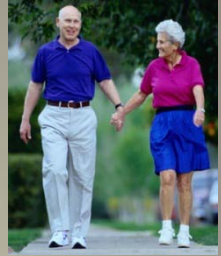


Researching functional food consumption in older adults: exploration of a toolkit as a knowledge translation strategy



Health Professionals' Forum
Royal Agricultural Winter Fair
November 10, 2011

Alison M. Duncan, Ph.D., R.D.

Associate Professor
University of Guelph



Presentation Outline

- Research Project on Functional Food Consumption in Older Adults
 - Background/Rationale
 - Purpose/Objectives
 - Methods/Progress Update
- Relevance of Knowledge Translation Research Results
- Toolkit as Knowledge Translation Strategy
 - Development Process
 - Content
 - Next Steps





CFDR-Funded Research Project



Exploration of the consumption, awareness, understanding and motivating factors related to functional foods in older adults

- University of Guelph research project
- Investigators:
 - Alison Duncan, Judy Sheeshka
- Graduate and undergraduate students:
 - Meagan Vella, Laura Stratton, Hilary Dunn
 - Amanda Li, Sara Lum, Jennifer Wong
 - Undergraduate students
- Approved by University of Guelph Research Ethics Board (REB#10SE012)

Research Background

Food and Health

- Relation of food and its constituents to health has evolved
 - Traditionally prevent deficiency disease
 - Now includes prevention of chronic disease
 - Evolution manifests in numerous policies
- Key example is advance of functional foods
 - Extension of how we relate food and food constituents to health
 - Major influence on research activity in food, nutrition and health

What are Functional Foods?

Simplest definition: Foods that may provide health benefits beyond basic nutrition

- Conventional food form
- Specific bioactive constituent
 - enhanced content in the food
 - added to the food
- Biological rationale to relate to health

