

Helhedssyn Risk-Benefit Et Globalt perspektiv

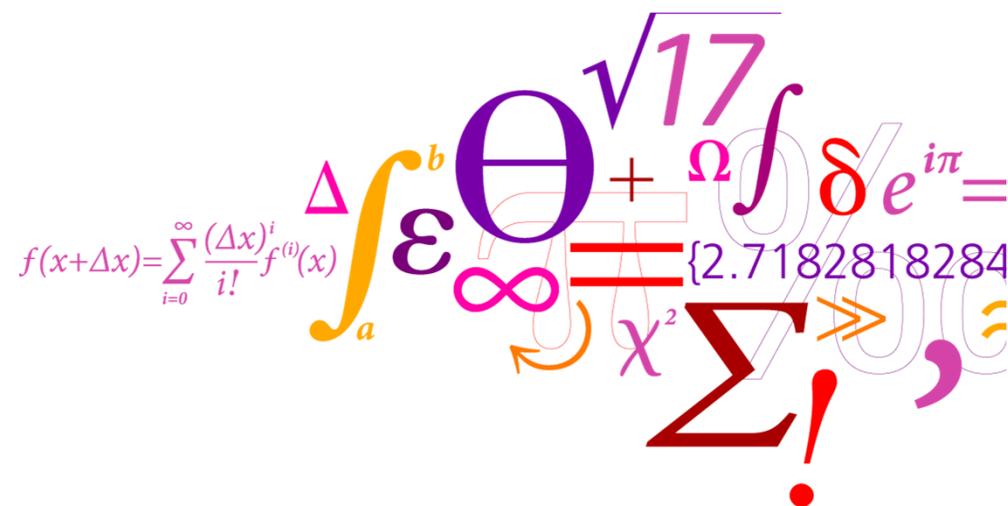
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Helhedssyn?

Er det et godt udtryk?

Nok ikke!

Helhedssyn bliver ofte brugt inden for miljø området

- typisk for at angive fuldvurdering over tid
- samt henover forskellige sektorer

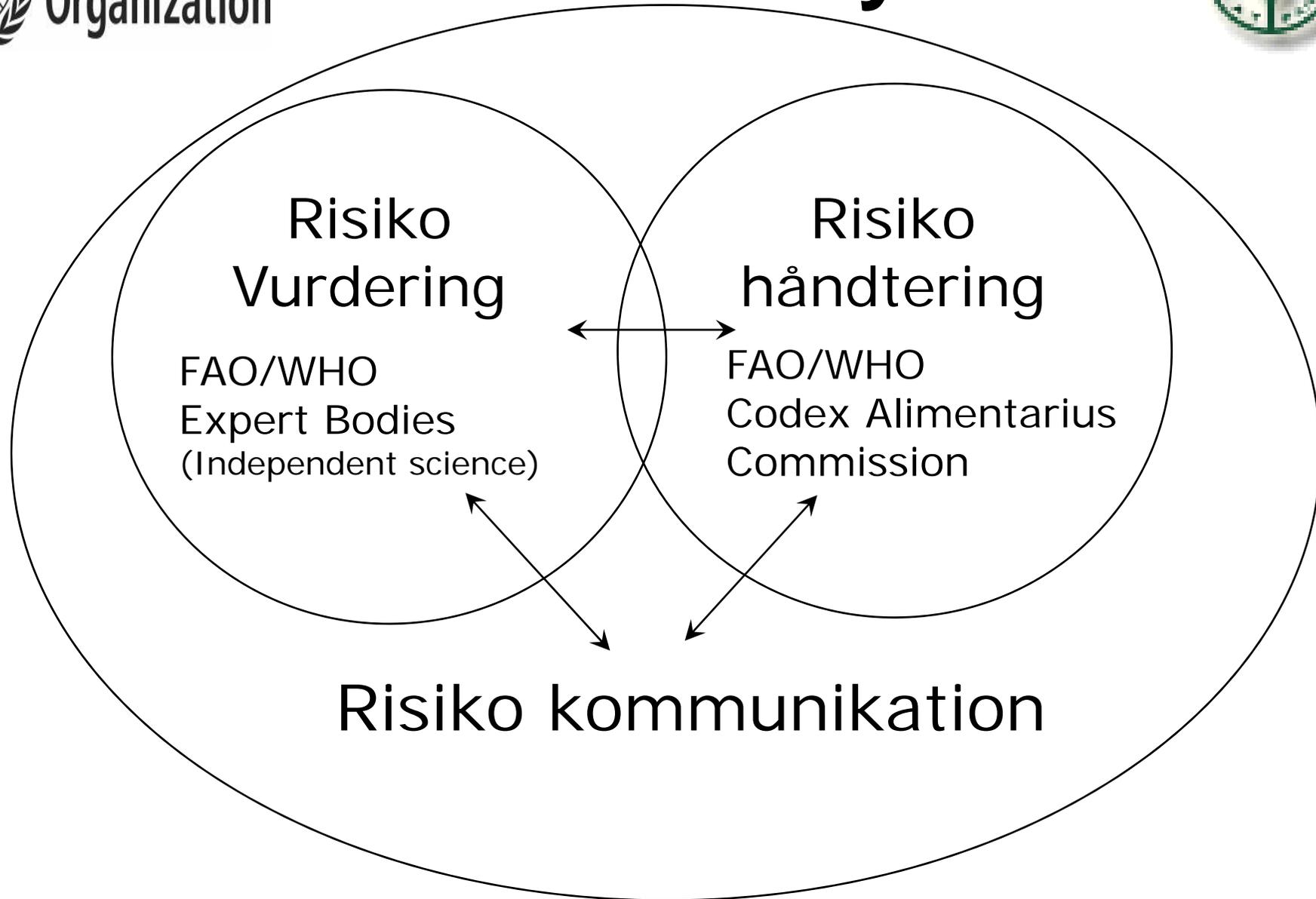
Men alligevel !!

