

EVOLUTION OF DIETARY FAT REGULATIONS & POLICIES

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OUTLINE

- **Evolution of dietary fat regulations, policies and practices**
 - in Canada primarily, but
 - in relation to developments in US and Europe
- **Begin with historical perspective**

HISTORICAL PERSPECTIVE

- **Amount & Type of Fat & CHD – Seven Countries Study (early 1960's)**
 - **Finland – high fat - high incidence of CHD**
 - **Japan – low fat - low CHD**
 - **Crete – high fat - low CHD**
 - **Concept of Mediterranean diet**

HISTORICAL PERSPECTIVE

(cont'd)

- **Blood Chol and CHD Mortality**
 - **Related to Dietary Fat**
 - **Amt of Fat – esp. sat. (animal)**
 - **Metabol studies – Eqn's**
quantifying changes in blood chol.
with changes in dietary fat, e.g.,
Keys/Hegsted Eqn's

KEYS' EQUATION

- $\Delta \text{ Blood Chol} = 2 \times \Delta \text{ Sat Fat (in Kcal)} - 1 \times \Delta \text{ PUFA (in kcal)} + \Delta \text{ Dietary Chol (mg)}$
- SFA twice as effective in raising as PUFA are in lowering blood chol.
- MUFA considered neutral
 - ??? Mediterranean diet – Hi-oleic diet

CHOLESTEROL CONSENSUS CONFERENCES OF 1980'S

- **Gave rise to consumer interest in:**
 - **Relationship of dietary fat to disease, esp. CHD**
 - **Policies and programs to address this issue**

CANADA'S CHOLESTEROL CONSENSUS CONFERENCE

- **Broad cross-section of participants**
- **Dietary recommendations:**
 - **Red. dietary fat to 30% or less (kcal)**
 - **Red. sat. fat to 10% or less (kcal)**
 - **Limit dietary chol to 300 mg or less per day**

CHOLESTEROL CONSENSUS CONFERENCE (cont'd)

- In add'n to dietary recomm.
- *“agriculture and food industry increase effort to produce foods that enable Canadians to achieve lower blood cholesterol levels”*
- *“need for comprehensive dietary guidelines to reduce CVD risk”*

RESPONSES:

■ Food industry

- Developed low-fat foods
- Substituted PHVO for sat. fat
 - 1) deep-frying (fast food prep. & snack foods), &
 - 2) baked products

PHVO source of trans f. a.

Theory– little effect on CHD risk

TRANS FAT

- **Adverse Effect of Trans Fat –**
Mensink & Katan, NEJM 1990
– *Trans* fat incr. LDL and decr. HDL
- Early 1990's, Danish Marg. Manu.
agreed to voluntarily reduce
industrially produced *trans* fat

RESPONSES (cont'd):

- AAFC (in cooperation with livestock industry)
 - Increased efforts aimed at improved carcass lean yield – *establishment of national grading standards for cattle and hogs*

RESPONSES (cont'd):

■ AAFC (cont'd)

- Significantly increased effort to establish canola as domestic and export oil seed crop
 - initial motivation – **economic**
 - provided sign. resources for applic. by Canola Council for **GRAS status in US**

Generally Recognized as Safe (GRAS) Status

■ Importance

- Canola – new crop –GRAS necessary – export to US
- Market – canola oil
 - US fixated on sat. fat
 - Canola – **half level of sat. f.a. present in soy oil**

RESPONSES (cont'd):

■ HLTH CAN

- Intensified policies & programs aimed at chronic diseases
 - Nutr Recomm for Canadians 1990
 - Adopted recomm of Chol Consen Conf - $\leq 30\%$ total & 10% sat.
 - Included concept of importance of life-style in prevention of chronic diseases

RESPONSES – HC (cont'd):

■ Nutr Guidelines

- developed from “Nutr Recomm for Canadians”
- focus – amount & type, viz., sat. fat (animal fat)
- *choose low-fat dairy products, lean meats and foods prepared with little or no added fat*

PATTERN OF FAT INTAKE IN RESPONSE TO RECOM'S

- In spite of concerted efforts (HC, NGO's, food com. [low-fat & fat-free altern's] **apparent fat intake increased apprec. during 1990's (approx. 15 g/per/d)**)
- Mainly due to incr. in consump. of salad oils (**approx. 12.5 g/per**)

RESPONSE IN PATTERN OF FAT INTAKE (cont'd)

- Change - complex issue
 - Decrease in whole milk consump. partially off-set by increase in consump. of 1% & skim milk
 - Compromised by **6-fold incr. (0.35 to 2.10 l/per/yr)** in consumption of table cream

TABLE CREAM

- Increased consumption of table cream has been attributed in part to the success of Second Cup and Starbucks (**i.e., the marked incr. in coffee consumption over past decade**)

RESPONSES – HC (cont'd):

- **Nutr Labelling & Nutr Claims**
 - Introduced in 1988 – 5 y in making
 - System was voluntary
 - Canada much slower than US implementing mandatory labelling
 - **1994 vs. 2005**

NUTRIENT CONTENT CLAIMS

■ More restrictive than US

- Could claim *“food good source of fibre”* or *“low in saturated fat”*
- But could not make health claim implied relationship (as in US)
e.g., *“healthy diet low in saturated fat reduces risk of heart disease”*

TRANS FAT LABELLING

- **Mandatory labelling of trans fat in Canada and US**
 - introduced at essentially same time (**Dec '05 & Jan '06, resp.**)
- **Denmark passed legisl'n in '04**
 - limiting level of industrially produced trans in foods to **2% of total fat**

TRANS FAT (cont'd)

■ Trans Fat Task Force

- Formed early in 2005 – Opposition motion - Nov 2004
- Report tabled June '06 – Min of Hlth
 - Recommended Canada legislate maximum trans level (2% & 5%)
- **Min. Hlth accepted report - Jun 2007**
 - **did not implement recommendations**

RESPONSE BY INDUSTRY TO MANDATORY LABELLING & TRANS FAT TASK FORCE

- Switched to hi-oleic canola & mid-oleic sunflower for deep-frying
- Margarines – non-hydrogen. (trans free)
- **Challenge - baked products**
 - Choice is either **PHVO** or **Sat. Fat**

SUMMARY & CONCLUSIONS

- **Regulations & policies governing dietary fat have evolved over 25-30 yr period**
- **Process accelerated by Cholesterol Consensus Conferences**
- **AAFC, HC, Fd Ind & NGO's (e.g., HSF) willingly joined & supported process**

SUMMARY & CONCLUSIONS

(cont'd)

- **Common goals but little evidence of coordinated efforts**
 - **Agriculture , Health & Food Industry**
- **Evolution often painfully slow**
 - **e.g., adverse effect of trans fat first reported in 1990**

SUMMARY & CONCLUSIONS

(cont'd)

- **CHD - multi-factorial disease**
 - regulations & policies focused primarily on blood chol.
- **Regulations & policies**
 - aimed at total population