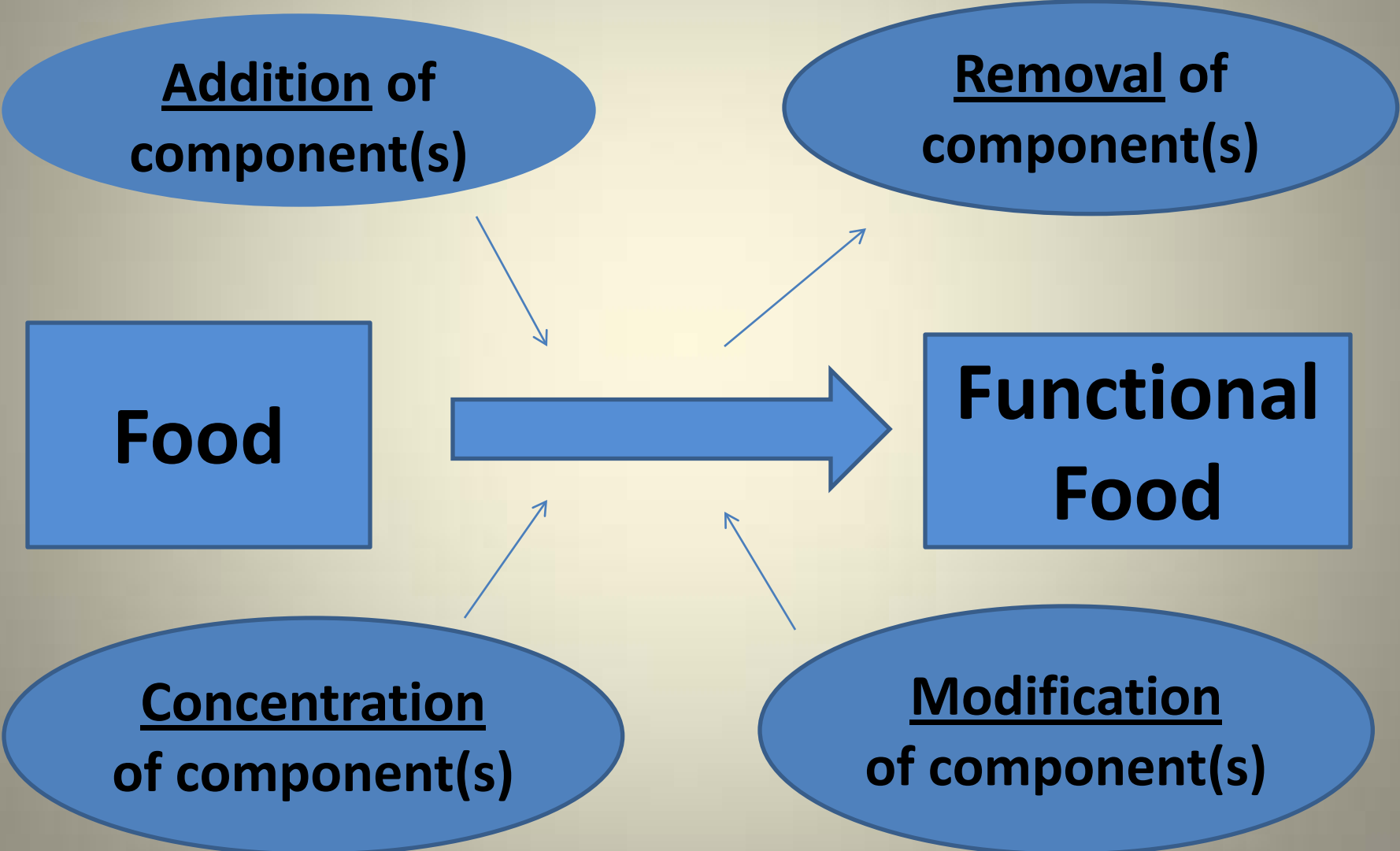


Functional Foods: Health Canada Definition

- A *functional food* is similar in appearance to, or may be, a conventional food that is consumed as part of a usual diet, and is demonstrated to have physiological benefits and/or reduce the risk of chronic disease beyond basic nutritional functions, i.e. they contain bioactive compound



What are Functional Foods?



Addition of component(s)

Removal of component(s)

Food

Functional Food

Concentration of component(s)

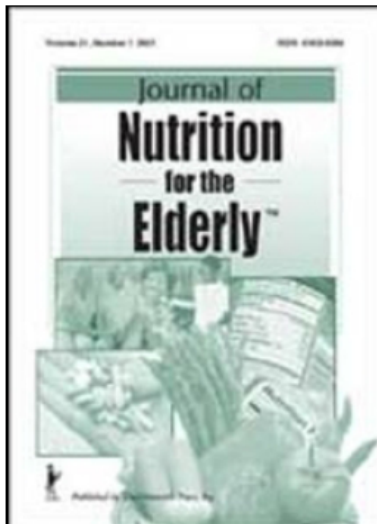
Modification of component(s)

Functional Foods: A Catalyst for Innovation

- Academics
 - Multiple research efforts
- Industry
 - Product development and merchandising
 - Increasing revenue from sales
- Government
 - Regulatory framework to allow for claims
- Health care
 - Incorporation into prevention and management of patient/client care

Functional Foods and Health: Relevance to Older Adults

- Functional foods have relevance to many areas of human health and this can apply to multiple life-stage and gender groups
- Among these life-stage groups, **older adults** emerge as a highly relevant beneficiary of FF



Journal of Nutrition For the Elderly

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t792306906>

The Changing Face of Food and Nutrition in Canada and the United States: Opportunities and Challenges for Older Adults

Lina Paulionis ^a

^a Food and Nutrition Group, Cantox Health Sciences International,

Functional Foods and Health: Relevance to Older Adults

Appetite 51 (2008) 256–265



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Contents lists available at ScienceDirect

Appetite

journal homepage: www.elsevier.com/locate/appet



Research report

Who consumes functional foods and nutraceuticals in Canada?
Results of cluster analysis of the 2006 survey of *Canadians' Demand for Food Products Supporting Health and Wellness*

Deepananda Herath*, John Cranfield, Spencer Henson

- Analysis of Canadian's demand for food products in support of health
- Identified **disease threat** as a key driver and that this **increases with age**

Aging is Becoming More Common



- Aging of the population will **ACCELERATE** over the next 3 decades
- The number of Canadian adults >65 years old is projected to increase from 4.2 to 9.8 million between 2005 and 2036
- The “older adults” share of the population will increase from 13.2 to 24.5%

Dr. David Butler Jones' Report: Canadians are living longer

Golden years shining brighter: Canadian seniors living longer, better

BY SHANNON PROUDFOOT, POSTMEDIA NEWS OCTOBER 29, 2010 COMMENTS (21)

STORY


PHOTOS (1)



Canada's seniors are living longer and are vastly less likely to struggle with poverty than they were three decades ago, but there's work to be done in areas such as diagnosing and treating mental illness, reducing social isolation and combating the "mythology" of aging, Canada's chief public health officer said. File photo.

