

Evaluating nutrition science

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The New Zealand Herald • Wednesday, August 18, 2010

Dark chocolate the key to her heart

Eating small amounts of chocolate can help protect women from heart failure, a study has suggested.

The study is the latest to point to benefits from the sweet snack.

But consuming chocolate every day seemed to eliminate its benefits. In a nine-year study, conducted among 31,823 Swedish women, researchers looked at the relationship between the amount of high-quality dark chocolate eaten and the risk of heart failure.

The researchers found that women who ate an average of one to two servings of the high-quality chocolate a week had a 32 per cent lower risk of developing heart fail-

ure. Those who had one to three servings a month had a 26 per cent lower risk, but those who ate at least one serving daily or more didn't appear to benefit from a protective effect against heart failure.

Lead researcher Dr Murray Mittleman said the lack of a protective effect among women eating chocolate every day was probably the result of the extra calories gained from eating chocolate instead of more nutritious foods.

Dr Mittleman, director of the Cardiovascular Epidemiology Research Unit at Harvard Medical School's Beth Israel Deaconess Medical Centre in Boston, said:

"You can't ignore that chocolate is a relatively calorie-dense food and large amounts of habitual consumption is going to raise your risks for weight gain. But dark chocolate is probably a good treat ... in moderation."

High concentration of "flavonoids" in chocolate may lower blood pressure, among other benefits. This is the first study to show long-term outcomes related specifically to heart failure, which can result from high blood pressure.

The study was reported in *Circulation: Heart Failure*, an American Heart Association journal.

— Telegraph Group Ltd

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The major threats to the validity of health sciences

- Random error
- Confounding
- Measurement error
- Vested interests
- Opinion

Random error

The sum of all probabilities equals one. So given enough opportunities miracles will happen

Almost 2,000 articles published in Medline per day
more than one per minute!

THE DIET DELUSION

GARY TAUBES

'...a devastating case against the low-fat, high-carb way of life endorsed by so many nutrition experts in recent years'
Barbara Ehrenreich

640 pages of cherry picking individual studies!



THE
DIET
DELUSION

GARY TAUBES

'...a devastating case against the low-fat, high-carb way of life endorsed by so many nutrition experts in recent years'
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'The book first addresses the hypothesis that it is the high-fat diet in the modern world that has led to the rise in heart disease, obesity and diabetes. It covers the research in this respect at great length and highlights the failings and weaknesses of the case that controlling cholesterol (or other measures of fat in the blood) through a low-fat diet is the sole answer to heart-disease.'

A partial solution: Systematic Reviews

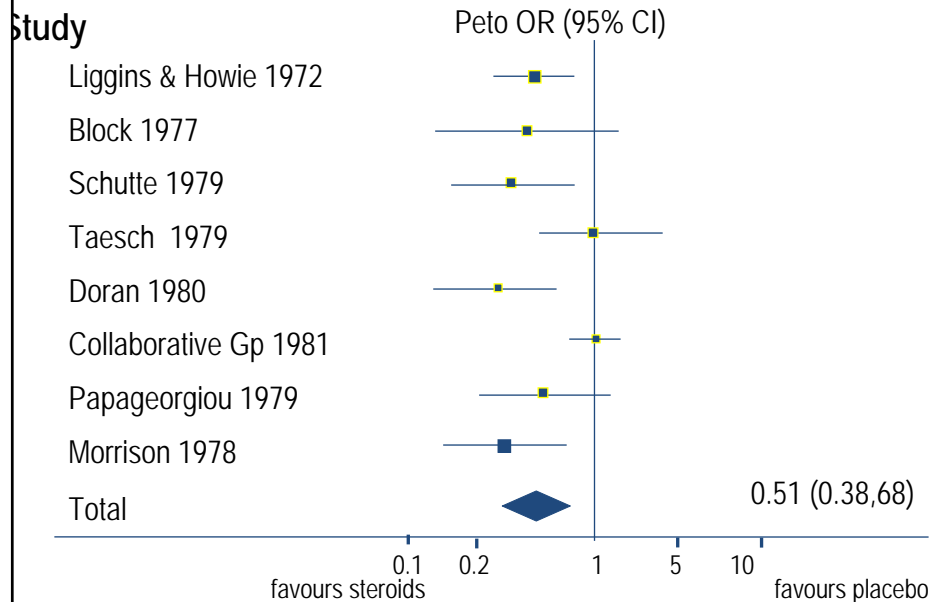
In the 19th century we made great advances in health through the provision of clean, clear water; in the 21st century we will make the same advances through clean, clear *(systematically reviewed)* information.

