NUTRITION CARE FOR POORLY-NOURISHED OUTPATIENTS

Featuring:

Kurt Hong, MD, PhD

TRANSCRIPT

Maura Bowen: Here in the offices at Abbott Nutrition Health Institute, we talk about malnutrition or poor nutrition a lot. And that's because it's such a mounting concern in the aging population. In fact, more than 25% of community-dwelling adults in the United States are at nutritional risk. It's a problem that places an undue burden on patients and their families. And it also drives healthcare costs upwards while increasing recurrence of hospitalization or emergency visits.

The good news is that some of this burden can be addressed through comprehensive nutrition programs which is a compelling story. The better the nutrition, the better the outlook for patients and the more manageable the economic strain on the healthcare system.

I'm Maura Bowen: podcasting for Abbott Nutrition Health Institute. And joining me today is Dr. Kurt Hong from the Keck School of Medicine and the Davis School of Gerontology at the University of Southern California in Los Angeles, California here in the United States. Dr. Hong is here to discuss a recent study titled, nutrition care for poorly nourished outpatients reduces resource use and lowers costs.

He and a team of peers conducted the study to assess the outcomes of the nutrition-focused quality improvement program (that's a QIP) on healthcare resource use and costs in poorly nourished outpatients. So a full disclosure: this study received Abbott grant support and we're excited about its findings. ESPEN published an abstract on this study and you can find a link to the abstract in the transcript for this recording. Hi Dr. Hong, thanks for joining us today.

Dr. Kurt Hong: Hi Maura. It's my pleasure. I'm very happy to join in on this important conversation.

Maura Bowen: Wonderful. I'll note first quickly that today's recording may sound a little different from what you all are used to hearing and that's because we're still in the middle of the global pandemic. And Dr. Hong and I are conducting this interview over the phone outside the studio setting. So Dr. Hong, let's start by properly introducing you. Can you tell us a little bit about yourself, including how nutrition came to be such a focus for you in your career?

Dr. Kurt Hong: Absolutely. I'm currently the Executive Director of Center for Clinical Nutrition here at USC. I've been involved in nutrition research and clinical care actually for the past 20 years. During most of my actively medical school training I knew I wanted to do something that actually can make a meaningful impact.

Now, the problem with Western training is so much of kind of what we've been taught to do are focused on use of prescription medications. So in my day-to-day practice we see a lot of patients with heart disease or diabetes, where they would be on five, six, or even seven different medications. And if you really look at polypharmacy, it's a big, big, major public health issue.

So I think what's during either the second or third year of my residency that I really decided to do something that is meaningful in terms of lifestyle modifications and counseling. And that's how I decided to get additional training in nutrition. And it has been tremendously rewarding. So when I go to work daily counseling patients on lifestyle, dietary changes and seeing them becoming healthier and happier it is quite important to me.

Maura Bowen: That's perfect. And thank you for sharing your background. Now, I know we're focusing on health economics and outcomes research today. So I'm wondering how you would define malnutrition quality improvement programs.

Dr. Kurt Hong: So before I define quality improvement programs, let me just mention something about kind of daily nutrition care. As you know, nutrition is an important determinant of all of our patient's health. And this is particularly true for our middle age and geriatric populations. As such, if you look at our primary care physicians, family practitioners, they're really ideally positioned to identify and treat poor nutrition or at least patients who may be at risk.

These are patients that may have multiple chronic or metabolic issues such as diabetes, COPD, even obesity or various types of heart disease. So I think most physicians recognize the importance of nutrition and the management of these diseases, and they are willing to provide counseling. But one of the things that we hear commonly is there are a lot of challenges.

Now, a lot of times it could be just inadequate amount of time when we see the patients in that clinic. So for some providers it could be suboptimal training and the big one’s obviously kind of compensation that comes from reimbursements. Now, going back to answering your question about real-world quality improvement programs or as you mentioned QIPs, it's an easy way for us to assess and incorporate systemic and continuous action that can actually lead to measurable improvements. Particularly, we focus on outcomes such as healthcare services and cost savings.

