



Conversations with the Editors

Conversations With the Editors: The Intersection of Food and Medicine: How the Metropolitan Area Neighborhood Nutrition Alliance (MANNA) Transformed a City in Need, One Meal at a Time



Sue Daugherty,
RDN,LDN,CEO



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Featured Guest Biography: Sue Daugherty, RDN, LDN, joined the Metropolitan Area Neighborhood Nutrition Alliance (MANNA), an organization which that has been nurturing and treating the people of Philadelphia for over 30 years, in December 1999 as a registered dietitian–nutritionist (RDN). She was instrumental in MANNA’s shift from providing comfort and care to those dying from AIDS to nutrition counseling and delivering medically appropriate meals to the homes of people with not only AIDS but also over 85 other illnesses.

At MANNA, Sue held several positions prior to being appointed chief executive officer in 2012. In June 2013, she co-authored a key study that garnered nationwide recognition, "Examining Health Care Costs Among MANNA Clients and a Comparison Group," published in the peer-reviewed *Journal of Primary Care & Community Health*. This research study examined the health care–related cost-savings associated with MANNA’s model, and the findings continue to have an ongoing impact on nutrition-related policymaking nationwide.

Sue presents MANNA’s work at conferences and other meetings across the United States, including the annual Food and Nutrition Conference and Expo, Harvard University’s Food as Medicine Symposium, Tulane University’s Culinary Medicine Conference, and the Root Cause Coalition’s National Summit on Social Determinants of Health. She proudly testified in front of the US Congress.

Sue currently serves as co–Vice Chair of the national Food is Medicine Coalition. In 2019, She was invited to join the Food Lab Accelerator at Google as a product owner of Food is Medicine. Other accolades include the 2015 Jefferson College of Population Health Education Hero Award, Comcast’s Newsmakers selection, the Cancer Treatment Center’s America Caregiver Women of the Week Award, and Bank of America’s Neighborhood Builders Award.

EDITOR’S NOTE

This month, *Clinical Therapeutics* is exploring ways in which high-quality, nutritiously balanced meals may provide cost-effective alternative therapies for a variety of morbidities. Toward that goal, we interviewed Sue

Daugherty, CEO of MANNA, an organization that has been nurturing and treating the people of Philadelphia for over 30 years.

INTERVIEW

Jill L. Maron, MD, MPH: Good afternoon, Sue. It's a pleasure to be able to interview you for *Clinical Therapeutics*. I have had the pleasure of getting to know your work and wanted to introduce it to our audience. You are both a licensed and registered nutritionist and dietitian and serve as the CEO of the Metropolitan Area Neighborhood Nutrition Alliance, or MANNA, in Philadelphia.

MANNA was founded in 1990 in response to the evolving HIV and AIDS epidemic, with the belief that home-cooked meals could directly impact the health of a patient. MANNA was arguably vastly ahead of the medical paradigm at the time. What was the driving force and thought process behind establishing the company over 30 years ago?

Sue Daugherty, RDN, LDN: MANNA was founded during the height of the HIV/AIDS epidemic. There were seven founding members from the First Presbyterian Church of Philadelphia who just saw people in the community, dying from HIV and AIDS and often being shunned and alone. Food is kind of that common denominator that brings folks together. MANNA was started by some of our founding members getting donations from restaurants and then delivering those donations to the homes of community members. That kind of evolved over time from receiving food donations to then cooking in the basement of the First Presbyterian Church. The kitchen is still there. It's so incredible to go see this little, tiny kitchen where this all started, to now seeing this huge production kitchen that we work out of. MANNA continued to evolve but has always remained a community-based organization. We thrive because of our volunteers. MANNA has a relatively small staff, but it's the volunteers that show up every single day to make sure that the food is produced and packaged and delivered to the homes of our community members that need it most.

