



Health
Canada Santé
Canada

*Your health and
safety... our priority.*

*Votre santé et votre
sécurité... notre priorité.*

Canadian Sponsor Presentation to the Vitamin D and Calcium Study Committee

Washington, D.C.
March 26, 2009



Canada

Overview

- Population health approach
- Highlight considerations relevant to Canada:
 - Northern latitude and UV availability
 - Population characteristics
 - (ethnicity, age, Aboriginal groups, obesity)
 - Food supply
- Canadian expectations for Work of Study Committee
 - Reference values
 - Chronic disease outcomes
 - Documentation of review and public health considerations
 - Risk characterization

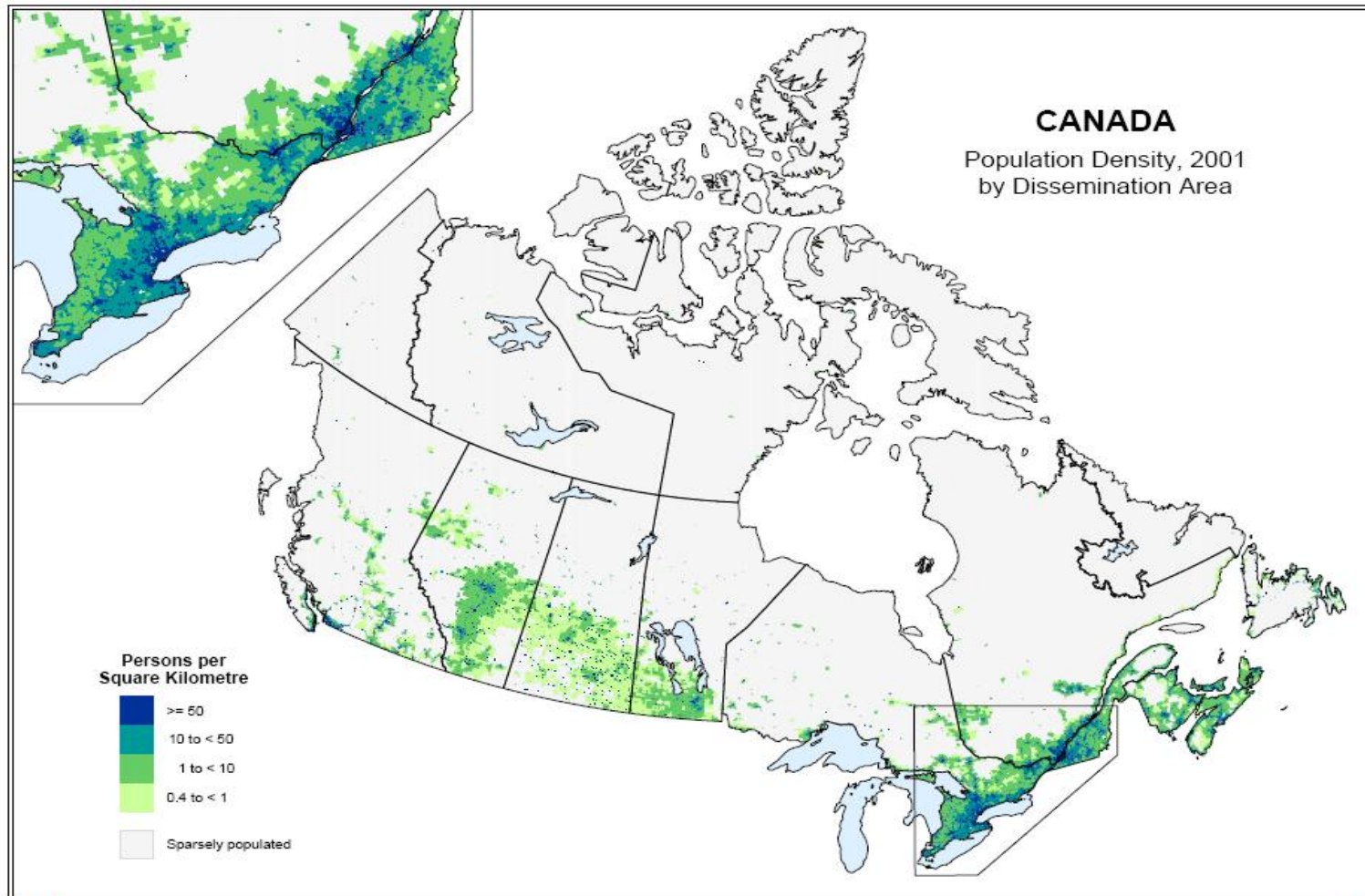


Tradition of Population Health Approach in Canada

- Action is directed at the health of an entire population, or sub-population, rather than individuals.
- Key elements include:
 - Address determinants of health
 - Collaborate across sectors and levels
 - Intervene “upstream”
- e.g. Government of Canada initiatives to reduce cardiovascular disease do not include recommendation for individual lipid profiles



Northern latitude and UV availability (1)



Source: 2001 Census of Canada. Produced by the Geography Division, Statistics Canada, 2002.