Dr. Kurt Hong: So in years past, if you look at some of the previous research, QIP has been shown to improve outcomes in hospital settings, and even in skilled nursing facilities after discharge. But what we wanted to do in this particular study was we wanted it to look at nutrition-focused QIPs specifically in outpatient settings. And what we specifically want to evaluate was the kind of ways where we can identify a patient who may be at risk and more importantly, guiding nutrition interventions to improve outcomes.

Maura Bowen: So breaking it down just a little bit more, what are some examples of the types of systematic actions your team included in the quality improvement programs at USC?

Dr. Kurt Hong: So the first thing we did was to recognize that malnutrition is really not only in patients who may be underweight or they actually have a low BMI. You know, we have seen a lot of patients who may either be overweight or even obese who are still malnourished just because either of their unhealthy diet. Some of these patients they may have poor appetite or they may actually be undergoing or recently be dealing with acute medical issues that can cause a weight change.

So some of the examples of the key actions of our quality improvement program at USC is number one, we want to educate providers on the importance of identifying and treating poor nutritional status. What we also wanted to do was to come up with a way to conduct nutritional screening at patient visits. So this is something that needs to be practical. And it's something that needs to be done without taking a lot of additional resources.

What we also wanted to evaluate was to see ways where we can incorporate what we call, the nutrition care pathway into our electronic health record to help with the recommendations and even prescribe electronically oral nutrition supplement easily. And lastly, we also wanted to kind of take this opportunity to educate patients on healthy eating and counseling them on the importance of regular nutrition follow-up.

Maura Bowen: So I was reading your article abstract, and I noticed that before your team began its investigation there were only a few studies that had really looked at the impact of poor nutrition in outpatients. So before you and your research team conducted your study, what had been some of the emerging evidence on the effects of quality improvement programs?

Dr. Kurt Hong: So if you look at all the meta-analysis and kind of cost-related studies that have been done in the United States, it's been estimated that more than $150 billion are spent each year on disease-related malnutrition. So we feel like this is a great opportunity for us to do something that's meaningful to intervene and also curb these rising costs.

Dr. Kurt Hong: So there was a study published a few years ago in the United Kingdom where they specifically looked at managing malnutrition through counseling and use of oral nutrition supplement in primary care. And in that particular study in the UK, what they found out was this led to reduce visits to healthcare providers. It also led to a lowering of the frequency to the emergency room and even shortening length of stay, even if the patient needs to be hospitalized.

Maura Bowen: So with that in mind, what prompted your study?

Dr. Kurt Hong: So anecdotally, since I've been seeing patients for the 15-20 years in our regular practice, we see time and time again how even a very simple nutrition intervention and kind of spending a couple of minutes at the end of a visit counseling patient really can have a meaningful impact. And this is not just important in terms of health outcomes, but just even overall quality of life that's reported back by the patients.

So it was really important for us to focus on a program again, that is practical, that hopefully was easy to implement and possesses what I call measurable outcomes so that the physicians will be able to monitor these outcomes within not only a short period of time but also kind of long-term. So once we actually got the support from our hospital and ambulatory care leadership, we're able to launch a study which fulfilled these criteria.

Maura Bowen: So getting into this study a little bit, what can you tell us about your patient group?

Dr. Kurt Hong: So in our QIP study, the people we included as enrollees were they were at least 45 years or older, and what we want do is really capture these patients who are either malnourished or at risk.

So we actually looked at patients with poor nutritional status, and a lot of these patients they also have at least two or more chronic conditions. And these are conditions that are defined in the National Ambulatory Medical Care Surveys. So some of these conditions include things like obesity, fatty liver, COPD, diabetes and heart disease. So these are common things we see on a day-to-day basis.

We did exclude patients who were pregnant if they have normal nutritional status. They have advanced dementia or delirium where they are not able to receive the counseling appropriately or if they were not seen at USC.

