

VA  U.S. Department of Veterans Affairs
Department of Veterans Affairs
Office of Patient-Centered Care and
Cultural Transformation

Whole Health Life 

Eating for Whole Health

Day 2 Afternoon

- Prevention of Cancer
- The Whole Health Visit: Creating a Personal Health Plan
- Implementation Exercises

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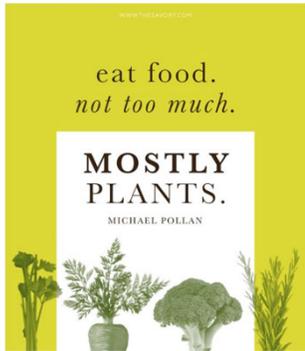
Whole Health Life 

11. Prevention of Cancer

Eating for Whole Health

Tonya's Goals: Prevention of Breast Cancer

 Nutrition and Cancer Prevention



 Outline: The Landscape, the Forest, and the Trees



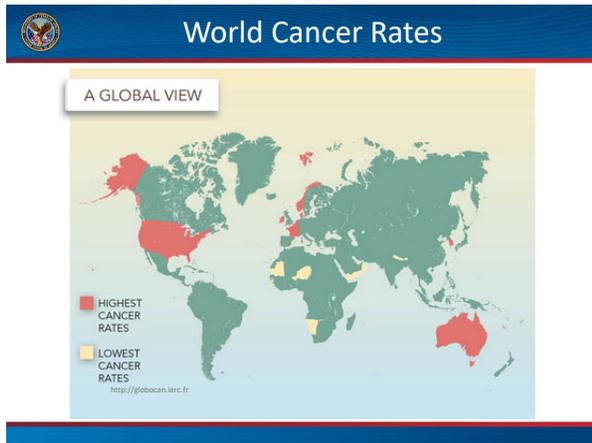
- Landscape
 - Cancer + geographic dietary patterns
- Forest
 - Epidemiological studies
- Trees
 - Individual foods/nutrients + cancer
 - Crucifers, Alliums, PUFA, Phytoestrogens, Vitamins
- Other food-related topics
 - Obesity + cancer
 - Food preparation

 The Landscape
The 10,000 foot view: geographic dietary patterns

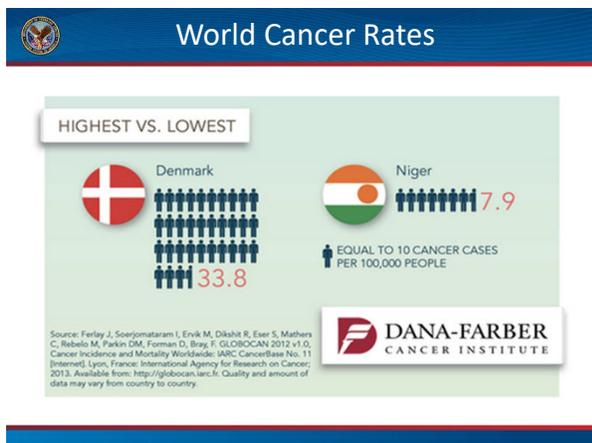


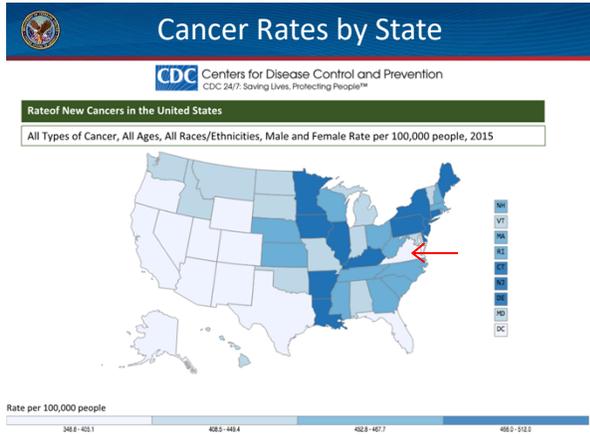
<https://www.imgrumweb.com/trekguatemala>

Which country has the **highest cancer rate**?