Canada



Statistics Canada / Statistique Canada



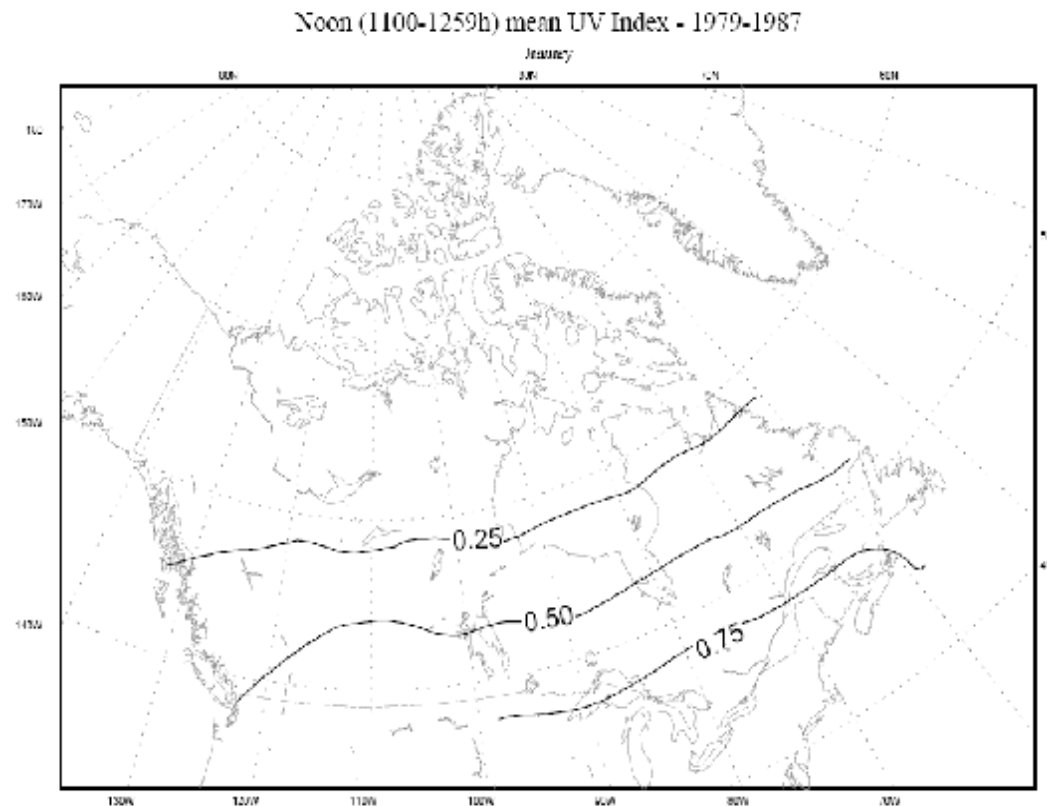
Northern latitude and UV availability (2)

Population of Canada according to latitude (Statistics Canada, 2006 Census Data)

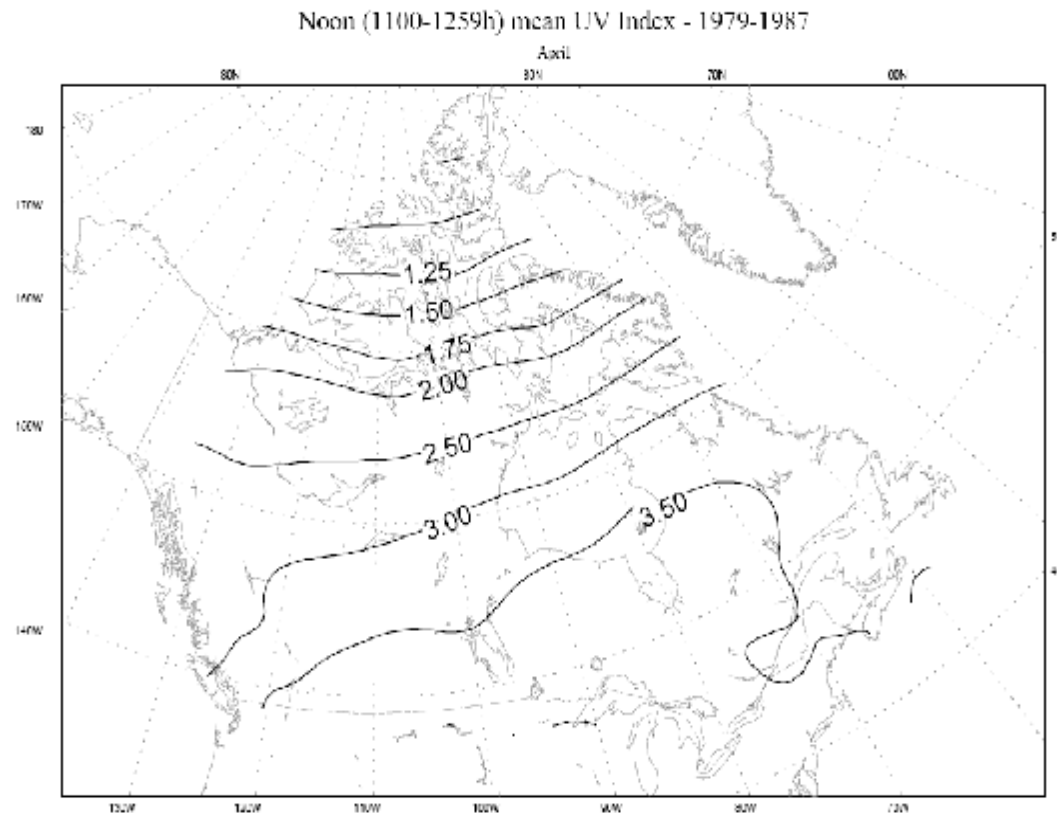
Region	Millions	Percent
All Canada	31.6	100%
Below 49° ON, QC, NB, NS, PEI, NL	22.0	69.5%
Between 49° and 60° BC, AB, SK, MB	9.5	30.0%
Above 60° YT, NWT, NU	0.1	0.5%



