Kelly Brownell (KB): Hello and welcome to Policy 360. I'm Kelly Brownell, dean of the Sanford School of Public Policy at Duke University. It's widely known that breastfeeding children is very important. Breast milk is known as "liquid gold" because it has so many benefits. Most experts recommend mothers breastfeed for 6 months exclusively after birth, but most women do not. Here in the U.S., for example, only 27% reach the 6th month mark. In the U.K., it's less than 1%. Professor Rafael Pérez-Escamilla of the Yale School of Public Health cares deeply about infant nutrition. Recently, he has been working on a way to boost and sustain breastfeeding rates and he's doing it country by country in different parts of the world. Welcome, Rafael, to Policy 360.

Rafael Perez-Escamilla (RPE): Thank you, Kelly.

KB: So, what are the benefits of breastfeeding exclusively for at least 6 months?

RPE: So, breastfeeding has quite a bit of benefit, not only for the children, but also for their mothers. When we think about the children, breastfeeding offers optimal nutrition, it also helps strengthen substantially the development of the immune system, which is what is needed to protect children against various serious diseases like diarrheas and other respiratory infection. And in the U.S., it's very important the properties that breastfeeding has at preventing ear infection. And more recently, we have been very fascinated by consistent evidence showing that children who are predisposed to become obese later on in life are protected against the development of childhood obesity if they are breastfed. And, as if this was not enough, breastfeeding has also been consistently found to boost the development of intelligence in children. So, children who are breastfed are more likely to have a higher IQ, not only as children, but also when they become adults. The science is telling us that they are able to achieve or attain higher levels of education and, at the end of the day, have better incomes. And what is very fascinating about that benefit is -- we now understand quite a bit the biology behind it, but also, we know that the bonding aspects of breastfeeding with regards to a big difference in how a breastfed baby interacts with their mothers during feeding throughout the day compared to formulas, that babies may also be part of the explanation. So, we have biological properties of human milk at the same time that we have behavioral transactions happening between the mother, the family, and the child that may help explain these improvements in IQ. And from the mother's point of view, it is very important for women to know that the longer they breastfeed during their lifetimes, the lower their risk for developing breast cancer [or] ovarian cancer. A recent, very important project from Yale University showing a protective effect of breastfeeding against endometrial cancer. And also, women are less likely to develop type 2 diabetes and hypertension during their lifetimes if, the longer they breastfeed.

KB: Well that's a very impressive list of benefits from breastfeeding, and I know infant formulas are made to mimic breastmilk as closely as they can. And, putting aside for the moments the benefits of the mother breastfeeding, how closely do the formulas come to mimicking breastmilk and providing benefits to the child?

RPE: So, they are very, very far from actually mimicking breastmilk. And, quite honestly, at least in my lifetime, I don't think that's ever going to happen, and the reason is that human milk is a fluid that is alive. You have all these, what we call, bio-active substances present in the milk that include compounds that are called oligosaccharides that protect children and it's all sorts of nasty bacteria and viruses but at the same time they also help the children plant or seed the right microflora in their intestines. And we know that what we call the micro-bio or the micro-biota, and we know that what happens very early on in life has very, very important ramifications in the longer term, and the data and the physical evidence is unequivocal that the type of microflora or bacteria that gets established in the small intestine is dramatically different when you compare breastfed versus formula-fed infants.
KB: Is there any kind of a biological feedback loop between mother and child? So, I'm assuming that the composition of the breastmilk might change over time to meet the child's developing nature, but is it possibly that when a child starts to feel ill that the mother somehow gets a biological signal that changes the nature of the breastmilk?

RPE: Absolutely. That's a fantastic question because, in essence, both organisms become one. They communicate extraordinarily efficiently from a biological point of view with each other. So, human milk, in fact, has antibodies that are very, very specific to the nasty microorganisms that may be having a negative impact on the health of the mother or on the health of the infant. Conceptually, you can think about the idea that, somehow, the saliva of the baby is being analyzed by the maternal organism. And, based on the bacteria, the pathogens are there, then a response happens with regards to the specific types of antibodies that need to be produced.

KB: That's fascinating. So, what are the big barriers to breastfeeding for as long as 6 months?

