

Quality of Care Models & Incentives for Healthcare Providers

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Chronic Disease

Current Situation

- Chronic diseases kill 40 million people annually worldwide - 70% of all deaths
- **More than 85% of U.S. health care costs attributable to chronic disease**
- Leading metabolic risk factors for chronic disease deaths are:
 - (1) high blood pressure (responsible for 19% of deaths)
 - (2) overweight and obesity (obesity has tripled since 1975)
 - (3) raised blood glucose (diabetics use more than 2X the health care resources than non-diabetics, diabetes is up 600% in last 50 years)

Current Strategy

- Focus is on managing conditions through medication compliance/procedures/preventative tests
- Minimal attention given to addressing the underlying cause resulting in reversal or cure

What if...

A single, low-cost, widely available prescription without any negative side effects could prevent, treat and in many cases reverse all of the these:

Cardiovascular (Heart) Disease

Diabetes

Obesity / Overweight

High Blood Pressure

Osteoarthritis / Rheumatoid Arthritis

Erectile Dysfunction

Multiple Sclerosis

Chronic Kidney Disease

Cancer (some forms)

Constipation/IBS

Acid Reflux/GERD

Dementia/Alzheimer's

Asthma

Kidney Stones

Crohn's / Ulcerative Colitis

Acne

The Prescription: Whole Food Plant-Based Nutrition

Include:

Whole Grains
Legumes (Beans, Peas, Lentils)
Vegetables
Fruits

Exclude:

Meat (beef, chicken, pork, fish, etc.)
Dairy products (milk, cheese, yogurt)
Eggs
Oils (olive, safflower, canola, coconut, etc.)

- Choose whole foods and avoid refined and processed foods
(e.g. whole grain bread instead of white bread, olives instead of olive oil)
- No calorie counting required--eat until satisfied and eat when hungry

"Just eat lots of plant foods; your body will do the math for you." – T. Colin Campbell

Why does Whole Food Plant-Based Nutrition work? How is it sustainable?

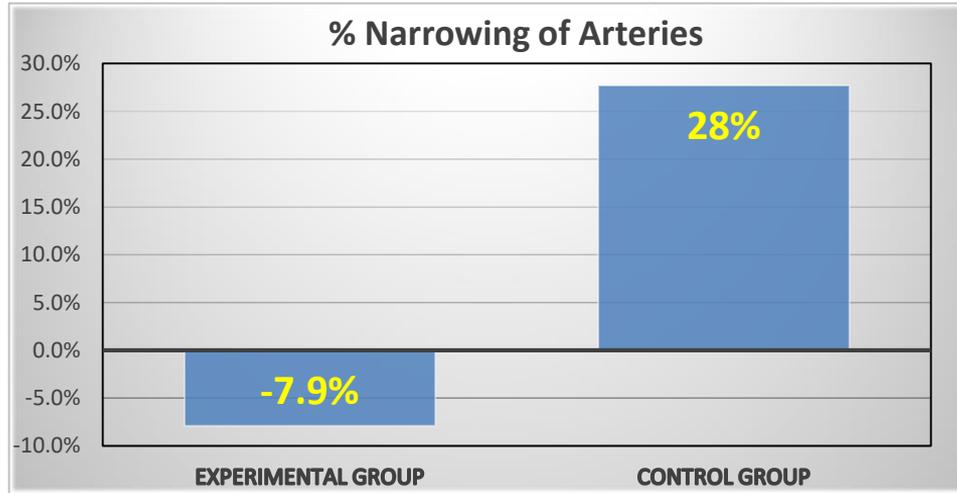
CALORIE DENSITY

WHAT 500 CALORIES LOOK LIKE



Dean Ornish, M.D.

