

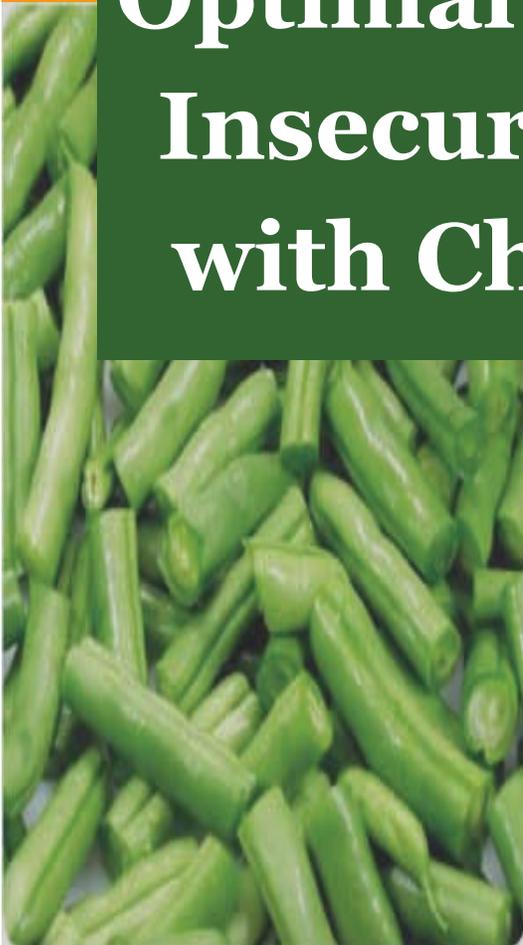
Chicken Soup Brigade



LIFELONG'S FOOD PROGRAM



ACCESS GRANTED:
**Breaking Barriers to
Optimal Health for Food
Insecure People Living
with Chronic Illnesses**



LIFELONG
AIDS Alliance



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EXECUTIVE SUMMARY

Research has shown that medical treatments are ineffective without proper nutritional support, and good nutrition can help minimize disease progression. Facing limited access to nutritious food while threatened with life-challenging health conditions, low-income ill Americans are disproportionately at a higher risk for malnutrition, late-stage chronic diseases, and death. Costly long term care and medical treatments then become required at a higher than necessary cost. Without addressing the problem of chronic, diet-related illness, the US cannot effectively address the escalating cost of healthcare. In 2004, Washington State spent approximately \$1.52 billion dollars and \$2 billions dollars treating diabetes and heart disease, respectfully. The chronically ill community needs a sustainable method to gain access to nutritious foods in order to prevent and reduce health complications that lead to costly medical emergencies.

By addressing poor access to food and increasing healthy food selections, low-income people living with life-challenging conditions experience a dramatic increase in quality of life, resulting in a significant decrease in the amount of money spent on healthcare. Medical Nutrition Therapy (MNT) is a comprehensive healthcare service that focuses on management and prevention of chronic diseases by increasing client knowledge of the important role of nutrition, improving adherence to medications, and reducing food insecurity. With the combination of home-delivered meals and regular nutrition counseling, medical nutrition therapy promotes an optimal quality of life in people living with life-challenging illness.

Not only does medical nutrition therapy promote positive health outcomes, but it has also been shown to reduce healthcare cost. With the cost of dialysis and kidney transplantation exceeding \$70,965 and \$105,807, respectively, healthcare savings could amount to as much as \$176,772 per patient per year of avoided stage-5 chronic kidney disease. By preventing the progression of HIV to AIDS, MNT increases healthcare savings by as much as \$23,000 per HIV/AIDS patient per year. Similarly, by preventing complications due to diabetes, healthcare costs would be significantly saved.

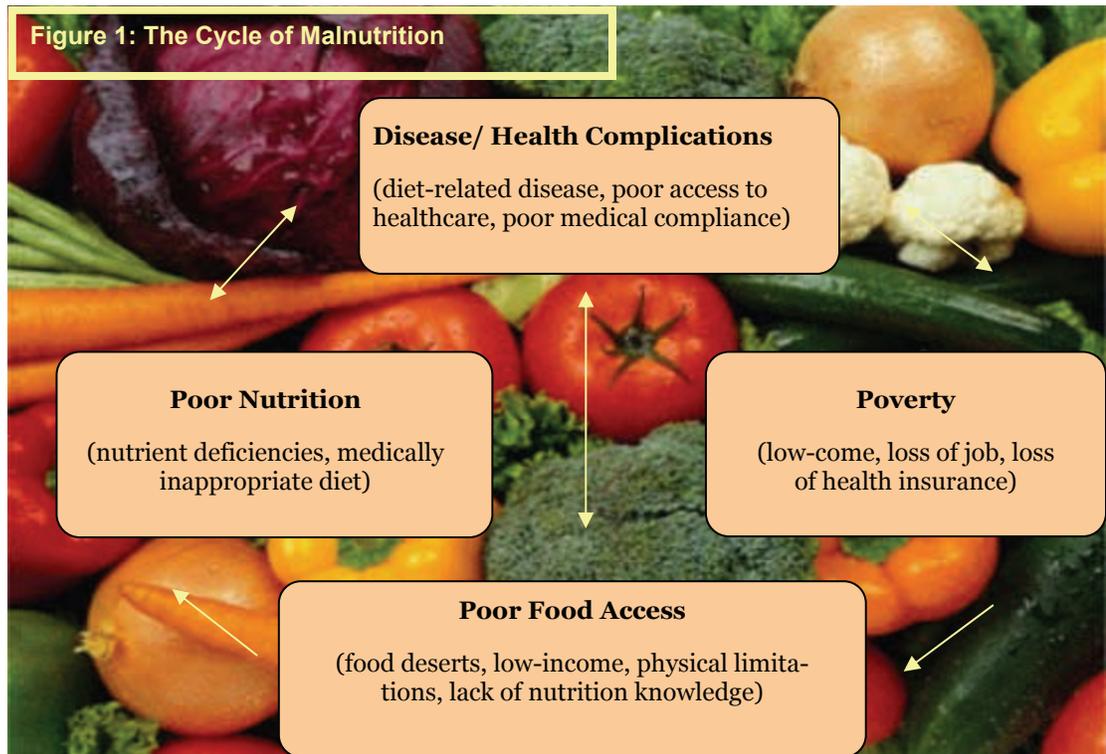
The State of Washington has the opportunity to tap federal resources in order to take advantage of these healthcare savings. Medicaid-eligible individuals living with life-threatening diseases could have access to a stainable, cost-effective method that provides medical nutrition therapy. With the use of a Section 1115 Medicaid waiver, Section 1915(c) Medicaid waiver, or funds allocated from the Medicaid Transformation Grant, Washington would have the opportunity to lower Medicaid spending and improve health of food insecure Washingtonians.

