WHAT COULD A CANADIAN DIET LOOK LIKE?
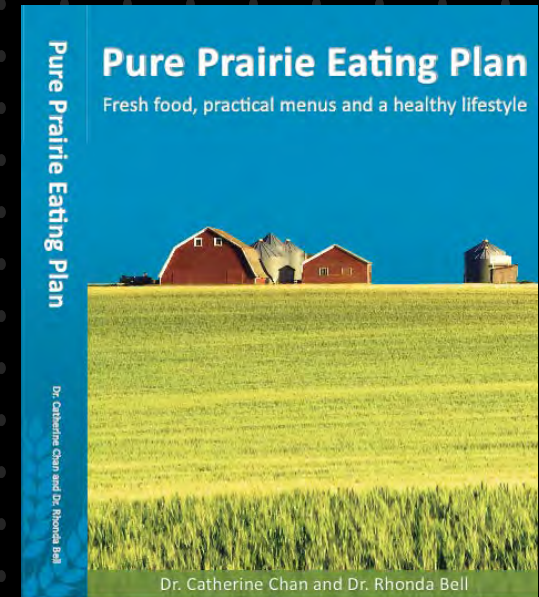
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Alberta Diabetes INSTITUTE

PANDA
Physical Activity
& Nutrition for
Diabetes in Alberta

UNIVERSITY OF ALBERTA
QUAECUMQUE VERA

DISCLOSURES

All profits to diabetes research

WHAT COULD A CANADIAN DIET LOOK LIKE?

- ▶ The forces that determine what we eat
  - ▶ Personal
  - ▶ Environmental
- ▶ The PANDA Project
- ▶ A Canadian Diet for all Canadians

THE FORCES THAT DETERMINE WHAT WE EAT

- **Personal Factors**
  - Nutrition knowledge
  - Taste preferences
  - Time
  - Cooking ability
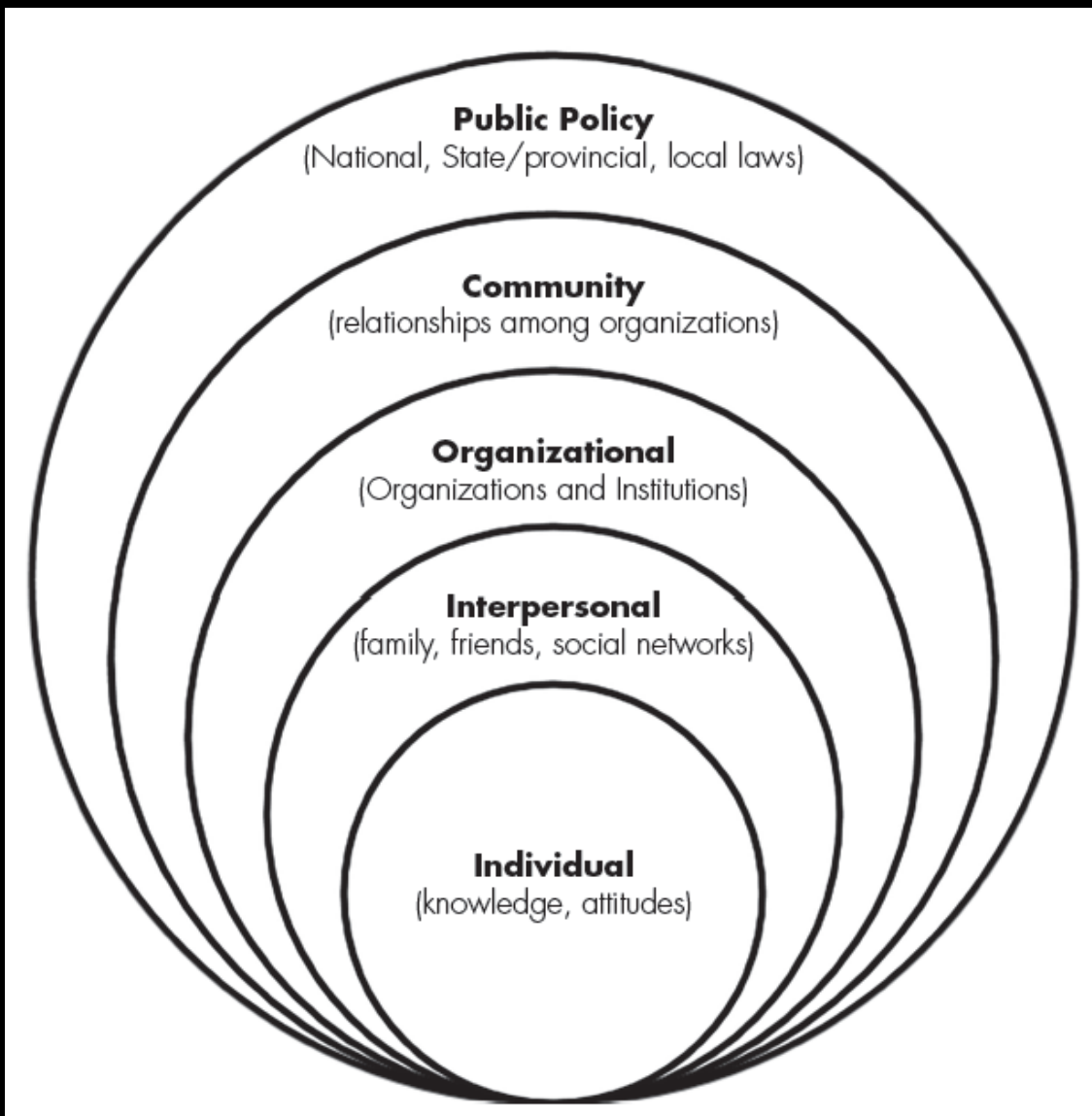 - Influence of family & friends