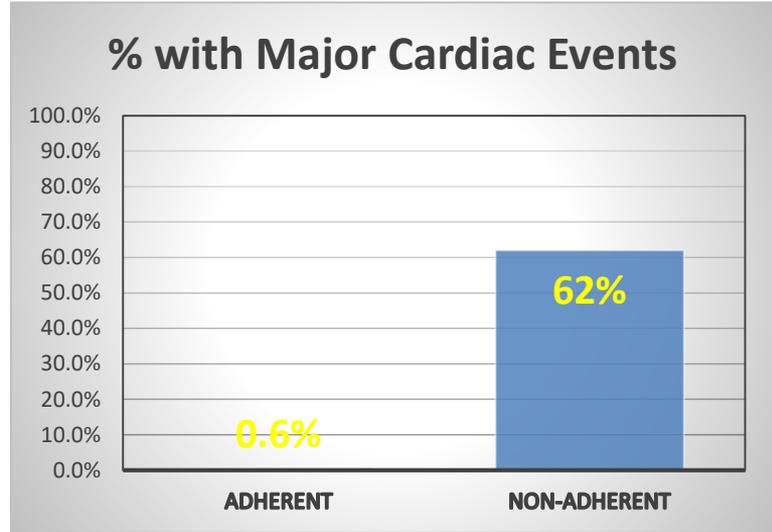
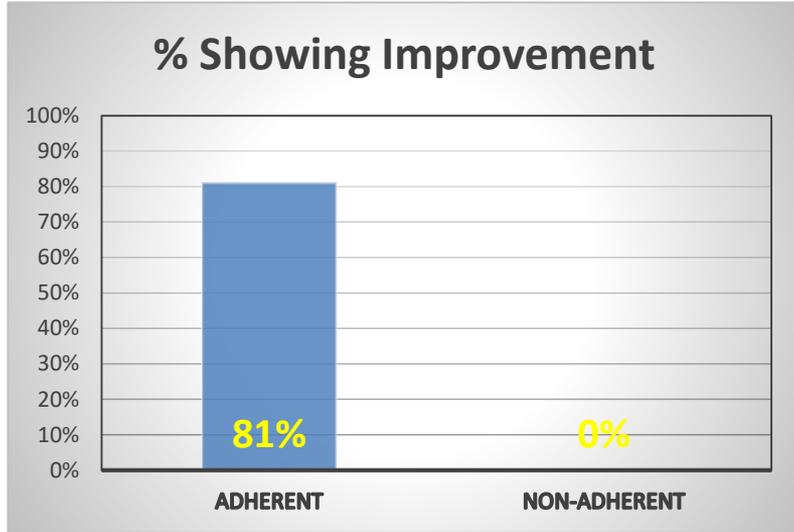
Coronary Artery Disease - 5 year study



- Ornish lifestyle medicine program approved by U.S. Medicare in 2010 as a covered service for heart patients as it showed:
- (1) "significant regression" or reversal of coronary atherosclerosis
 - (2) reduced the need for bypass or angioplasty
 - (3) significant reduction in: LDL cholesterol, triglycerides, body mass index, blood pressure and required medications.

Caldwell B. Esselstyn Jr., M.D.

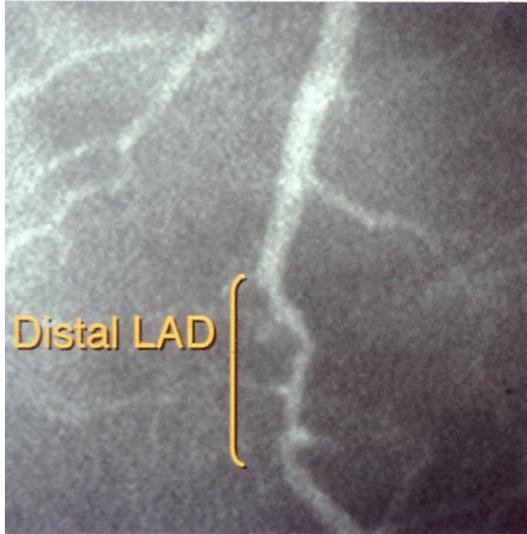
Cardiovascular (Heart) Disease – study averaged 3.7 years



Reversal of Coronary Artery Disease

Caldwell B. Esselstyn Jr., M.D.