Dr. Maron: It's a wonderful story. I want to focus on two parts of what you said. One was the concept of food as comfort and the psychological health that it brings you, and then transitioning beyond that to the nutritional and medicinal factors that food brings to you. I know you joined MANNA in 1999. What drove you to really want to be part of this team? And how did you incorporate your expertise to them?

Ms. Daugherty: So, I started working as a registered dietitian in the mid-90s and started working with the HIV/AIDS community. Really, that's where my passion grew and developed. I learned about MANNA because I referred my patients to MANNA. I just had so much respect for this community that existed at a time when some people were afraid to shake the hands of their clients who are their patients. MANNA was just a welcoming, opening community that wanted to make sure that everyone was taken care of—not just with food but a knock on the door and a visit from the volunteer driver. It really was so much more about the relationship, not just the food. And then when I joined, I saw that they were advertising for a dietitian and was fortunate enough to join the workforce.

I was so excited. It really was at this critical shift with the HIV/AIDS community when medications became available. We started to see our clients live, but not without consequence, and serious consequence. I tell this story all the time about my first couple months here at MANNA. Early on at MANNA, we were about comfort and helping people die. It really was providing comfort food. Now, we needed to make this shift to helping people live. I remember counseling one of my first clients and seeing a triglyceride level, that for healthy [a] individual should [be] under 150, but this patient had a triglyceride level close to 900. And I remember thinking it was a mistake. I thought the lab screwed up some blood work. I called the health care provider, and he explained to me that this was an unfortunate side effect from the medications. It was really the first time that I was introduced to a metabolic disorder that is very common with HIV/AIDS patients. At the same time, I was watching gooey mac and cheese come out of the MANNA kitchen. It was like this "A-ha!" moment. We really needed to shift. Certainly, my background as a dietitian and working in the nutrition department made it fortunate that we had a lot of influence. We say 1999 was really when this science evolved, but for

that matter, 1999 was when we shifted from helping people die to helping people live. Over the years, we have extended far beyond HIV/AIDS, to treat a variety of chronic health diseases. This pivotal moment in 1999 where we were reimagining nutrition, and then how the meal-based services changed. So much has happened right through the evolution.

MANNA was a supplemental meal program for many, many years. We were delivering anywhere from I would say 8 to 12 meals a week [per patient]. We started to talk more and more about food-as-medicine and the science behind it. So, between 2005 and 2006, I feel like everything all kind of came together at one time, where we realized that: (1) we were serving folks that had illnesses such as HIV and AIDS, but (2) they also had diabetes, they also had congestive heart failure. We made the decision, obviously which was much more complicated than just saying it, to expand beyond HIV and AIDS. Quite honestly, one of the driving factors behind that decision was when we realized that if we did not expand beyond HIV and AIDS, we would not be here forever to serve those with HIV/AIDS. Funding in the HIV/AIDS community was drying up and going away. So, we made this decision to expand services to all illnesses, but we also made at the same time this decision to become a complete meal program. We shifted from a supplemental meal program to 3 meals a day, 7 days a week, and truly going back to that science of how diets are prescribed.

People often forget that diets are complex. You get discharged from the hospital and you're told this is when you need to take your medication, when you need to return for chemotherapy or radiation or physical therapy. And then there's something on the discharge instructions stating to take something as complicated as 4 g potassium or 4 g phosphorus and adhere to a 2000-cc, fluid-restricted diet. What are folks supposed to do with that? We very much believe that we need to provide complete nutrition, to really have the best impact on health outcomes. To do that, we need to provide 3 meals a day, 7 days a week. We do not have financial criteria for participation. But the reality is that over 97% of the clients that we serve fall well below poverty, and they don't have the resources to sustain an adequate, medically tailored meal intervention. We also made it part of our program that all of our patients have access to registered dietitians for counseling and education. So that was this huge shift in that we were always focused on making sure that we are there to serve the most in-need and provide adequate nutrition. We really want to focus in on the right nutrition. So I tell you, our dietitians and our chefs, they battle it out. Dietitians very much care about the right macro- and micronutrients, and our chefs know that if the food doesn't taste good, the clients don't eat it. At the end of the day, we have this amazing product that is really nutritionally sound for the different illnesses that we serve. Last year I think we touched over 85 different illnesses.