Northern latitude and UV availability (3): Mean UV index at noon - January

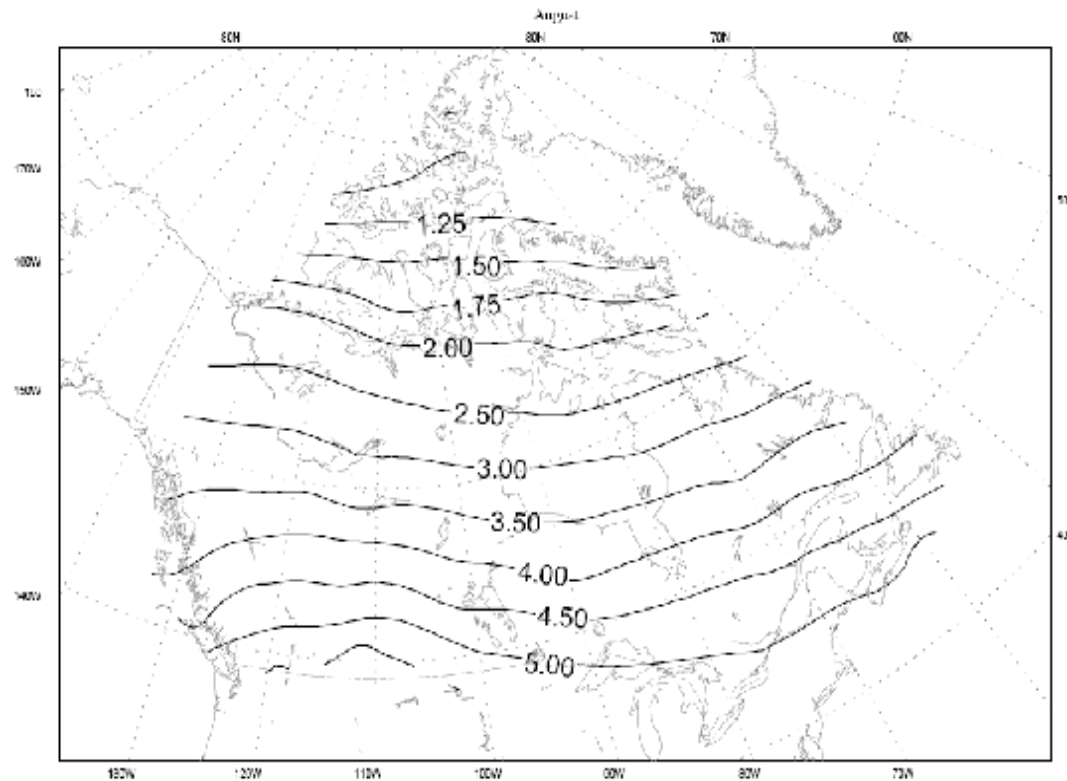


Northern latitude and UV availability (4): Mean UV index at noon - April



Northern latitude and UV availability (5): Mean UV index at noon - August

Noon (1100-1259h) mean UV Index - 1979-1987



Northern latitude and UV availability (6)

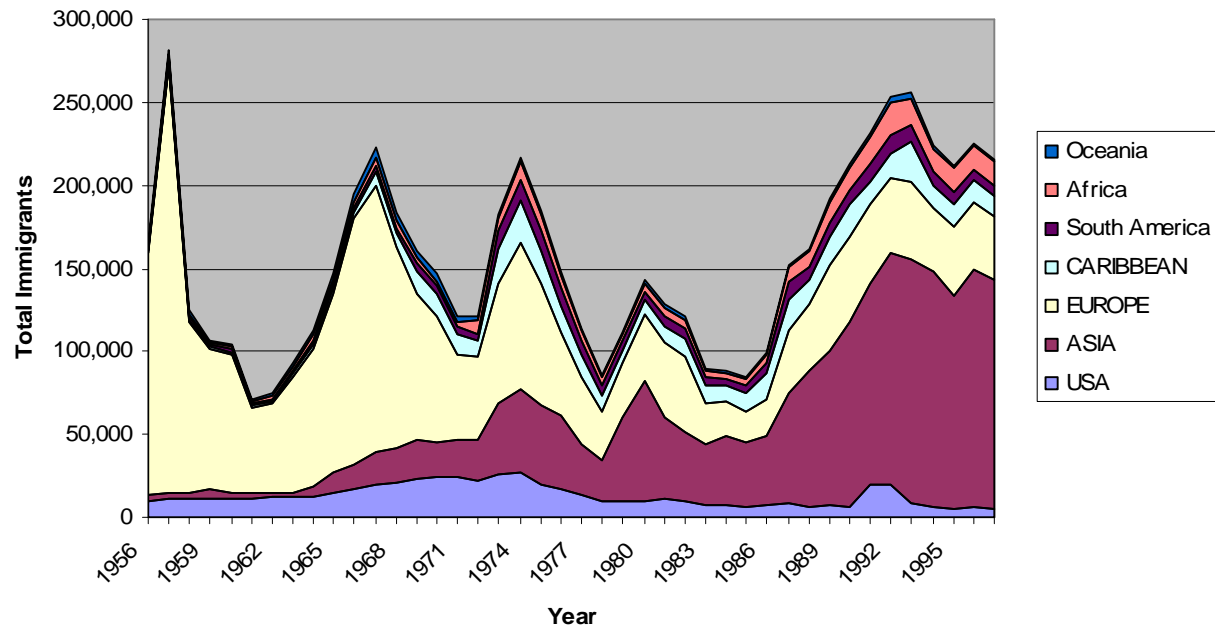
Sun protection advice from Health Canada:

