

Environmental contaminants

– natural and social science interaction is needed as basis for better policy

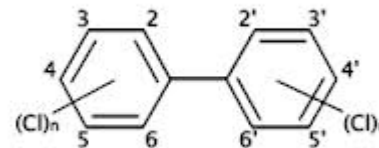
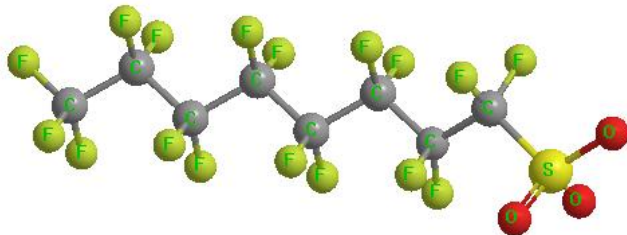
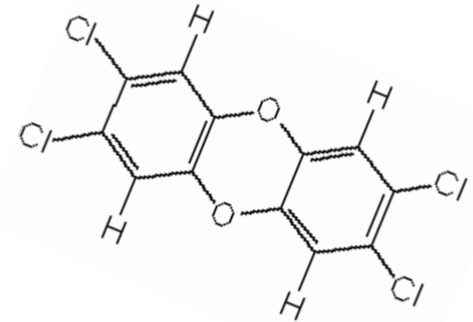
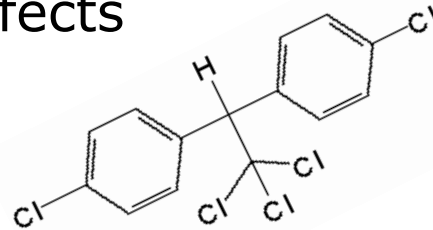
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Environmental contaminants

One or more of:

- Toxic or other adverse effects in low concentrations
- Bioaccumulate
- Persistent
- Usually man-made or released by man



Hg

Ag

Sources and fate



What are the effects?

What are the effects?



Minamata disease, 1950s ->

Photo: Eugene Smith

What are the effects?



Viktor Yushchenko before (L) dioxin poisoning and after (R)

What are the effects?



What are the effects?

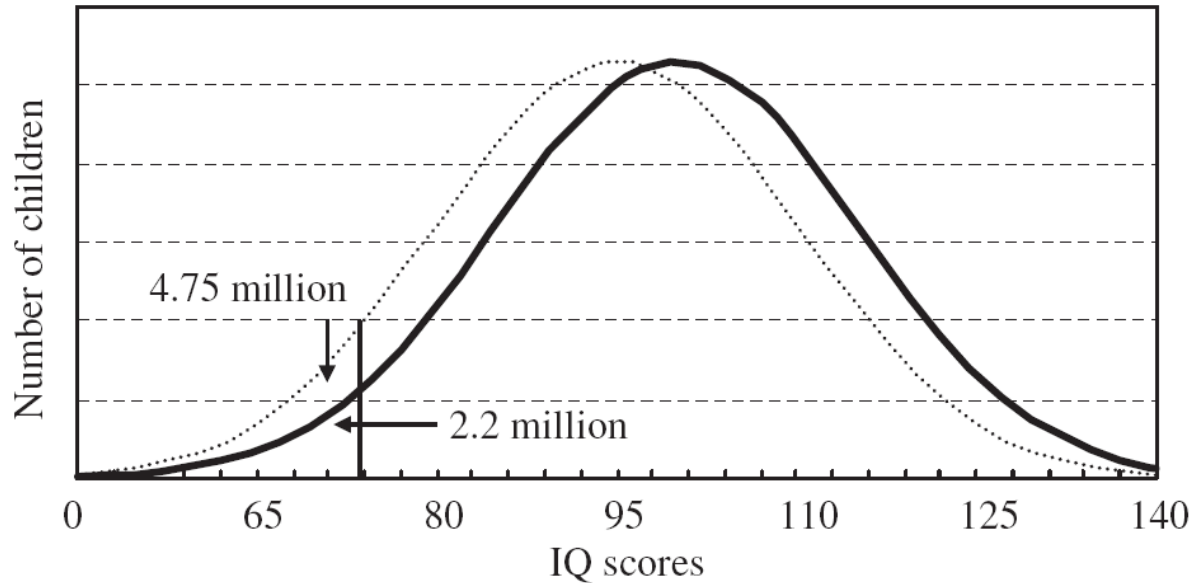


Fig. 2. Effect of 5-point drop in IQ on the number of children with IQs below 70 (an increase from 2.2 million children to 4.75 million children).

PSYCHOLOGICAL SCIENCE IN THE PUBLIC INTEREST

Neurotoxicants, Micronutrients, and Social Environments

Individual and Combined Effects on Children's
Development

Laura Hubbs-Tait,¹ Jack R. Nation,² Nancy E. Krebs,³ and David C. Bellinger⁴

What are the effects?

And that's it??

Policies and measures...

