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Traditional Medicines from the Greatland



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Photo credit: National Geographic

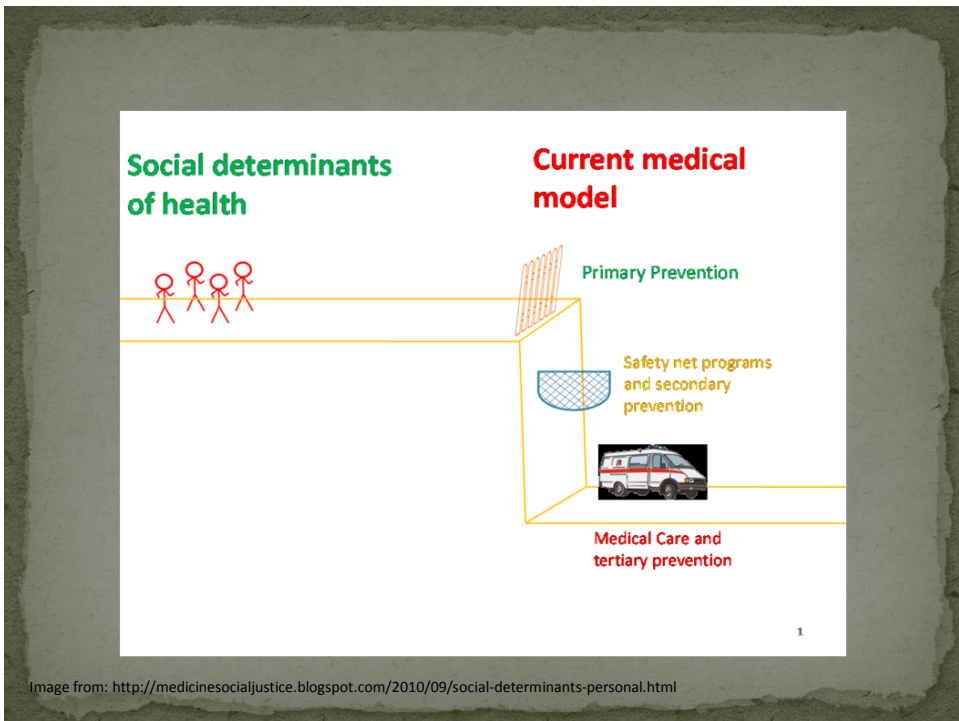
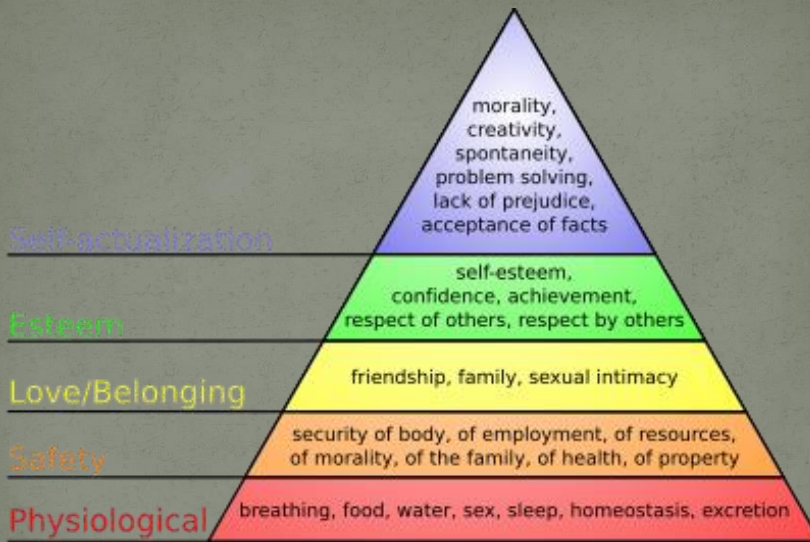


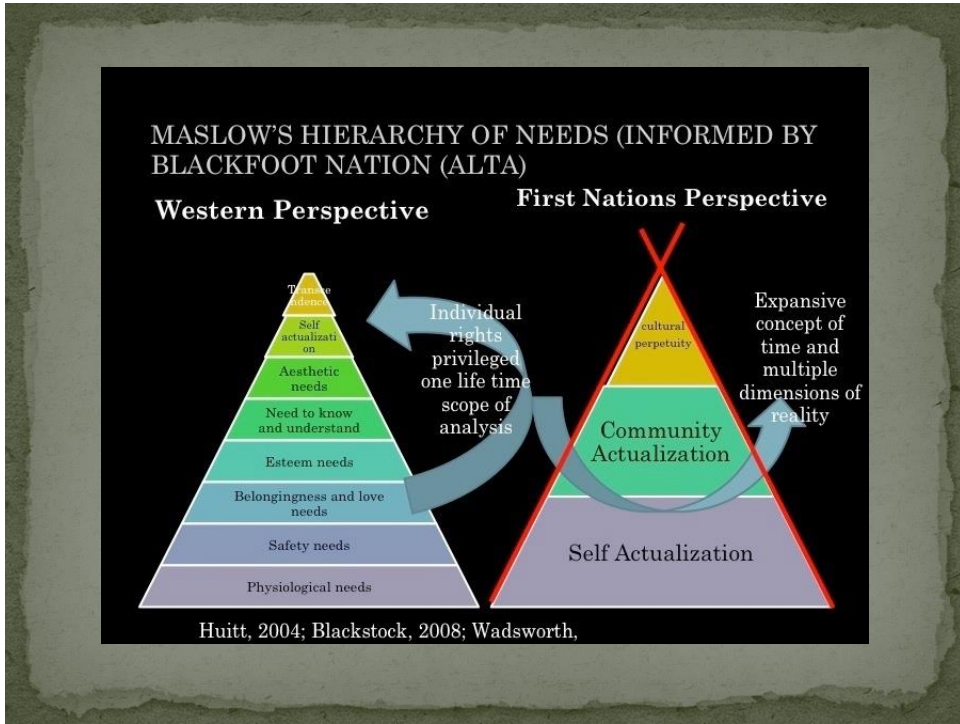
Image from: <http://medicinesocialjustice.blogspot.com/2010/09/social-determinants-personal.html>

Domains of Health Influence



<http://www.countyhealthrankings.org>





TREAT THE ROOT CAUSE

Weston
Price



1933...travelled to remote Alaskan villages

- ...examples of physical excellence and dental perfection such as has seldom been excelled by any race in the past or present.