- Use a broad spectrum sunscreen with an SPF of at least 15.
- If possible, avoid being in the sun between 11:00 a.m. and 4:00 p.m.
- Look for shade, stay under a tree, or use an umbrella.
- Wear sunglasses to protect your eyes. When the UV index is 3 or higher, you should also wear protective clothing and a large-brimmed hat.



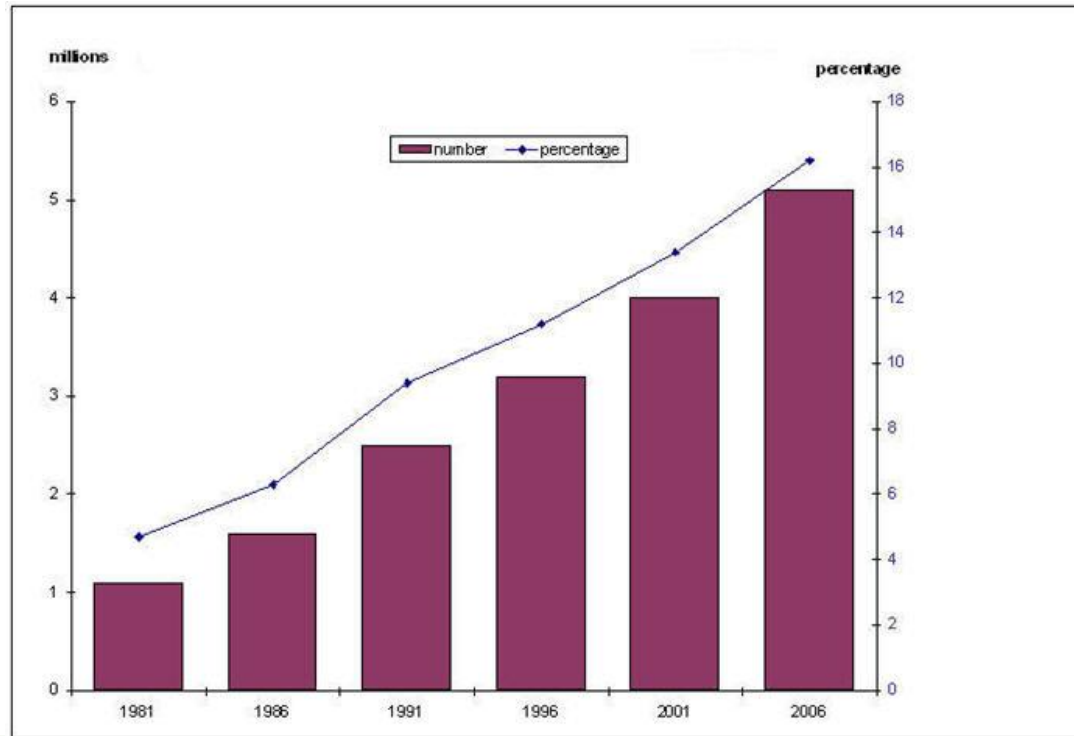
Population Characteristics - Ethnicity

Sources of Immigrants to Canada, 1957 - 1997



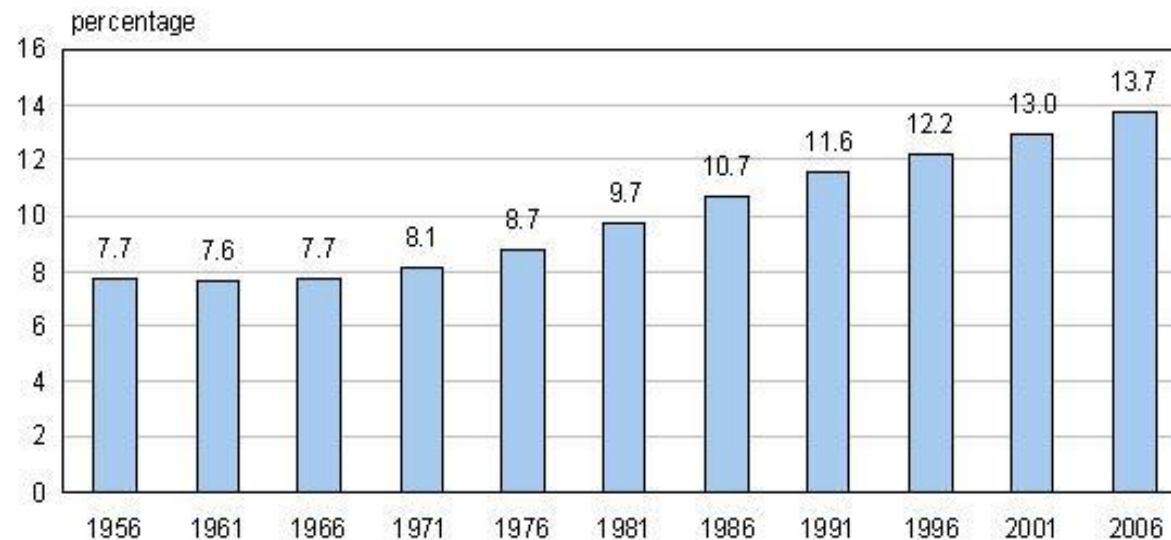