THE COMPOUNDING EFFECT OF MALNUTRITION ON HEALTH

In the United States today, many Americans are plagued with chronic, debilitating illnesses that incapacitate their ability to function on a day-to-day basis. Of the \$2 trillion dollars spent on the nation's medical care costs, the US government spends over 75 percent to care for chronic diseases.¹ In Washington State alone, approximately \$1.52 billion dollars and \$2 billion dollars were spent treating diabetes and heart disease, respectfully.^{2, 3} Without addressing the problem of chronic, diet-related illness, the US cannot effectively address the escalating cost of health care. Many low-income Americans face inaccessibility of food, lack of nutritious food choices, and food insecurity in the household within a given period of time. These circumstances are difficult alone but compounded with multiple life-threatening illnesses, it is almost impossible for ill, low-income individuals to make it through the day. Growing evidence has shown that some medical treatments are ineffective without proper nutritional support, while other treatments can be avoided or minimized through adequate nutrition.⁴ However, most health insurance plans fail to cover even basic nutritional care. As a result, millions of low-income Americans struggling with debilitating diseases experience preventable health complications due to poor food access and inadequate nutrition resources.

Many of the problems with health and health care in the United States are directly related to lack of nutritious foods available to low-income communities, resulting in nutritional and health disparities.⁵ Facing limited access to healthy meals while threatened with life-challenging health conditions, low-income ill Americans are disproportionately at a higher risk for malnutrition, late-stage chronic diseases, and death. Nutritional disparities lead to the increase and worsening of chronic illnesses. Costly long term care and medical treatments then become necessary at the government's expense.

Unlike other factors that influence health, inadequate nutrition leads to a vicious cycle of poor health and nutrition. As shown in Figure 1, lack of a proper, balanced nutrition is not only a cause of negative health problems, but also a consequence. Disabling conditions complicate every step of the nutrition process from earning income, to shopping for food, to preparing and consuming it, making it impossible to obtain a healthy meal.⁶ At the same time, poor access to wholesome meals increases the likelihood or worsening of diet-related diseases. This cycle of malnutrition is common in low-income communities and oftentimes leads to worsening health problems and costly medical emergencies that could be avoided by meeting basic nutritional needs. In 2006, 67% of Medicaid-eligible HIV/AIDS patients and 66% of Medicaid-eligible diabetes patients experiencing complications were admitted from the emergency room to longer hospital stays. An average of \$58,898 was spent covering these emergency medical treatments for each patient.⁷



Malnutrition significantly increases the cost of health care in chronically ill patients. There are two main problems that perpetuate the cycle of malnutrition in low-income patients living with life-threatening conditions – limited affordability and inaccessibility to food.

Limited Funds

Limited affordability is a major obstacle that fuels the cycle of malnutrition in low-income communities. The cost of food frequently exceeds the amount of money low-income people have from their monthly income. On top of that, the cost of healthy nutritious foods is much more expensive than other food items. Many individuals living with chronic diseases are unable to work due to their health status, thus reducing the amount of money available for daily living. For those that receive monthly allocations from Social Security Disability Insurance, that fixed income may not be enough as the cost of living steadily increases. Food becomes a last priority because rent, electricity, and water bills must come first. As a result, chronically ill Americans are forced to buy unhealthy food that is not good for their already fragile bodies.

Poor Access

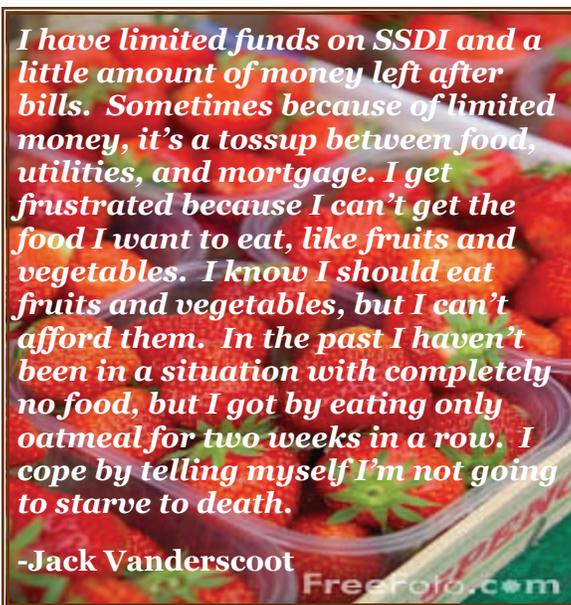
In addition to limited funds, poor food access is another problem that plagues the chronically ill community. This can result from inadequate resources, such as grocery stores, and physical complications due to illness. The amount of energy required to travel to a grocery store, walk the entire store, and wait in long lines is exhausting and often impossible. In many low-income neighborhoods, there is an absence or severely limited access to food markets, especially those that carry a healthy selection of food. Known as food deserts, this phenomenon results in a lack of food variety and freshness in predominantly low-income neighborhoods compared to the food items that can be found in higher-income areas.⁸ Community members have to travel to other towns to get the food they need. For chronically ill individuals, they may not have the option to travel far distances because of the constraints of their illness, leaving them restricted to a less healthy selection of food. Therefore, many chronically ill individuals are not able to receive the nutritious foods that they need.