THE FORCES THAT DETERMINE WHAT WE EAT

THE FORCES THAT DETERMINE WHAT WE EAT

Public policy: The price of food has increased because of diversion of some crops to biofuel production.

Community: The city I live in has more liquor stores than grocery stores. The nearest store to me only has snack food and bananas, no fresh vegetables.

Organizational: Our workplace promotes healthy eating by providing vegetables but still serves French fries.
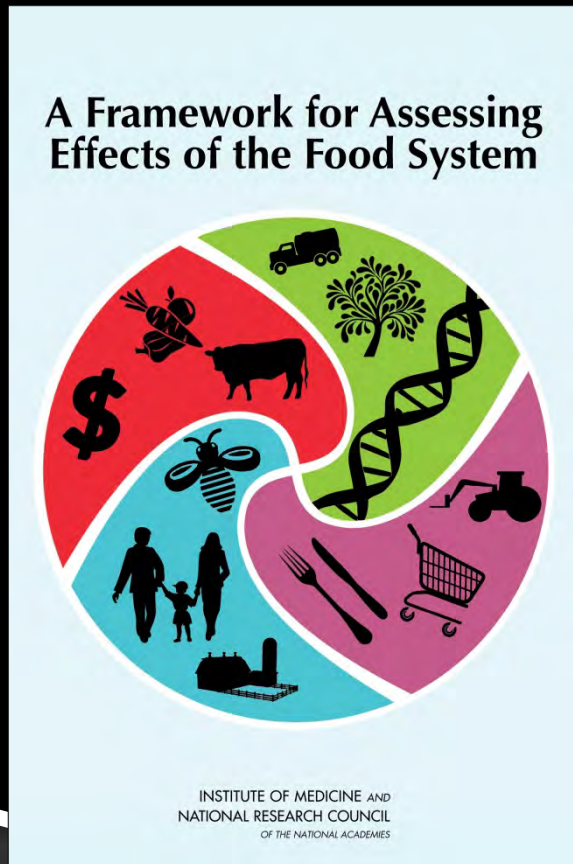
Interpersonal: If Joe has fries, then it's OK if I do, too.
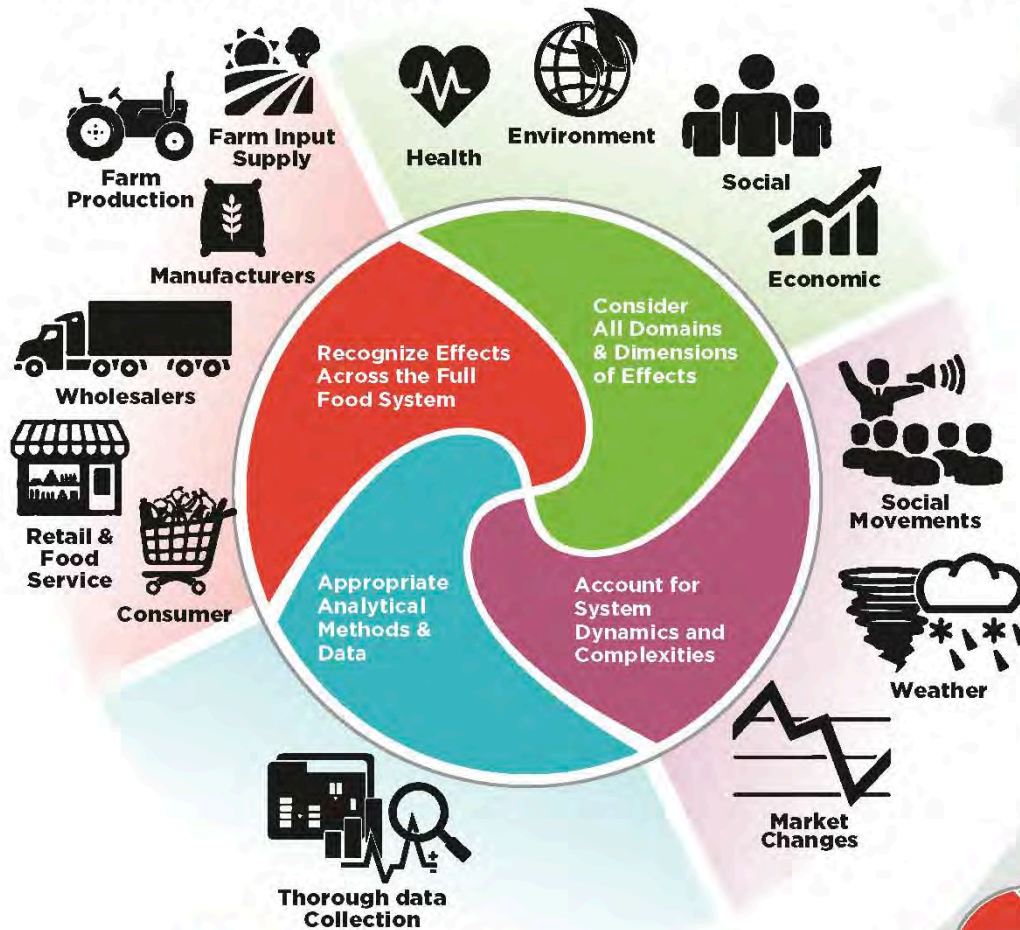
Faced with all this choice, what should I have for lunch?

