she will take a screenshot of the handout and send though text. Text message very effective, clients are response.
- Their audience are low-income families who may not have access to the newest phones or internet. The barrier is reaching everyone no matter what tools they have. For example: in downtown LA, they serve a population heavily populated with new immigrants who do not have access to many tools (smart phones, high-speed internet) so they want in-person lessons. They have had to maintain in-person communications with these types of communities. For some immigrants, learning how to use the WIC card to buy their food was very challenging.
- Need to have time to walk through handout with families and they don't have the time.
- She only gives out paper hand outs because she doesn't have access to digital and they don't ask for it.
- Lack of time is an issue. Appointments are 15 minutes.
- Have not optimized the use of text. Didn't b/c were at home, more of a need with pandemic. Barrier is families have inconsistent phone access of don't pay bill or run out of minutes. Or they get a new phone number and her staff don't know it. The reality is that even though it is 2022 they still have families that don't have consistent access. Need to do this in the future so they can tap into the information through a link when the moms want to access it. Have not optimized the use of text. Didn't b/c were at home; more of a need with pandemic. Barrier is families have inconsistent phone access of don't pay bill or run out of minutes. Need to do this in the future.
- Not yet having a video camera on the computer to do telehealth. When she calls the patient over the phone and educates, there can be a lot of distractions for the patients while they're on the phone.
- Not everyone is comfortable on Zoom; Not everyone has Zoom so we have to use Facebook or Whatsapp, meaning we then have to use a printed version of handouts that are hard to explain on camera; With texting, we don't really know if parents are using the information. Also (with texting), you can find really great resources in English, but the Spanish version either doesn't translate well or doesn't exist. One example is Instagram posts from accounts that post about local resources like free food and diapers
- Messages are forgotten with the current delivery system.
- Their population needs reminders as they are very busy.

### 5c. **What additional modalities, if any, would you like to consider?**

- XXX has thought of doing a Ted Talk. She has a vision of a Ted Talk with different counselors at a grocery store and they can answer questions from callers about tips on shopping.
  She thinks that Dairy Council can do a Ted Talk like that, targeting the population that are least likely to drink milk.
- Automatic text messaging.
- Group sessions for breastfeeding and newborn care (zoom classes for now for those who are at low-risk).
- Moms want to learn via pre-recorded video or in-person class. For example, short videos (5 minutes) about nutrition, like quick recipes.
- More translated materials. For example, a current challenge is communicating with the new immigrants such as the Afghan refugees. In addition, making accommodations for clients using American Sign Language is difficult and very expensive.
- Incentives with their Feeding the Future like bottles, sippy cups to show what they need to decrease bottle use. Or as a poster.

- Handouts would be good on topics such as immunizations, nutrition, weight gain, breastfeeding, genetic screening. Or a packet of resources.
- Short two minute videos that are free are hard to find to share with families. Need it to be current. They have to purchase. Would like short videos to follow up on topics they discuss like food allergies.
- For patients with low interest in being educated, it doesn't work to educate them over the phone-connecting virtually via a a monitor would be best. If XXX is educating a patient with low interest in person, she starts off with having a conversation with the patient, asking them what interests them to help develop a rapport. Otherwise if she just starts to educate them and they're not interested in the material, it is a waste of time.
- (1)A package of information for moms that provides resources/information about nutrition and what they can access in the community. (2)All-inclusive website of resources for moms. 211 is great, but can be hard to navigate. Even if moms call, it can be a really long wait time for them to speak to someone and get the help they need.
- Need to reinforce the message and to have the family believe the message. Consistent messaging over time and having message be consistent from all types from providers. Then it would hit home. Survey comments: expanding appointment times to allow time for the discussion. Being able to bill for follow-up nutritional counseling appointments.
  To include pediatric dentists in your campaign as we see these children often and can assist in echoing many of these messages that they are getting from their OB or Pediatrician
- She rarely talks with childcare providers.
- They need more paper handouts for moms when they first have their baby on nutrition. Flyers with recipes or colorful flyers with information when baby arrives. In this cell phone era, everything is through cell phone. They call their population but sometimes the voicemail is not set up, or they text their population but their population is illiterate.