Photograph by: Darren Stone/Victoria Times Colonist, Victoria Times Colonist

STORY TOOLS

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RELATED STORIES FROM AROUND THE WEB

Golden years shining brighter: Canadian seniors living longer, better

Ottawa Citizen, Canada
Wednesday, November 10, 2010

B.C. residents living longer, healthier
CBC News, Canada

- 2010 report on the State of Public Health in Canada focused on aging and seniors
- By 2050, more than 25% of population will be over 65 years old
- Life expectancy is rising at 78 for men, 83 for women
- Chronic health conditions:
 - 89% have ≥ 1
 - 25% have ≥ 4
- 37% taken steps to improve their health

Relevance of FF to Older Adults

- FF can address many nutrition and health related needs that face the aging older adult
- Basic Health and Nutrition-Related Needs
 - Physical changes that challenge basic consumption
 - Physiological changes in nutrient utilization
 - Social considerations
 - Need for nutrient-dense foods
- Optimal Health and Nutrition-Related Needs
 - Increased incidence of chronic diseases
- To realize these benefits through FF, need to first understand current consumption, perception, attitudes, beliefs

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NUTRA
ingredients.com

ILC-UK issues functional call to arms for older people

By Ben Bouckley, 10-Nov-2010

 Post a comment

Related topics: [Consumer Trends](#)

More research is necessary to examine perceptions of the benefits of functional foods for older consumers, according to a new report from the ILC-UK (International Longevity Centre UK).

- UK has identified the need to examine perception of FF in older consumers
 - Article identifies that there is evidence for efficacy of FF but limited evidence regarding whether older adults consume them
- Limited information on this in Canada



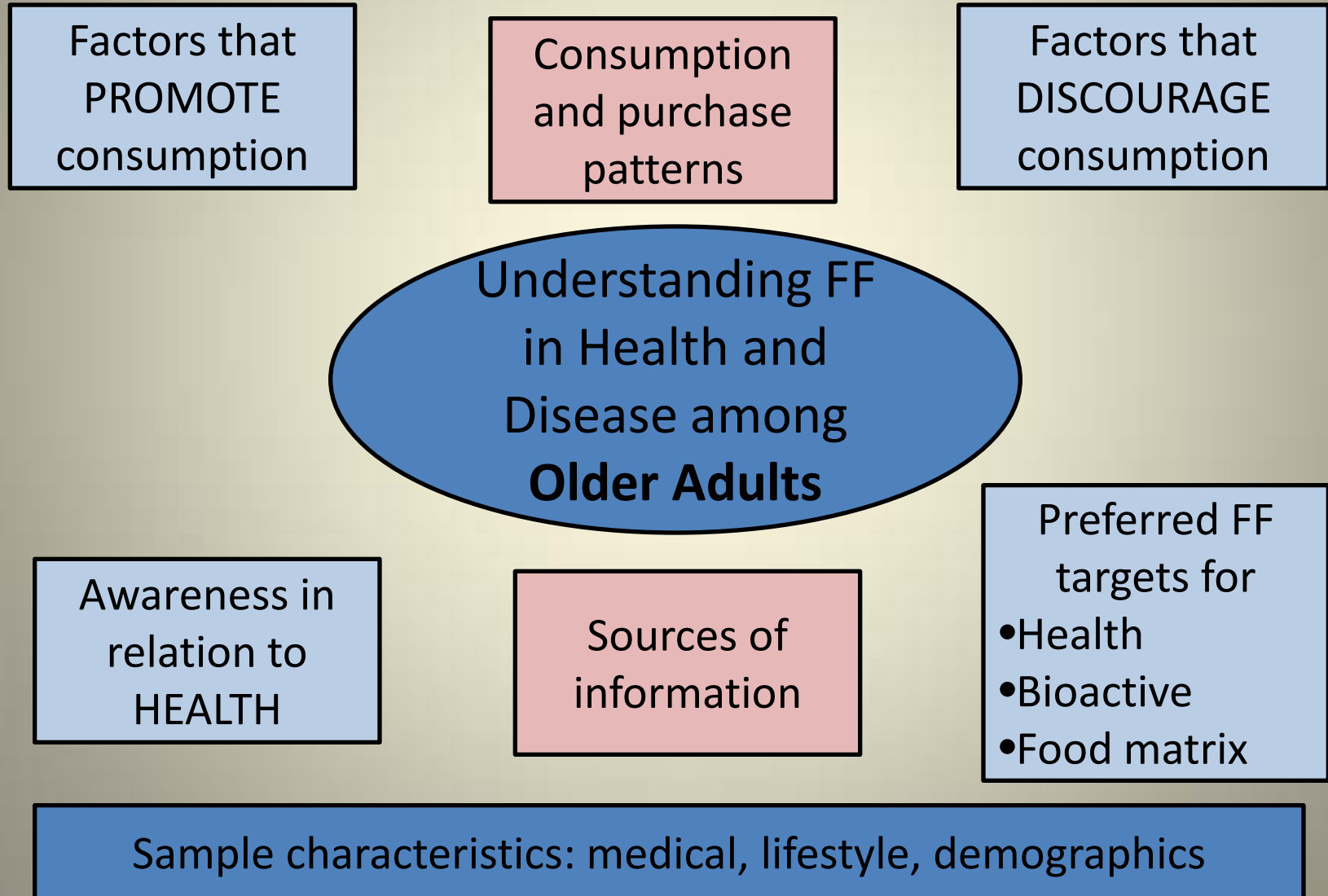
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Research Objectives