A Framework for Assessing Effects of the Food System

www/iom.edu/foodsystem

IOM (Institute of Medicine). 2015. *A framework for assessing effects of the food system.* Washington, DC: The National Academies Press.

THE FRAMEWORK

Farm Input Supply

Farm Production

Health

Environment

Social

Manufacturers

Economic

Wholesalers

Recognize Effects Across the Full Food System

Consider All Domains & Dimensions of Effects

Social Movements

Retail & Food Service

Consumer

Appropriate Analytical Methods & Data

Account for System Dynamics and Complexities

Weather

Market Changes

Thorough data Collection

SIX STEPS FOR ASSESSMENT

Identify the PROBLEM
What is the goal of the assessment?

Define the SCOPE of the assessment
What are the time, geographic, budgetary, and other limitations? What do we know from studies already conducted about potential drivers or effects? What are the gaps in knowledge?

Identify the SCENARIOS
What are potential interventions (e.g. policies or practices) that should be considered and compared to the baseline scenario?

Conduct the ANALYSIS
What are the data needs, and which analytic tools are most appropriate?

SYNTHESIZE the results
What are the impacts and tradeoffs across the health, environmental, social, and economic domains? How can they be compared?
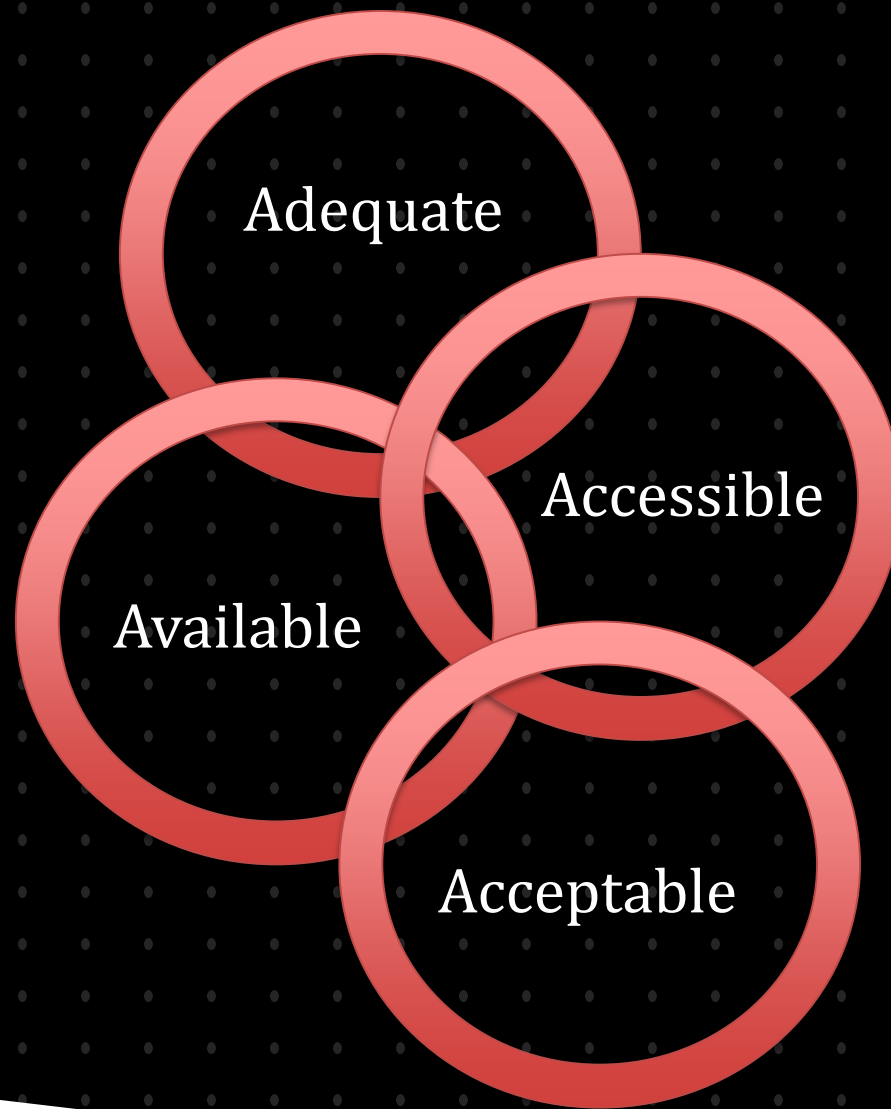
REPORT the findings
Who are the key stakeholders to inform?