Maura Bowen: And what about your control groups?

Dr. Kurt Hong: So, for this particular study we actually included two control groups.

Dr. Kurt Hong: We have what we call an historical control group, and these are again, the malnourished or at risk patients who actually receive care at the same outpatient clinic here at USC during the 12 months prior to the launch of the QIP start and who actually met similar study inclusion criteria.

And second what we call concurrent control group. Again, they fulfill the same inclusion criteria but these were actually patients who were not seen by the study conditions and therefore did not participate in the QIP.

Maura Bowen: Can you describe your methodology a little bit? What steps for instance, did the team take to implement the quality improvement program?

Dr. Kurt Hong: So the patients' nutrition risk screening was really assessed using what we call the Nutrition Care Pathway, which included a very well established tool called the Malnutrition Screening Tool. And these were also incorporated in addition to other "red flag" observations that indicate potentially disease-related malnutrition.

So some of these questions include if the patient reports an acute change in weight, that's to say there's a big recent drop in their appetite, or is there actually some physical exam findings such as loss of subcutaneous fat or actually muscle loss at the time of the visit?

So the nutrition screening was actually complete during initial outpatient clinic visit by the primary care physician. This is either a family medicine practitioner, an internal medicine doc, a physician assistant, or even a registered dietitian nutritionist.

So the patient nutritionist received a nutrition care plan as informed by their dietary needs during the time of their initial visit. They were then also given additional recommendation—depending on their specific disease, whether or not they are underweight, they're obese or they have diabetes or even chronic kidney disease—to go on a specific oral nutrition supplementation. And we would actually monitor these patients for 90 days. We also basically gave the patient a little bit of counseling at the end of this so they can actually sustain and maintain a healthy dietary intake in lifestyle.

So we specifically also gave the patients also additional ONS or oral nutrition supplement coupons and vouchers to hopefully help them with their compliance. And one of the things we did was we actually contacted patients at the 30, 60 and 90 day mark to actually check in on their compliance and to also see how satisfied they are in terms of the ONS use.

Dr. Kurt Hong: So during this period of time we identified a little bit over 3,300 patients that's potential candidates. 608 patients were enrolled in the study and in the final analysis, 600 QIP patients were included. So in addition to the 600 QIP patients, there were also 600 patients from the historical control and 600 patient from the concurrent control for a total of 1,800 patients in this study.

Maura Bowen: That sounds like a significant number of participants. And I noticed too in your last answer, it really hinted to the importance of a multidisciplinary team. And so I wondered if you could talk a little bit about the importance of physicians, registered nurses, registered dietitians working together in outpatient clinics and addressing malnutrition.

Dr. Kurt Hong: I think if you look at past surveys as well as studies that really been published over the past 30, 40 years, it's been well-documented that physician led implementation is really important because patients are more inclined to listen to physician recommendations, and often more compliant with the recommendations which is consistent with all the previous literature.

So we really felt it was really important to implement something that's a multi-disciplinary approach and included in our team are besides the physicians are dietitians, nurses as well as medical assistants to reinforce the physician recommendations and to also help personalize the care plans. By incorporating a nutritionist training during the patient intake and also by giving them additional recommendations at the time of discharge, the office-home logistics was only made possible because all the team members were able to work together.

Maura Bowen: So we all know this kind of change takes work. Can you talk a little bit about the challenges your team faced through the course of your study? And then what came easier than you expected?

Dr. Kurt Hong: Yeah, so some of the drawback of this study actually included study design. Because of the nature of this real-world study—this was considered to be observational, real-world QIP methodology rather than the more rigorous randomized design—and as such there are always some limitations associated with observational studies.

The other part of it is, this study was actually done here at USC and the patient population we see here at the ambulatory care setting at USC may not be the same type of patient population seen that other outpatient clinics. And also due to time constraint for patient counseling, in our particular study we really only focused on the nutrition. We did not specifically include additional counseling when it comes to physical activity. And obviously physical activity is a big part of additional lifestyle counseling.