27 November 1996

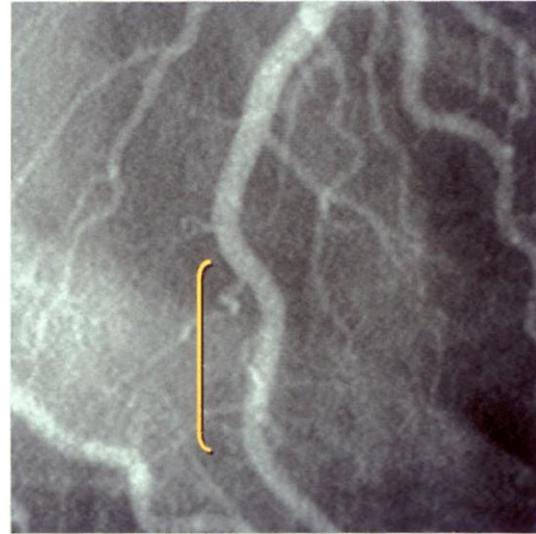
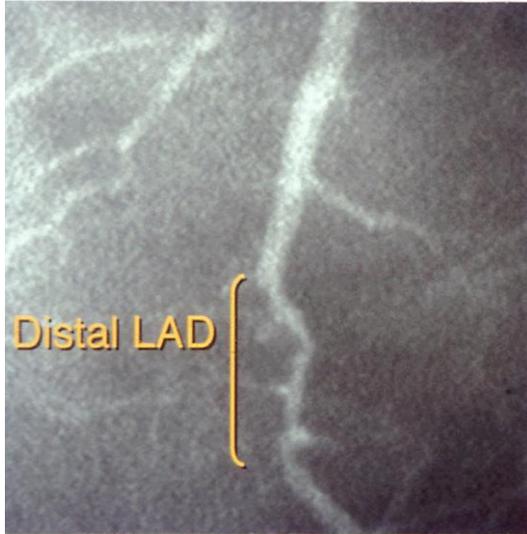


Reversal of Coronary Artery Disease

Caldwell B. Esselstyn Jr., M.D.

27 November 1996

22 July 1999



Dean Ornish, M.D.

Early Stage Prostate Cancer

	Experimental Group	Control Group
PSA (Year 1)	-4%	6%
Reduced growth of cancer cells (Year 1)	70%	9%
Required traditional treatments (Year 2)	5%	27%

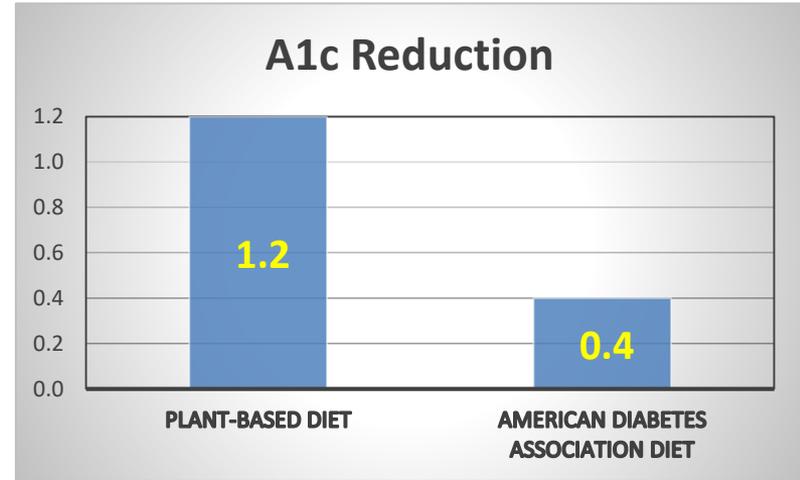
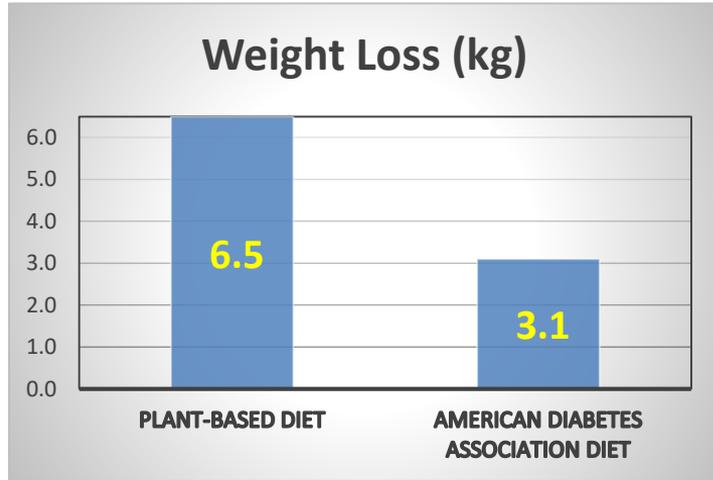
John McDougall, M.D.