Inefficient Resources

There are some resources available for low-income individuals to utilize. One of the most important is the Supplemental Nutrition Assistance Program (SNAP), formally known as the Federal Food Stamp Program. An average of 535,768 Washingtonians relies on this critical resource to get the food they need when basic income is not enough.⁹ By using SNAP to cover food expenses, monthly income can be allocated to other bills and payments.

Unfortunately, the amount of money allocated by SNAP is often not enough to cover the amount of food needed for an entire month. With an average food stamp benefit of roughly \$1 per person per meal, it has become the norm rather than the exception for recipients to run out of benefits in the third week of the month.¹⁰ Though food stamps are a critical resource for low-income individuals, it is not enough to attain the adequate food supply needed to prevent diet-related diseases and complications.

Another vital resource is food banks. During 2005-2006, 1.2 million Washington residents turned to food banks to get additional food supplies when their



primary source of food was not enough.¹¹ Unfortunately, the nutrition value of food found at food banks can be inconsistent. Most food banks focus on distributing certain poundage of food each year. The US emergency food system is reliant upon a food stream that comes from donations. As a result, the quantity and quality of food distributed is not determined by the need of the recipients, but is limited by the inconsistent, uncontrollable food supply.¹² For people in fragile health who need healthy food but cannot afford it, food banks limit them to food items that are not good for their health.

Nutrition service organizations can serve as an additional resource for aging, disabled, and chronically ill Washington residents. Through organizations like Chicken Soup Brigade, congregate meals, home-delivered meals, food drives, and other services are made available for those who qualify, pending available private and government dollars. Due to the large number of people in need, there can be long waitlists for these services. In addition, there are not enough nutrition service organizations to cover the increasing population of chronically ill individuals in the state of Washington.

The Cycle of Malnutrition is Preventable

Nutrition service professionals recognize that access to reliable, nutritional sources plays a vital part in reversing and preventing the cycle of malnutrition. By removing poor access to food and increasing healthy food selections, people living with life-challenging conditions experience a dramatic increase in quality of life, resulting in a significant increase in the amount of money saved in health care costs. The chronically ill community needs a sustainable method to gain access to nutritious foods in order to prevent and reduce disease progression and health complications that lead to costly medical emergencies. This can be accomplished through medical nutrition therapy.



MEDICAL NUTRITION THERAPY: POTENTIAL FOR HEALTHCARE SAVINGS

WHAT IS MEDICAL NUTRITION THERAPY?

Medical Nutrition Therapy (MNT) is a comprehensive health care service that focuses on management and prevention of chronic diseases by increasing client knowledge of the important role of nutrition, improving adherence to medications, and reducing food insecurity. This involves the assessment of the nutritional status of patients with a condition or illness that puts them at risk.¹³ The five main components of MNT are nutritional assessment, intervention, diagnosis, monitoring, and evaluation. These are accomplished through an initial assessment and follow-up nutrition counseling visits to monitor the patient's progress, done by a registered dietitian.

Diet and nutrition play an important role in maintaining good health. For people living with chronic conditions, nutrition helps to manage their health and prevent further complications. However, many low-income people living with life-challenging illnesses lack access to a nutritious diet and are at risk for medical complications, thus requiring lengthy hospital stays and costly medical treatments. With medical nutrition therapy, a registered dietitian will evaluate what diet works best with a client's health condition and his/her medicine regimen. Data presented at the 1999 American Association for Clinical Chemistry annual meeting proved that screening programs designed to assess the nutritional status of patients not only decrease the likelihood of complications in hospitalized patients, but also decrease hospital costs.¹⁴ Once initial assessments identify those patients at risk, the dietitian will monitor the patient's progress through nutrition counseling, ensuring that the specific diet promotes positive health outcomes.

The relationship between the registered dietitian and regular physician is an important part of the success of medical nutrition therapy. After each nutrition counseling session with the patient, the dietitian forwards her notes to the patient's doctor. The doctor, in turn, provides the dietitian with all necessary labs and progress reports on the patient. Working together, the dietitian and physician can each create a medical and nutrition regimen that best matches the patient's needs.

In addition to nutrition counseling, home-delivered meals are another essential service of MNT.¹⁵ By delivering frozen meals, ailing patients are guaranteed a healthy selection of foods that are appropriate for their health condition and medication regimen. These meals ensure that patients have access to nutritious foods that may not be available in their communities due to food deserts. For those who are too ill to cook their own meals, the already-prepared frozen meals serve as a convenience. Many chronically ill individuals are so sick that they are restricted

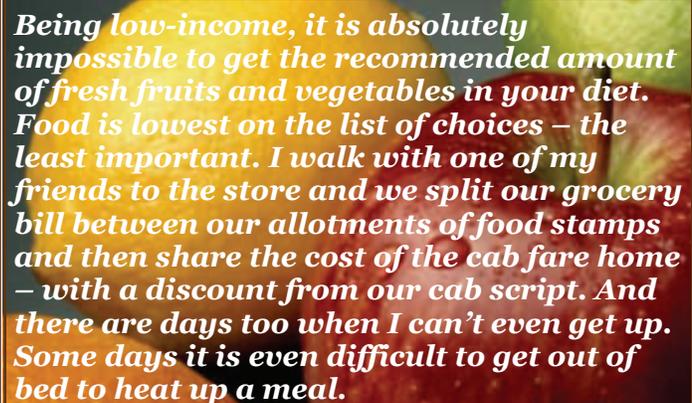
within their own homes. These home-bound patients are unable to access nutritious meals that would be beneficial to their health. Home-delivered meals are crucial to make sure that home-bound individuals receive a diet that is appropriate for their health condition. With the combination of home-delivered meals and regular nutrition counseling, these medical nutrition therapy services are guaranteed to promote an optimal quality of life in people living with life-challenging illness.