Dr. Kurt Hong: So these are kind of probably some of the restrictions and some of the challenges. I think what came easier than expected was the patient compliance. And patients really were very receptive to enrolling in the study. And I think what shows this is that we enroll basically 608 patients and only eight patients out of the 608 enrolled dropped out of the study so we actually had a very high retention rate.

Maura Bowen: So one of the things that you mentioned in your last response was time limitations. Can you tell us how difficult or simple it is to integrate nutrition care in outpatient and primary care settings knowing what those time limitations might be?

Dr. Kurt Hong: I think with any type of change in office flow there are always some growing pains. And the first few weeks, there were some challenges until the staff felt comfortable being able to screen the patients and also give the recommendations at the end of the visits.

There was also a learning curve for some of the physicians to feel comfortable in terms of addressing nutrition with patients. But in all, I think they all came a little easier than expected. What we found out was that malnutrition was completed by the medical assistant the time of patient visit and that worked really, really well.

And once the patient was determined to be at-risk and fulfilled the inclusion criteria then we were able to kind of easily get the patient on the proper oral nutrition supplement, give them the appropriate coupons and vouchers and make sure they also got that couple minutes of nutrition counseling at the end of the visit.

Maura Bowen: So you established your program and you took a length of time to observe the outputs. I'm wondering if you can tell us a little bit about what your data presented.

Dr. Kurt Hong: So at the end of the study and after the data analysis we found out that patients who were enrolled in our nutrition-focus QIP were overall less likely to require healthcare services, during the 90 day period we followed a patient. So these include things like the overall reduction in hospital admissions, ER visits and even outpatient clinic visits with either specialists or to their primary care physician, as compared to the control groups that received the routine care.

Of those patients who actually presented for care, the average number of actual visits was also significantly reduced as compared to the control. There was a reduction of close about 13%. In addition, we also look at basically potentially the number of medications being needed, being reduced and we saw this being superior, actually in the intervention group as compared to the control group. So I think these are all significant findings.

Maura Bowen: That's amazing. And I'm wondering considering all of that, what conclusions are you drawing from these data?

Dr. Kurt Hong: So I think based on the lower use of the healthcare resources, again, both their care as well as the medication used by the QIP patients, we were able to do a calculation to look at estimated closed cost savings. And over this 90 [day] period time it was estimated that the savings was in excess of $290,000, based off of these 600 patients.

So if you actually break this down, this actually translates to about $485 per patient savings, again, just within this calendar year. So again, these findings suggest that attention to nutrition care really can significantly improve overall health status of patients and lower the cost of the healthcare utilization. And I think this is something that's really, really important for all primary care physicians.

Maura Bowen: That's really incredible. And I'm wondering, were you surprised by anything that you found through your study?

Dr. Kurt Hong: I think beyond the cost savings, I think the biggest surprise was the patient reporting of satisfaction. I think we were really happy to hear that patients were happy with their oral nutrition supplement use. They were really happy that they received dietary counseling because that's not something that occurs routinely. I think they were really happy that, even beyond the 90 days of the study, that they continued to make meaningful lifestyle changes after the study.

Maura Bowen: So looking back through your data and your conclusions, why do you think these findings are so important?

Dr. Kurt Hong: So I think clinicians here in the United States today, we have to deal with the dual burden of both under- as well as over-nutrition. So there are really quite a number of increasing number of patients who are overweight and obese and we also see a lot of patients who may be dealing with disease-related poor or undernutrition.

So I think there is quite a bit of awareness as it relates to malnutrition in our hospitalized patients. However, as I mentioned earlier, there have been very few studies that specifically tracked, or tried to identify malnutrition in our community settings. So I think this is the first of the study on a large scale to look at potential opportunities for nutrition assessment, intervention as well as looking at healthcare utilization savings.

Maura Bowen: What makes you feel most hopeful about your conclusions?