<https://price-pottenger.org/about-us/history>

“...strong rugged babies”



Virtually NO dental decay, until...



... villages with trading posts...“store grub” ...

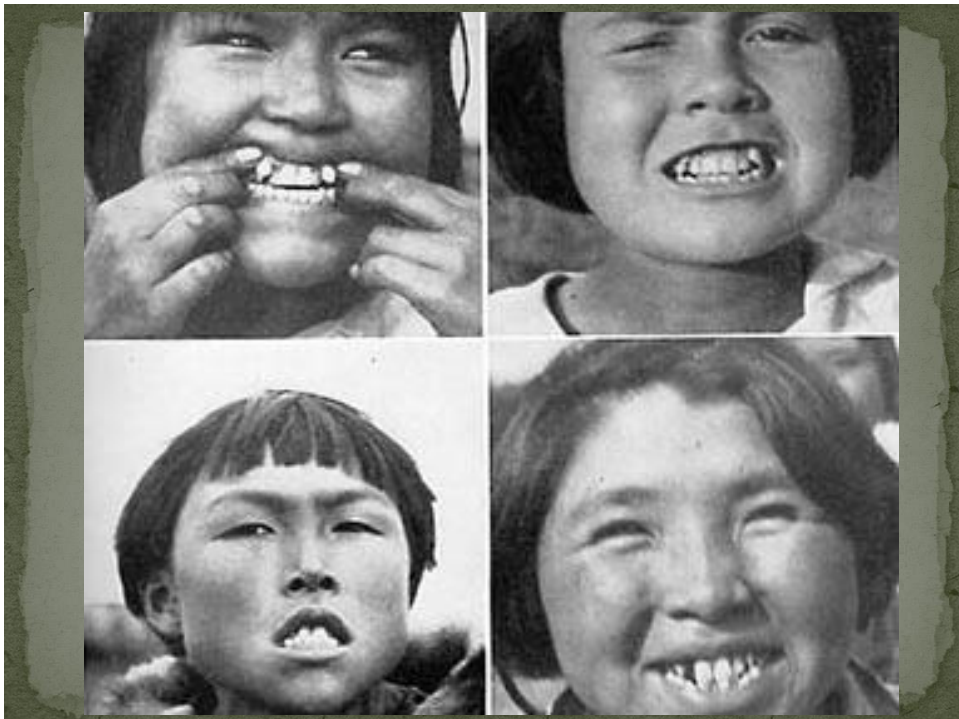
“A typical effect of modernization on a growing girl was shown in a case in which the central incisors and 16 other teeth were attacked by dental caries. Sixty-four per cent of her teeth had tooth decay.”

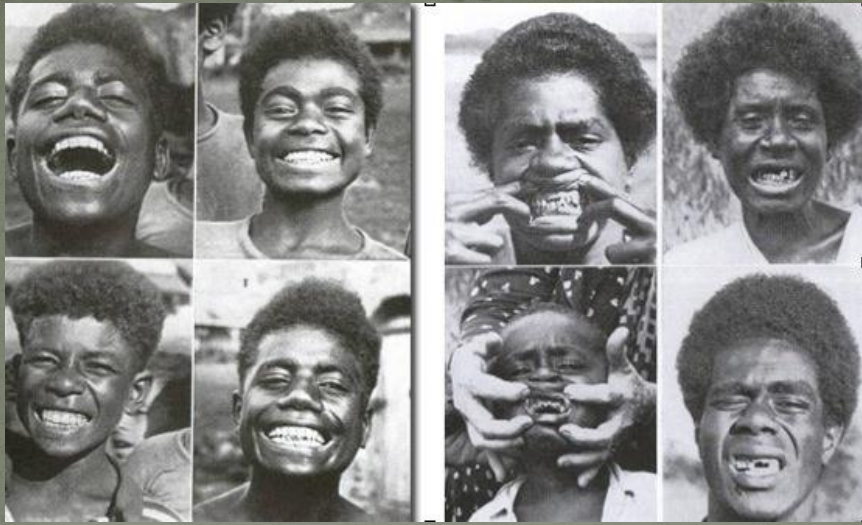
1st generation of children born after
adoption of 'store grub'

- Dental arch deformities
- Crooked Teeth
- Changed facial form

**“We have few problems more urgent
or more challenging
than reversing these trends.”**

Weston A. Price, 1933





Loss of ancestral diet: dental health plummeted, with defects in next generation with switch to processed foods





Helping Ourselves to Health:
Addressing Factors that Contribute to Obesity Among
Alaska Native People

Tim Gilbert, MPH
Desiree Jackson, RD, LD
Gary Ferguson, BS, ND

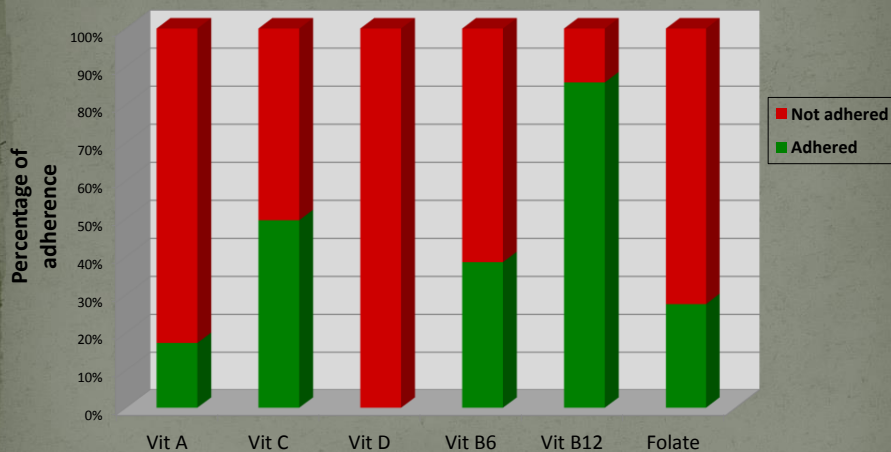
This research was supported by the National Research Initiative of the USDA National Institute of Food and Agriculture, grant #2007-55215-17923

- **Dietary patterns and nutritional adequacy among rural Yup'ik women in western Alaska**