The Forest
The 1,000 Foot View: Epidemiologic Studies



European Prospective Investigation Into Cancer and Nutrition Trial
International Agency for Research on Cancer
World Health Organization
EPIC study

ABOUT EPIC CENTRES RESEARCH HIGHLIGHTS PUBLICATIONS ACCESS CONTACT US INTRANET

You are here: Home

The European Prospective Investigation into Cancer and Nutrition (EPIC) study is one of the largest cohort studies in the world, with more than half a million (521 000) participants recruited across 10 European countries and followed for almost 15 years.

EPIC was designed to investigate the relationships between diet, nutritional status, lifestyle and environmental factors, and the incidence of cancer and other chronic diseases. EPIC investigators are active in all fields of epidemiology, and important contributions have been made in nutritional epidemiology using biomarker analysis and questionnaire information, as well as genetic and lifestyle investigations. For details about research activities within EPIC, please refer to the Research and Highlights sections.

The EPIC study is jointly coordinated by Professor Elio Riboli, Director of the School of Public Health at Imperial College London, United Kingdom, and Dr Marc Gunter and Dr Paul Brennan at the International Agency for Research on Cancer in Lyon, France.

To learn more about the resources available within EPIC, please see the About EPIC section.

<https://epic.iarc.fr>



EPIC: European Prospective Investigation into Cancer & Nutrition

- **Largest prospective cohort study in the world** investigating relationship btw **diet, nutritional status, environmental & lifestyle factors** and **incidence of cancer and other chronic disease**
- Recruited from 1992 – 1999
 - accumulated data until 2015
- N= 521,000, ages >= 20 years
- Nordic region and N Europe
- Mediterranean areas
 - over 10 countries, 23 centers from Greece to Denmark





Lessons from EPIC: Mortality



Adherence to Mediterranean Diet and mortality

- N= 4,607 men and women, aged 60 or more
- No preexisting coronary heart disease, stroke, or cancer at enrollment
- Diet scored on a 9 point “Mediterranean scale”
- Extent of adherence to a Mediterranean diet using a 9 point scale reduced mortality by 8%

Trichopoulos A et al. *Modified Mediterranean diet and survival: EPIC-elderly prospective cohort study.* *BMJ.* 2005 Apr 30;330(7498):991. PMID:15820966



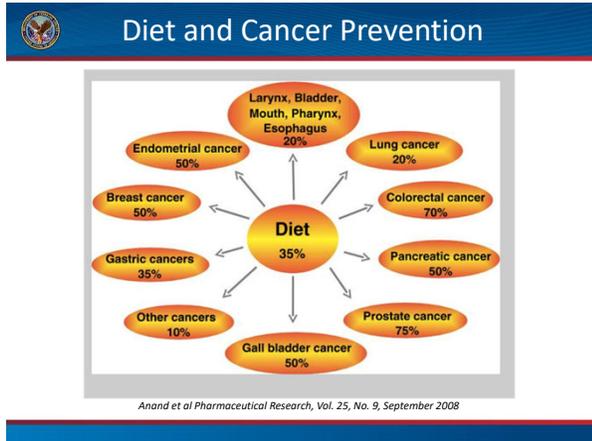
Lessons from EPIC: Colon Cancer

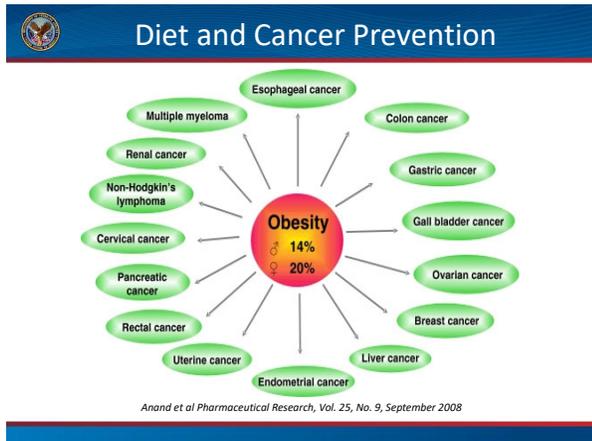
Vitamin D Levels and Colon Cancer

- Participants with 25(OH)D levels in the highest quintile before diagnosis of colorectal cancer had decreased mortality from colorectal cancer (CRC) compared to those in lower quintiles.
- **Takeaway: Low vitamin D levels may put patients at risk for developing colorectal cancer**