Individual food "choices" are complex and not just dependent on nutrition knowledge or taste preferences.

Adequate

Accessible

Available

Acceptable

The 4-A Framework: Food for All

THE PANDA PROJECT

- For people with T2D, what is a dietary pattern that
  - Embodies the 4A Framework?
  - Helps manage diabetes?
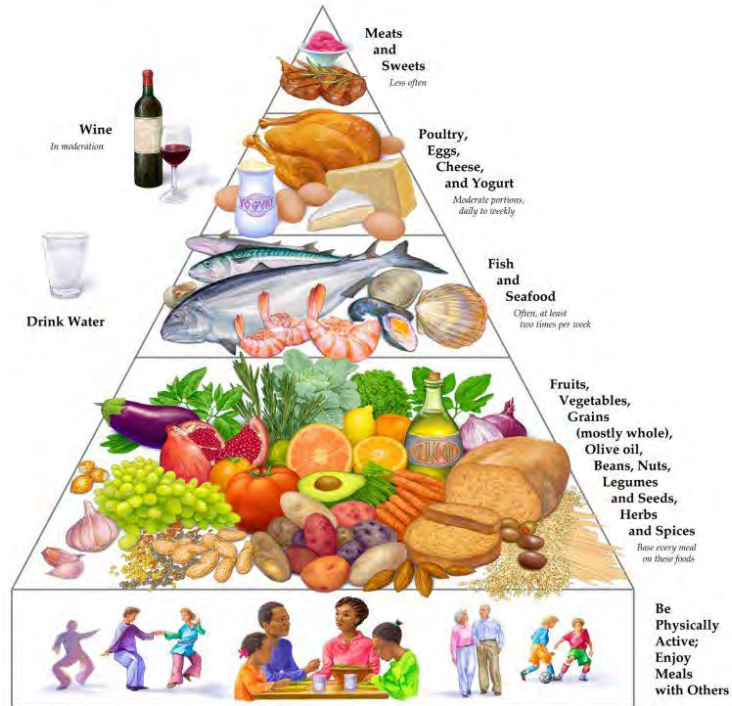 - Is sustainable?

THE MEDITERRANEAN DIET & THE 4A FRAMEWORK

▶ Nutritionally Adequate ✔

▶ Accessible

    ▶ Geographically ±

    ▶ Financially ±

▶ Available ±

▶ Acceptable ±

THE PANDA PROJECT: GUIDING PRINCIPLES

Not 100 mile diet

- Healthy foods are abundant on the Prairies
- Choosing local foods supports health eating and a healthy economy
- Foods emphasized are:
  - For all people, at all life stages
  - Consistent with Eating Well with Canada's Food Guide
  - Meet evidence-based guidelines to reduce risk and/or treat chronic diseases
- Foods included should be:
  - Grown on the Prairies whenever possible
  - Have significant value-added component to processing and/or production

PANDA INTERVENTION: 6 MONTH FOLLOW-UP – BIOLOGICAL OUTCOMES

	Mean Change	95% CI
A1c (%)	-0.5	-0.9, -0.1
Weight (kg)	-1.4	-2.1, -0.8
BMI (kg/m^2)	-0.5	-0.7, -0.3
Waist (cm)	-2.4	-3.0, -1.8
Total cholesterol (mg/dL)	-86.2	-107, -65
HDL cholesterol (mg/dL)	44.6	37, 52
LDL cholesterol (mg/dL)	-128	-149, -108
Triglycerides (mg/dL)	-3.8	-21, 13

Asaad et al 2016

PANDA INTERVENTION: 3 MONTH FOLLOW-UP – NUTRITIONAL OUTCOMES

	Mean Change	95% CI
Energy (kcal)	-178	-304, -51
Total fat (g)	-10	-18, -3
Saturated fat (g)	-3.5	-6, -1
Protein (g)	-6	-11, -0.4
Added sugar (g)	-9	-16, -2
Sodium (mg)	-570	-870, -280
Healthy Eating Index	2.1	0.1, 4.1
Perceived Dietary Adherence	8.5	6.1, 10.8