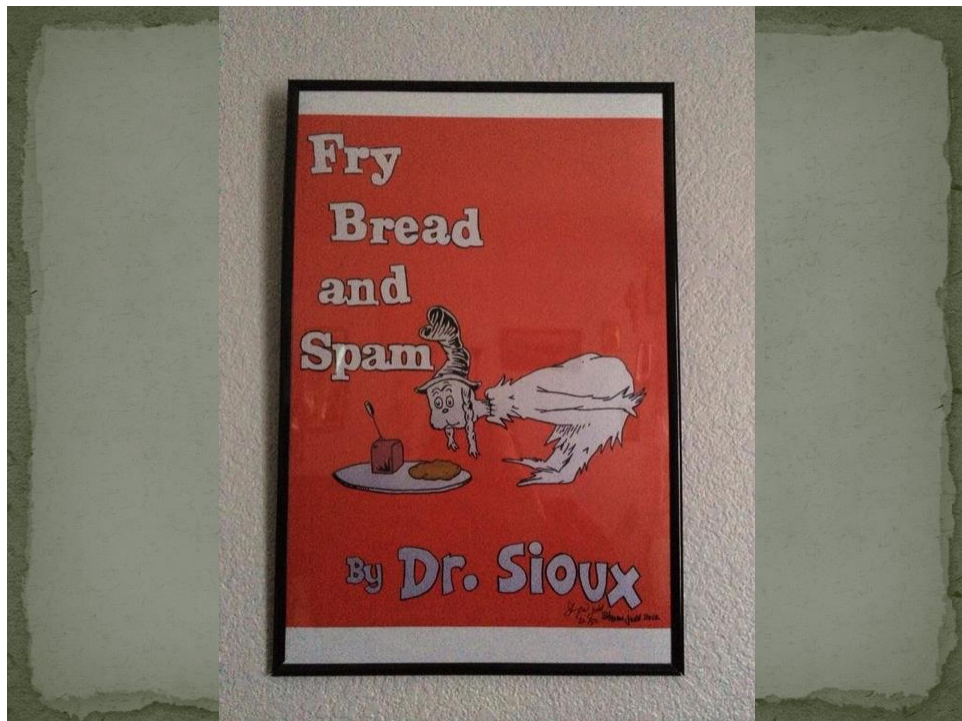
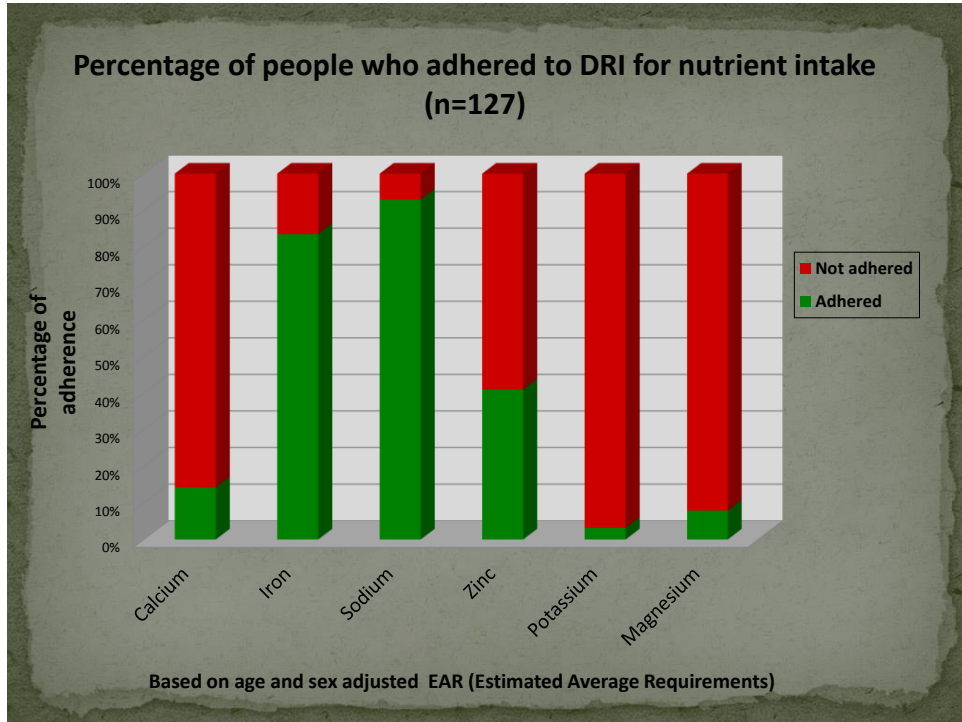
- The majority of women (90-100%) fell below the recommendations for **dietary fiber, vitamin D, vitamin E and calcium**. More than 50% of women fell below the recommendations for **vitamin A** and more than one-third were below for **zinc, and vitamins C and B-6**
- Store-bought foods, such as juices/pop and coffee, were the most frequently reported food items. **Sweetened beverages and pop were the main contributors to energy, carbohydrate and sugar intake**
- Traditional foods provided **34% of protein, 27% of iron, 23% of vitamin A, 21% of zinc, 6% of carbohydrate intake and <5% of total energy intake**

Dietary Adequacy among Rural Yup'ik Women in Western Alaska
Sangita Sharma, Erin Mead, Desiree Simeon, Gary Ferguson, and Fariba Kolahdooz
Journal Of The American College Of Nutrition Vol. 34 , Iss. 1,2015

Percentage of people who adhered to DRI for nutrient intake (n=127)



Based on age and sex adjusted EAR (Estimated Average Requirements)



Home » News » National

Researchers identify cause of gastrointestinal disorder affecting Inuit

ANDRÉ PICARD - PUBLIC HEALTH REPORTER
THE GLOBE AND MAIL

Last updated Monday, Dec. 01 2014, 6:48 PM EST



Congenital Sucrase-isomaltase Deficiency (CSID)

<http://www.theglobeandmail.com/news/national/researchers-identify-cause-of-gastrointestinal-disorder-affecting-inuit/article21845977/>

 American Diabetes Association. **Diabetes Care.**

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Lower Prevalence of Impaired Glucose Tolerance and Diabetes Associated With Daily Seal Oil or Salmon Consumption among Alaska Natives

1. Amanda I Adler, MD, PHD,
2. Edward J Boyko, MD, MPH,
3. Cynthia D Schraer, MD and
4. Neil J Murphy, MD



Epigenetics, Nutrition, and Our Health: How What We Eat Could Affect Tags on Our DNA

Many of us are familiar with the foods that damage our bodies – they slow our metabolism, might add a few pounds, and stiffen our arteries. But what if certain food items could help or harm us in a place we may [more...]