**6. What are some of the ways your organization can adapt or improve services / programs to support the adoption of and continuation of breastfeeding?** *Q19*

- There should be an institution that provides 24-hour support for breastfeeding, because finding adequate support for breastfeeding parents is a chronic problem.
- Their hospital is family friendly. For the community, they partner and encourage new moms to breastfeed and go to WIC. Her team does not do a lot of education on breastfeeding. They encourage and support it but that is not a big focus for them.
- She would like to have outpatient lactation support.
- The agency offers breastfeeding support, but there is a small fee. There are scholarships and reduced fees offered, but moms don't usually want to wait out this process. By the time they are contacted by someone, they have quit breastfeeding. The agency can improve by offering free breastfeeding support after giving birth.
- More funding or grants to support those who are interested in International Board of Lactation Consultant Examiners certification. This is an expensive course and many students are paying out of pocket. There are so few International Board Certified Lactation Consultants that work in the WIC program and the program continues to lose them to hospital jobs who pay more than WIC. Also coordination between hospitals and WIC to promote breastfeeding and support moms who wish to breastfeed. The conversation about breastfeeding should start at the beginning of her pregnancy and continue throughout. Messages about breastfeeding should come from both WIC and doctors. Make breastfeeding the norm. For example, push more public campaigns about normalizing breastfeeding.
- Mostly Hispanic and on MediCal. Perceived low supply, not getting a pump from insurance and need to get the machine because they didn't do it when pregnant. Most don't breastfeed if give birth at OC Global hospital. Many of the moms default to formula because it's what they do in America. Also feel they need to give a bottle formula in public. Better breast feeding initiation if give birth at UCI or St Joseph, in her opinion.
- Peer conversations would be inspiring. Older families members who are less supportive it would be nice to have examples of success and do away with myths.

- They are trauma informed but it may not be the best approach to say "breast is best" especially with black families. While they know that breast milk has more benefits, it may not be an appropriate message for some audiences from a trauma informed approach and this may not provide choice which is not recommend based on research. Ask what they know about breastfeeding. It's always about client choice. Research from Canada says breast is best is very traumatic and saying it makes moms feel less competent. Ask what their intent to feed their newborn. Always provide breastmilk but don't push it. They adhere that the client is the expert in her life and the RN is there to walk with the mom.
- The org is very supportive of breastfeeding. However, when we transferred over to telehealth it was hard to demonstrate breastfeeding to moms. We needed additional equipment like a pump. Every year staff renew breastfeeding certification, but monthly/yearly cohorts would be nice to refresh. Especially during COVID when moms were afraid to breastfeed.
- There's a lactation dept. She's doesn't talk it about it as most are breastfed and get a lot of support at home.

**7. What are some of the ways that breastfeeding can be better supported, especially during transitional periods that lead to breastfeeding declines?** *Q20*

- Having 24-hour support. Also, it is important to understand the environment of the child, especially in those low income environments and determine who helps with the caregiving and provide more support for all caregivers, like a mother's play group, best friend helping support the child, neighborhood groups, etc.
- Moms should have access to a lactation educator early on. In the hospital everyone should have some education on hydration and nourishment.
- Having a close post-discharge follow-up and follow up with pediatricians, especially within first week of life. Also, follow-up with a lactation consultant.
- More support with breastfeeding and offering support more often. One questions that is asked of mom during her pregnancy is if she plans to breastfeed. If she says yes, she should automatically receive more support.
- WIC has Peer Counselors who manage a caseload of around 100 moms each. The Peer Counselors guide moms from pregnancy and provide breastfeeding support. But WIC does not have enough Peer Counselors to check in on moms more frequently. WIC does a lot to support breastfeeding including calling clients' place of work to tell employers about breastfeeding breaks law and providing pumps. But they could do more, just don't have the resources.
- Trained lactation consultant. Only WIC and used to use MOMsOC but not since pandemic.
  Early weaning for work and not knowing their rights to pump at work.
- Not enough pumps in California! At the least give manual pumps. Need to let families know what is available is key and easier to be successful, and one of the big things is pumps if going back to school or work or want support from their partner. Percent of moms that are teens pre 2020 was 95% now 70-75%.
- (1)Educating mom about changes that happen gradually with breastfeeding. The biggest complaint we have is moms saying their breasts are not full anymore. We typically perform 3 one day visits in a row (for breastfeeding help) then once every 2 week visits, but having an organizations to fill in the gaps would be beneficial so moms are constantly getting the same information and feeling empowered. (2)More support groups or text group if moms don't feel comfortable talking to someone. Some moms try looking online, but they can get overwhelmed. Used to refer to WIC's breastfeeding hotline, but mom would prefer to text, especially after hours. (3) A partnership between WIC and doctors would be beneficial in helping moms get the same information. There is conflicting information about breastfeeding from WIC and the doctor. Especially about jaundice. WIC encourages moms to continue to breastfeed, but doctors say to stop and offer formula