Fedirko V. *Cancer Pre-diagnostic 25-Hydroxyvitamin D, VDR and CASR Polymorphisms, and Survival in Patients with Colorectal Cancer in Western European Populations.* *Epidemiol Biomarkers Prev* 2012 April ; 21(4): 582–593. doi:10.1158/1055-9965.EPI-11-1065







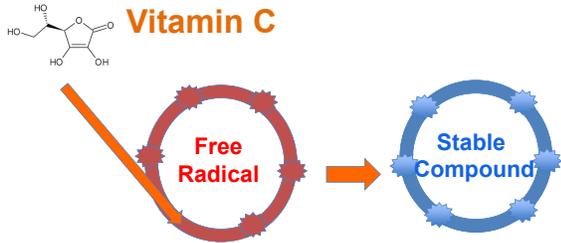
The Trees: Individual Foods and Nutrients

Zooming in on specifics

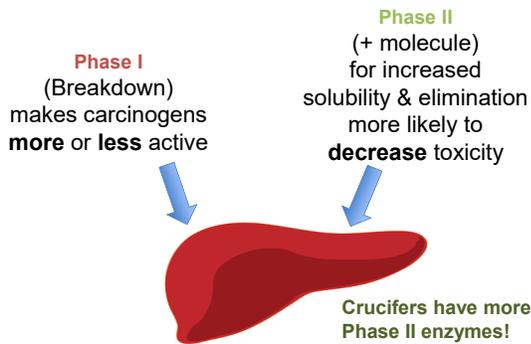
- How stuff works
 - Antioxidants
 - Crucifers
 - Alliums
 - PUFA
 - Phytoestrogens
 - Green Tea
 - Multivitamins



1. How Antioxidants Work

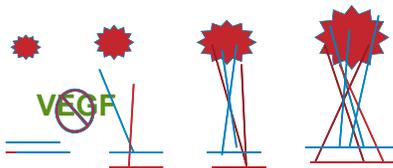


2. Detoxification of Carcinogens

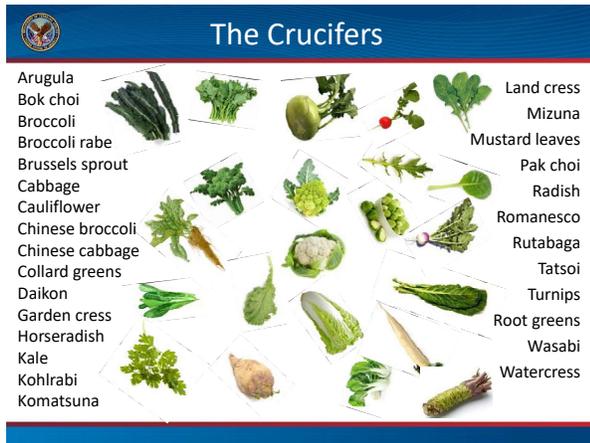


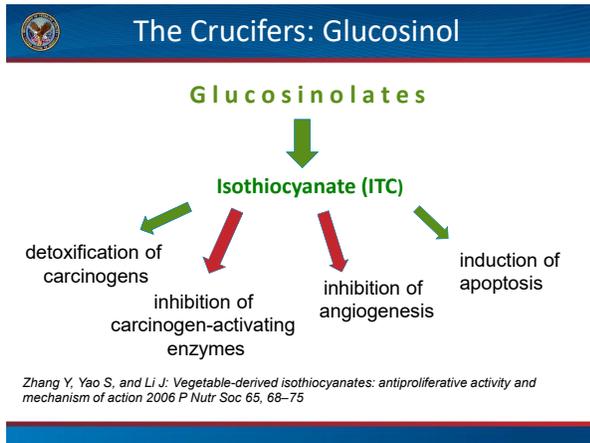
3. How Phytochemicals Inhibit Angiogenesis