Research Study Design

Understanding FF in
Health and Disease
among
Older Adults

Mixed methods approach

BREADTH

Phase ONE:
Researcher-
administered
Questionnaire

DEPTH

Phase TWO:
Focus Groups
(informed from
questionnaire results)

Research Participants

- Older adults \geq 60 years old
 - Community dwelling
 - Not utilizing meal-assisted services
 - Able to complete questionnaire or focus group
 - Able to provide written consent



Research Progress

- Questionnaire data collection completed as of last week
- Focus group data collection to be completed by end of fall semester
- Looking forward to next steps
 - Data entry, analysis and statistics
 - Results interpretation, summaries
 - Manuscript and presentation constructions

Research Stakeholders

- Registered Dietitians
 - Results will inform better interaction with older adult patients/clients in their navigation of daily food choices to manage health
 - Concepts could relate to patients/clients in other life stage groups as well
- Food Industry
- Older Adults
- Academic community

Knowledge Translation (KT) to Stakeholders

- Key phase of research process
- Knowledge translation defined as:
 - Transformation of knowledge into use through synthesis, dissemination, and exchange among researchers and research users (OMAFRA 2011).
- Numerous knowledge translation strategies to disseminate research results to stakeholders

Toolkit as a Knowledge Translation Strategy

- Toolkits are flexible and adaptable educational resources that target one issue and/or one audience (Monroe 2000).
- Can be constructed to address research results content along with relevant background information
- Allows for creative thinking in organization and presentation of content

Toolkit as a KT Strategy

Toolkit Purpose

To provide guidance and materials to assist Registered Dietitians in communicating with older adults about functional foods for healthy aging

Development

- Weekly meetings with toolkit team to:
 - Discuss literature
 - Identify knowledge gaps
 - Determine toolkit content and main messages
 - Review and revise

Stakeholder engagement

- Present toolkit to stakeholders to:
 - Seek feedback
 - Inform final version
- RAWF Health Prof. Forum
- CFDR AGM
- Colleague extension

Toolkit Structure

Functional Foods for Healthy Aging A Toolkit for Registered Dietitians

August 2011

This toolkit provides guidance and materials to assist Registered Dietitians in communicating with older adults about functional foods for healthy aging.