Ny retninger I fødevareresikkerhed:

Risiko baserede interventioner – ikke hazard

- A) Link sygdom og fødevarer
- B) Overvej hele kæden (jord-til-bord)
- C) Definer intervention and monitorer effekt

Risiko Analyse

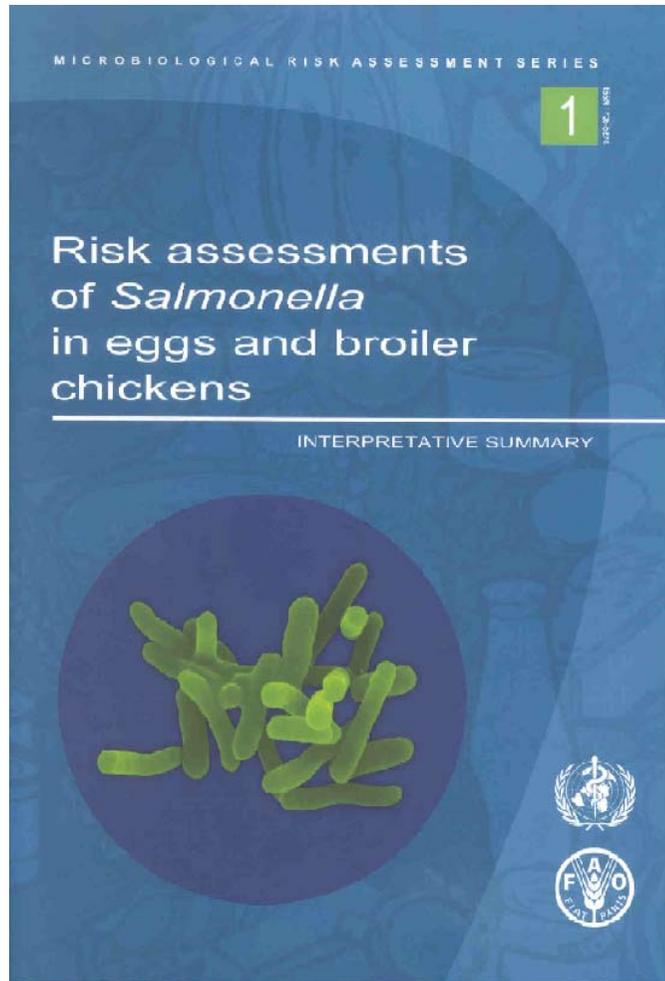


Ny retninger I fødevarer sikkerhed:

Risiko baserede interventioner – (ikke hazard)

- A) Vurder risiko (eksisterende paradigme)
- B) Overvej hele kæden (jord-til-bord)
- C) Definer intervention and monitorer effekt

Risikovurdering



Risikohåndtering



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codex alimentarius commission

 **FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS** **WORLD HEALTH ORGANIZATION** 

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Agenda Item 10 (c) **CX/FH 04/10-Add.3**
December 2003

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD HYGIENE

Thirty-sixth Session
Washington DC, United States of America, 29 March – 3 April 2004

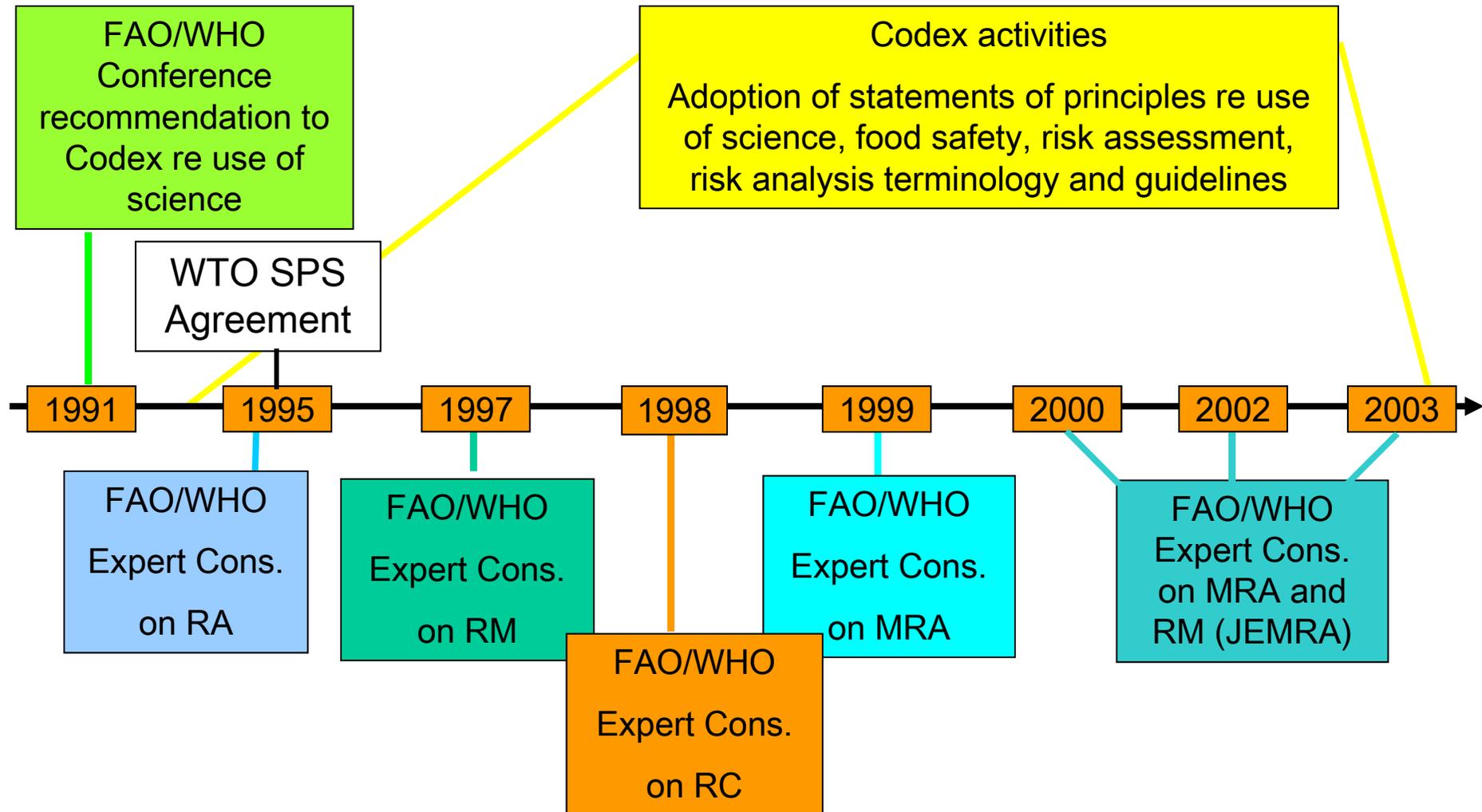
DISCUSSION PAPER ON RISK MANAGEMENT STRATEGIES FOR *SALMONELLA* SPP. IN POULTRY

Prepared by Sweden with the assistance of Australia, Brazil, Canada, China, Czech Republic, Denmark, France, Germany, Netherlands, New Zealand, Thailand, USA, the European Commission and ALA