- Reduce releases
- Reduce exposure
- Laws
- Regulations
- Intl conventions
- Remediation
- Emission control technologies

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Media

Store mengder miljøgifter

Slår alarm om giftig fisk i Mjøsa



GIFTIG: Ifølge forskere er mjøsfisken full av miljøgifter. Foreløpig er det ikke kjent hvilke skader dette kan påføre mennesker og miljø.

FOTO: REMI LAAKSO

Norsk institutt for vannforskning har funnet betydelige mengder siloksaner i Mjøsa. Dette er en relativt ny type miljøgift som blant annet brukes i kosmetikkindustrien.

Fish consumption advisories due to contaminants

- Avoid (too much of) certain types and sizes of fish
 - large piscivorous fish may contain high concentrations



Fish consumption advisories due to contaminants

- But eat more of others!



Fish consumption advisories due to contaminants

- Dilemma:
“When healthy food becomes contaminated”

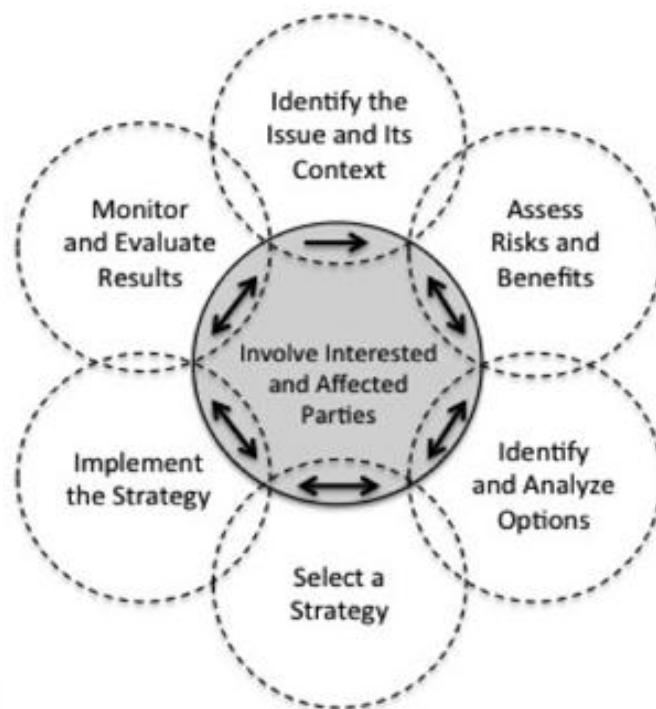


Risk communication – early experiences

Northern Quebec Inuit communities



Health Canada's modern risk management framework













Зелёный цвет Потребление не ограничено	<i>Нерпа</i> 	<i>Лахтак</i> 	<i>Морж</i> 	<i>Кит</i> 	<i>Олень</i> 	
	Мясо	Мясо	Мясо	Мясо	Мясо	
	Жир	Жир	Жир	Жир	Жир	
	Печень	Печень	Печень	Печень	Печень	
Жёлтый цвет Потребление лучше сократить до 300-400 г/сутки	Почки	Почки	Почки	Почки	Почки	
	Розовый цвет Потребление лучше сократить до 100 г/сутки	<i>Заяц</i> 	<i>Рыба лососевая</i> 	<i>Рыба морская</i> 	<i>Утки уся</i> 	<i>Тунбровые птицы</i> 
		Мясо	Мясо	Мясо	Мясо	Мясо
		Жир	Жир	Жир	Жир	Жир
Печень		Печень	Печень	Печень	Печень	
Красный цвет Этот продукт лучше заменить другой пищей	Почки					

Figure 9-2. Visual presentation of advice concerning consumption of traditional foods in the Far North of Russia. Source: Dudarev and Sychov (2005a). *Нерпа* – ringed seal; *Лахтак* – bearded seal; *Морж* – walrus; *Кит* – whale; *Олень* – reindeer; *Заяц* – hare; *Рыба лососевая* – salmonoids; *Рыба морская* – marine fish; *Утки уся* – ducks and geese; *Тунбровые птицы* – tundra birds; *Мясо* – meat; *Жир* – fat; *Печень* – liver; *Почки* – kidney. Green: consumption unlimited; Yellow: recommended to limit consumption to 300-400 g/day; Pink: recommended to limit consumption to 100 g/day; Red: recommended to replace with alternative food.

When developing policy and risk management approaches

- Balance negative and positive factors
 - including social and cultural ones
- People rank risks differently from experts
- Understand variables that are correlated with consumption patterns
 - e.g. education, income, and gender
 - used them in risk communication
- The Canadian example emphasizes the need to be sensitive to sociocultural factors when providing advices.
- Information and communication is crucial to keep people informed

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Mjøsa:

- Only 2% say they eat fish from Mjøsa
- 80% say they would if no contaminants

Mackøl og måsegg skiller lag

Miljøgiften PCB er i ferd med å skille et av de sikreste nordnorske vårtegn og afrodisium, Mackøl og måsegg.

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