Toolkit Overview

- Background information about functional foods.
- Background information about older adults and how functional foods would benefit their health.
- Results from a University of Guelph research study designed to explore functional food consumption in a sample of older adults.
- Educational resources to facilitate interaction with older adults about functional foods.



HUMAN HEALTH
with
Nutritional Sciences

Agri-Food
and Rural

A program of the
University of Guelph
Link
Mobilizing Agri-Food and
Rural Research Knowledge

TOGETHER
ADVANCING
NUTRITION

NUTRITION
RESEARCH
IN FOCUS

- **Section 1:**
 - Understanding FF
- **Section 2:**
 - Relevance of Functional Foods for Healthy Aging
- **Section 3:**
 - Research Summary and Results
- **Appendices:**
 - Resource and Educational Materials

Section 1: Understanding FF

- Functional Foods Defined
 - Functional food definitions established by various countries and organizations
 - Common components of functional foods
 - Food forms
 - Bioactives
 - Relation to natural health products



Section 1: Understanding FF

- Functional Food Product Guidance

- Summary table of guidance tool, regulatory notes and dietetic practice points

- List of ingredients
- Nutrition Facts table
- Nutrient Content Claims
- Additional Food-Related Claims
- Health Claims

Nutrition Facts	
Per 3/4 cup (175 g)	
Amount	% Daily Value
Calories 160	
Fat 2.5 g	4 %
Saturated 1.5 g	8 %
+ Trans 0 g	
Cholesterol 10 mg	
Sodium 75 mg	3 %
Carbohydrate 25 g	8 %
Fibre 0 g	0 %
Sugars 24 g	
Protein 8 g	
Vitamin A 2 %	Vitamin C 0 %
Calcium 20 %	Iron 0 %

- Disease Risk Reduction Claims
- Therapeutic Claims
- Function Claims (Nutrient Function, Probiotic)
- General Health Claims (Front-of-Package labelling)

1.3. Product Example: CEREAL

Front View

Front-of-Package Label:

Dietetic Practice Points:

- Includes endorsements and logos made by third party organizations and corporations.
- The symbol shown here is used by a corporation (General Mills) to highlight that the product contains whole grains.

Food-Related Claim: "Whole Grain" and "Made with whole grain oats."

Dietetic Practice Points:

- Claims about the ingredient(s) (composition, quality, quantity) or origin of the food product.
- Health Canada requires these claims to be truthful and not misleading.



Nutrient Content Claim: "Source of Fibre."

Dietetic Practice Points:

- Directly, or indirectly, describes the level of a nutrient in a food or a group of foods.
- A product must meet specific nutrient compositional requirements put forth by Health Canada in order to use the claim "Source of Fibre" (must contain at least 2 g of fibre per serving).

General Health Claim: Heart shaped bowl.

Dietetic Practice Points:

- Broad claims that provide dietary guidance. Includes implied health claims, which are open to interpretation by the reader.
- In this case, the heart shaped bowl implies that the cereal is potentially beneficial for heart health.
- Health Canada does not encourage using heart symbols unless the product has an associated Disease Risk Reduction Claim, which does appear on Side View 1 for this cereal product.

Therapeutic Claim: "Oat fibre helps lower cholesterol" and "1 cup (27 g) of Cheerios cereal made with oats provides 30% of the daily amount of fibres shown to help lower cholesterol."

Dietetic Practice Points:

- Claims about the treatment or mitigation of a health-related disease or condition, or restoration, correction or modification of body function.
- Health Canada regulations specify the criteria a food must meet before a Therapeutic Claim can be made. The wording of the claim cannot be modified.
- Health Canada requires the second statement to appear on the packaging in addition to the claim "Oat fibre helps lower cholesterol".

