

Preventive Health Checks and Screening for Diabetes. Interventions in General Practice.

Transferable to Arctic Health?



Ebeltoft
Health Promotion
Project



University Medical Center
Utrecht





The Ebeltoft Health Promotion Project



A 5-year randomized, controlled trial with 1500 people age 30 to 50 years

1. A control group
2. An intervention group having health checks and either
 - A planned 45 min. long health conversation with their general practitioner or
 - A normal consultation on demand



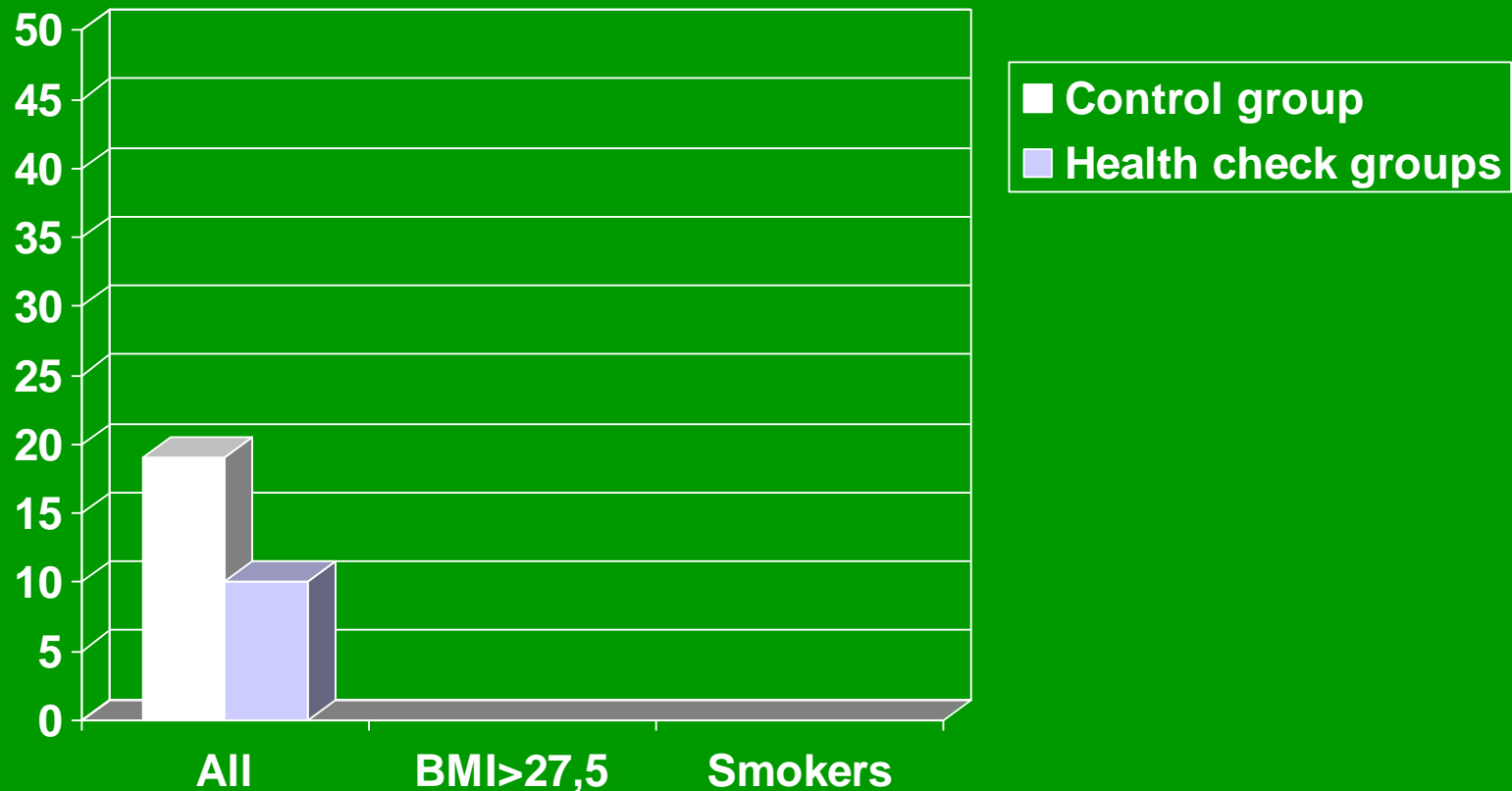
Lauritzen T, 08.11.2010

Inst. for Public Health, Dep. of General Practice, Aarhus University, Denmark



The Ebeltoft Health Promotion Project

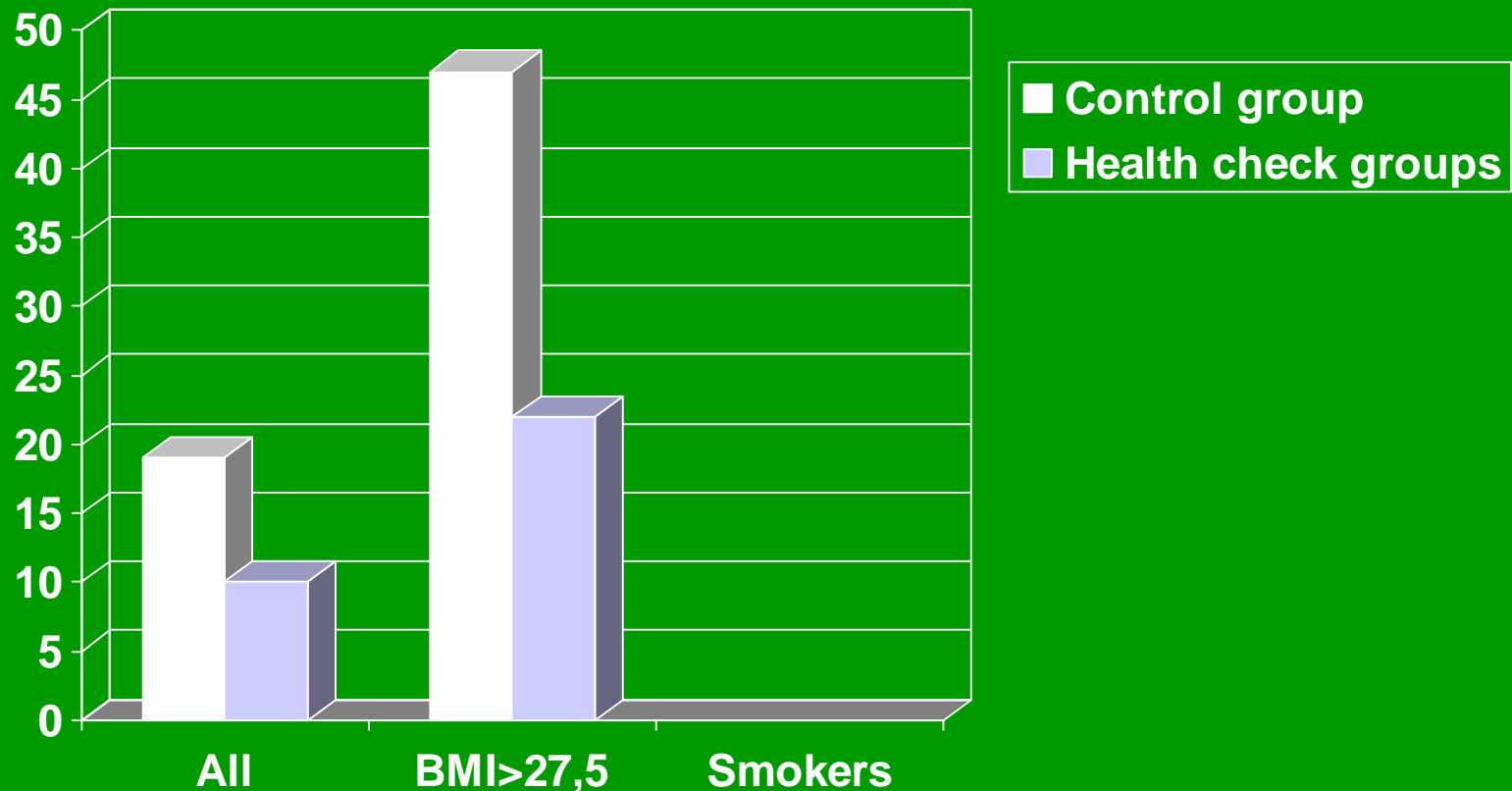
Percent with moderate to high risk of CVD at 5 years