**8. What are some of the ways your organization supports families in transitioning their child to solid foods?**

- Right now, XXX and her team are doing a Books for Kids campaign where they are surveying their families to determine who is the childcare provider, such as through Head Start or a licensed daycare or

who is providing for the child at home. Then they will target who to give the nutrition education to, which will be helpful when determining who provides the child with sugar sweetened beverages, for example.

- They don't do a lot of education on this topic but they recommend that they gradually transition and expose the babies to a lot of different foods and stay away from processed foods.
- Pediatricians help with this.
- She begins talking to parents about transitioning to solids when the baby is around four months. They suggest mom begin feeding solids around six months and look for cues like neck support; start with vegetables first, instead of fruit, because of the sugar and to be aware of food allergies by introducing only one food at a time. They also discuss making homemade baby food by pureeing.
- WIC completes a comprehensive nutrition questionnaire with families every 6 months. Between 0-12 months, they have several contacts with mom to discuss transitions. Between 5-7 months, they discuss transitions to solids and guide them with handouts approved by the state. At 9 months they talk about making their own baby foods. Moms get a lot of education and support. However, their message isn't always aligned with pediatricians' messages. For example, WIC does not advocate for starting solids until 6 months, but some pediatricians say 4-5 months is OK.
- Give out a lactation phone number but wants someone on staff because moms give up breastfeeding. She finds higher ed older moms struggle more to start breastfeeding than low SES younger moms. Hispanics are good. Younger moms or many children less likely.
  Example of mom who wanted baby to be vegetarian and provided coconut milk, no protein so she referred to an RD. Most goes to cows milk and issue is moving to LF after age two.
  NIDO is the toddler milk. She thinks it is not a big deal, probably okay.
  "This is my opportunity to vent about juice". Why does WIC give juice? She doesn't like it. If she had all the time in the world, it would be the first things to get rid of. Why would an institution give this? Why do we need it? They take it because it's free and then WIC says to dilute it. Would rather substitute with another food. She tells moms to ask for a substitution. She doesn't understand why WIC would promote it.
- Introduces solids at 4-6 months old. That isn't an issue, they often start earlier. She keeps it basic and healthy. Milk, keep amount reasonable and if don't want cow's milk, they don't need cow milk for nutrients. Yogurt or cheese but not alternative milk because not equivalent. Toddler milks aren't needed NIDO is an example as they are not FDA regulated.
- Do a lot on what their plan is. Buy or make foods? Talk about head control before feeding, creating eating routines and safe place for everyone to eat. Teach a lot of that before 4 months so they can plan before the baby reaches this stage. Most families have WIC.
  What to do if someone else is feeding kid- grandmother or dad. Think through scenarios on how to be successful and if the other caregivers will support the moms desires.
  At 6mo want sippy cup with water, milk/formula. Age one no bottles. Talk about what WIC transitions to milk at one year. A lot of families use NIDO or toddler formulas. Ask why and how they are covering costs. Not much on alternative beverages. Not many vegetarians. They eat dairy and mainstream. Juice, no more than 4-6 oz/day and none for under 6 months. Use APP policy statements from Committee on nutrition.
- When XXX does prenatal care counseling, she will ask her patients if they're interested in breastfeeding and then she will encourage them to breastfeed and give them support and let them know that there is lactation consultant who can help them. She also tells them that she is available to help them up to a year postpartum to see if they have any questions about their nutritional needs or the baby's nutritional needs.
  XXX mentioned that she does not have any handouts to give to postpartum moms regarding the nutritional needs of the child for the first 3 years of life. She would be interested in receiving a handout to fit this age group that could include information about what types of foods to introduce at what stage, foods that are choking hazards, etc. She mentioned having handouts with "basic common sense" as she has patients who are young moms, like 14 year olds.