OVERCOMING OBSTACLES

The consequences of poor nutrition are too dire, especially for people living with life-challenging illnesses. Intake of an inadequate diet can lead to additional health risks, such as worsening health and eventual death. Malnutrition has a dangerous impact on health. Iron deficiency causes fatigue;¹⁶ low levels of vitamins A, B6, and C weaken the immune system;¹⁷ and inadequate protein intake interrupts wound healing and diminishes muscle mass.¹⁸ Malnourished persons are more likely to require emergency treatment, surgical interventions and long term care that exponentially increase health care costs. Many times, chronically ill individuals struggle with multiple conditions at once.

Another consequence of poor nutrition is its effect on medication adherence. Chronically ill individuals are often required to take multiple powerful medications that can take a large toll on the body. There are many negative side effects to prescription medications, and when one takes a combination of drugs, the effects can multiply. Gastrointestinal side effects make it difficult to tolerate these drugs, and frequent medication changes become necessary to find the correct prescription and dosage.¹⁹ In 2004, Washington spent over \$3.7 million on drugs and other medical nondurables, much of which covered the pharmaceutical consumption by people living with multiple chronic diseases.²⁰

However, with the proper diet and nutrition, the body serves as a barrier against the negative side effects of drugs. But when one is forced to rely on unhealthy, unbalanced meals, there is no



Being low-income, it is absolutely impossible to get the recommended amount of fresh fruits and vegetables in your diet. Food is lowest on the list of choices – the least important. I walk with one of my friends to the store and we split our grocery bill between our allotments of food stamps and then share the cost of the cab fare home – with a discount from our cab script. And there are days too when I can't even get up. Some days it is even difficult to get out of bed to heat up a meal.

~ Anonymous

protection against the harsh effects of prescription drugs. This can cause people to stop taking medications due to fear of the side effects. With medical nutrition therapy, chronically ill patients are able to meet with dietitians and determine the proper diet that works with their medication regime. Home-delivered meals provide access to these appropriate meals. Together, there is a much greater chance of drug adherence.

POSITIVE HEALTH OUTCOMES

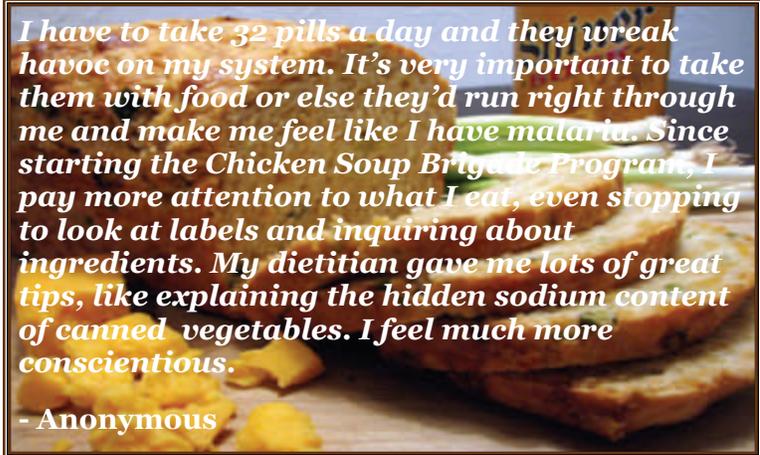
With good nutrition comes the potential for good health. Although the combination of medical treatment and proper nutrition are necessary to achieve optimal health, the role of nutrition in managing and preventing disease, as well as improving health outcomes is often undervalued.²¹ However without a proper nutrition, the human body is already at a deficit when dealing with other health factors like disease and illness. Well-nourished individuals have a higher resistance to disease and have a better chance at recovering from acute illness before it worsens. Through medical nutritional therapy, chronically ill patients have access to meals that are not only nutritious, but that are catered to their specific health needs. In addition, MNT allows participants to work closely with licensed dietitians who can keep track of their health and dietary needs. Thus, they are less at risk for unexpected crises, emergency trips to the hospital, and complications with medications.

Below are three examples of common chronic diseases that are drastically influenced by one's diet. Both the health benefits and cost-effectiveness of medical nutrition therapy are analyzed for each disease condition. Although this report does not determine the specific economic benefit of medical nutrition therapy, it demonstrates the significant potential for health cost savings.

Chronic Kidney Disease

Chronic Kidney Disease is a life-threatening condition brought on by kidney damage or a glomerular filtration rate that is critically low for three months or more.²² This disease affects 20 million Americans today. As kidney function deteriorates, dangerous health conditions can develop that require hemodialysis or kidney transplantation in order for the patient to survive. In 2006, cost of dialysis was \$70,965 per patient per year. For late stage chronic kidney disease patients who underwent transplantation that year, the cost was a staggering \$105,807 per patient per year.²³ According to a study done at the University of Maryland School of

Medicine, 19 percent of people with chronic kidney disease have a greater risk of developing complications since these patients are more susceptible to toxic effects from medications.²⁴ Not only are these complications costly, but they also lead to health problems that require



I have to take 32 pills a day and they wreak havoc on my system. It's very important to take them with food or else they'd run right through me and make me feel like I have malaria. Since starting the Chicken Soup Brigade Program, I pay more attention to what I eat, even stopping to look at labels and inquiring about ingredients. My dietitian gave me lots of great tips, like explaining the hidden sodium content of canned vegetables. I feel much more conscientious.

- Anonymous

further medical treatment. Hypertension, anemia, and diabetes mellitus are common illnesses that can cause and result from chronic kidney disease. Nutritional intake plays an important role in one's ability to prevent further damage due to these conditions.