www.whatisepigenetics.com



Vitamins A and C Could Erase Epigenetic Marks on DNA

October 25, 2016 Bailey Kirkpatrick Diet, News & Reviews



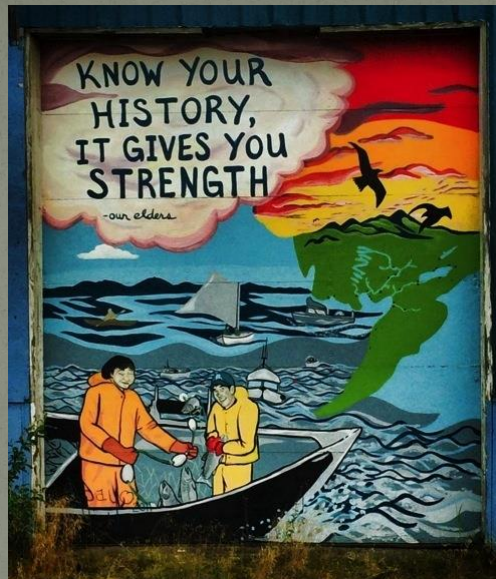
Like 15 G+ in Share submit

Vitamins may not only benefit your health, but also remove epigenetic memory or marks on your DNA. A new study conducted by an international group of researchers found that vitamins A and C work in

www.whatisepigenetics.com

“Let foods be your medicine”

-Hippocrates



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Alaskan Plants as Food and Medicine Past, Present, Future

PRESERVING OUR BOUNTY

5TH ANNUAL ALASKAN PLANTS AS FOOD & MEDICINE SYMPOSIUM

Save the Dates: September 11-15, 2016



Gary Ferguson, BS, ND
Senior Director, Community Health Services
Alaska Native Tribal Health Consortium



ALASKA NATIVE TRIBAL HEALTH CONSORTIUM'S
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PRESENTS:

ALASKA PLANTS AS FOOD AND MEDICINE SYMPOSIUM

~MAY 24TH-27TH, 2013~

AT THE ALYESKA RESORT
GIRDWOOD, ALASKA

SAVE THE DATE



APFM 2014









FIREWEED NUTRITION INFORMATION

Fireweed is an excellent source of Vitamins A & C, and a good source of fiber



HEART FRIENDLY

- Fat free
- Very low in sodium

NUTRITION INFORMATION

Per serving - 1 cup: raw	
Calories	24
Protein	2 g
Carbohydrate	3 g
Fat	0
Calories from fat	0 %
Saturated fat	NT*
Dietary Fiber	3 g
Cholesterol	NT*
Sodium	28 mg
Vitamin A	3146 IU
Vitamin C	55 mg
Iron	1 mg

*Not Tested





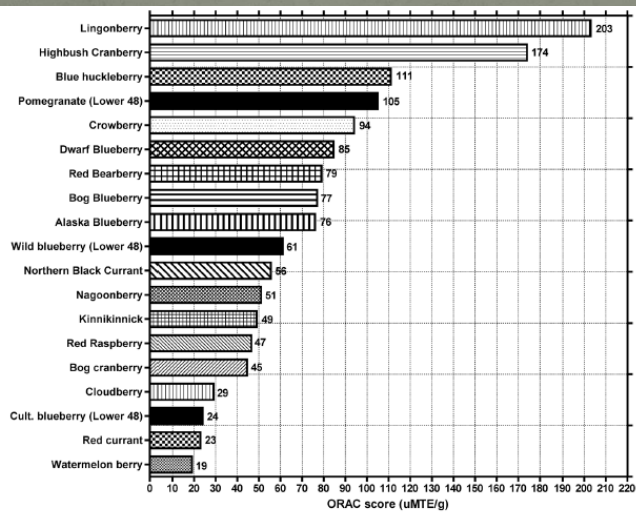








Comparison of berries



Screens to Nature 2012



- NC State University
- Rutgers University
- University of Alaska
- ANTHC
- Southcentral Foundation

Screens to Nature 2012



Screens to Nature 2012

Plant	0-3 m or 3 plant	Antiox	Glucosidase/ Glucosidase inhibition	Protease/ Protease inh.	
Devil's Club, dried above ground	3	3	0/0	0/0	antimicrobial immunomodulator and antitumor / diuretic
Devil's Club, fresh above ground	3	3	0/0	0/0	
Valerian, dried	3	3	0/0	0/0	antianxiety / spasmodic / pain, Sleep aid
Valerian, fresh	3	3	0/0	0/0	
Spruce tips, fresh	3	3	0/0	0/0	antimicrobial / analgesic / diuretic / antidiabetic
Beech forage	3	3	0/0	0/0	antimicrobial / analgesic / diuretic
Fireweed leaves	3	3	3/0	0/3	diuretic (green) / blood thinner - low blood pressure
Bluebell flowers	3	3	0/0	0/0	food with calcium, antitumor, analgesic
Juniper berries	3	3	3/0	0/0	antimicrobial / antitumor
Cottonwood bud oil	3	3	0/0	0/0	antimicrobial / analgesic / diuretic

















**Artemisia Annua, Artemisinin & 2015 Nobel Prize in
Medicine – Cancer Treatments: from Research to
Application**

CANCERTREATMENTSRESEARCH.COM











Alaskan Seaweed

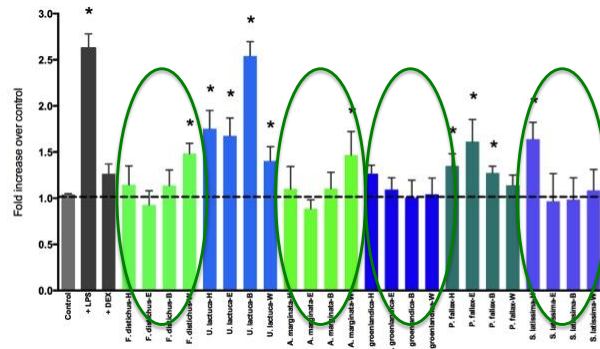


Antioxidant activity

- Oxidative damage related to a number of chronic diseases
 - Obesity
 - Diabetes
 - Arthritis
 - Cardiovascular disease
- Preventing oxidants can slow or reverse damage to tissue
- Treat macrophage cells to determine effects on blocking oxidants

Most active species:
Brown kelps:

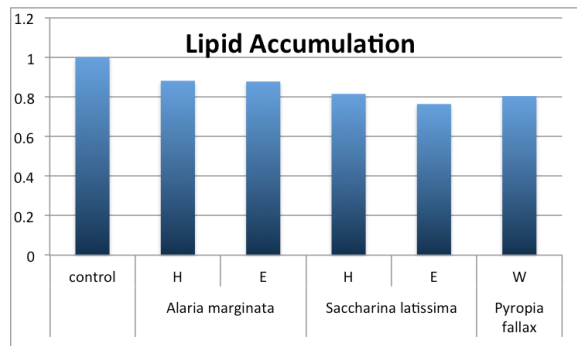
F. distichus – bladder wrack
A. Marginata – ribbon kelp
S. groenlandica – kelp
S. Latissima – sugar wrack



Decrease in lipid accumulation

- Fat cells synthesize and accumulate lipids from the bloodstream
 - Grow larger to accommodate all the lipids, leading to obesity
- High accumulation levels also increases inflammation, can lead to diabetes
- Lower levels can help lower obesity risk
 - Decrease lipids circulating in bloodstream
 - Lower inflammation and insulin resistance

Fractions from *A. marginata* (ribbon kelp) and *S. latissima* (sugar wrack) and *P. fallax* (false laver) all decreased fat accumulation in cells by as much as 24%

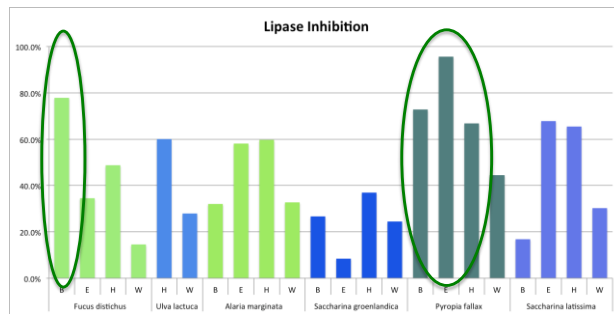


Lipase inhibitory activity

- Lipases are enzymes that digest fat from the diet
 - Our lipases are more active than the amount of lipids we consume
 - Increasing fat in the diet means it is just as easily broken down and digested
- Main source of circulating lipids in the blood stream
- Blocking lipase can help lower lipid digestion
 - Decrease obesity (Orlistat)

Most active species:
Brown and red kelps:

F. distichus – bladder wrack
P. Fallax – false laver

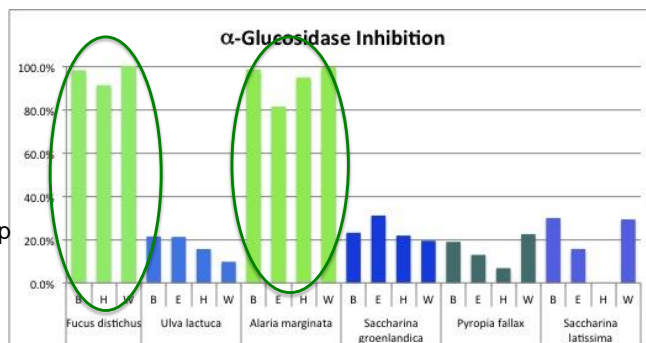


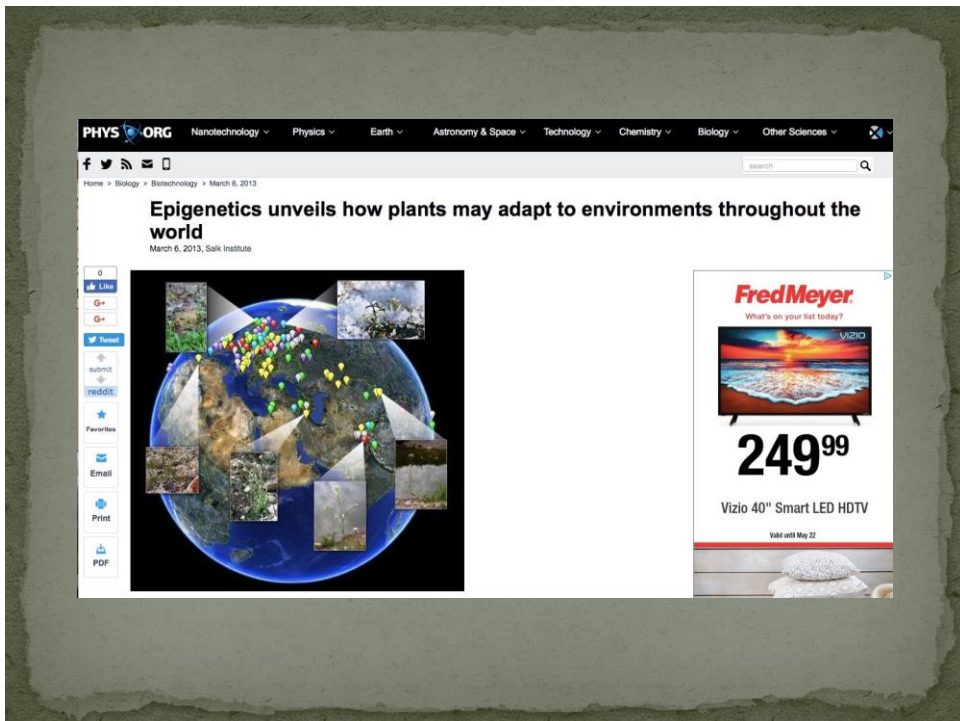
Glucosidase inhibitory activity

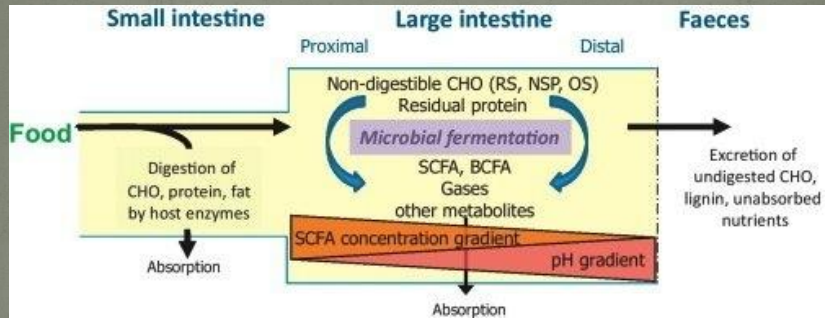
- Glucosidases breakdown starch to sugar
 - We contain a variety of related enzymes in our digestive system
- Main source of circulating sugars in the blood stream
- Blocking can help lower glucose metabolism and digestion
 - Decrease glucose levels internally
 - Lower insulin stress, decrease insulin resistance