7 day intensive program – 1,600 patients

Cholesterol	-29%
Blood Pressure	-18%
Triglycerides	-48%
Reduction in Blood Pressure Medications	86%
Reduction in Diabetes Medications	90%

Neal Barnard, M.D.

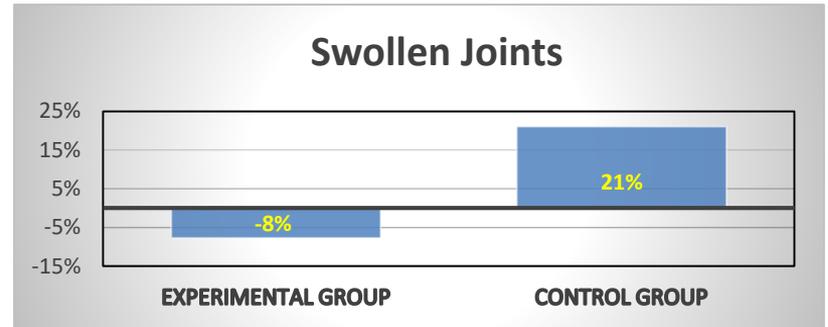
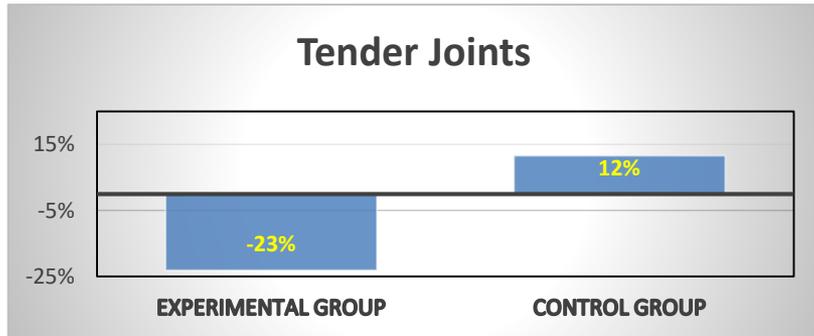
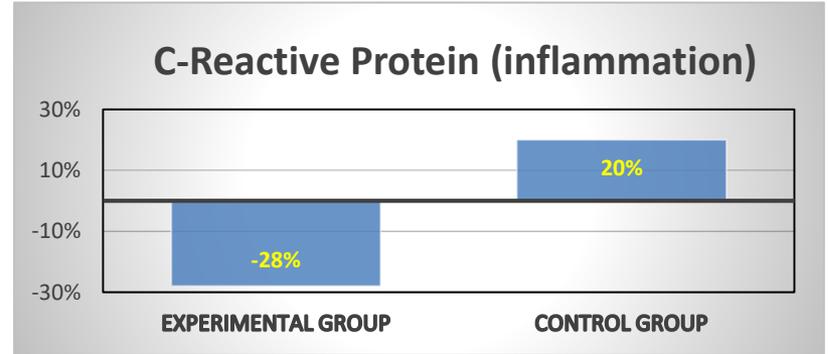
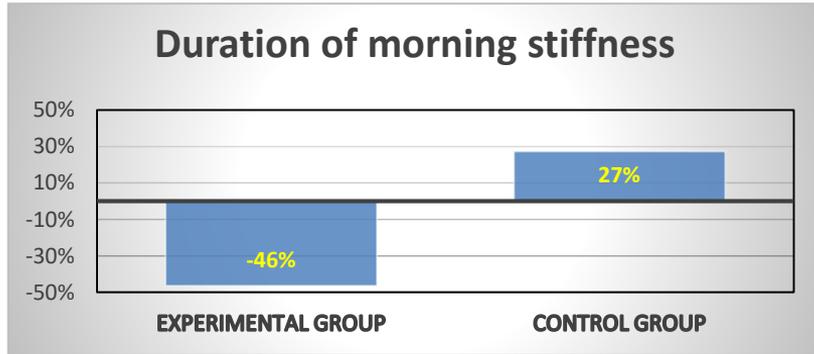
Diabetes - Randomized Control Trial – 22 week study