Asaad et al 2016

FOOD ACCEPTABILITY MATTERS

	A1c	A1c[a]	PDAQ score[a]
Dietary Adherence score	-0.239** (n=195)	-0.175* (n=195)	--
Food Acceptability score	-0.173* (n=200)	-0.161* (n=200)	0.240**

[a] – Controlled for age, years with T2D, waist circumference and BMI

A CANADIAN DIET FOR ALL CANADIANS

- FFH Pre-Workshop Survey
  - Encourage consumption of foods grown and readily available in Canada – 51% definitely, 42% somewhat
  - Canadian agriculture should be considered – 39% definitely, 39% somewhat
  - Social and lifestyle factors should be a component – 88% yes
    - Convenience
    - Cultural practices & preferences
    - Vegan/vegetarian
    - Whole/local/minimally processed foods

A CANADIAN DIET FOR ALL CANADIANS

▶ FFH Pre-Workshop Survey

  ▶ A Canadian Diet looks like

    ▶ Evolving palette of regional preferences

    ▶ Seasonal, whole foods

    ▶ Pulses, dairy, seafood, nuts, whole grains, V&F, lean meat, balance of animals and plant protein

    ▶ Cultural preferences

    ▶ Minimally processed

A CANADIAN DIET FOR ALL CANADIANS

- FFH Pre-Workshop Survey
  - Opportunities for the Canadian Diet
    - Improved health of Canadians
    - Connect consumers to their food
    - Improve sustainability
    - Opportunity for agri-food innovation
    - Reduce cost of food and improve accessibility
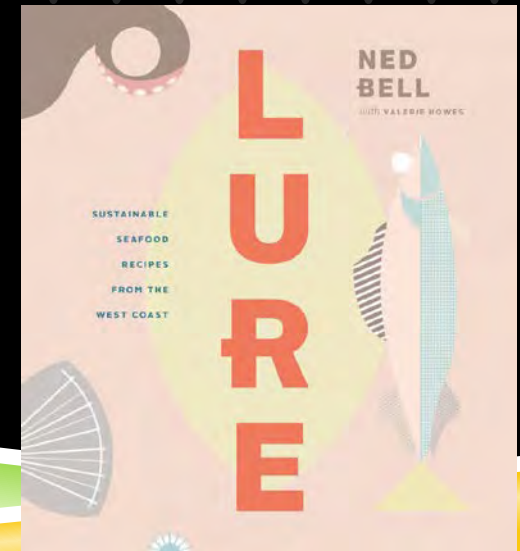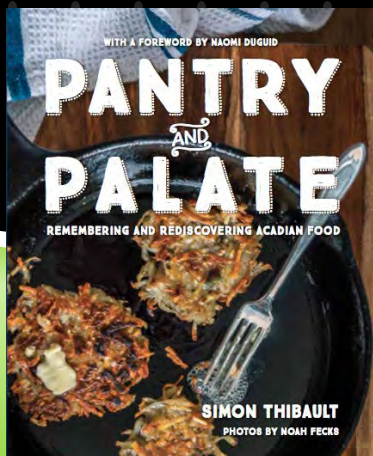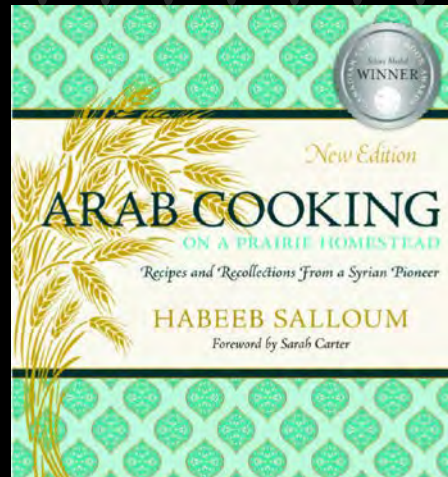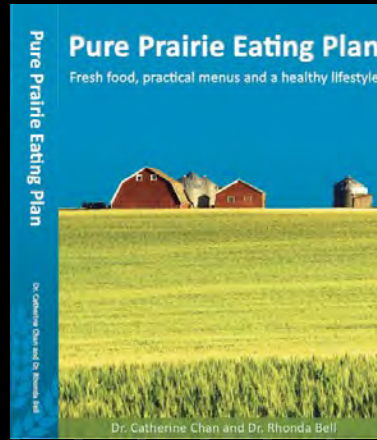
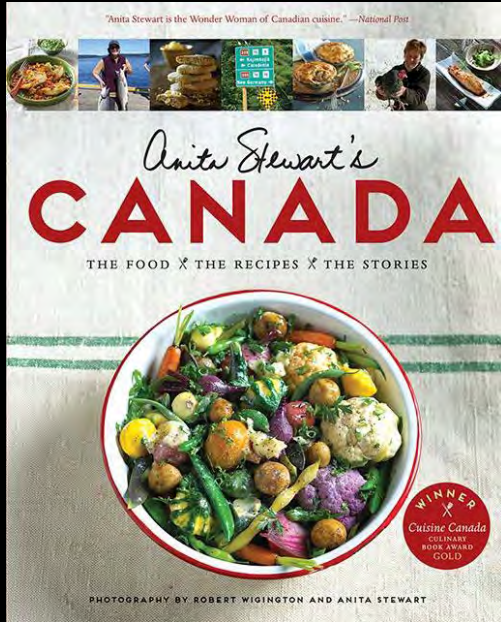# A CANADIAN DIET FOR ALL CANADIANS