BACKGROUND

At its 34th session in Bangkok, the Codex Committee on Food Hygiene was informed about the outcome of the FAO/WHO expert consultations on risk assessment on *Listeria* and *Salmonella*. It was noted that there was a need to develop a discussion paper on Risk Management Strategies for *Salmonella* spp. in broilers based upon the risk assessment document (FAO Food and Nutrition Paper 72). The committee agreed that a drafting group, led by Sweden should develop a discussion paper to be considered at its next Session. The drafting group met in Uppsala, Sweden, the 25-26th of February 2002.

Risk analysis – developments at international level (1)



Ny retninger i fødevareresikkerhed:

Vurder både Risiko og Benefit

- 1) Vurdér Risiko (eksisterende paradigme)
- 2) Vurdér Benefit (paradigme ikke udviklet)
- 3) Kombiner - Kommunikér

Og hvorfor er danske aktiviteter interessante?



Fordi man i DK har masser af erfaring med typisk risikovurdering

Fordi vi i DK har mulighed for at påvirke et nyt paradigme

Fordi vi i DK er eksperter i cross-sectoral arbejde

Helhedssyn?

Et af de første eksempler internationalt er:

Vurdering af et kemisk stof anvendt til at minimere
mikrobiologisk risiko:

(Altså en risiko-risiko vurdering)

Benefits and Risks of the Use of Chlorine-containing Disinfectants in Food Production and Food Processing

Report of a Joint FAO/WHO Expert Meeting Ann Arbor, MI, USA, 27–30 May 2008

The expert meeting considered all available data related to the benefits and risks for human health of the use of disinfection processes in the food industry, with emphasis on chlorine-compounds for disinfection of food and food contact surfaces.

The main goals of the meeting were to consider the risk of chemical residues in food products following disinfection in food production versus the benefit of lowering the risk of microbial hazards.

Benefits and Risks of the Use of Chlorine-containing Disinfectants in Food Production and Food Processing

Report of a Joint FAO/WHO Expert Meeting Ann Arbor, MI, USA, 27–30 May 2008

Risk-benefit assessment integrates the results of two separate activities: risk assessment and benefit assessment, which can be done in a qualitative or quantitative way.

Due to lack of data the meeting developed a stepwise approach to risk-benefit assessment of chlorine containing disinfectants to allow for a systematic comparison in a qualitative manner.

Benefits and Risks of the Use of Chlorine-containing Disinfectants in Food Production and Food Processing

Report of a Joint FAO/WHO Expert Meeting Ann Arbor, MI, USA, 27–30 May 2008

The meeting categorized the use scenarios per food commodity in one of the following four categories:

1. No health concern identified, nor benefits identified
2. No health concern identified, but benefits identified
3. Health concern identified, no benefits identified
4. Health concern identified, and benefits identified

The meeting identified several disinfectant use scenarios where there were no health concerns identified but for which there was a benefit.

Only use scenarios with both health concerns and benefits were considered to need further evaluation.

However, the meeting did not identify use scenarios which were of this type.

Helhedssyn?

Den første egentlige risk-benefit vurdering :

Negative impact of chemical contamination of fish

assessed against

Beneficial effect of fish consumption

Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption

Executive Summary 25-29 Jan 2010, Rome, Italy



The task was to review data on nutrient and specific chemical (MeHg and DLCs (Dioxin-like PCB's)) contaminant levels in a range of fish species, as well as recent scientific literature covering the risks and benefits of fish consumption.

The review was used to consider risk-benefit assessments for specific end-points of benefits and risks, including for sensitive groups of the population.

Among the general adult population, consumption of fish lowers the risk of Coronary Heart Disease (CHD) mortality.