- **Satisfaction/compliance higher with plant-based diet -- no limits on calories**
- **Plant-based diet easier to understand compared to one that limited portion sizes**

Rheumatoid Arthritis

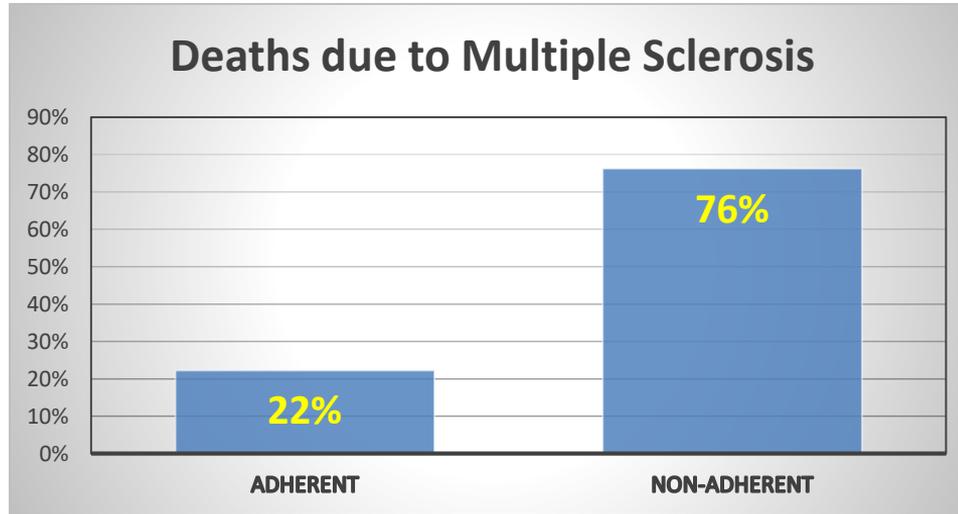
Randomized Control Trial with 13 months of follow up



Experimental group fasted for 7-10 days, then followed a completely plant-based diet for 3.5 months with the optional addition of dairy products thereafter. Control group followed their usual diet.

Roy Swank, M.D.

Patients with diagnosed Multiple Sclerosis – 34 years of follow up



Prescribed nutrition was not completely plant-based, but very low in saturated fat (<20g/day)

Why should health care providers prescribe Whole Food Plant-Based Nutrition?