The right balance of protein, phosphorous, and calcium are extremely important for these patients. Too much protein intake increases the progression of kidney disease, but too little protein increases the risk of malnutrition.²⁵ Similarly, high levels of phosphorous flood the kidney and are difficult to remove in kidney disease patients. This can cause skin irritation and lead to weak, easily breakable bones due to calcium loss.²⁶ However, many patients are not able to identify which foods have phosphorous and how much is too much. With medical nutrition therapy, a registered dietitian can counsel kidney disease patients on the proper foods for their health condition. In addition, low-income patients who lack access to these food selections could receive the appropriate foods through home-delivered meals. This combination of nutrition counseling and home-delivered meals specifically catered to the patient produces positive health outcomes by treating health problems at a basic level.

Cost Savings

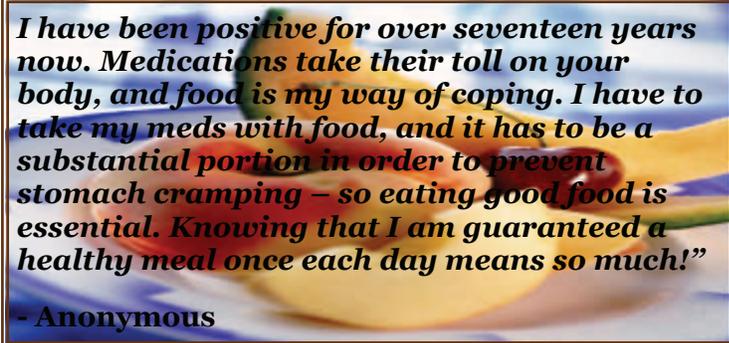
Expenses associated with Chronic Kidney Disease have more than doubled from 11.3 percent in 1996 to 24.5 percent in 2006.²⁷ On average, the cost of each patient per month is approximately \$1,902. Expenditures for patients transitioning to Stage 5 kidney disease represent a considerable difference, especially during the month of dialysis initiation. This cost exceeds \$14,500 per month.²⁸ By focusing on a nutrition plan that provides the appropriate food selection, patients would less likely

transition to stage 5 kidney disease. Home-delivered meals would provide these patients with food containing the appropriate amount of phosphorous, protein, and calcium. Nutrition counseling would ensure that people living with chronic kidney disease understand how to determine which food selection works best with their health condition and in turn prevent the dangerous progression of their disease. By avoiding late stage kidney disease, the cost of dialysis and transplantation would be avoided. With medical nutrition therapy, health care savings could amount to as much as \$176,772 per patient per year of avoided stage-5 chronic kidney disease.

HIV/AIDS

In 2006, 509,681 people in the United States were known to be living with Human Immunodeficiency Virus (HIV), the virus that leads to Acquired Immune Deficiency Syndrome (AIDS). In Washington alone, 10,056 people are diagnosed with HIV/AIDS, and many more are living with the disease undiagnosed.²⁹ In recent years with the use of highly active anti-retroviral therapy (HAART), people with HIV/AIDS have been able to live longer, even after being diagnosed with AIDS, the most severe stage of the infection.³⁰ In order to delay decline of the immune system and prolong life, HAART treatments require strict adherence to medicine regimens. However sporadic adherence and the harsh nature of these drugs can increase the risk of complicating factors, especially when combined with food insecurity and other health problems.

Diet and nutrition are crucial parts of HIV/AIDS treatment, but individuals who lack access to nutritious food selections are more likely to combat issues with weight loss, muscle wasting, and decreased immunity, which can significantly contribute to death.^{31, 32} People presenting symptoms of HIV/AIDS require 20-30% more energy than non-HIV/AIDS individuals in order to maintain their weight. Even asymptomatic HIV/AIDS patients need 10% more energy, requiring increased caloric intake.³³ Low-income HIV/AIDS patients have greater difficulty allocating funds to



I have been positive for over seventeen years now. Medications take their toll on your body, and food is my way of coping. I have to take my meds with food, and it has to be a substantial portion in order to prevent stomach cramping – so eating good food is essential. Knowing that I am guaranteed a healthy meal once each day means so much!”
- Anonymous

purchase nutritious meals as well as exerting energy spent in grocery stores and preparing meals. With the use of medical nutrition therapy, patients have access to meals that would increase their caloric intake, thus preventing further

destruction to the immune system that leads to expensive medical interventions.

Along with medical complications, people living with HIV/AIDS must consider the risks associated with taking their medication regimens. Many of the prescription medications are strong enough to cause severe gastrointestinal side effects. In addition, some medications must be taken with specific foods in order to work effectively. Strict adherence to these prescriptions are necessary to prevent morbidity and mortality, however many low-income patients are unable to stick to their regimen due to limited nutritional resources. If medicines are taken with an inadequate meal or no meal at all, the medication may be poorly absorbed or the patient may experience nausea, vomiting, or malaise.³⁴ It is important for people living with HIV/AIDS to not only have access to nutritious meals, but also have knowledge of how to incorporate an appropriate diet with medication regimen in order to maximize the efficiency of their treatment. Through nutrition counseling and home-delivered meals, low-income HIV/AIDS patients have an optimal solution to managing and preventing complex complications that lead to costly medical interventions. Most importantly, medical nutrition therapy promotes medication adherence in HIV/AIDS patients. An adequate diet reduces the gastrointestinal side effects of medications, making them easier to tolerate.³⁵ In turn, patients are more likely to adhere to the medication plan given by their physicians, reducing the need for frequent prescription changes due to acquired resistance.³⁶

Cost Savings

The annual cost of medical treatment for HIV/AIDS ranges from \$14,000 per person in early stage to over \$37,000 per person in the late stage.³⁷ Forty-six percent of these costs are made up by hospital care and another 40 percent covers pharmaceutical treatment.³⁸ By slowing the progression of the virus and taking steps to reduce hospitalization, health care costs would decrease. As the disease progresses and patients become symptomatic, more money is spent on HAART drugs and treatment. If patients cannot adhere to the medications due to gastrointestinal side effects or low absorption, more money is spent finding a drug that is compatible with the patient. By providing nutritious home-delivered meals to accompany the medication regime, HIV/AIDS patients are more likely to adhere to their medications. Therefore, the drugs have a greater chance of slowing the progression of the disease. In addition, patients are less at risk for emergency treatment due to medication side effects and malnutrition. Medical nutrition therapy increases health care savings by as much as \$23,000 per patient per year by taking steps to prevent the progression of HIV/AIDS and the health complications associated with the later

stages of the disease.