Dr. Maron: That is amazing. You took MANNA beyond delivering healthy, tasty, nutritionally appropriate diets for a variety of illnesses by researching the science and health economics behind the approach. I'm referring to your 2013 paper in the *Journal of Primary Care and Community Health*, where you showed that patients managed with MANNA, compared to a control standard-of-care cohort, demonstrated decreased costs to the medical system and decreased length of hospitalization within 3 months of starting the program. By 12 months, you had reached statistical significance between groups. I know that was a pivotal paper in the field. How do you think it changed perceptions either by insurers or health care providers when you demonstrated MANNA's worth? In other words, you showed them that investing in your programs was money well spent.

Ms. Daugherty: So, that paper was certainly then and continues to be now, a major game-changer for this organization and, quite honestly, for the field of medically tailored meals. Without us making that decision to become a complete meal program in 2006, I don't know if we would have been ready to do research like that. But because we are a complete, comprehensive meal program, that research was able to really look at a complete diet. For many, many years, we were meeting with payors and with health care systems, and everyone philosophically agrees that this makes sense. Yes, we prescribe diets. Yes, patients need to have a certain diet. But the conversation ended with, Who's going to pay for it, and how is that going to be paid for? We are an organization that depends on philanthropic support and so we just can't grow, grow, grow without sustainable funding. That research was the first of its kind. It was slightly disheartening that when we did that literature

search that there had been no research before on medically tailored meals and nutrition education and health outcomes.

There's a lot of research on supplementation. There's lots of research on tube feedings, but nothing on a medically tailored meal, education, and outcomes. So, we embarked on that research, and it really was the tool that gave us the data to sit down with our first payor, which was Health Partners Plans [a nonprofit hospital-owned health maintenance organization that provides Medicaid and Medicare benefits to central and southeastern Pennsylvania residents] here locally in southeastern Pennsylvania. We shared the data and they said, okay, we're going to try this. I remember because I remember thinking, I've heard this before; where is this going to go? But they truly were a partner with us because we are a community-based organization. Going into a payor relationship opened up a whole other set of business operations that accompanied that, such as HIPAA compliance and medical billing. But they really were a true partner.

They were collecting data on their own, and so early on, they were able to not only see similar results with our research, but the data that were coming out of their data collection was even better than our research. That relationship has led to now, today, we have a relationship with all the MCOs (Medicaid managed-care organizations) in southeastern Pennsylvania. It's also opened doors so that we can now share our meals across the state of Pennsylvania. It really has launched, I think, a whole area of research in that field. We're part of the Food is Medicine Coalition [an association of nonprofit medically tailored food and nutrition service providers]. There's about 13 of us across the country that do similar work, and there's been more research coming out of that space. Without that article I don't think any of that would have happened. That's why we are so excited about more data in the field of medicine.

Dr. Maron: I really give you credit and a lot of kudos for that. I'll push even more. You talked about how the company started to provide comfort to the dying, and then you transitioned to preparing diets for living. Do you envision prevention as part of MANNA as you move forward? I bring this up in the context of a national push, certainly in some areas of the country more than others, of the farm-to-table concept. The concept of utilizing farm-fresh food to prevent diseases from occurring. Are there any thoughts about MANNA expanding into that realm, or any thoughts about partnering with organic local farms?

Ms. Daugherty: So, there are a couple of answers that question. We definitely have worked with some of the local farms here. One of the challenges has always been for us to get the supply and the demand right. We're a huge kitchen, cooking about 135,000 meals a month. We can't really stray from our menu because our menus have already been scientifically designed. So, we do work with local farmers as much as possible, but that certainly is an area right now that has supply-and-demand issues that everyone across the country is being faced with. We're seeing a 32% increase in our cost per meal from this time last year. In addition, this time last year we were maybe working with 2 vendors and networking with 60 vendors just to make sure we can get products in-house. So, there are some real strategic conversations happening about sustainability in our future, and the need for stronger partnerships with farms across the Pennsylvania and New Jersey area.