Potential cancer risks of DLCs are well below established CHD benefits.

Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption

Executive Summary 25-29 Jan 2010, Rome, Italy



When considering benefits of PUFA vs. risks of MeHg among women of childbearing age:

maternal fish consumption lowers the risk of suboptimal neurodevelopment in their offspring compared to women not eating fish

At levels of maternal DLC intake (from fish and other dietary sources) that do not exceed the provisional tolerable monthly intake (PTMI)
neurodevelopmental risk is negligible.

At levels of maternal DLC intake (from fish and other dietary sources) that exceed the PTMI:
neurodevelopmental risk may no longer be negligible.

Fish Intake, Contaminants, and Human Health

Evaluating the Risks and the Benefits



D. Mozaffarian; E.B. Rimm, JAMA 2006, 296

Cancer risks and CHD benefits were evaluated in a quantitative risk-benefit analysis,

assuming regular farmed or wild salmon intake to provide 1000 mg/d of EPA (eicosapentaenoic acid) and DHA over a 70-year lifetime.

Per 100 000 individuals,

consumption of farmed vs wild salmon would result in

24 vs 8 excess cancer deaths, respectively,

while consumption of either farmed or wild salmon would result in:

7125 fewer CHD deaths.

Fish Intake, Contaminants, and Human Health

Evaluating the Risks and the Benefits



D. Mozaffarian; E.B. Rimm, JAMA 2006, 296

Age-specific estimates, based on allocation of lifetime cancer risks by age-specific cancer mortality and 25% reduction in age-specific CHD mortality:

For all ages evaluated (25-34 to >85 years)

CHD benefits outweighed cancer risks

by 100- to 370-fold for farmed salmon

and by 300- to more than 1000-fold for wild salmon.

Fish Intake, Contaminants, and Human Health

Evaluating the Risks and the Benefits



D. Mozaffarian; E.B. Rimm, JAMA 2006, 296

Conclusions:

Potential risks of fish intake must be considered in the context of potential benefits.

Based on strength of evidence and potential magnitudes of effect, the benefits of modest fish consumption (1-2 servings/wk) outweigh the risks among adults and, excepting a few selected fish species, among women of childbearing age.

Avoidance of modest fish consumption due to confusion regarding risks and benefits could result in thousands of excess CHD deaths annually and suboptimal neurodevelopmental in children

Cohen et al. (2005)

A Quantitative Risk–Benefit Analysis of Changes in Population Fish Consumption

Health effects considered:

- MeHg exposure and cognitive development,
- DHA (docosahexaenoic acid – polyunsat.) intake and cognitive development,
- Fish consumption and stroke risk,
- Fish consumption and CHD (Coronary heart disease) mortality risk

In order to make the disparate health impacts comparable, the common metric used to characterize outcome was:

QALY (Quality Adjusted Life Year): 1 year of life spent in perfect health

Reverse of DALY (Disability Adjusted Life Year): 1 year of projected life lost.

Look in: Cost Effectiveness Analysis in Health: A practical Approach by Peter Muennig (2007)

Cohen et al. (2005)

A Quantitative Risk–Benefit Analysis of Changes in Population Fish Consumption

Substitution of fish with high MeHg concentrations with fish containing less MeHg among women of childbearing age yields substantial developmental benefits and few negative impacts.

If women decrease general fish consumption, countervailing risks substantially reduce net benefits.

If other adults (mistakenly and inappropriately) also reduce their fish consumption, the net public health impact is negative.

Cohen et al. (2005)

Although high compliance with recommended fish consumption patterns can improve public health, unintended shifts in consumption can lead to public health losses.

Risk managers should investigate and carefully consider how populations will respond to interventions, how those responses will influence nutrient intake and contaminant exposure, and how these changes will affect aggregate public health.

Critique (Ed Groth, previously Consumers International)

The pivotal assumptions made by Cohen et al. were,

first, that all pregnant women (in their Scenario 2), and,

second, that the entire U.S. adult population (in Scenario 3),

would reduce their fish consumption by 17%,
because of misunderstandings about mercury advisories.

These assumptions based on a study by Oken et al. but the latter study offers tenuous support at best for such severe, worst-case assumptions.