- We meet with the mom when the baby is 4 months to talk about introducing solids, why they are ready for solids, dangers of putting substances in the bottle, hunger cues, allergies, show videos and text them information about starting solids.
- She doesn't have conversations on moving to solid foods. She had her first patient with a mom of a 3yo who has mostly drank milk, juice and formula and is getting most of his teeth extracted in the operating room. She didn't know that is a concern and she needs to have this conversation with more patients. Nido is a heavily marketed toddler milk is high in sugar. She recommends whole milk. If asked about artificial milk- says to talk to pediatrician and she gets that question.
- Cover healthy beverage act. Recommend no more than 6 oz fruit juice and encourage whole fruit instead juice. Say better not to give juice, but family and daycare should limit juice as if both serve, easy to go over limit.
  Child Care Aware is a national org that keeps track of child care in every state, https://www.childcareaware.org/. They have resources. Look into this. They may have a survey on nutrition but may not be new.
  Alternative milks- most questions on this were 2016 when started training. Taskforce experts ask what are substitutes. Recommendation is to get note from pediatrician. Focus is on breastfeeding and transition to whole milk not nonfat milk.
- Very informally. If Nidia doesn't know if the information is a fact, then she will not share it. As mentioned earlier, they need more trainings on the transition from breastfeed/formula to cow's milk, education on alternative milk beverages, etc.

**9. In the survey, you indicated that some of the ways your organization tailors its services to meet the linguistic and cultural needs of the communities you serve include…**

9a. **How has this been effective?**

- It gets the job done.
- It's been very effective because they have been able to reach those populations that have been missed. They have a program called Resident Leadership Academy where residents live in the underserved communities and go through a training of all the determinants of health. This helps the residents have a better understanding of how the environment has a major impact on health and can better understand the needs, culture and belief systems of the patients. If a program were to launch around the First 1000 Days of Life, then those residents could help provide resources and education to the young moms.
- She doesn't know how it's been effective. She knows that they offer those services. She believes that their federally qualified health center has Spanish speaking community health educators who are more culturally sensitive and natively speak Spanish.
- It had been very effective. If they don't speak the language of a client, they will find a translator. This year was the first year they began offering breastfeeding classes in Vietnamese. This has helped to increase their Vietnamese clientele.
- If we are assessing the effectiveness of change in behavior, she says yes, they are effective. All the studies on WIC have shown the rate of obesity is lower for children participating in the WIC program. Also these children are healthier as a result of participation.
- Must speak Spanish to work in Santa Ana. Everything is bilingual. Content is lost in the translation. Takes longer for appointment if translating. Many other ethnicities: Afghanistan, Middle East, Korea, Chinese, Vietnamese, Russian, Romanian, Japanese. All over the world then need to work with translation.
  Hard to work with deaf/mute families.
- Peer educators, dolce group is relatable. She speaks Spanish which helps.
- Depends on the language. Spanish is easier as they have staff who speak it. In other languages like Vietnamese or Arabic she has to trust what the interpreter is saying since she doesn't understand it. Also those groups rely a lot on their partners to translate so they don't like to use interpreter services they provide but that is what they are supposed to use. But patients don't like service, prefer family. Translation is a live audio/video.

- Find out what they are eating, iron intake, water. Understand family's cultural beliefs and share what is healthy in pregnancy and where it could be in conflict. More effective if they can have conversation and open dialogue.
- Very helpful. XXX wouldn't be able to educate without the written material in Spanish. A lot of her clients understand English but they would prefer to have the written material be in Spanish.
- Clients feel more comfortable talking to someone who is part of their cultural so they can relate to certain beliefs they have. Sometimes moms don't answer a phone call from someone from a different culture.
- Best she can do is offer interpreters.
- Very effective because when their families call for services, they don't know English and will throw out resources in English. Nidia and her team tell the families to not use google to translate or use a child under the age of 18 to translate. Need bilingual and bicultural staff.