Muir Gray

Systematic reviews are one of the greatest ideas of modern thought. They should be celebrated.

Ben Goldacre

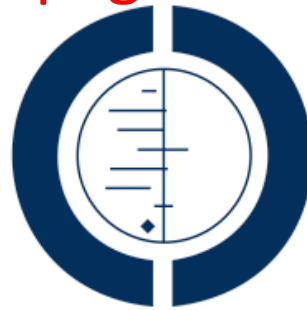
Systematic Review & Meta-Analysis of preterm corticosteroids & neonatal deaths 1982



Antioxidant supplements for prevention of mortality in healthy participants and patients with various diseases (Review)

Bjelakovic G, Nikolova D, Gluud LL, Simonetti RG, Gluud C

12 pages of text!



**THE COCHRANE
COLLABORATION®**

Confounding

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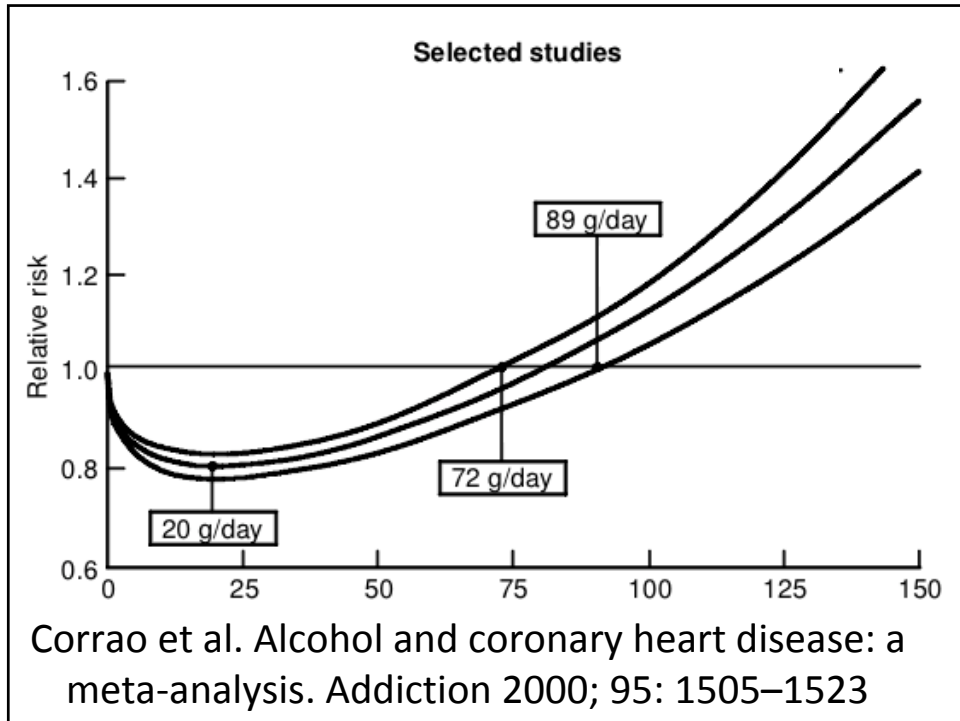
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Confounding

Moderate people do most things in moderation:

like taking vitamins, eating chocolate, drinking alcohol, exercising, and not smoking



Randomised controlled trials are the only study design that can **eliminate** confounding



RCTs in nutrition

Aside from supplements in tablet (or equivalent) form , long-term high quality RCTs of nutritional interventions in large numbers of people are impossible to maintain



Antioxidant supplements for prevention of mortality in healthy participants and patients with various diseases (Review)