Prevention is an interesting space. I think where we really would see ourselves as treatment on the continuum of care. Patient populations that we're serving right now are the sickest of the sick. This 5% of the population costs the health care system 50% of the cost. The very acute patients are in need of high-acuity care. We see our service for those with high-acuity need. Now, I think this is where we can improve and cross that continuum of care. We all work better linking our services. There are amazing prevention programs out there providing prescription produce box programs and meal programs. How do we cross-refer to each other? How do we connect a client who maybe achieves optimal health and is transitioning off our program? How do we better connect them through a program or vice versa? How do we better work with our general population to connect the programs you know they need before they potentially get to the point where they're needing managed services? I think really looking at a continuum of care and looking [at] how we can all work better across the systems to take care of our patients is ideal. There is a real problem right now in terms of childhood

obesity and diabetes. I think that we need some thought leadership in that space and then work with the other providers to help meet those needs.

Dr. Maron: Within MANNA, you have what you've coined the MANNA Institute. I'm going to make the assumption, and please correct me if I am wrong, that this is where the nutrition science is occurring. Can you tell me about the role the MANNA Institute plays in your company?

Ms. Daugherty: Sure, the MANNA Institute is a subdivision here that's led by Dr. Jule Anne Henstenburg. Dr. Henstenburg is also a registered dietitian–nutritionist. When faced with a challenge, MANNA historically tries to come up with the solution. First it was the research. Then we got all these payor relationships, which is great, but they are all really tightly controlled. Today, of the 1600 clients that we're serving this week, [the meals for] 1000 of them are being paid for through philanthropic funds. We have approximately 600 paired payor relationships, which is great. We've come a long way. But why is not every diet treated like any other prescription?

The entry point is usually diabetes. When we start working with payors, I feel like fundamentally there's this philosophic understanding whereby people know that if you have diabetes, you have to eat a certain way. That is usually the entry point, and it's always really tightly monitored as to who gets referred to us. And yet, they're seeing great data; they're seeing reductions in health care costs and improved health outcomes, but we're not expanding. We have these conversations back and forth about wound care and about dialysis. Why are we not doing more in those spaces? Again, it always comes back to data. There's no data that exists to show the impact on these morbidities. So, we were like, okay, well, if there's no data then we have to generate it. We've got to get the data. We were really fortunate that our founding 8 members jumped in to help and we raised, in a very short period of time, about \$800,000 to launch the MANNA Institute. The goal of the MANNA Institute is to just keep driving more research in the space of food-as-medicine. The hope is that once we can start building that space, then larger institutions like Robert Wood Johnson [Foundation] [the largest US philanthropic organization focused solely on health] would want to look into that space. It's also an amazing way for us to partner with the academic institutions in the city of Philadelphia, across Pennsylvania, and other health care institutions. We have some of the best here, and we have many partnerships going on right now.

Dr. Maron: You've mentioned the scientific aspect of MANNA, and you've mentioned on several occasions in this interview both philanthropic support and your volunteers. I want to talk about your volunteers. Over 9000 volunteers every year are helping you prepare and deliver these meals. How did you get the word out? How difficult has it been to recruit these volunteers and keep them? What's your secret?