Most active species:
Brown kelps:

F. distichus – bladder wrack
A. marginata – ribbon kelp







The influence of diet on the gut microbiota

Karen P. Scott , Silvia W. Gratz , Paul O. Sheridan , Harry J. Flint , Sylvia H. Duncan

[Pharmacological Research](#)

[Volume 88, Issue 1, March 2013, Pages 52–60](#)

LIVESCENCE NEWS TECH HEALTH PLANET EARTH ST

Live Science > Health

Yes, Your Diet Can Raise (or Lower) Your Risk of Colon Cancer

By Sara G. Miller, Staff Writer | April 5, 2017 03:25pm ET

Health without the hype: Subscribe now to stay in the know. [Subscribe to LiveScience >](#)

928
31
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The image shows two plates of food on a dark wooden surface. The left plate contains fried chicken, french fries, and a small bowl of red sauce. The right plate contains a salad with various vegetables, including lettuce, tomatoes, and possibly some protein like meat or tofu.



HHS Public Access

Author manuscript

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Published in final edited form as:

Nat Commun.; 6: 6342. doi:10.1038/ncomms7342.

Fat, Fiber and Cancer Risk in African Americans and Rural Africans

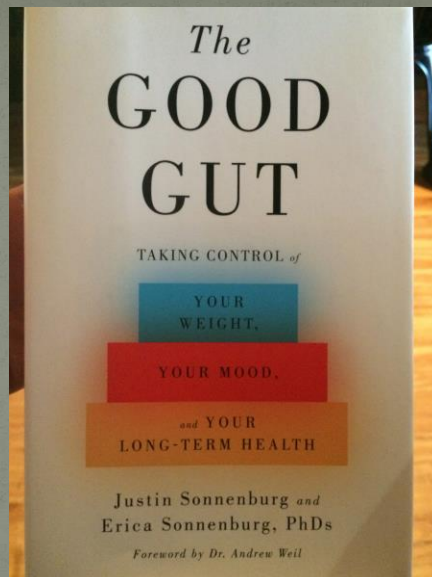
Stephen J.D. O'Keefe¹, Jia V. Li⁵, Leo Lahti⁶, Junhai Ou¹, Franck Carbonero⁷, Khaled Mohammed¹, Joram M Posma⁵, James Kinross⁵, Elaine Wahl¹, Elizabeth Ruder⁴, Kishore Vippera¹, Vasudevan Naidoo⁵, Lungile Mtshali⁶, Sebastian Tims⁵, Philippe G.B. Puylaert⁶, James DeLany³, Alyssa Krasinskas², Ann C. Benefiel⁷, Hatem O. Kaseb¹, Keith Newton⁸, Jeremy K. Nicholson⁵, Willem M. de Vos⁶, H. Rex Gaskins⁷, and Erwin G. Zoetendal⁶

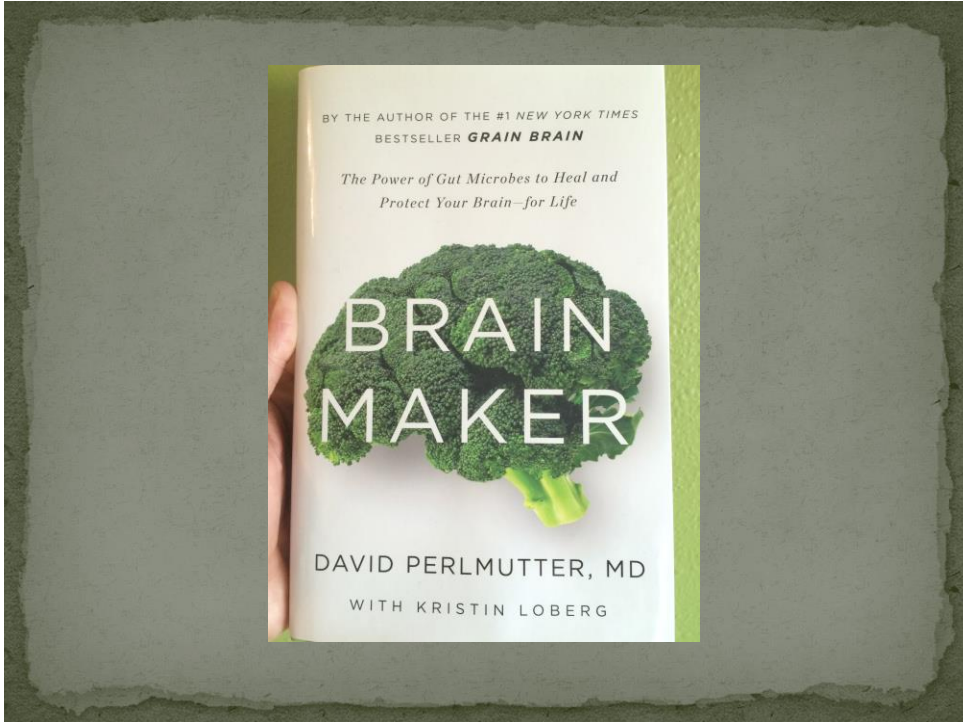
¹Department of Medicine, Divisions of Gastroenterology, University of Pittsburgh, PA, USA

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⁴Sports Medicine and Nutrition, School of Health and Rehabilitation Sciences, University of Pittsburgh, PA, USA ⁵Department of Surgery and Cancer, Imperial College London, UK

⁶Laboratory of Microbiology, Wageningen University, The Netherlands ⁷(LL and WMdV also affiliated with Department of Veterinary Bioscience, University of Helsinki, Finland; WMdV also with the Department of Bacteriology and Immunology, University of Helsinki, Finland); University of Illinois at Urbana-Champaign, USA ⁸University of KwaZulu-Natal, Durban, South Africa





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04/09/2015

Microbes Help Produce Serotonin in Gut

Although serotonin is well known as a brain neurotransmitter, it is estimated that 90 percent of the body's serotonin is made in the digestive tract. In fact, altered levels of this peripheral serotonin have been linked to diseases such as irritable bowel syndrome, cardiovascular disease, and osteoporosis. New research at Caltech, published in the April 9 issue of the journal *Cell*, shows that certain bacteria in the gut are important for the production of peripheral serotonin.