- **FFH Pre-Workshop Survey**
  - Barriers for the Canadian Diet
    - Lack of align...   ...es in govern...
    - ...rese...
    - ...and industry priorities
    - Gaps in knowledge, more evidence needed

Ontario Food & Nutrition Strategy

Healthy Food Access

Food Literacy & Skills

Healthy Food Systems

Roblin et al Can J Diet Pract Res 2018;79:28-34

A CANADIAN DIET FOR ALL CANADIANS

CONSTRUCTING A CANADIAN DIET

CONSTRUCTING A CANADIAN DIET

- Who can we learn from?
  - Mediterranean Diet
    - Adaptations – eg. Switzerland
  - New Nordic Diet
    - more calories from plant foods and fewer from meat
    - more foods from the sea and lakes
    - more foods from the wild countryside
  - Traditional non-European diets
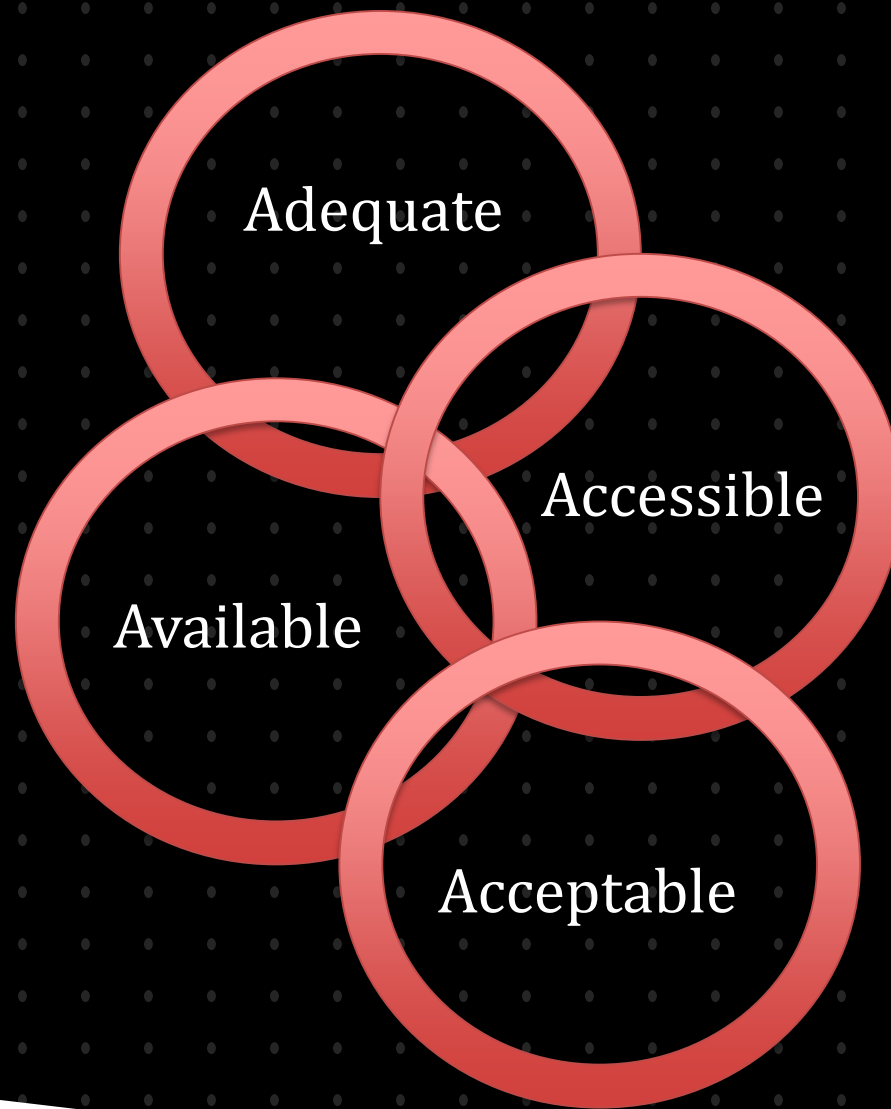
Vormund et al. Eur J Nutr, 2015
Mithril et al. Publ Health Nutr, 2012