Population Characteristics - Ethnicity

Visible minority persons in Canada, 1981 to 2006



Population Characteristics - Age

Proportion of persons aged 65 years and over in the Canadian population, 1956 to 2006

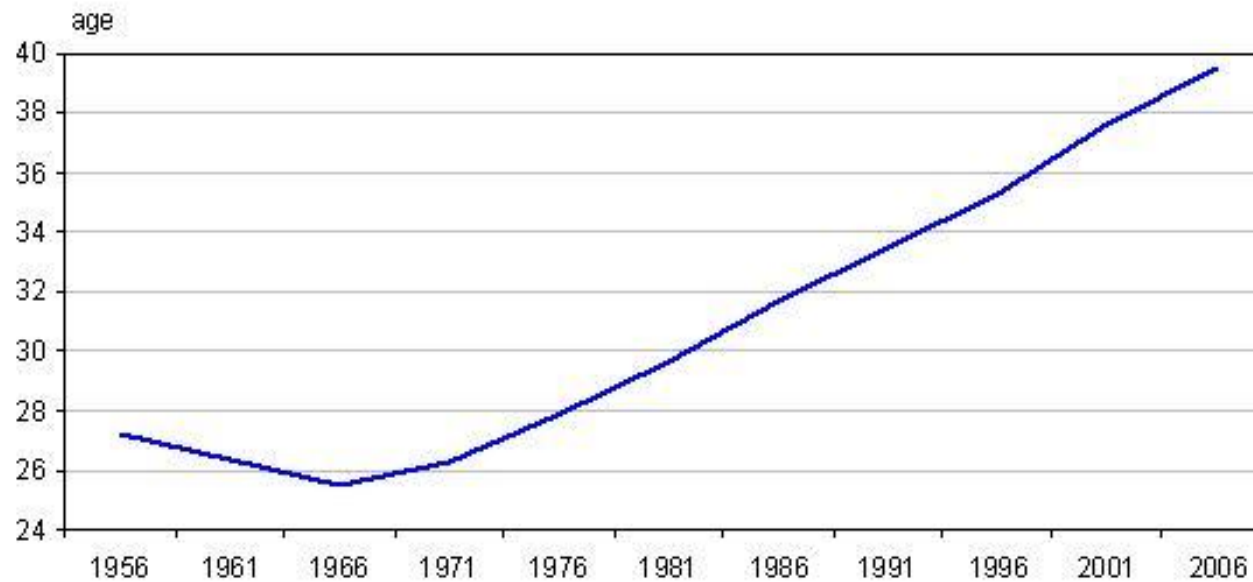


Sources: Statistics Canada, censuses of population, 1956 to 2006.



Population Characteristics - Age

Median age in Canada, 1956 to 2006



Sources: Statistics Canada, censuses of population, 1956 to 2006.