9b. **How can your organization better tailor services to meet the needs of the diverse communities it serves?**

- They evaluate their services consistently.
- They are constantly learning and trying to improve what they do to better serve the communities. It's always changing.
- She doesn't know but it would be helpful to know.
- They are lacking in serving the African American community, and would like more information about how they can reach out to this community.
- Where she feels they haven't been effective is being able to reach all people who qualify for the program. They are not able to meet everyone where they are because of many factors. For example, recently there has been an influx of Afghan refugees and WIC knew they were in need of services. Their staff camped out at the hotels the refugees were staying at to enroll them in the WIC program. However, WIC does not have materials in the languages this community speaks. They need these resources, but it takes awhile to get translated, approved materials from the state.
- Frustrating there are so many obese kids and don't know what else to do for them. You can't fix their social or financial status. Hard for them to understand because of lack of education. Referrals, would help lie to RDs, also help with lactation, transition to solids. Moms have low knowledge in general and how to transition to solids. They probably don't spend time researching. She feels it's the provider that is doing the education because she is there. Would like to have other experts available to provide that education but she is the one that has the access and gets the questions.
  She can counteract what grandma says and as a native Spanish she can say things others couldn't. Not sure about other populations as much.
- She feels with peer educator they provide good services. Adding in house lactation for outpatient group would be great.
- Handouts in multiple languages. Mostly Spanish, Vietnamese, Chinese languages mostly Mandarian, Korean, Arabic.
- 80% are Hispanic and 13% white and limited Vietnamese. Part is cultural not sharing if teen pregnancy. If grandma is buying groceries the mom may not have much say. Her RNs are more successful if the families are engaged. (Getting families engaged seems to be a key for effectiveness.)
  Seeing more Persian cultures. Do a lot of learning with questioning. There are even microculturals, even among Hispanics, their largest audience.
- The county does a good job in offering interpretive services with so many languages. For example, XXX had a 3 year old with diabetes and she spoke a middle eastern language and that interpretive service is good to call on. They even have signing with a video.
- Translated materials - sometimes language is too advanced, and clients need more pictures and visuals.
- Need to hire more staff as they provide many services including participating in health fairs, distributing food, etc.

**10. When during the first 1000 days do you consider families most open to learning about nutrition?** *Q12*

- It depends on where the family is at. It is important to get to know the family and see what is important to them. Possibly an assessment should be done on attitudes and skills. You first address the attitudes and then that drives the desires and then the family should do an assessment and see if they have the skills to do it.
- That is a really good question. It depends on the person and whether they are excited about being pregnant. That first OB appointment could be a great way to educate if they're excited about being pregnant. In the hospital, they should be promoting breastfeeding.
- The first prenatal visit-that is when she gets the most questions about diet.
  2. Postpartum with pediatrician, focusing on transitioning to solids.
  3. Breastfeeding, like the benefits of breastfeeding. If women knew more the maternal health benefits and neonatal benefits
- At the beginning of pregnancy. In her experience, when the client isn't interested in nutrition education from the beginning, she doesn't really change her mind. If the mom sees that diet and PA make a difference, she will be more likely to continue those habits throughout the pregnancy and post-partem.
- It depends on the mom. When she is pregnant, she will take interest because she wants what's best for the baby. At 6-12 months, mom is hearing about transitioning to solids and will take interest then. At ages 1-3, mom is dealing with picky eating and becoming in tune with their children's diets.
- Classes for 6 months old.
  Families don't know how to access MyChart because some are not good with technology. She has to help them get set up. Moms may benefit from classes but may not attend.
- Around 6 month and 15-18 months when they get picky.
  From her survey: Feeding the Future program: I am also the UCI CHOC Residency program associate program director. CHOC medical group is starting a newborn-19month nutrition course for our patients led by diet techs and community educators/family specialists, so we hope to improve upon this!
  Back to interview: Feeding the future is 7 courses about every three months: newborn, 4 mo, 7, 10, 13, 16 and 19 months. Three by RDN, three by peer educators. Nutrition content matches with their well child check to discuss before they have that well-child check. Primary refers them to virtual group class about every three months to continue ed first 2. What to optimize group class focused on nutrition. There is a lack of nutrition knowledge so aim is for this to help. Issues with what grandma or babysitter does something different.
- From the beginning. Moms are very eager to learn because they are hearing so many conflicting things - they look to experts to what they should be feeding their baby, especially first time moms. As time goes on, mothers can create bad habits. For example, if the child is crying all the time and the mom gives them a treat to stop them from crying or candy, the child is learning from a young age that if they cry they will get that sweet. XXX said that it is important to teach patients the importance of communicating with their child.
- When the baby is going to start eating solids. The baby is paying more attention to food and moms are trying to make healthier choices. This is also when parents typically go back to work and they begin to meal prep.
- Mothers are open to learning almost always, particularly while breastfeeding and transition to daycare. Receptive to learning but not the social norm when they get home so hard to change behavior. Transition to daycare barriers are parents don't have choice at what is served. Headstart is serving a lot of juice and can't pack the meals. Lack of control. Would like to have a say in the foods their kids are served.
- Transition to daycare. Let parents know they can talk with care providers in first two years what issues are and developing a plan together for allergies, celebrations.
- The first 500 days-that is when moms are eager for information.