The 4-A Framework: Food for All
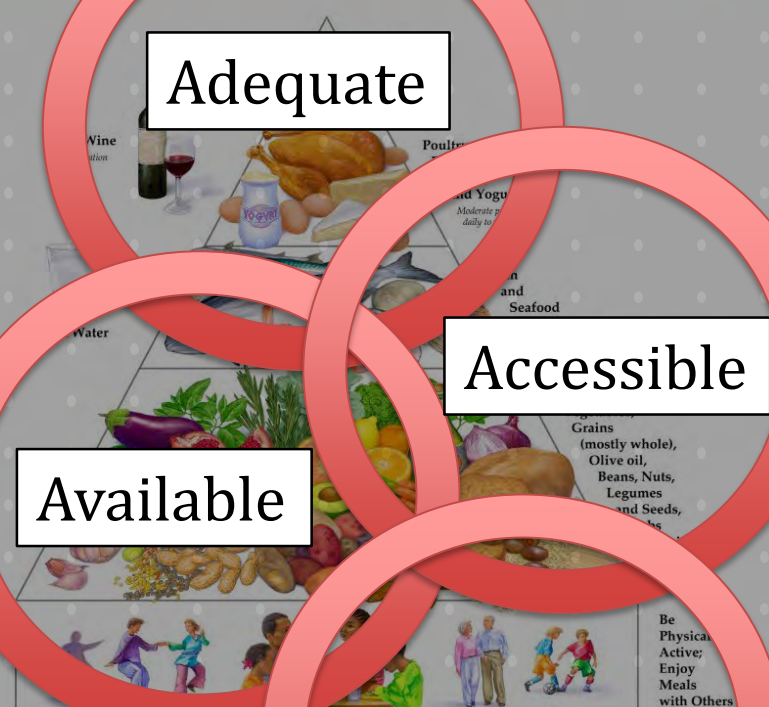
Adequate

Accessible

Available

Acceptable

A CANADIAN DIET FOR ALL CANADIANS

Fruits,
Vegetables,
Grains
(mostly whole),
~~Olive oil~~, Canola oil
Beans, Nuts,
Legumes
and Seeds,
Herbs
and Spices

Base every meal
on these foods

Be
Physically
Active;
Enjoy
Meals
with Others

Illustration by George Middleton
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www.oldwayspt.org
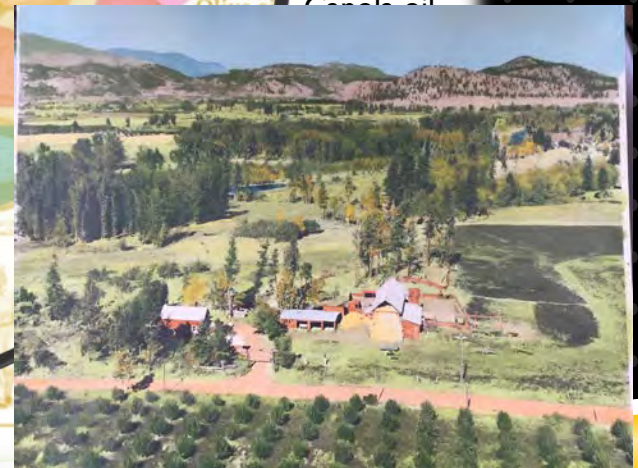
A CANADIAN DIET FOR ALL CANADIANS

Canola oil

Fruits, Vegetables, Grains (mostly whole), Olive oil, Beans, Nuts, Legumes and Seeds, Herbs and Spices