Dr. Kurt Hong: I think primary care physicians are really in a unique position to help patients achieve better health. And this means if we can actually provide better nutrition care while at the same time lowering the cost for the patient as well as for the providers in general. We really want to kind of call upon all the primary care physicians whether they're interns, whether they're PA's, they're family care practitioners or even RDS to take the time to promote and enrich training on nutrition care at all levels of medical education.

So meaning that when I was training we got very little kind of education when it comes to nutrition. But there are opportunities to actually provide additional trainings at the medical school level, at the residency level and even for physicians who are currently already in practice. So I think for primary care physicians and other practitioners in the outpatient community, we want to encourage them to use these sustainable type of QIP programs to incorporate nutrition care into their practice.

Maura Bowen: Dr. Hong, I'm wondering if you have any advice you could offer healthcare professionals to help them communicate the value of nutrition to their clinic administrators to help get them to support practice changes. Can you talk about that a little bit?

Dr. Kurt Hong: Yeah. So I'm going to use the example here at USC. Our hospital and actually ambulatory care clinics, we are very well aware of the “ACPA” study which was the inpatient nutrition intervention study that kind of was published a few years ago. And we were really impressed on how, in that particular study, they were able to demonstrate a reduction in the 30- day readmission rate and overall length of stay.

And this obviously led to significant cost savings for, not only the patients but also for the hospital. As a result of that particular study, we were able implement at the USC hospital early nutrition screening intervention for all the patients who were admitted and who were considered to be at risk.

So similarly, our clinic leadership recognized that majority of our middle aged as well as at risk patient population patients they were actually seen as outpatients. So they soon realized that this presented potentially even greater opportunity for intervention to many more of our patients. So from our QIP trial you can easily see the feasibility as well as the effectiveness of this particular study.

Maura Bowen: Considering our current environment, I feel like we probably should address COVID-19 for a moment. If you think about the disruption the virus has imposed on everyone's life, how can we ensure that patient's nutrition status and needs don't get overlooked?

Dr. Kurt Hong: It's been a tremendously stressful year for many patients and also for a lot of the healthcare providers. And if you look at some of the costs risk factors for COVID-19 and many of these things include things like heart disease, obesity, diabetes, or even chronic kidney disease. These are the same metabolic diseases where better nutrition can make a tremendous impact.

Dr. Kurt Hong: It's really important to see that many of these disease not only increase the risk for contracting COVID, but also impact the risk for severe COVID-19 complications. So for instance, in our diabetic patients, the earlier we can intervene nutritionally to improve their glycemic or blood sugar control, the more successful we're going to be to be able to lower these risks.

Maura Bowen: That's a great answer. And I have just one more question for you. It's about asking what recommendations you can offer to clinicians and administrators about believing in and embracing the power of nutrition.

Dr. Kurt Hong: I'm a firm believer in the saying, "Good food is good medicine." If you, again, look at conditions such as diabetes or hypertension, hyperlipidemia, things like heart attacks, arthritis, dementia, and even pretty mature aging and cancer, these are just some of the chronic diseases we see all the time.

So I think there are ample opportunities for all clinicians and healthcare providers to contribute and counsel the patients. So there's really nothing more rewarding than to see a patient be able to get off of medications because they've taken the right steps to eat better and embrace their new healthy lifestyle.

Maura Bowen: Dr. Hong, I really want to thank you so much for your time today because this was fabulous information. I'm glad your study saw such strong results and you are welcome on our podcast anytime. I hope you'll join us again.

Dr. Kurt Hong: Thank you Maura for the invite. I look forward to joining you again for future discussions

Maura Bowen: And for our listeners, thank you for joining us today. Be sure to visit nhi.org for more information on nutrition science education and resources including more podcasts which you can find on anhi.org under resources and the podcasts and videos page or by clicking the community link on the anhi.org homepage to find podcasts there as well. Thanks everyone. Stay healthy and safe.