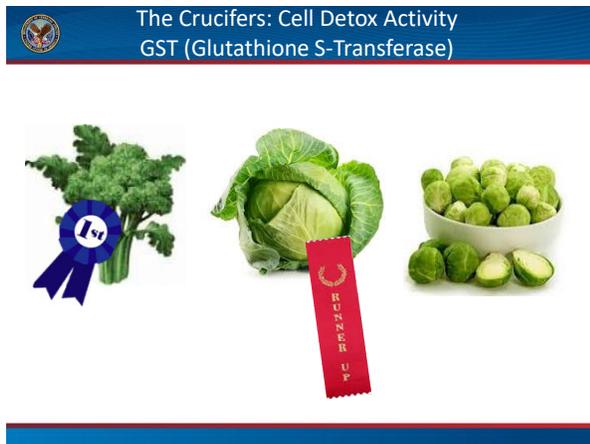
VEGF: Vascular Endothelial Growth Factor



1.5 cups (12 oz) of green tea daily inhibits the VEGF receptor (Beliveau)







 **Crucifers and Colon Cancer:**

- Meta-analysis examines the epidemiological evidence to characterize the association between cruciferous vegetable intake and risk of developing colorectal neoplasms
- **Inverse association between total cruciferous vegetable intake and risk of developing colorectal neoplasm**
- In most of the epidemiological studies the effect of cruciferous vegetables was not completely separated from the effect of total vegetable consumption

Tse G, Eslick G Cruciferous Vegetables and Risk of Colorectal Neoplasms: A Systematic Review and Meta-Analysis Nutrition and Cancer, 2014; 66(1), 128-139 DOI: 10.1080/01635581.2014.852686

 **Crucifers and Breast Cancer:
Nurses Health Study (NHS/ NHS II)**

- N= 182,145 in the Nurses' Health Study/ NHSII 1980-2013; 10,911 invasive breast cancer cases
- **Greater intake of total fruits and vegetables, especially cruciferous and yellow/orange vegetables, was associated with significantly lower breast cancer**
- Lower risk especially associated with estrogen receptor negative tumors with **2 additional servings/day**
- **In conclusion, our findings support that higher intake of fruits and vegetables, and specifically cruciferous and yellow/orange vegetables, may reduce the risk of breast cancer, especially those that are more likely to be aggressive tumors.**

Farvid M et al Fruit and vegetable consumption and breast cancer incidence: Repeated measures over 30 years of follow up Int J Cancer 2019 [144] 1496-1510 <https://doi.org/10.1002/ijc.31653>

 **The Alliums**

Onion
Garlic
Scallion
Shallot
Leek
Chives



The Alliums

ORGANOSULFUR COMPOUNDS

Thiosulfanate compounds

FLAVANOIDS

Neutralize free radicals

inhibition of P450 2E1 carcinogen-activating enzymes

block nitrosamine formation and hepatic pre-carcinogens

Glutathione formation

Sengupta A, et al Allium Vegetables in Cancer Prevention: An Overview Asian Pacific J Cancer Prev, 2004 5, 237-245

Alliums and Cancer Prevention

γ -glutamyl-S-alk(en)yl-L-cysteines

S-alk(en)yl-L-cysteine sulfoxides (ASCOs)

Alliinase (released when vegetable is crushed)

Sulfenic acid intermediates

condensation

Thiosulfinate compounds and metabolites

10 minutes

Garlic: Alliin, Allicin, Sulfides, Vinylidithiols

Onion: Isoalliin, Propiin, Methiin, Thiopropanal S-oxide, Other thiosulfinates, Thiosulfonates, Bis-sulfines, Sulfides, Zwitterbelanes, Cepaenes