Bjelakovic G, Nikolova D, Glud LL, Simonetti RG, Glud C



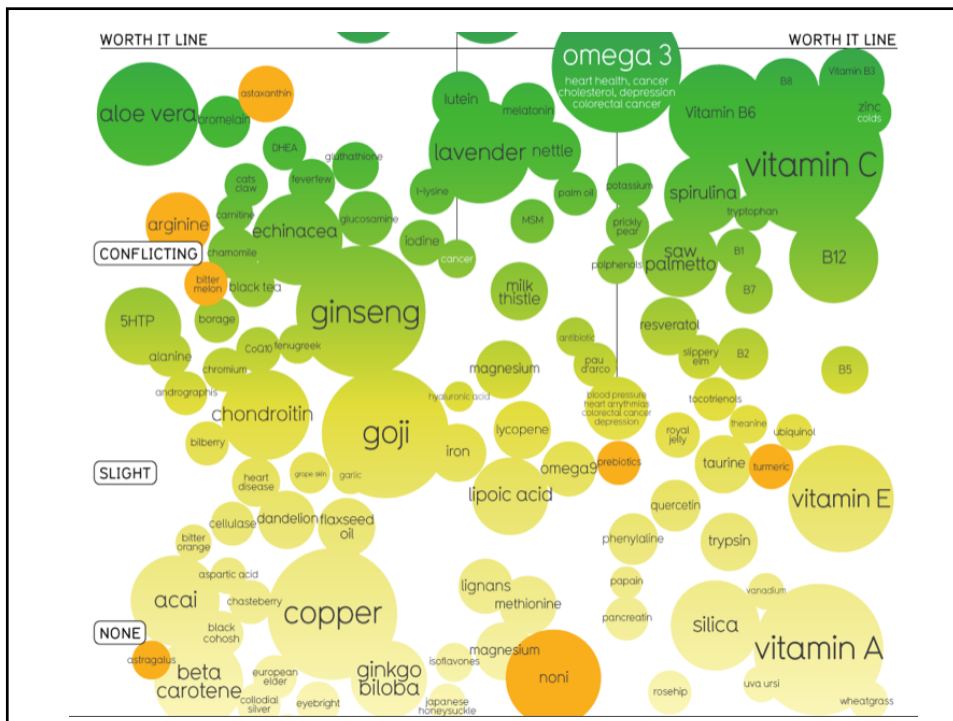
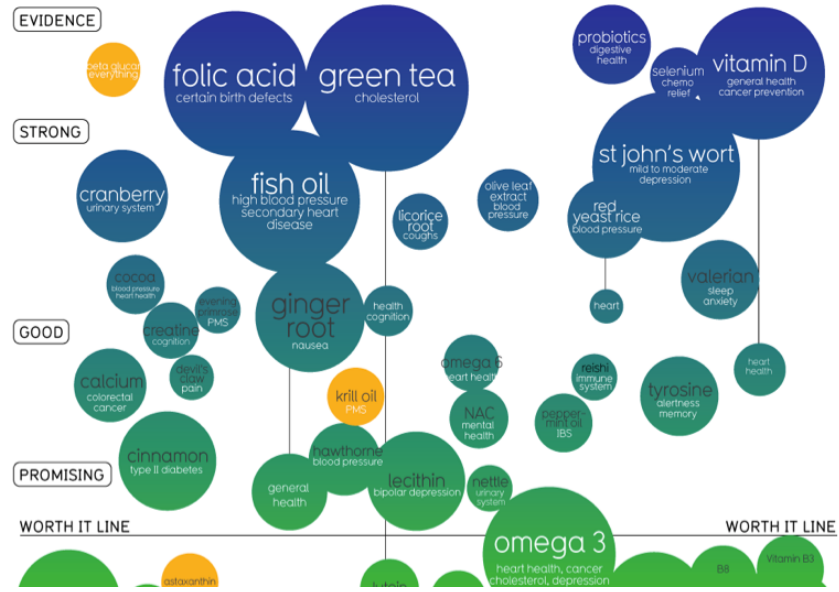
A systematic review of RCTs ✓

Snake Oil?