Population Characteristics – Aboriginal groups

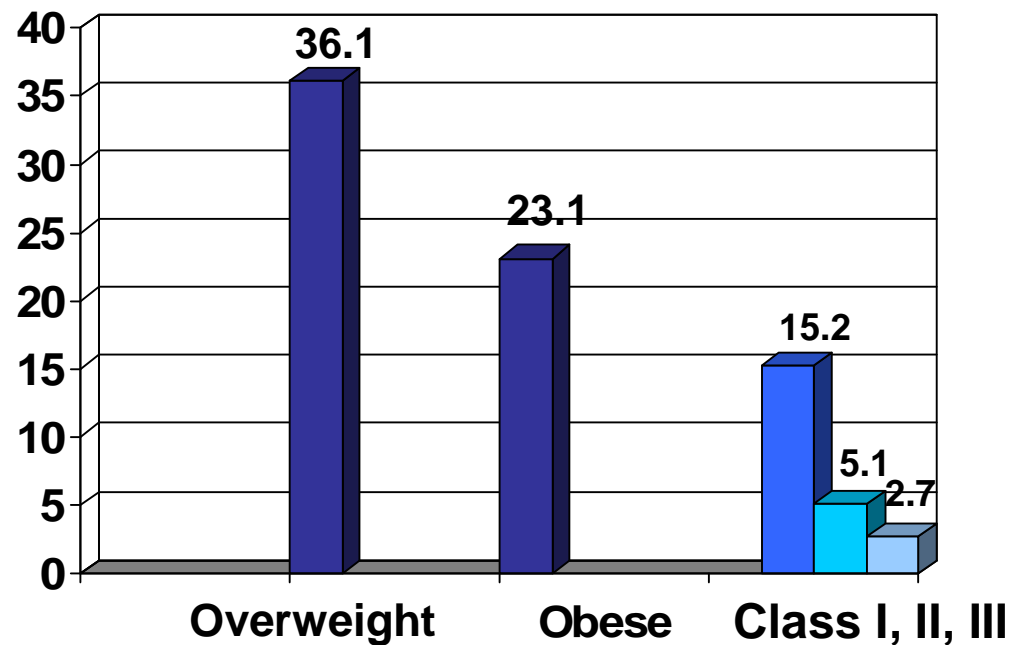
Aboriginal peoples in Canada, 2006 Census data

Total population	31,241,030
Aboriginal identity population	1,172,790 (3.8%)



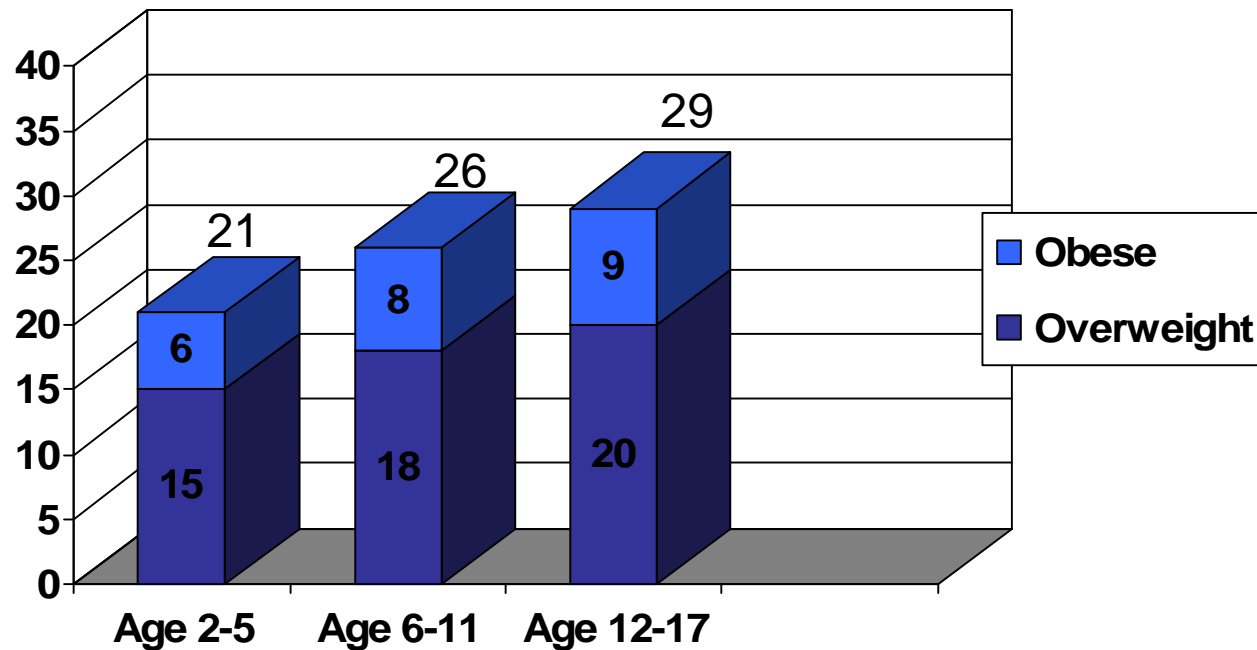
Population Characteristics – Obesity: Adults

Prevalence of adult overweight and obesity in Canada
(Statistics Canada, Canadian Community Health Survey 2004)



Population Characteristics – Obesity: Children

Prevalence of overweight and obesity in Canada, ages 2-17
(Statistics Canada, Canadian Community Health Survey 2004)



Food Supply (1)

- In Canada, food fortification is controlled under the Food and Drug Regulations
- Manufacturers may only add those vitamins and minerals and at those levels that are expressly provided for in the regulations - ie positive listing



Food Supply (2)

Vitamin D fortified foods in Canada*

Food	Serving Size	Vitamin D Content per Serving		Mandatory / Optional	Reason or Purpose
		Min - µg (IU)	Max - µg (IU)		
All cow milks (fluid, evap, dried)	250 mL	2.2 (88)	2.9 (116)	Mandatory	Fortification
Goat's milk (fluid, evaporated)	250 mL	2.2 (88)	2.9 (116)	Optional	Fortification
"Fortified" plant-based beverages	250 mL	2.2 (88)	2.9 (116)	Mandatory	Substitute
Margarine	10 g	1.3 (52)	1.8 (70)	Mandatory	Fortification
Orange juice, OJ/tangerine juice	250 mL	2.5 (100)		Optional	Special purpose food / Fortification
Some yogurts and cheeses (no prohibition from using vitamin D fortified milk in their production)					