Section 1: FF Product Examples

- Functional food guidance highlighted
- Dietetic practice points
- Product example sheets:
 - Cereal (oats)
 - Juice (plant sterols)
 - Margarine (omega-3)
 - Milk (omega-3)
 - Yogurt (probiotics)
- Views: top, front, back, side 1, side 2

Section 1: FF in the Canadian Marketplace

- Functional food sales revenue
- Functional foods industry growth
- Statistics Canada Functional Food and Natural Health Product Survey 2007
- Identifies need for research into consumer acceptability of functional foods

Section 2: Relevance of FF for Healthy Aging

- Role of FF in Canada's aging demographic
 - Study of Canada's aging demographic
 - Aging and increased disease risk
 - Focus on cancer, CVD risk and type 2 diabetes
 - Aging and increased health care expenditure
 - Potential for FF to contribute to healthy aging
- Role of RD in considering FF in practice
 - Review of current literature

Section 3:

Summary and Results of University of Guelph Research Study

- Summary of research rationale
- Research purpose and objectives
- Study methods and objectives
- Study results will be included (when ready)

Appendices:

University of Guelph Research Study Information Sheets

- Inform and exemplify key functional food concepts:
 - Functional food definition
 - Functional food bioactives
 - Functional food food forms
 - Functional food health claims
- Combination of text and pictures

Appendices:

Bioactive Resource Sheets

Antioxidants

Plant Sterols

Dietary Fibre

Prebiotics

Omega-3 Fatty Acids

Probiotics



What are they and what do they do?

Research Results: What health areas are older adults using them for?

Three review articles cited for further information.

Bioactive Resource Sheet EXAMPLE

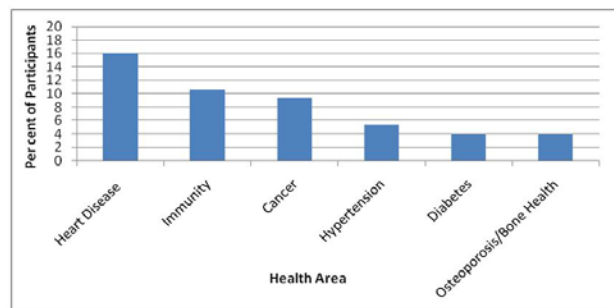
Plant Sterols and Healthy Aging

What are they and what do they do?

- Plant sterols (or phytosterols) are phytochemicals found naturally in plants, including fruits, vegetables, nuts, seeds, grains, and legumes^{1,3}.
- Plant sterols are structurally similar to cholesterol but are not readily absorbed^{1,2,3}.
- Plant sterols compete and interfere with dietary and endogenous cholesterol absorption^{1,2,3} and effectively reduce circulating LDL and total-cholesterol, thereby reducing cardiovascular disease risk, at doses of 2 g/day^{1,2,3}.
- Plant sterols have also been linked to reduced risk of numerous cancers (lung³, stomach³, colon^{2,3}, breast^{2,3}, and prostate^{2,3}) and have demonstrated antioxidant, anti-inflammatory, and anti-atherogenic properties³.
- In May 2010, Health Canada approved a therapeutic claim for certain foods containing at least 0.65 grams of plant sterols per serving and blood cholesterol lowering. These claims can also state that high cholesterol is a risk factor for heart disease.

What health areas do older adults address by consuming functional foods with plant sterols?

A University of Guelph study that explored functional food consumption in a sample of 200 older adults asked participants to indicate the health areas that they do address or would consider addressing by consuming functional foods containing plant sterols. The following figure indicates the top five responses. Of note is that 72% of participants responded that they did not know.



Plant Sterol Review References

1. AbuMweis SS, Jones PJ. Cholesterol-lowering effect of plant sterols. *Curr Atheroscler Rep.* 2008;10:467-472.
2. Jones PJ, AbuMweis SS. Phytosterols as functional food ingredients: linkages to cardiovascular disease and cancer. *Curr Opin Clin Nutr.* 2009;12:147-151.
3. Rudkowska, I. Plant Sterols and stanols for healthy ageing. *Maturitas.* 2010;66:158-162.

Toolkit: Next Steps

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HUMAN HEALTH
Nutritional Sciences



- Consider and incorporate feedback from stakeholders
- Include research study results once available
- Submit to funding partners for consideration
- Disseminate to stakeholders
- PDF format to allow for online distribution

Acknowledgements

- Canadian Foundation for Dietetic Research (CFDR)
- OMAFRA Rural Link
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 - Jenna Campbell, M.Sc.
 - Amanda Li, Sara Lum, Jennifer Wong
- Undergraduate Students
 - Sarah Dainty, Brittney Kay, Kaitlyn Zorn
- Research Participants