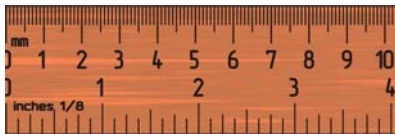
Scientific evidence for popular dietary supplements
Showing tangible health benefits when taken orally by an adult with a healthy diet

Popularity
(google hits)

One to watch
(low evidence, promising results)



Measurement error



There is often more variation **within** the diet of one individual day-to-day than there is **between** individuals in the same population

And it is extremely difficult to accurately measure an individual's diet

(& we eat foods not nutrients)

Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease

Patty W Siri-Tarino, Qi Sun, Frank B Hu, and Ronald M Krauss

Conclusions: A meta-analysis of prospective epidemiologic studies showed that there is no significant evidence for concluding that dietary saturated fat is associated with an increased risk of CHD or CVD. More data are needed to elucidate whether CVD risks are likely to be influenced by the specific nutrients used to replace saturated fat.

Am J Clin Nutr 2010;91:535–46.

Dietary Fat and Coronary Heart Disease: Summary of Evidence from Prospective Cohort and Randomised Controlled Trials

C. Murray Skeaff and Jody Miller

The evidence from cohort studies and RCTs is unsatisfactory and too unreliable to make judgement about and substantiate the effects of dietary fat on risk of CHD. The null results of the observational studies of dietary lipids and CHD do not negate the importance of the underlying associations, but reflect the combined effects of limitations of dietary assessment methods, inadequate numbers of participants studied and the prolonged follow-up of individuals. .. and confounding

Ann NutrMetab 2009;55:173–201.

What do you do when there is measurement error & no good RCTs?

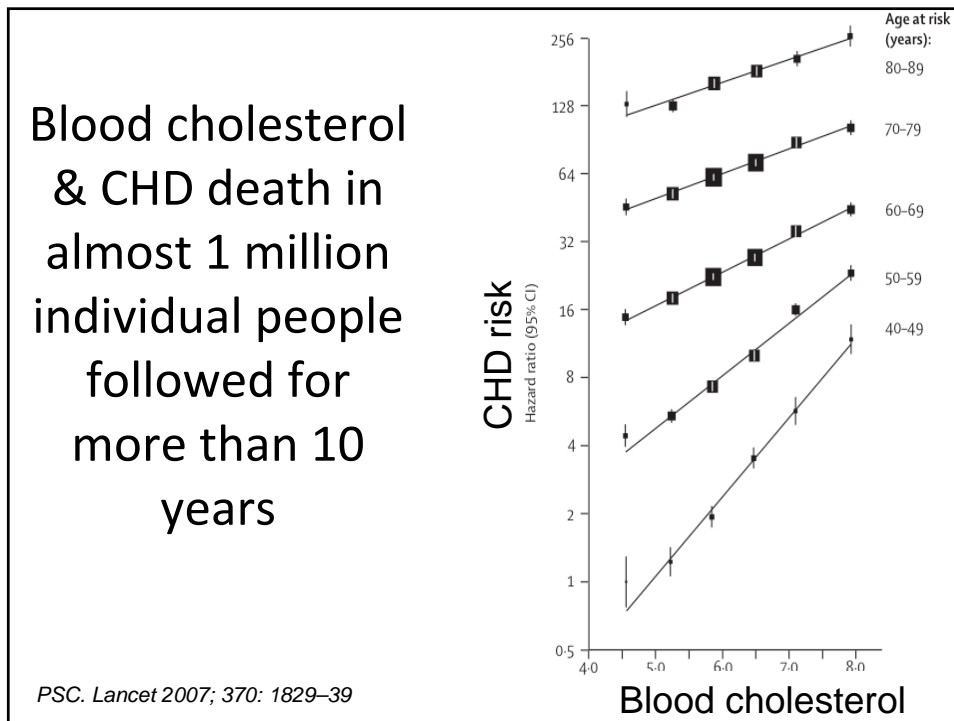
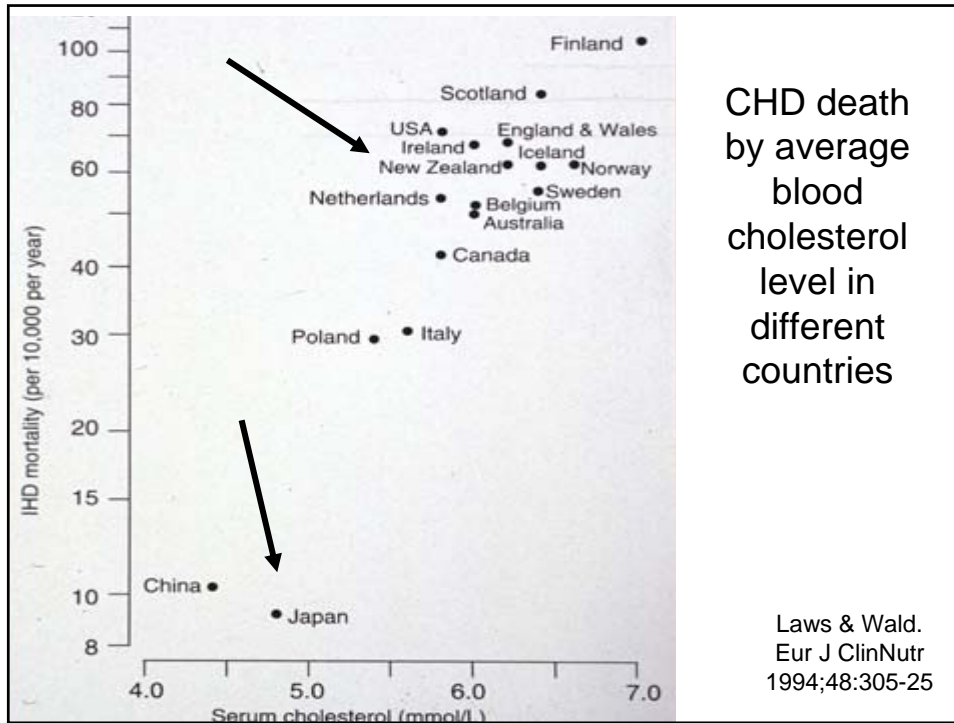
Coherence of evidence