"More and more studies are showing that mice or other model organisms with changes in their gut microbes exhibit altered behaviors," explains [Elaine Hsiao](#), research assistant professor of biology and biological engineering and senior author of the study. "We are interested in how microbes communicate with the nervous system. To start, we explored the idea that normal gut microbes could

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The Gut's Microbiome Changes Rapidly with Diet

A new study finds that populations of bacteria in the gut are highly sensitive to the food we digest

By Rachel Feltman | December 14, 2013

You are what you eat, and so are the bacteria that live in your gut.

Microbiologists have known for some time that different diets create different gut flora, but previous research has focused on mice instead of humans, leaving the actual relationship between our food and our stomach bacteria unclear. A new study, published Wednesday in *Nature*, indicates that these changes can happen incredibly




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PLANTS THAT WE EAT



Nauriat Nigiñaqtuat

From the traditional wisdom of the Iñupiat Elders of Northwest Alaska

Anore Jones





Culture is Medicine









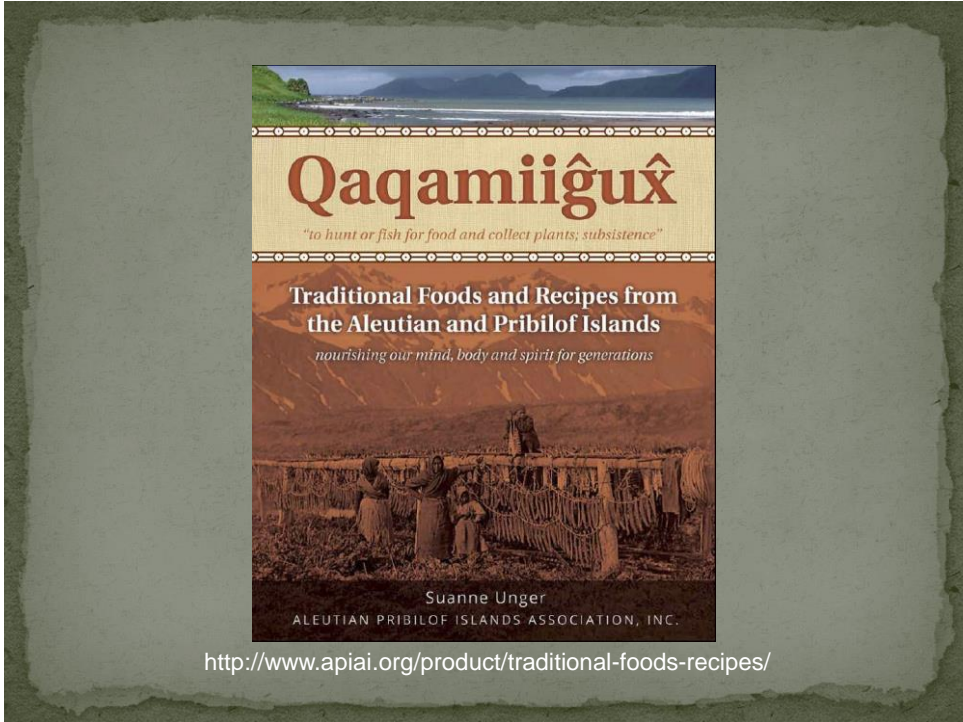




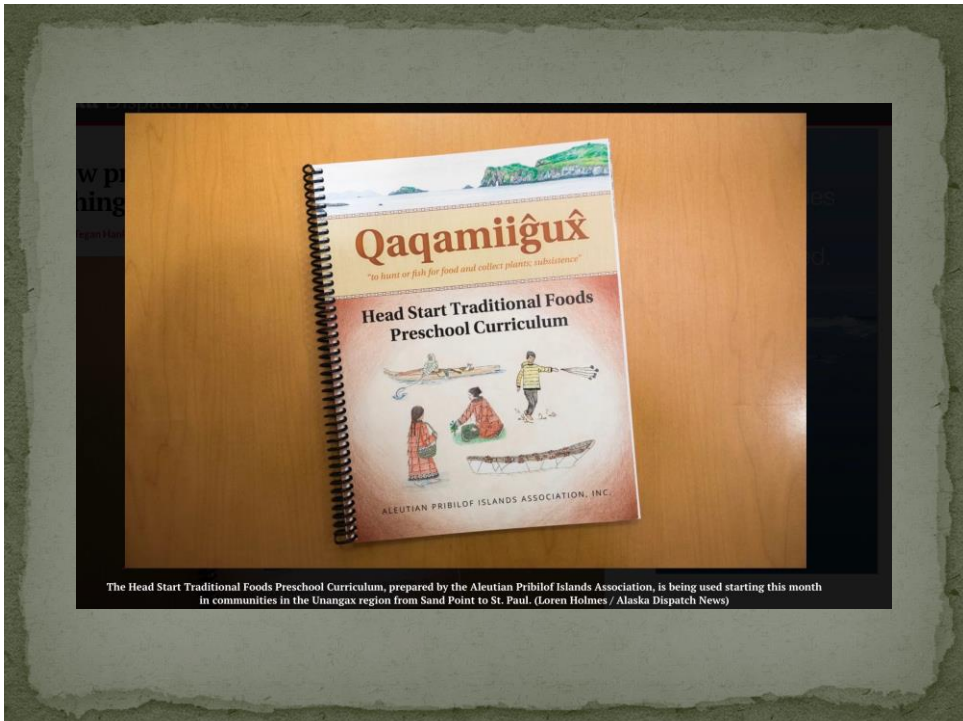
Igiugig residents take on 6-week traditional food challenge as a health experiment

Every month in 2017 they have taken their weight, blood pressure, blood sugar and heart rate. They will compare the results from before and after the challenge.