Holly L. Nicastro, Sharon A. Ross, and John A. Miller: Garlic and onion: Their cancer prevention properties Cancer Prev Res 2015;8(3):181-189

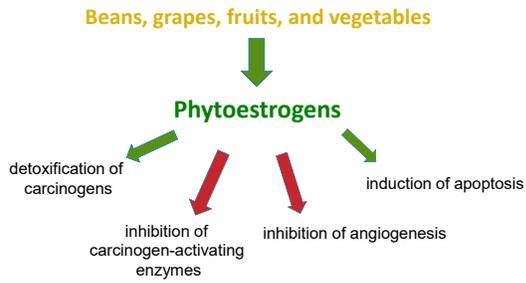
Polyunsaturated Fatty Acids: PUFA

- PUFA: Omega-3 and Omega-6

- Ω 3: Ω 6 Ratio of 4:1
 - modulates the stiffness / flexibility of cell membranes
 - this affect the responsiveness of receptors in the cell membranes

http://www.cse.mtk-facts.com/images/4111e.gif

Phytoestrogens: Repeating The Story



Kyung-A Hwang and Kyung-Chul Choi Anticarcinogenic Effects of Dietary Phytoestrogens and Their Chemopreventive Mechanisms Nutrition and Cancer, 2015; 67(5), 796–803 2015 DOI: 10.1080/01635581.2015.1040516

Polyphenols in Green Tea

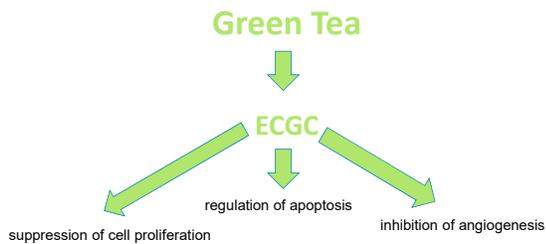
Epicatechin (EC)

Epigallocatechin (EGC)

Epicatechin gallate (ECG)

Epigallocatechin gallate (EGCG) 66%

Green Tea and Cancer Prevention



Yuan JM Am J Clin Nutr 2013;98(suppl):1676S–81S



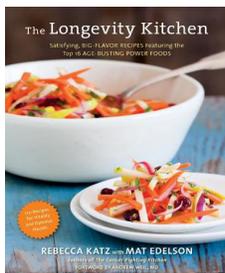
Summary / Monday Morning Action Plan

- Cancer has been shown in to be in part due to modifiable risk factors, including diet
- Certain foods, including crucifers, alliums, polyunsaturated fatty acids, and legumes have been shown to have cancer – prevention properties
- Overall, nutrients in the form of food have more evidence for cancer prevention than nutrients in the form of supplements
- Increase in two or more servings of fruits and veg per day is associated with decreased risk of breast cancer





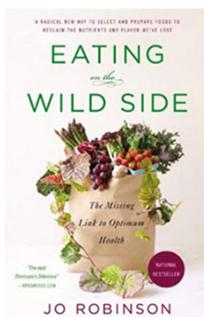
Resources



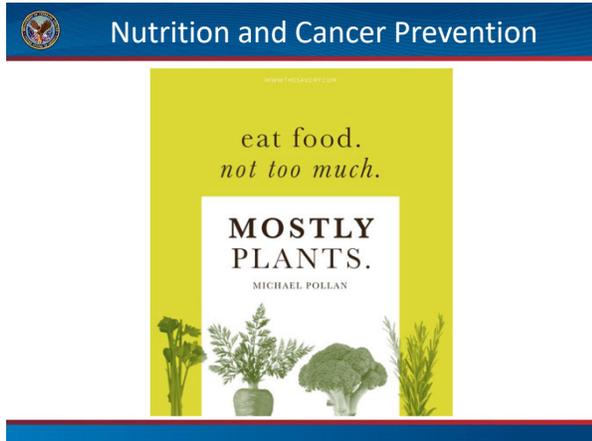
- American Institute for Cancer Research
- <http://www.aicr.org>



Resources



- Benefits of fruits and vegetables in cancer prevention
- How farming affects the quality of nutrients in our fruits and vegetables



Questions?