Medical Student Pub crawl

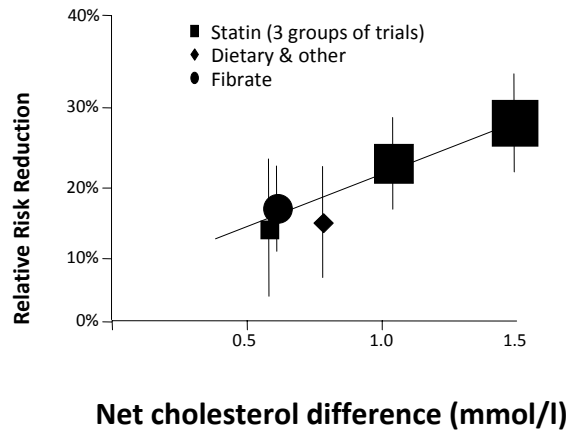
Dietary Sat Fat and blood cholesterol

- Multiple metabolic ward studies have consistently demonstrated that the SF content of food is directly and causally related to blood cholesterol levels

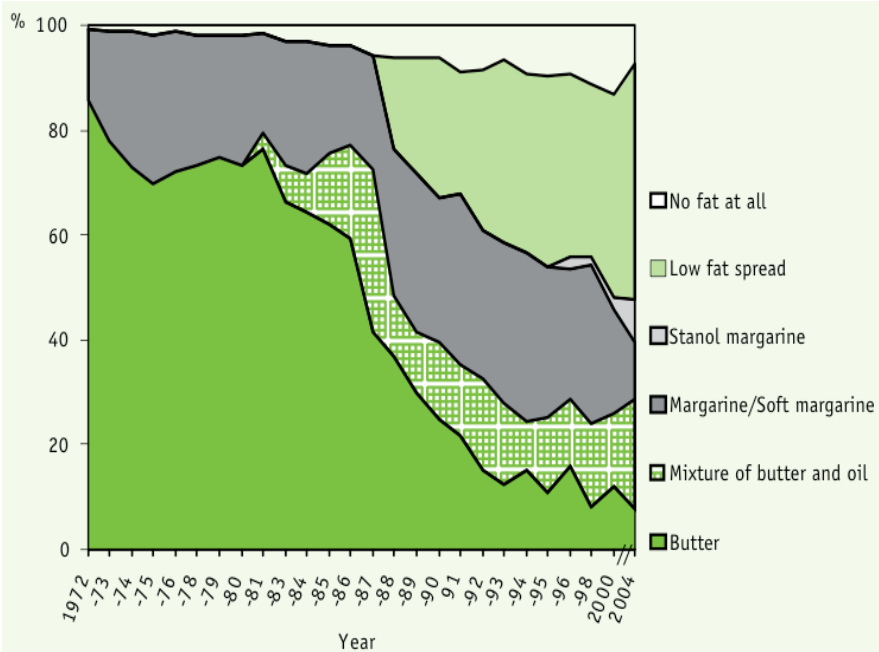


Cholesterol lowering and CHD reduction in all RCTs

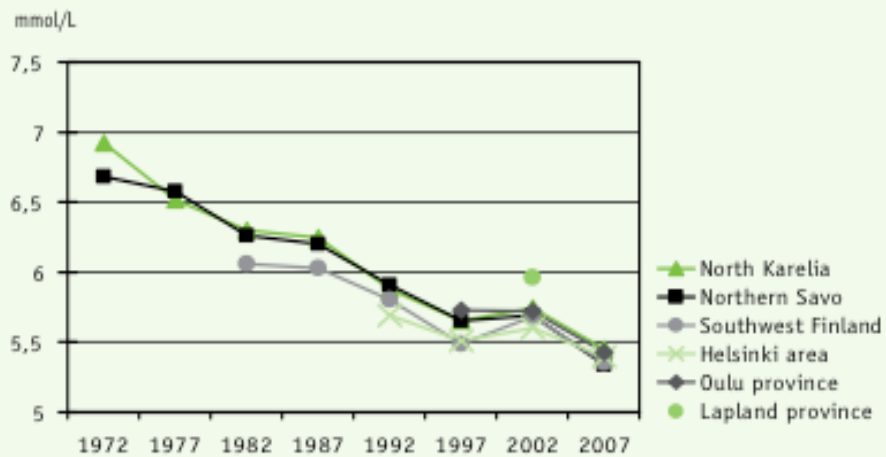
Slope of the line for RCTs is almost exactly the same slope as predicted by cohort studies



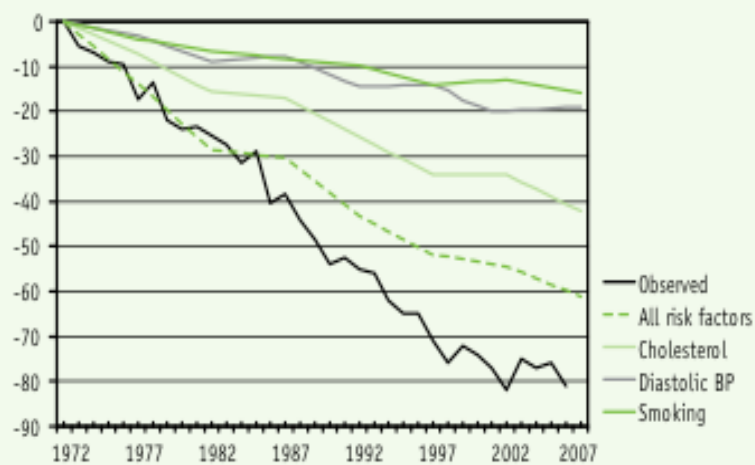
Bread spread in men in N Karelia, Finland 1972-2004