RPE: Yes. So, of course, maternal employment is a very, very important issue globally. In many, many countries, over half of women of reproductive age are in the formal, or the informal, work sector, as it happens in many low-income countries. So, maternity protection becomes very, very important to be able to enable the ability of women to breastfeed. And, as it happens, the U.S. has the worst, the cruelest, the unthinkable, unkind maternity leave policies in the world, in the industrialized world. So, in the U.S., maternity leave is very short and it is unpaid. So, in the U.S. you have a very peculiar situation for, you know, the vast majority of women, their families need their income. So, the incentive is for them to be back 2 to 3 weeks after birth, working in order to be able to keep going. So, that is one very important aspect, and there are other factors that are very much related to the unethical marketing practices from infant corporate formula companies. The U.S., for example, never signed the code to prevent unethical marketing of infant formulas that was issued by the World Health Organization since 1981. And, as a result, lots of women in the U.S. without them asking for them, they get free samples of formula since pregnancy and, soon after birth, they start not only getting vouchers but even cases of free formula, the doctors get a lot of perks, the pediatricians, with regards to benefits from infant formula companies. So, it is a very, very difficult environment, as you know very well, Kelly, the default system makes it very, very difficult for women in the U.S. to breastfeed even though right now over 80% of women in the U.S. choose to breastfeed. So, that stereotype that somehow it is something that women don't want to do in the U.S. is not the case, and, if anything, the data from the CDC what it shows is that the vast majority of women cannot meet the breastfeeding plans that they had during pregnancy. In other words, they don't breastfeed as long as they wanted to.

KB: Can you explain the concept of baby-friendly hospitals?

RPE: Yes. So, baby-friendly, the Baby-Friendly Hospital Initiative was launched in 1991 by UNICEF and the World Health Organization, and it consists of 10 evidence-based steps that all maternity wards and healthcare facilities or clinics that offer maternity services should follow. And what is beautiful about it is that each of the steps complements each other, and together they form what I think is the most powerful evidence-based package, because we do have a lot of evidence. I've been studying this initiative for 30 years now, and we have very strong evidence that the package as a whole improves substantially the ability of women to be able to implement their choice and their right to breastfeed. So, the steps range from having policies in writing, what doesn't get written is not going to get on, the training of all healthcare facility personnel, and all the personnel, even the security guards in the clinics or hospitals that have contact with mothers and families that have children that, you know, are likely to be breastfed, all the way to keeping the mother and the child together throughout the hospital stay, giving them support, especially the first time they breastfeed, skin-to-skin contact immediately after birth, so that breastfeeding is very strongly encouraged, and avoiding at all costs the use of formulas, a baby bottle in the hospital if the mother is expressing that she wants to breastfeed, all the way to facilitating the continuum of care by linking the mother with a primary healthcare clinics, or the WIC clinics that offer breastfeeding support once she leaves the maternity ward. So, it's a very comprehensive program, it is currently on the review, I don't know if
you know this, but it is currently on the review at the World Health Organization and there is a lot of activity happening with that initiative right now. And the U.S. has a baby-friendly initiative in place.

KB: how many- how come it isn’t for hospitals in the U.S. to be baby-friendly hospitals?

RPE: Right. So, I think less than 16% of babies in the U.S. are born in baby-friendly hospitals, so it is not very common and there are some institutional barriers for that to happen, it requires a certification, it is costly, but I would say for the most part the reason is that we still have not been able to create the demand from the mothers and the families. There’s still a lot of need to educate and provide information on this wonderful initiative to the population at large.

KB: So, you’re involved with a very impressive project called "The Becoming Breastfeeding-Friendly Project". Can you tell us what the project is about? Where did the idea come from?

RPE: Yes. So, several years ago, my team at Yale lead a massive, what we call, "systematic review" of the literature. That is, we read every single paper ever published in a scientific journal or in the grey literature reports from the World Health organization, UNICEF, and so on, to try to identify which were the key ingredients that need to be in place in the countries to be successful scaling up the coverage and the quality of their breastfeeding protection, promotion, and support programs. And, based on that review, what, and in the interviews with key stakeholders, people that know a lot about how breastfeeding support happens on a large scale, we were able to identify 8 ingredients. And we also documented that these ingredients interconnect, all of them, with each other. You cannot isolate one from each other. Like, we’ve got 10 steps from Baby-Friendly. And we thought of it as an engine, and that’s why we ended up calling it the "breastfeeding gear model". So, it’s like an engine of a car and it has 8 gears-evidence-based advocacy leads to the legislation that is needed to release the financial and political support-based resources so that the workforce can be trained, the programs can be implemented, there can be some social marketing, behavior change campaigns in place in the context of a very strong operational research and evaluation system, and at the center you have the master gear that is a coordinating gear- you know, the management information systems that keep track of the meeting of the goals and the communication among the gears. So, based on the breastfeeding gear model, the next question became, "Well, can we develop valid objective indicators so that the countries can access the strength of each of their gears and the strength of their whole breastfeeding machinery? And can we develop a parallel process (that) the countries can follow through intersectoral committees to actually, not only access the strength of the gears, but identify gaps and come up with policy, evidence-based policy recommendations for decisionmakers to really do the right investments?" Lots and lots of governments want to improve exclusive breastfeeding rates, they are very central to the attainment of the United Nations Sustainable Development Goals. So, it’s a tool to empower countries, decisionmakers in those countries that have made a commitment to scale up their programs, but they need a road map, it’s a very complex, wild breastfeeding world out there, so that’s what we are essentially doing.