ADN.COM



<http://www.apiai.org/product/traditional-foods-recipes/>



The Head Start Traditional Foods Preschool Curriculum, prepared by the Aleutian Pribilof Islands Association, is being used starting this month in communities in the Unangax region from Sand Point to St. Paul. (Loren Holmes / Alaska Dispatch News)

TRADITIONAL VALUES OF ALASKA

SAINT LAWRENCE ISLAND YUPIK VALUES

- Listen with your heart and mind
- Honor family
- Give services to others
- Never give up
- Respect all living things
- Remember advice of elders
- Plan for the future
- Be independent
- Avoid laziness
- Gather knowledge and wisdom

Reference: John P. Hensley, College of Arts and Sciences, University of Alaska Fairbanks

YUPIK VALUES

- Help other people
- Help with family chores and needs
- Early to bed and early to rise
- Provide time to see how your life is going
- There's always time to play AFTER your work is done
- Figures out how to do things yourself
- Respect and honor your elders
- Always show good behavior
- Listen to all advice given to you
- Remember what you are taught and told
- Respect other people's belongings
- Respect the animals you catch for food
- Gather knowledge and wisdom from the elders
- Never give up in trying to do what you set your mind on

Reference: John P. Hensley, College of Arts and Sciences, University of Alaska Fairbanks

UNANGAX (ALEUT) VALUES

- Share respect for our land and its resources at all times
- Be helpful to one another
- Share with others whenever possible
- Respect and care for other's property
- Respect spiritual values
- Learn hunting and outdoor survival skills
- Provide for and take good care of your family
- Through love, respect your children
- Respect your elders
- Work hard and don't be lazy
- Refuse from alcohol and drug use
- Learn, preserve, and be proud of the Native way of life

Reference: John P. Hensley, College of Arts and Sciences, University of Alaska Fairbanks

ATHABASCAN VALUES

- Self-sufficiency
- Hard Work
- Care and protection for the Family

INDIGENOUS ALCANTARA VALUES

- Knowledge of Language
- Knowledge of Family Tree
- Working

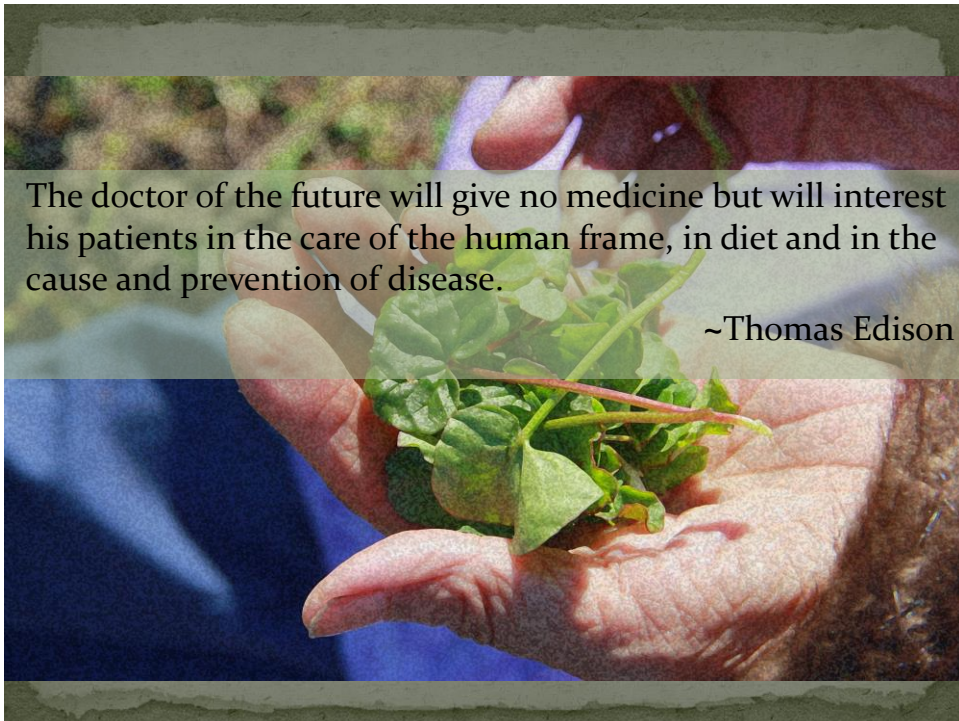
7 GENERATIONS

Addressing Village Environmental Issues
for the Future Generations of Rural Alaska

The students were instructed to answer 7 issues and provide every decision on behalf of the seventh generation to make to have compassion and love for these generations yet unborn.
-Caitlin O'Connell

Petalie





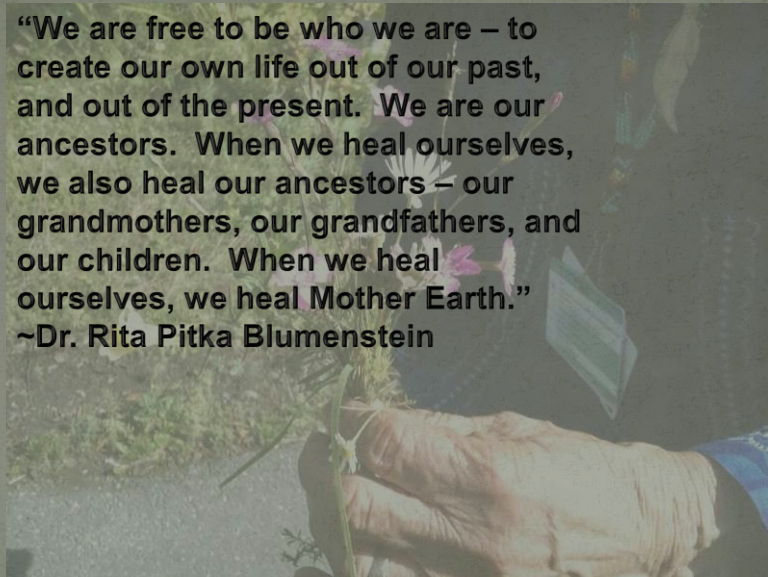
The doctor of the future will give no medicine but will interest his patients in the care of the human frame, in diet and in the cause and prevention of disease.

~Thomas Edison

Decolonizing Healthcare



“We are free to be who we are – to create our own life out of our past, and out of the present. We are our ancestors. When we heal ourselves, we also heal our ancestors – our grandmothers, our grandfathers, and our children. When we heal ourselves, we heal Mother Earth.”
~Dr. Rita Pitka Blumenstein



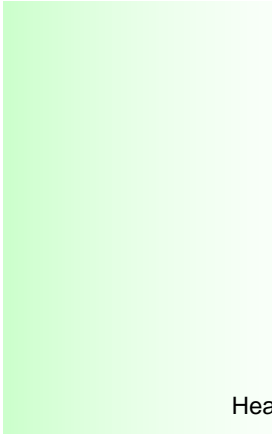
Let us be the
ancestors our
descendants will
thank.

Winona Laduke

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Traditional Medicines from the Greatland



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