*Most food fortification applications in Canada use vitamin D3, except plant based products



Food Supply (3)

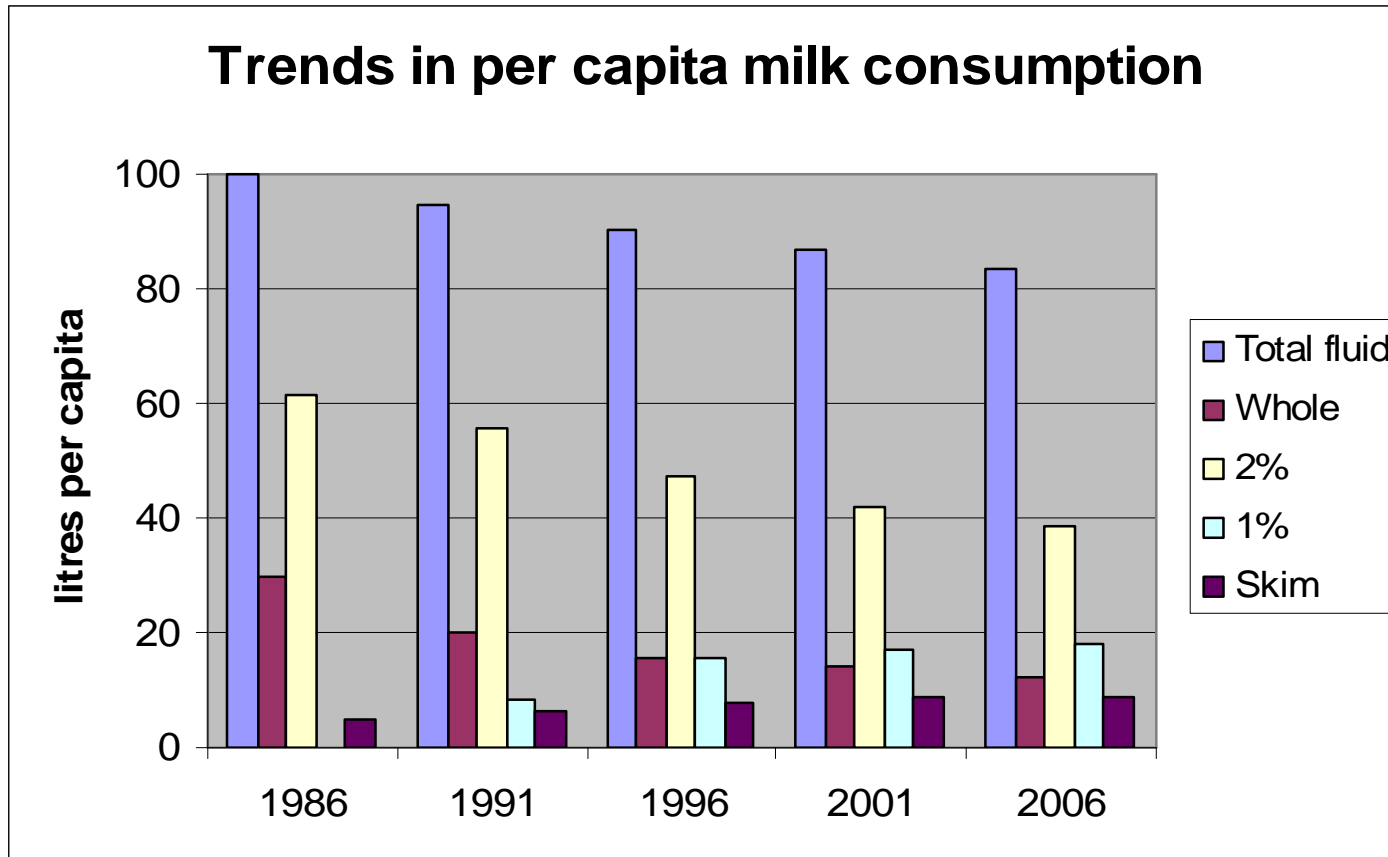
Calcium fortified foods in Canada*

Food	Serving Size or Amount	Calcium (mg/Serving)	Mandatory/Optional	Reason or Purpose
“Fortified” plant-based beverages	250 mL	310 mg	Mandatory	Substitute
Products simulating whole egg	/100g	50 mg	Mandatory	Substitute
Products resembling cheese	/g protein	30 mg	Optional	Substitute
Orange juice, OJ/tangerine juice	250 mL	310 mg	Optional	Special purpose food / Fortification
Flour, White Flour, Enriched Flour	/100g	140 mg	Optional	Fortification
Enriched (white) Bread	/100g	66 mg	Optional	Fortification
Corn meal	/100g	110 - 165 mg	Optional	Fortification

*Plus additional specific provisions for infant formulas, infant foods, formulated liquid diets, nutritional supplements and meal replacements for use in a weight reduction diets



Food Supply (4)



Expectations for Work of Study Committee (1)

Reference Values

- Importance of EAR & UL values
 - Without these, very hard to assess inadequacies/excesses in population and implement policy decisions



Government Uses of the DRIs in Canada

The DRIs underpin all nutrition programs and policies in Canada. For example:

- Risk Assessment
 - Food and nutrition surveys
 - Assessment of product safety
- Standard Setting/Planning
 - Reference values for nutrition labelling and claims
 - Fortification of foods
- Policy and Program Development
 - Canada's Food Guide



Health Canada Recommendations for Calcium & Vitamin D intakes

Follow Canada's Food Guide (2007)

► **Drink skim, 1%, or 2% milk each day.**

- Have 500 mL (2 cups) of milk every day for adequate vitamin D.
- Drink fortified soy beverages if you do not drink milk.