Diabetes Mellitus

Diabetes Mellitus is an endocrine disease that prohibits proper blood glucose regulation. In type-1 diabetes, the pancreas' beta cells stop producing insulin, the hormone that converts sugars, starches, and other foods into energy.³⁹ When tissue receptors become resistant to insulin, the normal range of blood glucose cannot be maintained, leading to type-2 diabetes.⁴⁰ According to the Centers for Disease Control and Prevention, over 14.6 million people are diagnosed with diabetes in the United States.⁴¹ In 2005, Washington had an estimated 330,061 people diagnosed with the disease.⁴² This disease is the sixth leading cause of death as of 2002. In order to maintain optimal blood glucose and prevent life-threatening complications, the role of a proper nutrition is essential, as shown in the comprehensive nutrition recommendations published by the American Diabetes Association. Diabetes is a manageable disease; but without appropriate food sources, people living with this illness have a high risk for life-threatening complication, comorbidity, and mortality.

Hyperglycemic crises are the most serious complications of diabetes because they present an immediate life-or-death emergency.⁴³ Caused by an inadequate supply of insulin, this condition can lead to coma and death. Immediate in-patient treatment is necessary, and in worse case scenarios, permanent life support or long term care may be required.⁴⁴ In order to prevent these life-threatening complications, blood glucose control is essential. With medical nutrition therapy, low-income



I receive \$150 in food stamps per month. I also receive \$656 from SSDI, but I have to pay bills before I can think about purchasing food. Produce is much more expensive than other foods. Stuffed peppers are my favorite but I can't make them anymore. I eat hamburger helper without the hamburger. I stop eating meat all together in the dead of winter. Onions go a long way. Potatoes go a long way, because you can cook them in multiple ways. Food stamps don't last beyond two weeks. I've learned to make food last. I never throw food away. I have had problems sticking to my medications before. I quit taking one prescription because it had to be taken with food four times a day. Before starting the Chicken Soup Brigade Program, I only had one meal per day, or 2 if it was a good day. Now I eat three meals a day. The quality of my life has definitely improved, especially with my gastro problems. My Crohn's disease has been in remission since meeting with the dietician and I'm off those medications.

- Allan McPherson

Table 1: Cost of Home-Delivered Meals

State	Populations Served	Meals per week	Cost per meal	Total cost per client per year
Arkansas	Aged; Disabled	Up to 7	\$4.97	\$1809.08
Iowa	Aged; Disabled; HIV; Ill	Up to 14	\$7.19	\$5234.32
Maryland	Aged; Disabled; HIV; Ill	Up to 14	\$5.62	\$4091.36
Nebraska	Aged; Disabled	3-5	\$5.25	\$1365.00
Mean Cost per Meal:			\$5.76	
Mean Cost for 7 meals per week:			\$2096.64	
Mean Cost for 14 meals per week:			\$4193.28	

diabetes patients have access to nutritious food through home-delivered meals to prevent dangerously low insulin levels. In addition, nutrition counseling ensures that people living with diabetes are able to follow and maintain a diet regimen that fits their specific health conditions.

Kidney disease, heart disease, and stroke are other serious illnesses that can arise from diabetes complications. These conditions are caused by continually poor glycemic control, hypertension, and plaque formation on artery walls.^{45, 46} In the US, diabetes is the number one cause of stage 5 chronic kidney disease.⁴⁷ During this late stage, known as renal failure, the kidney loses all its filtering capacity and no wastes can be eliminated from the body. Damage is irreversible at this point and either lifelong dialysis or kidney transplantation is required for survival.⁴⁸ An adequate diet plays a large role in maintaining optimal glycemic control and blood pressure, which could prevent the risk of Stage 5 chronic kidney disease. Even in the early stages of kidney disease, proper nutrition can improve one's health before reaching an irreversible state.

Cost Savings

The estimated medical expenditures of diabetes in 2007 were \$116 billion. Of this amount, \$27 billion was attributed to directly treat diabetes, \$58 billion to treat diabetes-related chronic illnesses and \$31 billion in excess general medical costs.⁴⁹ For diabetes patients with comorbidities, costs significantly increase compared to the costs of treating patients with just diabetes. In 2003, \$1.1 billion was spent on 7-day

Table 2: Cost of Nutrition Counseling long

State	Population Served	Sessions per year	Length of Session	Cost per 60 min session per client	Total cost per client per year**
Iowa	Aged; Disabled; HIV; Ill	No limit	15 min	\$33.00	\$198.00
Maryland	Aged; Disabled; HIV; Ill	No limit	60 min	\$61.86	\$371.16
Nebraska*	Aged; Disabled	1 initial assessment; 5 follow up sessions	60 min	\$105.00	\$665.00
Mean per client per 60 min session:				\$70.50	

* The initial nutrition assessment is \$140, and then nutrition counseling sessions follow.

** One year includes six 60 minute sessions.

hospital stays for diabetes patients with chronic kidney disease. Approximately \$2.4 billion was spent on hyperglycemic crises on the 180,000 patients admitted.^{50, 51} Though poor nutrition is not the sole cause for the development of additional diseases presented in diabetes patients, it plays a large role. Patients who maintain an adequate diet are less at risk for comorbidity and life-threatening complications. By implementing nutrition counseling and home-delivered meals through medical nutrition therapy, health care costs would be significantly saved.