KB: You know, that’s a very impressive and ambitious endeavor, and I really like the gear model that you put together. It makes perfect sense, and it’s interesting that it all begins with policy change. How far along in the project are you? And are there results yet?

RPE: Yes. So, we have 2 countries- Mexico and Ghana- who are the whole BBF, or "Becoming Breastfeeding-Friendly" system has been pretested, essentially we had a very successful experience in both countries, both ended up with recommendations that have already lead to actions from sectors in the government and that have already lead to additional projects. So, you will be very happy, based on what you do, Kelly, to know that, for example, in Ghana, one of the key sectors that the committee said needed to be addressed more was the media. You know, why is the media not covering those more? Why public opinion is not on our side? So, to make a very long story short, there is now a, you know, the first breastfeeding social media campaign launches in Ghana April 9th, it’s called "Breastfeed for Ghana", and it’s totally tied to the "Becoming Breastfeeding-Friendly" Committee from Ghana that made this recommendation and Yale University is very proud to be partnering with them,
because it’s not just, you know, launching a new FaceBook and Twitter campaign and blogs and all that, but we’re also actually doing social network analysis to try to understand, you know, how this campaign disseminates and if it’s having any impact on anyone out there, out there in Ghana. So, that’s a very specific example. Mexico is moving forward with a (cost) analysis- how much will it cost to offer a maternity leave benefit to women in formal sector? Nobody has really been able to figure this out and Mexico is not very, very close and we hope to have that paper published very soon on how a country can do that in a cost-effective way.

KB: Well, this is work that can really make a difference. What made you decide to begin with Ghana and Mexico?

RPE: Yeah. So, one of the reasons is I come from Mexico, I started my career 30 years ago, my professional career doing what I think was the first randomized trial looking at the impact of the Baby-Friendly Hospital Initiative in Northern Mexico. And, at a time when babies and mothers were separated throughout, there was a pediatric nursery and then there was the ward for the women, and it was terrible, it was really, really bad, the situation for breastfeeding. This was done even before the Baby-Friendly Initiative was officially launched. We just called it-back then- "Steps". And I have followed very, very closely with Mexico since then, and here was a lot of room for improvement, Mexico has one of the lowest exclusive breastfeeding rates in the world. Ghana, by contrast, is a country that has been doing reasonably well, close to 60% of rates of exclusive breastfeeding, but over the past 5, 7 years, the rates have started to come down. And they wanted to know, "why?" The government wanted to know, "why this is happening?" So, they were 2 contrasting examples, 2 different regions of the world, and I also happened to have had worked before in Ghana for many years, so that’s really how we got what we got there. And from Mexico and Ghana we have now launched in Myanmar, we have now launched in Samoa, and we are also working in Germany, in England, Scotland, and Wales. So, the initiative is purposely testing how this model works in low, middle, and high-income countries with very different political, economic, and healthcare systems.

KB: Let’s go back to the specific recommendations that begin with exclusive breastfeeding for the first 6 months. What are the recommendations after the first 6 months?

RPE: Right. So, the World Health Organization Recommendations are exclusive breastfeeding, which means human milk and nothing else for the first 6 months if the mother chooses to breastfeed her baby, and then to introduce nutritious, safe foods, what we call "complimentary feeding" at around 6 months, when the babies are developmentally ready to start consuming foods other than breastmilk. But, the recommendation indicates that babies should continue to be breastfed. Of course, together with complimentary food [until] at least 2 years of age. In the U.S., the recommendation from the American Academy of Pediatrics is quite similar, but instead of saying "babies should continue to be breastfed for at least 2 years", it says "should continue to be breastfed for at least one year.” So, that’s a difference between the two recommendations, but either way we’re still very, very far from meeting those recommendations.

KB: Well, at the risk of repeating myself, this is very impressive work. And this is work that stands to make a real difference worldwide, so congratulations for taking on something so ambitious and so potentially powerful, and we can’t wait to hear about the results. So, thank you so much for joining us.

RPE: My pleasure.

KB: So, my guest today has been Rafael Pérez -Escamilla. He is a professor at the Yale School of Public Health. He directs, amongst other things, the Global Health concentration at Yale. We will have a link to the Becoming Breastfeeding-Friendly Project on our website, policy360.org. Until next time, I’m Kelly Brownell.