Base every meal on these foods

Be Physically Active; Enjoy Meals with Others

Illustration by George Middleton

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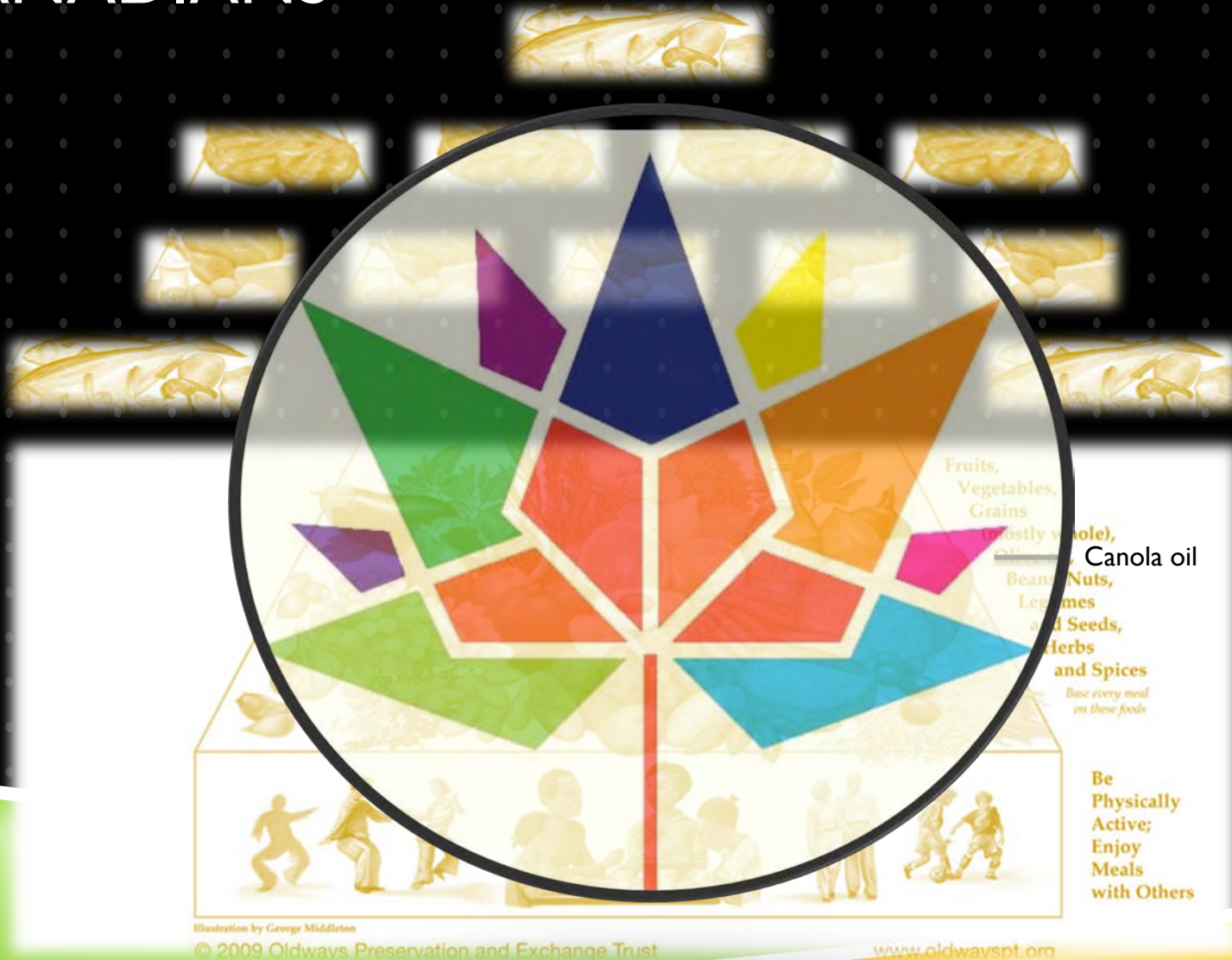
www.oldwayspt.org

菜單 Menu		食物的原料 Ingredients		加拿大食品指南份數
早餐 Breakfast	雜糧粥（2份） (見食譜，第15頁)	薏米　　　　　1/12杯 (20毫升) 小黃米　　　　1/12杯 (20毫升) 黑米　　　　　1/12杯 (20毫升) 糙米　　　　　1/12杯 (20毫升)		2 份　糧食類 1 份　水果 1 份　肉類替代品
	原味腰果	原味腰果　　　4湯匙（60毫升		
	木瓜	木瓜　　　½ 個		
上午零食 Morning snack	鷹嘴豆泥和梳打餅乾	低鹽/無鹽梳打餅乾　30克		1 份　糧食類 ¼ 份　肉類替代品 1 份　奶類替代品
	強化豆奶			
午餐　Lunch	四季豆炒雞肉（見食譜，第40	0克）		1 份　糧食類 1¼ 份　肉類和替代品 4 份　蔬菜 1 份　奶類替代品
	番茄炒蛋（1份 (見食譜，第34			
	混合米飯 (白米:糙米=1:	的）		
	優酪乳			
下午零食 Afternoon snack	蘋果			1 份　水果
晚餐 Dinner	蒸蘆筍（1份） 青椒炒肉片（ (見食譜，第62	45克）		2 份　糧食類食品 2 份　蔬菜 ½ 份　肉類
	混合米飯	的）		
晚上零食 Evening snack	全麥麵包 1% 低脂牛奶	全麥麵包　　　½ 片（每片35克 1%低脂牛奶　1杯		½ 份　糧食類食品 1 份　奶類
一天攝入的總份數 Total food servings today				6½ 份　糧食類食品 8 份　蔬菜和水果 3 份　肉類和替代品 3 份　奶類和替代品

華人二型糖尿病菜單計劃
A Chinese Menu Plan for Type 2 Diabetes

阿爾伯塔大學
University of Alberta
PANDA (Physical Activity and Nutrition for Diabetes in Alberta)
課題組
2015年 編印

A CANADIAN DIET FOR ALL CANADIANS

ACKNOWLEDGEMENTS