Practical Exercise

Consider a patient, family member, or friend who you have previously counseled on cancer prevention or treatment.

In their specific case, what dietary resources would you provide them to prevent a first episode or recurrence of cancer?

What are three key dietary suggestions you would make?

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Whole Health
Life

12. Creating a Personal Health Plan

Eating for Whole Health

Objectives

- Identify how to create a Personal Health Plan by integrating information and discussion from review of the PHI
- Create a personal statement (“Elevator Speech”) about how the Whole Health Approach to care is beneficial
- Practice creating a Personal Health Plan (PHP) using the PHI in combination with the PHP template

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The Personal Health Plan: Central to the WH System

The Whole Health System

Community

THE PATHWAY (Empower)
Partners with Veterans to discover their mission, aspirations, and purpose and begin to create an overarching personal health plan

WELL-BEING PROGRAMS (Equip)
Self Care/Skill Building and Support
Complementary & Integrative Health (CHI)
Health Coaching & Health Partner Support

Personal Health Plan

WHOLE HEALTH CLINICAL CARE (Treat)
Diagnosis & Treatment
Health & Disease Management within a Whole Health Paradigm (i.e., Personal Health Planning, CHI, Health Coaching)

Wellness Environment

Self-management Support

Community

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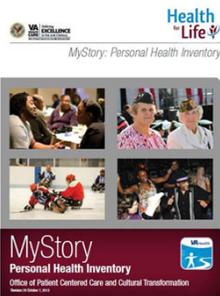
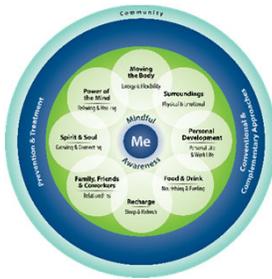
 The Big Questions, Mission/Aspiration and Purpose



 Synthesizing Information: The Whole Health Assessment



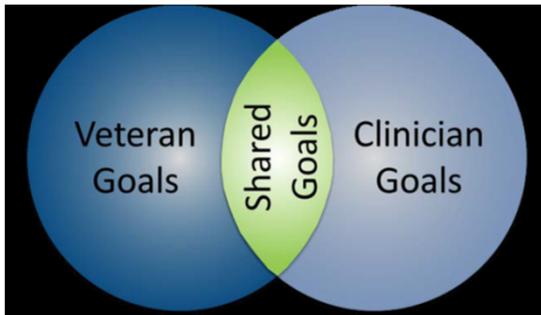
 Whole Health Assessment: Patient Self Reflection Tools



 Goal Setting : Shared Goals, SMART Goals



 Shared Goals

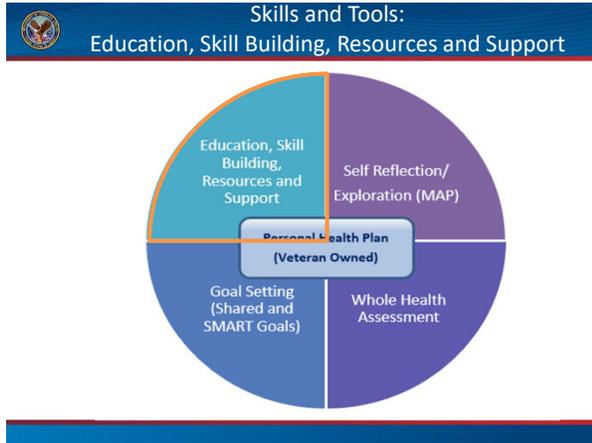


 SMART Goals

- S= Specific**
- M= Measurable**
- A= Action Oriented**
- R= Realistic**
- T= Time Sensitive**

EXAMPLE

- **Food and Drink Goal:** I going to start eating more vegetables in my diet
- **Made SMART:** I will eat at least two cups of vegetables per day for at least 5 days/week, starting tomorrow



Elements of the Personal Health Plan

- Personal Mission (MAP)
- Shared Goals
- Self-care
- Professional care
- Skill-building/education
- Consults/referrals
- Timeline and follow-up