Ms. Daugherty: I think that they *are* the secret. Honestly, I do. I have said this since I've been at MANNA, which has been a really, really long time. I truly do start every single day by getting my cup of coffee, walking through the kitchen and just taking this moment to be like, wow, I get paid to be part of this incredible organization. That is only possible because of these incredible folks that can show up, day after day. They come from all different walks of life, all ages, all backgrounds. I think our kitchen is this safe space for people. People talk about all kinds of things. I mean, we're in there helping when sometimes we're short on volunteers, and I always find it interesting meeting everyone. We have students, people here doing community service, people who are retired. It's an interesting dynamic because we have our individual volunteers—they're all friends. Some of whom have been coming every Thursday for over 20 years. And then we have corporate groups, which is a different dynamic. It's much more of a team-building exercise. We recruit volunteers from all over, but I really do think it's mainly word of mouth. I have to tell you, COVID just highlighted the commitment of our volunteers. We've been open all throughout the pandemic. We've never shut our doors and we've never had a waitlist. And we lost 70% of our volunteer workforce overnight. On March 13, 2020, we saw a 40% increase for need of service, and I remember literally coming to the office and thinking, *Is today the day no one's going to show up?* Yet every single day, they continue to show up and quite honestly we have some

volunteers who have been volunteering since the start of that organization, and they were really an incredible source of inspiration for us as staff. They reminded us that this is what we do. We came out of the HIV/AIDS crisis. We were founded during [the] HIV/AIDS crisis and during a really scary time. This is what MANNA does. We're going to continue to be here for our clients.

Dr. Maron: It's an amazing story. As we conclude, I want to ask you, since you alluded a little bit to it in our conversation, about the future of MANNA—where do you see the company going? Are you looking to expand, or is the focus really to stay in [the] southeastern Pennsylvania area? Do you hope to alter your services, or advance the services that you provide?

Ms. Daugherty: So, I think we definitely know that there's a lot more work here locally to do. We know we have not served all the clients that need our service locally, so we definitely know we can go deeper here in the southeastern Pennsylvania area. I think our thought leadership is focused on where we believe we can have national impact. Certainly, to drive policy change, we really spent a lot of time advocating and trying to show the support and the data that a medically tailored meal should be treated just like any other prescription. And it really should be a mandated coverage benefit for all. And when someone is prescribed that, they should have access to that. So that's where I think the MANNA Institute, although currently a small office space housed in our building, may someday be the leading institution in the space of food-is-medicine, driving the impact of the right nutrition for the different disease states that people are struggling with. I look forward to watching that occur, honestly.

Dr. Maron: On to the last couple of questions. Do you ever prescribe nutrition during pregnancy? Is that an area you've ever thought about or do you really just focus on the sickest of the sick?

Ms. Daugherty: No, certainly we do. I would say as there's more conversation in the space of social determinants of health; certainly high-risk pregnancy is a patient population that we've been getting more and more involved with. Our involvement is specifically driven from the payors wanting us to intervene. We're doing a couple of different programs with gestational diabetes or with women with hypertension. We actually even have a small program with one of our payors working with women with a history of substance abuse during pregnancy. So I think that that's a space that will continue to grow. Unfortunately, this area is in need of attention. We're excited to see data coming out of that space as well.

Dr. Maron: That's wonderful. It's your first foray into preventive medicine. We know what happens to the mother during pregnancy may impact the child, so you see you're already in preventative space. You're already doing it.

Ms. Daugherty: You're right. No, you're right, and we're really hoping that we continue to get those referrals. However, I feel like we arrive a little late into the pregnancy, around 8 months. We are working with those providers to try to connect people to our services earlier in the pregnancy.

Dr. Maron: That's wonderful. And then also after the baby's born?

Ms. Daugherty: Yes.

Dr. Maron: I want to give you an opportunity if there's something you want to share with our audience. Anything else that we didn't discuss about MANNA that you really want people to be aware of?

Ms. Daugherty: No, I think really just highlighting that the space of food-as-medicine and medically tailored meals should be accessible to all. I think MANNA is certainly leading the efforts in that space, but we want to make sure that it's not just for folks here locally—rather, that this is something that is accessible for all across the country.

Dr. Maron: I agree, and I think you and your team have really been ahead of the curve. So I congratulate you on all the hard work and important work that you're doing. Thank you for being here with us today.

Ms. Daugherty: Thank you.

DECLARATION OF INTEREST

The authors have indicated that they have no conflicts of interest regarding the content of this article.

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