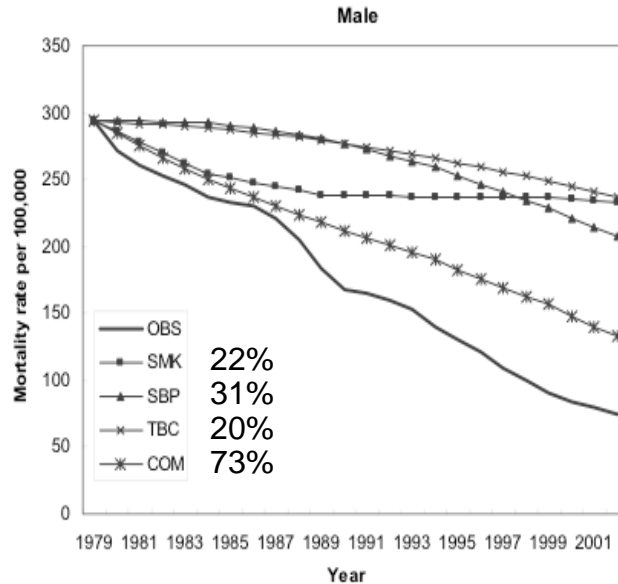
Blood cholesterol in men in N Karelia, Finland 1972-2004



Observed versus predicted decline in CHD in men in N Karelia, Finland 1972-2004



Estimated contribution of risk factor changes to CHD trends,
New Zealand: 1980-2004; standardised for age (35-64 years)



Opinion

Twins celebrate century of sisterhood

Siblings put lifetime of good health down to natural vigour and 'wholesome' food

By Michael Dickson

Identical twins Alison and Audrey were born 100 years ago, the day before the world's first automated washing machine was patented.

Alison was first out of the womb — though Audrey claims there was pushing.

Audrey lost the first tooth; Alison was the first to walk.

A century of experiences later, Alison Hunt and Audrey Duthie, now 98, celebrate their hundredth birthday this week.

"I don't feel any different. Except I don't like all the fuss," said Mrs Hunt from a rest home in Auckland. "It isn't as if I'm important, there's been plenty of people who have been 100."

Both women are still alert and healthy as they head towards their second century, just hard of hearing and less mobile.

They also look incredibly youthful for their age — something Mrs Hunt puts down to plenty of "good soap and water, none of this fancy stuff".

"I think people put too much stuff on their face (these days) and it's a costly thing too."

Mrs Duthie, in Whakatane, could not believe so much time had passed.

"I don't know where it's gone," she said.

The twins were born on August 8, 1910, the year Jack Lovelock was born. Marie Curie published her treatise on radioactivity and United States inventor Alva Fisher patented the "Thor" —

the world's first electric washing machine.

For 25 years — including World War I — the sisters lived together in Palmerston North, doing everything together and eventually both working as government shorthand-typists.

"We were always together, until I got married at 25," Mrs Hunt said. "We walked to work and again at lunchtime. We always did a lot of walking."

The sisters have always been quick and active doers. "When we were born, our English doctor said he had never seen babies with so much vitality," Mrs Duthie said.

Mrs Hunt, who lived on her own and continued to drive until she was 86, now lives at Aria Park Retirement Village in Epsom. Mrs Duthie is at Mary Shapley Village in Whakatane.

They remain in constant contact. "We both write letters every week and I ring her up and she

rings me," said Mrs Hunt.

However, a trip to celebrate this week was a bit much and after a discussion, their families decided to have two celebrations in different places — but the possibility of a Skype computer link is being investigated.

When the Herald visited this week, Mrs Duthie was sitting by a window in her small room, her hair done just that morning and her toenails being pampered by staff.

"I don't like curtains over a window, I like looking at everything beautiful," she said.

A secret to long life was eating wholesome food — like fat, she said.

"I like fat. There's no fat on the blessed meat now. And butter. Everyone used to say, 'Look, the butcher eat's his ham!' I'd leave tooth marks in the butter."

Otherwise, she said, it was being grateful for the blessings of good health and appreciating things of beauty.

Everyone is an expert



NEWS

The New Zealand Her...



Audrey
Duthie



Alison
Hunt



Audrey &
Alison aged
two and
a half



Audrey &
Alison aged
15 or 16

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