Personalized Health Plan (PHP)

Personal Mission:

Overall Life and Health Goals:

Mission/Assessment:

Self Care (including self building)	
Work/Life/Balance	Family, Friends, and Community
Food and Drink	Stress and Sleep
Power of the Mind	Surroundings
Rest and Sleep	Personal Development

Professional Care (including self building and education):

Education:

Treatment Plans (including conventional and complementary approaches)

Pharmaceuticals and Supplements:

Support:

Team/Support (Healthcare team, family/friends, community)

Next Steps:

Consults/Referrals

Follow Up (including community resources)

PERSONAL HEALTH PLAN (PHP) TEMPLATE (INITIAL VIEW)

A personal health plan is a record of the Veteran's personalized care plan, which includes their mission, aspiration, and purpose for their health and well-being and is supported by self-care goals, professional shared goals, and community support. The document will likely be filled out by multiple members of the Veteran's care team, including providers, educators, coaches, complementary and integrative health instructors, etc, and therefore does not need to be completely filled out in one sitting. It is meant to be a record for Veterans to review and use to help in their journey in whole health.

Access Whole Health Library: [Whole Health Library](#)

View previous PHP information

What really matters to YOU? THE MAP. My mission, aspiration, purpose (MAP).

My Long Term Goals

Strengths (what's going right already)

Challenges

My Plan for Skill Building and Support

Professional Care: Conventional and Complementary
- Professional Care sub-sections should be completed as appropriate and relevant to your role.

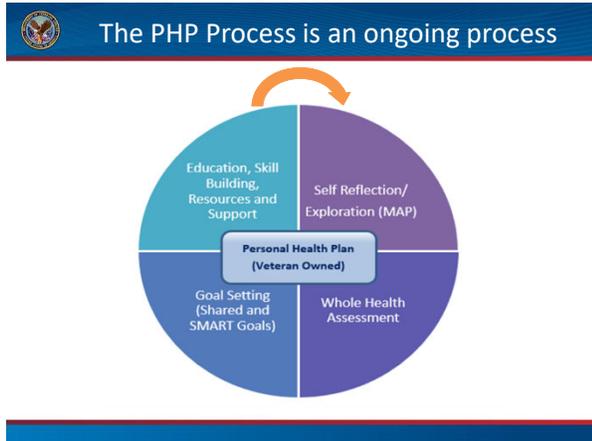
Referrals/Consults

Community

Resources

My Support Team

Next Steps



Case study:
Gary Johnson

Gary's Story



What did we learn about Gary?

- Relationships are very important to him
- He was very determined to survive
- He was incredibly resilient
- Works at strong commitments (marriage of 61 years, friendships, family, successful businesses)
- Retired at 51 years old; had a “wonderful life”
- His wife and son both passed away; he is alone now



Physical Challenges Gary Endured

- He experienced significant trauma, including head trauma, loss of fellow soldiers while in battle, and was a POW
- He experienced extreme hunger for a prolonged time and lost ~ 76 pounds as a POW and had food insecurity issues
- Do these conditions raise any potential concerns?



Past and Current Medical History

- He was diagnosed with type 2 diabetes 12 years ago
- His most recent HbA1c is 8.4 and he has early (stage 3a) kidney disease
- His blood pressure is 138/88, but he has not been formally diagnosed with hypertension
- He has a history of mild-moderate depression and PTSD
- His weight has increased over the last 4 years since his wife passed, and he currently weighs 220lbs (BMI 33.5)



Gary's Reflections

Reflections

Now that you have thought about what matters to you in all of these areas, what is your vision of your best possible self? What would your life look like? What kind of activities would you be doing?

I want to be able to stay independent as long as possible. I think I need to eat a little better (limiting sweets and convenience foods) and try to get more active and stronger so I can stay in my own home. I get lonely at times and would like to find a way to meet more people.

Are there any areas you would like to work on? Where might you start?