The Ebeltoft Health Promotion Project

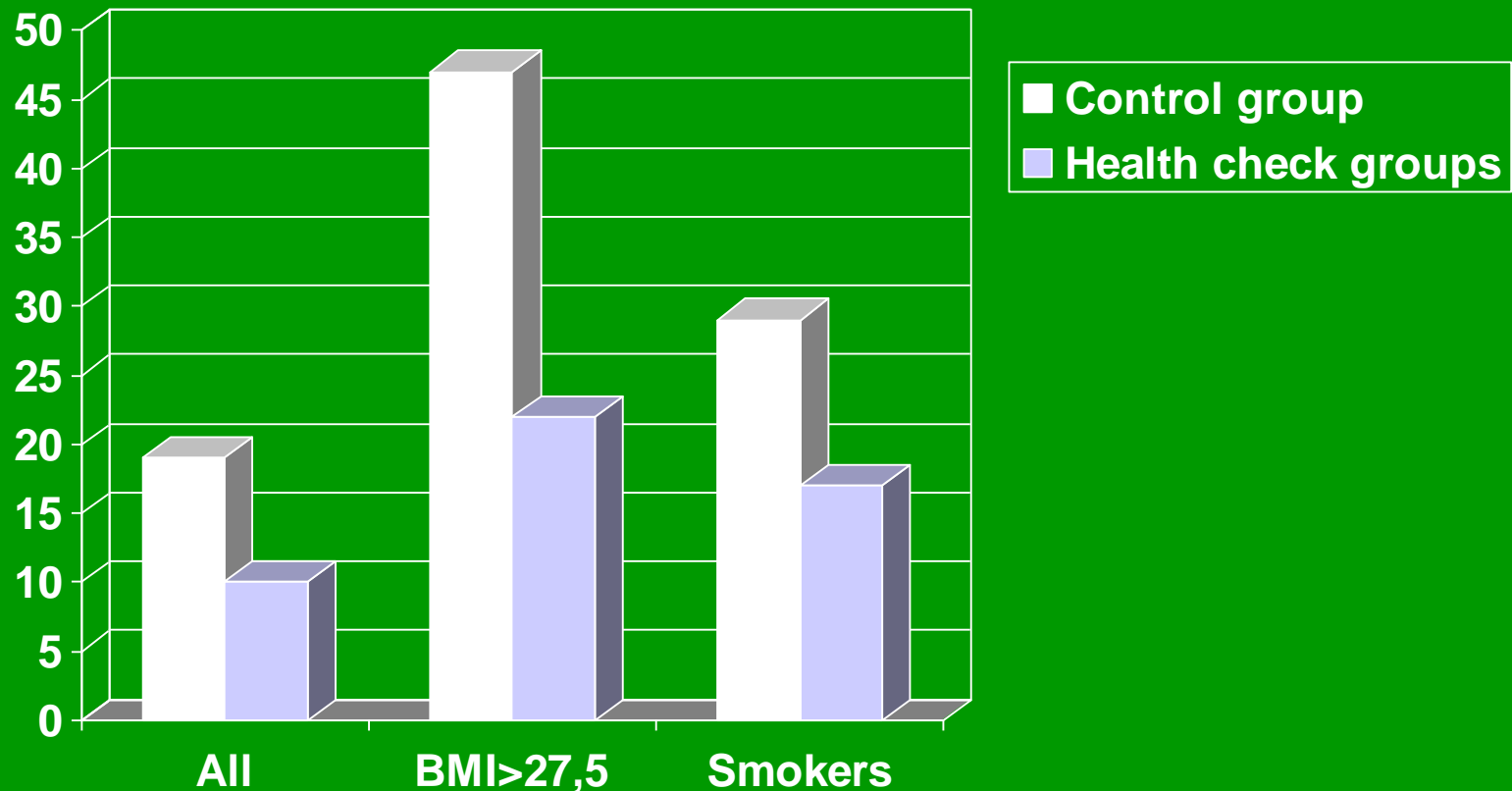
Percent with moderate to high risk of CVD at 5 years