Treatment	Effectiveness	Side Effects	Cost
Bypass surgery for heart disease	15%-50% failure rate at 5 years depending on type	20% complication rate 5% stroke 2% death	\$150,000
High cholesterol (statin) drugs	1.2% reduced risk of death 2.6% reduced risk of heart attack 0.8% reduced risk of stroke (for those with existing heart disease) [based on absolute risk reduction]	10% experience muscle damage 2% develop diabetes Common: diarrhea, muscle/joint pain, upset stomach. In rare cases: liver dysfunction	\$20/month for life (generic)
Diabetes drugs	10% avoid diabetic complications (heart attack, blindness, kidney disease, amputation) 5% avoid diabetes-related death [based on absolute risk reduction]	2%-12% experience diarrhea, nausea, vomiting, upset stomach. In rare cases: lactic acidosis	\$10/month for life (generic)
Whole food plant-based nutrition	See previous slides	More energy, less need for doctor visits and medications	Free (everyone has to eat)

Adherence rates vary widely, but some drug trials have rates <50% and some plant-based nutrition trials have rates >90%

Why is Whole Food Plant-Based Nutrition not being commonly used as treatment?

Non Sequitur by Wiley Miller



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November 19, 2014 from www.gocomics.com
<http://www.gocomics.com/nonsequitur/2014/11/19>

Why is Whole Food Plant-Based Nutrition not being commonly used as treatment?

(1) Concept of chronic condition reversal is not widely known

(2) Lack of monetary incentives for providers to reverse chronic disease

**What can Health Care Payers
(insurers, self-insured groups, Medicare, Medicaid)
do to encourage lifestyle medicine treatment based on
Whole Food Plant-Based Nutrition?**

Actions That All Health Care Payers Can Implement

- (1) Deliver a direct message to all insured members that chronic disease can be reversed**

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(1) Deliver a direct message to all insured members that chronic disease can be reversed

Example: Insurance Company

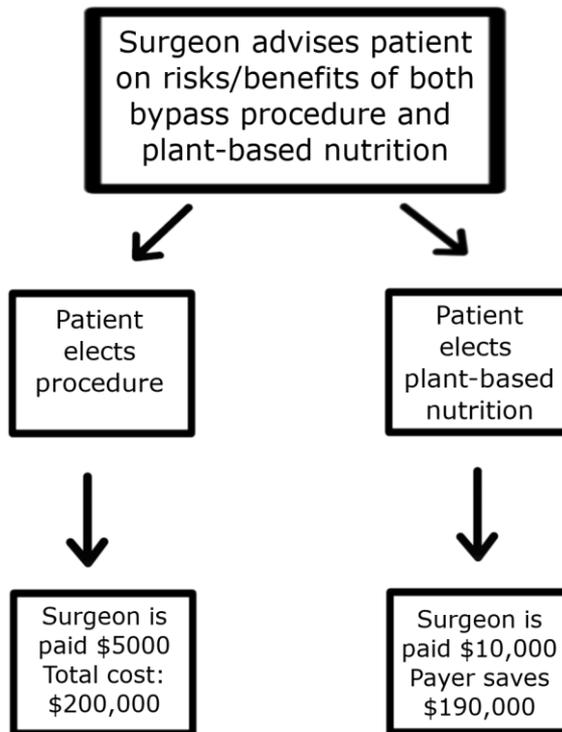
- Sent introductory letter: *Did you know that diabetes, heart disease, high blood pressure, obesity, arthritis, etc. can be reversed without drugs/surgery and no negative side effects?"*
- Sent documentary film (*Forks Over Knives*) providing the scientific evidence and compelling personal stories of chronic disease reversal
- Provided other materials: book, websites, recipes
- Not prescribing medicine – simply providing (specific, actionable) information and encouraging discussion with health care providers
- Policyholder response / reaction – extremely positive and appreciative

Actions That All Health Care Payers Can Implement

- (1) Deliver a direct message to all insured members that chronic disease can be reversed**
- (2) Require patients be advised of plant-based treatment option before approving payment for non-emergency bypass/stents, bariatric surgery, and PCSK9 drugs**

Actions That All Health Care Payers Can Implement

Example: Bypass surgery



Actions That All Health Care Payers Can Implement

- (1) Deliver a direct message to all insured members that chronic disease can be reversed**
- (2) Require patients be advised of plant-based treatment option before approving payment for non-emergency bypass/stents, bariatric surgery, and PCSK9 drugs**
- (3) Offer financial incentives for health care providers based on the value patients receive (improvement in health)**

What about current Quality of Care Measurement Systems / Value Based Initiatives?