Food and drink- I need to work on my food choices and choose things that are better for my diabetes and blood pressure. Moving the body- I should work on increasing my strength and activity.



Gary's Reflections

Now that you have thought about what matters to you in all of these areas, what is your vision of your best possible self? What would your life look like? What kind of activities would you be doing?

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Creating Gary's PHP

• **Goals:**

–Find new interests in my life, something to make me feel helpful and connected to others

• **Strengths:**

–Surroundings, Professional Care

–Resilience

• **Challenges/Opportunities for Support:**

–Family and friends have been a strength in his life, but he recently rated this as a 2 r/t continued grief and loneliness after loss of wife 4 years ago and son 18 years ago



Creating Gary's PHP Continued

- **Challenges/Opportunities for Support:**
 - Though Gary is able to afford food, he is still always concerned about not having enough food or not being able to afford food. This leads to buying cheaper (and often healthier) processed foods when shopping
 - Gary hasn't been very active and feels he needs to increase strength to maintain his independence



Gary's PHP – Self-Care

Mindful Awareness:

- Try to notice if I am really hungry when I eat

Areas of Self-Care:

Food and Drink-

- Stop drinking sugary beverages like cola and iced tea by cutting down to no more than 1, twice a week max, starting Monday
- Attend Healthy Teaching Kitchen class next Thursday

Working your Body-

- Increase walking/hiking to 3 days per week, 30 minutes per session starting Monday

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Gary's PHP – Professional Care

Health Concerns:

- DM, Htn, Kidney Disease, PTSD, Depression, Obesity

Prevention/Screening:

- Up to date

Treatment:

- Continue meds as prescribed
- Use home blood pressure cuff to check BP daily (keep log)

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Education, Skill Building, Resources, Support

•Referrals/Consults:

- Dietitian
- Whole Health Coach

•Community Resources

- Senior Center for community lunch program
- Prescription for volunteering

•Resources

- BP Log sheets

•Follow up

- RTC in 4 weeks to check BP and A1C

How do you start to work the PHI and PHP into your conversations with patients and other staff and into your practice?



Telling Others About Whole Health:
The Elevator Speech Exercise

pp20

- Draft a 30-second elevator speech using the form in the course manual
- Can use suggested elements or add your own
- Give your speech to a partner, and listen to your partner's speech
- Offer constructive feedback
- We will invite volunteers to share with the large group



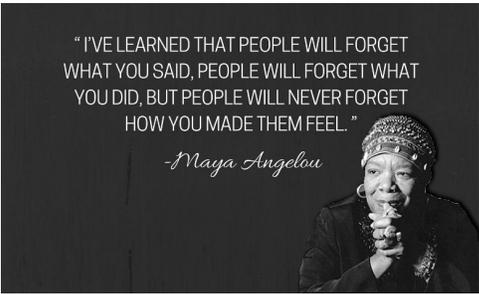
PHP Practical Exercise

- Choose a partner you didn't previously know
- Introduce Whole Health (your elevator speech)
- Review PHI and/or ask the "big questions"
- Discuss the circle, pick an area of Food and Drink
- Generate a SMART goal
- Discuss referrals, team members, skills, resources, follow up
- Take 10 minutes each





Sharing Your Experience



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Questions?

Faculty Q&A Panel

From questions you submitted on note cards

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Whole Health Life 

13. Nutrition and Whole Health: Transforming the System

Eating for Whole Health

Implementation Exercise #2: Implementation Work Groups

Whole Health Implementation

 **Group Exercise Instructions**

- Separate into assigned groups
- Choose one person in charge of recording information on the worksheet and one person in charge of emailing project details to your implementation team and cc _____ at _____.
- **Prompt: come up with an implementation project or a professional smart goal to apply whole health at your work site**
- Group recorder: use the whole health implementation worksheet we provided and turn in your plan to the nutrition faculty members before leaving
- Reconnect with your project team within 2 weeks to revise the plan based on feasibility and begin implementing it

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**Closing Remarks And
Pulse Check: Day 2 Evaluations
THANK YOU!**

Eating for Whole Health