OVERVIEW OF HEALTH COST SAVINGS

Research indicates that medical nutrition therapy is not only effective at improving various health conditions, but it also reduces the cost of care for patients by preventing the need for surgeries, reducing the length of hospitalization stays, and providing alternatives to long term care.⁵² With MNT, home-delivered meals and nutrition counseling services would be provided for low-income people living with chronic conditions as a method to prevent the need for expensive medical treatments used to manage preventable health complications.

Home-delivered meals are a fundamental service provided by medical nutrition therapy. Low-income people living with chronic diseases struggle to not only afford nutritious meals, but also to complete the steps of the nutrition process -

Table 3: Chicken Soup Brigade’s MNT Service Reimbursement*

Service	1 unit	Cost per unit	Units per client per year	Cost per client per year
Home-delivered meals	1 meal	\$5.50	365	\$2007.50
Nutrition Counseling	15 minutes	\$22.00	Up to 32	\$704.00
Total per client per year:				\$2711.50

* Chicken Soup Brigade is a Seattle-based nutrition service organization that works to improve the nutritional status of people throughout King, Snohomish, Pierce, and Kitsap counties through MNT services.

shopping for food, preparation, and consumption. For homebound individuals, this process is nearly impossible. With already prepared home-delivered meals, low-income chronically ill patients consistently receive medically appropriate food, which increases their quality of life as well as reduces health care spending usually spent on diet-related complications.

Maryland, Nebraska, Iowa, and Arkansas are four states that recognize the health benefits and cost-effectiveness of nutrition by providing medical nutrition therapy for chronically ill individuals. As shown in Table 1, the average cost of home-delivered meals per client is \$5.76 per meal. Of these four states, the total cost spent per client per year on home-delivered meals ranges from \$1,365.00 to \$5,234.32. If clients receive one meal per day each week, the mean cost of home-delivered meals per client per year is approximately \$2,096.64. With two meals per day each week, the cost is estimated to be \$4193.28. Though the exact number of hospitalization days avoided through home-delivered meals is undetermined, the mean cost of meals per client per year falls far below the average cost of hospitalization per day. The potential for savings is significant.

In addition to home-delivered meals, nutrition counseling services promote positive health outcomes by ensuring medically appropriate diet maintenance, medication adherence, and improved quality of life. After an initial assessment, patients visit with a registered dietitian based on the dietitian’s recommendation. Table 2 shows that the cost of a 60 minute nutrition counseling session ranges from \$33 to \$105. If clients participate in six one-hour sessions per year, the cost of nutrition counseling per client per year ranges from \$198 to \$665.

Chicken Soup Brigade, a local Washington food program, provides medical nutrition therapy services to food insecure chronically ill people in King, Pierce, and Snohomish Counties. Table 3 illustrates the cost of home-delivered meals and nutritional counseling sessions per client. Clients are eligible for 1 meal per day, with

a reimbursement rate of \$5.50 per meal. The meal cost per client per year is \$2007.50. For nutrition counseling, clients are eligible for 8 hours of sessions per year. One unit is considered 15 minutes. However, dietitians are able to determine the length of each visit, and it varies by each case. Most sessions range from 30 minutes to an hour. A 15 minute session costs \$22. With the maximum amount of nutrition counseling sessions used in a year, the cost per client per year is \$704. Thus, combining both of these services, the total cost of medical nutrition therapy at Chicken Soup Brigade is approximately \$2711.50.

In Washington, the average cost of a one night stay in the hospital for HIV/AIDS patients is \$2,119.88. Yet a typical patient stay is 8 days, bringing the cost up to \$16,959 per patient. For those hospitalized for kidney failure, the cost of a typical 6 day stay is as much as \$29,328.⁵³ Referring to the reimbursement rates from Tables 1-3, the total cost of MNT per patient per year falls far below the cost of hospitalization for both of these diseases. Even by eliminating just two days of hospitalization through medical nutrition therapy, as much as \$4,239 and \$9776 could be saved per year for HIV/AIDS and kidney disease patients, respectively. Funding the preventive services of MNT leads to a significant decrease in health care spending.



Tapping Federal Resources to Increase Healthcare Savings

As evidenced above, the connection between nutrition and health is indisputable. Washington has the opportunity to support the evidence that suggests nutritious food in conjunction with medical treatment serves to produce optimal health outcomes and increase quality of life. To eliminate the health and nutrition gap in our low-income communities and decrease health care costs, Washington State can use its health policies to offer a sustainable, cost-effective method to provide medical nutrition therapy to low-income people living with life-threatening illnesses. Washington currently has a 1915(c) Medicaid waivers that address some of the nutritional and health needs of chronically ill Washingtonians – COPEs. However within this waiver, eligibility is limited to aged and severely disabled individuals who classify as needing a nursing facility level of care. That leaves hundreds of thousands of low-income Washingtonians stranded without support for their complicating conditions. The following are three recommendations on how Washington can provide medical nutrition therapy for chronically ill Washington residents.

Medicaid Section 1115 Demonstration Waiver

The Social Security Act authorizes multiple waiver and demonstration authorities to allow states flexibility in operating Medicaid programs.⁵⁴ Section 1115 waivers allow states to use federal funds in ways that do not conform to federal Medicaid standards. States are able to authorize experimental, pilot, or demonstration projects in order to assist in promoting the objectives of Medicaid. These projects allow for very broad changes in eligibility, benefits, or cost-sharing in Medicaid. Washington State has the option to use a Medicaid Section 1115 Demonstration waiver to provide medical nutrition therapy services to chronically ill individuals around the state.

Eligibility of this waiver would be limited to Medicaid-eligible persons with multiple chronic illnesses. Cost-sharing would occur just as it does for state authorized Medicaid services. The services offered would be nutrition counseling and home-delivered meals. Registered dietitians and service organizations that provide meals would be reimbursed by a standard rate, selected by the Department of Social and Health Services. Using the data from table 3, if the reimbursement rates for home-delivered meals and nutrition counseling were \$5.50/meal and \$22/unit, respectively, the estimated cost of services through the 1115 waiver would be \$2,711.50 per client per year. The typical cost of medical treatment for progressive chronic diseases fall far below that of MNT per patient per year. Though this is simply

an estimate, this cost of medical nutrition therapy services is significantly less than the amount of money spent funding costly medical emergency attributed to the diet-related complications.