Men and women over 50

The need for **vitamin D** increases after the age of 50.

In addition to following *Canada's Food Guide*, everyone over the age of 50 should take a daily vitamin D supplement of 10 µg (400 IU).

Recommended Number of Food Guide Servings per Day

Age in Years	Children			Teens		Adults			
	2-3	4-8	9-13	14-18		19-50		51+	
	Sex			Females	Males	Females	Males	Females	Males
Vegetables and Fruit	4	5	6	7	8	7-8	8-10	7	7
Grain Products	3	4	6	6	7	6-7	8	6	7
Milk and Alternatives	2	2	3-4	3-4	3-4	2	2	3	3
Meat and Alternatives	1	1	1-2	2	3	2	3	2	3



Health Canada Recommendations for Calcium & Vitamin D intakes

Vitamin D Supplementation for Breastfed Infants

Recommendation:

It is recommended that all breastfed, healthy term infants in Canada receive a daily vitamin D supplement of 10 μg (400 IU).

Supplementation should begin at birth and continue until the infant's diet includes at least 10 μg (400 IU) per day of vitamin D from other dietary sources or until the breastfed infant reaches one year of age.



Expectations for Work of Study Committee (2)

Chronic Disease Outcomes

- Vitamin D has been linked to many chronic disease outcomes
- Various organizations have issued independent recommendations for vitamin D intake
 - Credibility is an issue
- Expect careful consideration of evidence on chronic disease outcomes



Expectations for Work of Study Committee (3)

Documentation of Review and Public Health Considerations

- Discuss intake-health relationships important to public health but not selected to derive reference value

Risk Characterization

- Expect all factors potentially affecting vitamin D and calcium status to be taken into account
 - Latitude, sun exposure, skin colour, obesity, etc.



Contributing Canadian Sponsors

Health Canada

- Health Products and Food Branch
 - Food Directorate
 - Office of Nutrition Policy and Promotion
 - Natural Health Products Directorate
- First Nations and Inuit Health Branch
 - Community Programs Directorate

Public Health Agency of Canada

- Health Promotion and Chronic Disease Prevention Branch
 - Centre for Chronic Disease Prevention and Control



Vitamin D fortified foods in Canada*

Food	Serving Size	Vitamin D Content per Serving		Mandatory / Optional	Reason or Purpose
		Min - µg (IU)	Max - µg (IU)		
All cow milks (fluid, evap, dried)	250 mL	2.2 (88)	2.9 (116)	Mandatory	Fortification
Goat's milk (fluid, evaporated)	250 mL	2.2 (88)	2.9 (116)	Optional	Fortification
"Fortified" plant-based beverages	250 mL	2.2 (88)	2.9 (116)	Mandatory	Substitute
Margarine	10 g	1.3 (52)	1.8 (70)	Mandatory	Fortification
Formulated liquid diets	/1000 Cal	2.5 (100)	10 (400)	Mandatory	Special Purpose Food
Meal replacements	225 Cal	1.25 (50)	2.5 (100)	Mandatory	Special Purpose Food
Nutritional supplements	/100 Cal	0.25 (10)	1 (40)	Mandatory	Special Purpose Food
Orange juice, OJ/tangerine juice	250 mL	2.5 (100)		Optional	SPF / Fortification
Yogourt (no prohibition from using vitamin D fortified milk in their production)					

*Most food fortification applications in Canada use vitamin D3, except plant based products; Additional specific provisions for infant formulas



Calcium fortified foods in Canada*

Food	Per Serving Size or amt	Calcium (mg/Serving)	Mandatory/Optional	Reason or Purpose
Flour, White Flour, Enriched Flour	/100 g	140 mg	Optional	Fortification
Enriched (white) Bread	/100 g	66 mg	Optional	Fortification
Corn meal	/100 g	110 - 165 mg	Optional	Fortification
Orange juice, OJ/tangerine juice	250 mL	310 mg	Optional	SPF/Fortification
“Fortified” plant-based beverages	250 mL	310 mg	Mandatory	Substitute
Products resembling cheese	/g protein	30 mg	Optional	Substitute
Product simulating whole egg	/100g	50 mg	Mandatory	Substitute
Meal replacements	“serving”	200 - 400 mg	Mandatory	Special Purpose Food
Nutritional Supplements	/100 Cal	100 - 175 mg	Mandatory	Special Purpose Food
Formulated liquid diets	/1000 Cal	400 mg	Mandatory	Special Purpose Food

***Plus additional specific provisions for infant formulas and infant foods.**