**11. In your survey responses, you indicated that [add responses from Q14] is a challenge to providing nutrition education. What additional services or resources do you suggest could help to overcome these barriers?**

- XXX did not know. Possibly having a women's support group. It is always good to assess the participant to determine how ready the participant is to receive the information and for them to be more aware of their environment and see what type of support they really need.
- Ideally, the lactation educator could visit every single new mom. In the hospital, there could be simple messages on every meal tray for the mom that could be helpful.
- Pre-recorded classes, zoom sessions with specialists, or digital handout can be helpful; group therapy.
- Access to affordable healthy foods. This is significant reason why families are not motivated to eat healthy. Most of the families they serve are low-income. So when they talk to families about nutritious foods and how to switch up their diet to make it healthier, they say it's too expensive or isn't as filling as the unhealthier options. While she is very grateful for the support from food banks offered to her clients, the foods received by families tend to be unhealthy. They receive food that will fill them up (like pasta), but it's not healthy.
- Data sharing between organizations and make it easier to apply to be on the program. She believes if the Child Nutrition Reauthorization Act goes through and the changes (elimination of hurdles to participating) many want are made, it will be easier to reach more families.
- We all need to give the same messages.
  "The doctor is saying something, Wic says something, the grandma is saying something, your neighbor is saying something, the lady at the grocery store is saying something else." Everybody needs to say the same thing.
- Classes for patients with peer groups.
- Need to bring the education level down of resources. More pictures. Nutrition is a lot of words on a brochure.
- She thinks that all of the education handouts should be in different languages. Her patients mostly speak Spanish, but they can have a couple of Chinese speaking and filipino patients as well.
- Most of the time clients are receptive, but because they receive a lot of information from WIC, they would rather discuss other areas. Parents are influenced by grandmothers so getting grandmas on board is key. Often grandmas are the caregiver and give babies solids way too early or they give the baby foods the mom did not approve of. We suggest having a family meeting or webinar in the language that grandma speaks. We try to get everyone from the family on the Zoom meeting, but caregivers can be hard to engage, due to cultural differences.
- Time is hard, having adjunct staff talk about nutrition is valuable (front office). She doesn't hear much on food access issues. She does have access to behavioral health for mental health. She has made the connections on her own to help families and would like more support from the system.
- She's working with WestEd. Two committees is working on training of exempt providers, family, friends or neighbors in first two years if not ready to move to childcare and now are not required to have training. Office of childcare wants more and better training in CA to meet national standards. WestEd is likely contracted with DSS with CECO (CA Early Childhood Online) https://www.caearlychildhoodonline.org/ has a free training on family/friend training. XXX has reviewed all of the training. Almost ready to share. Nutrition is part of it. Interactive, online. It's free, not required. How do families find out about this training? That is the hard part Opportunity to give training to WIC or other places go for help. Information based on UCSF for WestEd. Use USDA, AAP (main one), NIH, CDC are the big and CDPH are main orgs are used for best standards.
- Tough question. Ideally they want to talk to a mom as soon as she is pregnant. But she thinks that they need to do more advertising of their agency to increase awareness, such as going into churches as their population is religious.