Medicaid Transformation Grant

The Deficit Act of 2005 authorizes state flexibility in the area of health opportunity account, benchmark benefits, and alternative cost-sharing. Under Section 6081 of this act, the Medical Transformation Grant was established. The Medical Transformation Grant permits the adoption of new methods to improve effectiveness and efficiency in providing medical assistance through Medicaid.⁵⁵ The Centers for Medicare and Medicaid Services distributed two rounds of grant funds in 2007 and 2008. Washington State received \$5,948,000 in the second round of allocations. Though funding was only appropriated during the 2008 fiscal year, authorization for additional funds extends through the year 2010.

With the Medicaid Transformation Grant, states are encouraged to create programs more aligned with today's population and health care environment. Various kinds of projects can be funded from methods that reduce waste, fraud, and abuse under Medicaid to methods that reduce patient error rates by increasing the use of electronic health records. One project that is supported is the implementation of a medication risk management program. As defined in Section 1927(g) of the Deficit Reduction Act, a medication risk management program ensures that covered medication drugs are appropriately utilized to optimize health outcomes and reduce the risk of negative health effects in Medicaid-eligible chronically ill beneficiaries who take multiple medications.⁵⁶ As evidenced above, the combination of medication with comprehensive nutrition therapy promotes the goals of a medication risk management program. By these regulations, Washington can possibly use allocated grant funds to cover medical nutrition therapy for low-income, chronically ill individuals.

Since the grant authorizes additional funds until the year 2010, Washington has the option of applying for an extension. In doing so, medical nutrition therapy services could be funded for chronically ill beneficiaries around the state. The use of the grant for MNT would not only prevent the progression of life-threatening diseases, but also decrease Medicaid spending.

Medicaid Section 1915(c) Waiver

Section 1915(c) of the Social Security Act authorizes states to waive Medicaid provisions in order to allow long term care services to be delivered in a community or home setting. The 1915(c) Home and Community Based Waiver (HCBS) permits states to determine which population of people among the state is eligible, which diseases or conditions should be targeted among this population, and the number of consumers to serve. Programs under this waiver may provide a combination of traditional and non-medical services, and there is no limit to the number of services. However, the state must demonstrate that providing services to a target population under the HCBS waiver is no more expensive than the cost of services these beneficiaries would receive in an institution. With the use of an HCBS waiver, the State of Washington could fund medical nutrition therapy services for Medicaid-eligible beneficiaries with multiple life-threatening illnesses.

Washington currently has a 1915(c) waiver for ill individuals who require nursing facility level of care. This means that recipients require daily supervision by a registered nurse and have problems meeting at least three activities of daily living, such as walking, toileting, or bathing. However, there are hundreds of thousands of Washingtonians who are ineligible because they can live on their own, but experience costly health care complications due to their health status. Even for some home-bound individuals, they are considered ineligible due to the limited eligibility requirements. By authorizing a second Section 1915(c), Washington can target the population of individuals with life-threatening diseases that fall in this gap. With home-delivered meals and nutrition counseling, these beneficiaries would experience positive health outcomes and the state would spend less money funding costly medical treatments.

Several states have similar 1915(c) waivers that include nutrition services for chronically ill individuals, elderly, or specifically for those with HIV/AIDS. Maryland and Nebraska have 1915(c) waivers specifically for ill individuals, and California and Iowa have 1915(c) waivers for both ill individual and HIV/AIDS patients. Within their waivers, these states provide medical nutrition therapy services along with other core services. There are limitations on the number of people that can benefit from the waiver and how often they can receive services. Each state contracts community support organization to provide the offered services. The organizations are later reimbursed by a standard amount determined by the state. By modeling some of the approaches taken by other states, Washington would be able to increase the health outcomes of chronically ill residents around the state, as well as increase savings in Medicaid spending.

CONCLUSION

In 2005, as many as 133 million Americans had at least one chronic disease, and even more have multiple health conditions.⁵⁷ Research shows that proper nutrition in addition to medical treatment is necessary to manage and prevent disease in chronically ill individuals. Still, many low-income individuals lack access to an adequate diet due to poor food access and limited nutrition sources. Consequently, millions of low-income people living with life-challenging conditions experience preventable health complications that lead them to the emergency room or needing extensive medical care. The US government spends millions of dollars each year treating late-stage diseases through Medicaid, Medicare, and other specialized programs. Even more money is spent covering the costs of emergency room visits and medical treatments for preventable health complications. Through medical nutrition therapy, low-income people with chronic illnesses would be able to better manage their health and prevent further unnecessary complications. This comprehensive nutrition service leads to positive health outcomes as well as increased savings in health care spending.

Medical and nutrition experts agree that medical nutrition therapy promotes optimal health and disease progression prevention in chronically ill patients. In addition, the Center for Medicaid and Medicare Services expanded Medicare to cover MNT for diabetics and people with renal disease, thus proving the importance of these services. Washington State has the ability to decrease health care spending and increase positive health outcomes in its chronically ill population by federally funding MNT.

Currently, the federal medical assistance percentage (FMAP) for Washington is 50.94%. However, health policy advocates have actively been advocating for an increase in FMAP. If this increase occurs, it would help ensure that the millions of Medicaid-eligible Washington residents receive the health care they need. With an increase in FMAP and a focus on expanding MNT services throughout the state, Washington would have the opportunity to lower Medicaid spending and increase the quality of health of low-income Washingtonians.

The above explorations pose the possibility for Washington to save significantly in Medicaid spending as well as the chance promote optimal health. Medical nutrition therapy makes a positive difference in health care for people with multiple illnesses. Providing nutrition counseling and home-delivered meals will not only save dollars, but it can save lives.



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