Healthcare Effectiveness Data and Information Set (HEDIS) – used by 90% of health plans to “measure performance on important dimensions of care and service”

CMS uses HEDIS to improve “care quality” and assist in “making patients healthier” ¹

Examples of HEDIS measures ² :	Normal Readings:
<i>Controlling High Blood Pressure:</i> % of Hypertensive patients with BP < 140/90	< 120/80
<i>Comprehensive Diabetes Care, HbA1c Poor Control:</i> % of Diabetics with A1c>9% or failed to have A1c recorded	<7%

These measures do not provide incentives to reverse chronic health conditions.

What about current Quality of Care Measurement Systems / Value Based Initiatives?

Example: CMS 5-Star Rating System

Patient of Dr. Wayne Dysinger	Total cholesterol	Triglycerides
Baseline Values	226	132
After 21 days of Lifestyle Medicine (no statin drugs)	171	75

Rather than an A grade, Dr. Dysinger received a C grade for medication compliance.

How to Develop Financial Incentives Based On: Patient Value = Improvement in Health

(1) Use Change in Objective Clinical Measures

- BMI (Body Mass Index)**
- Cholesterol**
- Blood Pressure**
- HbA1c (Diabetes indicator)**
- CRP (C-Reactive Protein inflammation marker)**
- Endothelial function (vascular health indicator)**

(2) Relate Measures to Expected Claim Costs (e.g. 1% change in A1c = \$1000 of claim cost)

(3) Pay a portion of expected cost reduction to physicians based on actual patient results

Actuarial Patient Value Model:

Financial Incentives Based on Improvement in Patient Health

	Treatment Year				
	1	2	3	4	5+
Diabetic Patient with HbA1c of:	9.0	6.5	6.5	6.5	6.5
Expected Total Health Spending:	\$15,000	\$7,500	\$7,500	\$7,500	\$7,500
PCP Share of Health Spending:	\$1,500	\$750	\$750	\$750	\$750
Incentive Payment to PCP:		\$2,000	\$2,000	\$2,000	\$2,000
Net Savings Relative to Year 1:		\$5,500	\$5,500	\$5,500	\$5,500

A Universal Actuarial Model – Implementation

Different Provider Payment systems (fee-for-service, capitation, salary)

- Existing provider payment systems can remain in place
- Incentives are paid in addition to current reimbursement arrangements

Different Financing systems (public, private, mixed)

- Private payers can implement Actuarial Patient Value model very quickly working directly with providers
- Public payers may need new legislation/regulation, but as incentive payments are more than offset by reduced spending on health care services overall cost to taxpayer is reduced

Different clinical settings (primary care, specialist, hospital, nursing home)

- Health care providers can prescribe plant-based treatment, but do not have to create new infrastructure
- Entrepreneurs offer a variety of ways (in-person seminars, online) to educate/support patients who are prescribed plant-based nutrition--sharing incentive payments with referring health care professional

Why Do Actuaries Need to Get Involved?

- **Evidence & research supports plant-based nutrition, but financial incentive is missing**
- **Experts in developing sustainable financial security systems**
- **Key role with payers—offer payers an evidence-based solution to facilitate large scale implementation**

Conclusion

- **Current health care system is unsustainable (18% of U.S. GDP)**
- **85%+ of health care costs are due to chronic conditions**
- **WFPB nutrition can reverse a wide range of chronic conditions without negative side effects**
- **No downside risk for health care payers to make insured members aware of WFPB nutrition**
- **Opportunity for actuaries to develop incentives resulting in a sustainable health care system**

Additional Resources



Actuaries for Sustainable Health Care
actuariesforsustainablehealthcare.org



Plantrician Project
plantricianproject.org



American College of Lifestyle Medicine
Lifestylemedicine.org



Lifestyle Medicine Economic Research Consortium
LMeconomicresearch.org

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