The Ebeltoft Health Promotion Project

Percent with moderate to high risk of CVD at 5 years





Conclusion

- Big interest for participation (85% in 5 years)
- Many were at risk
- The number at moderate to high risk of CVD-risk was reduced to approximately 50%
- No measurable psychological side effect
- No increase in health care utilization
- Increase in estimated life-time without extra cost

www.sundhedsprojekt-ebeltoft.dk



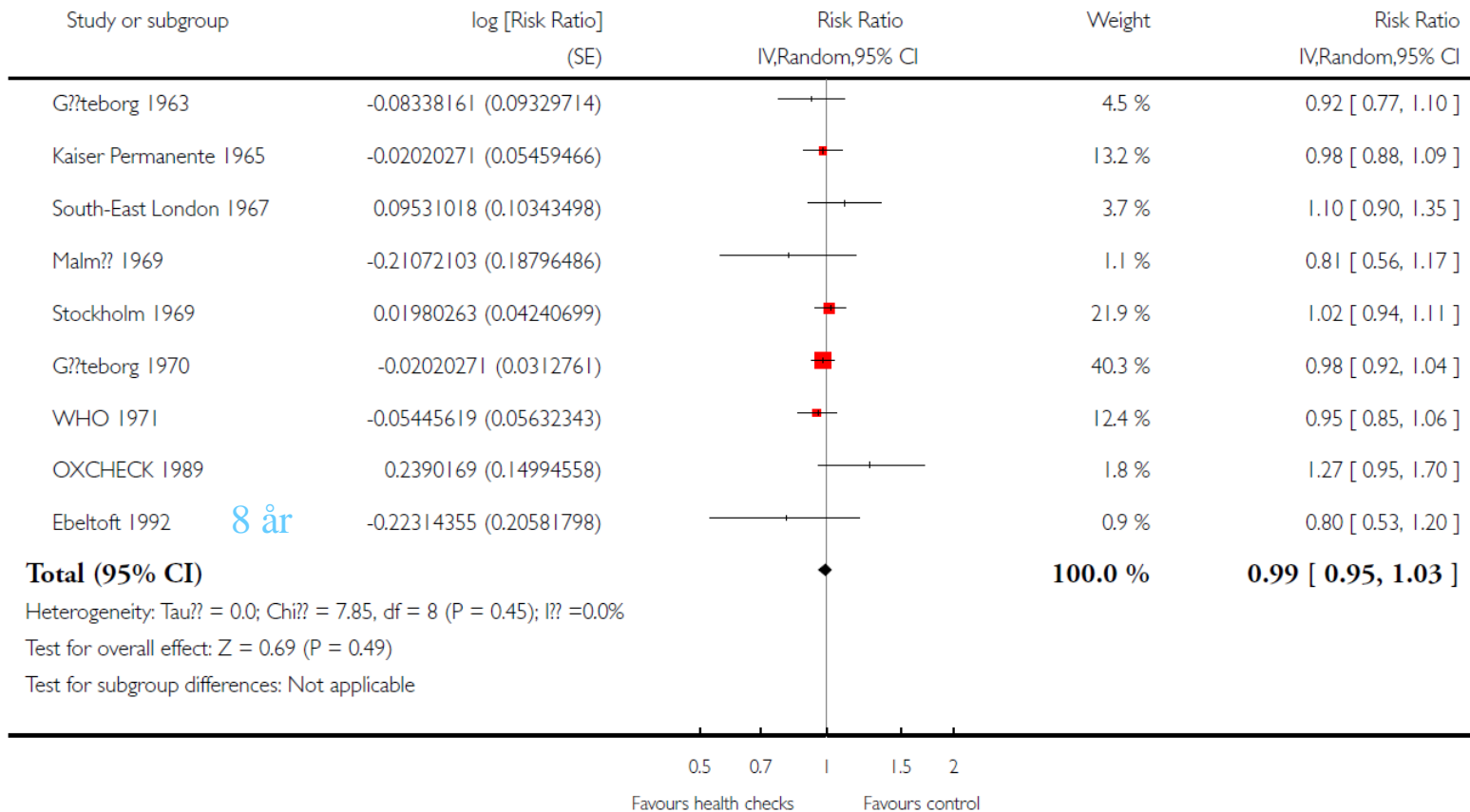


Sundhedsprojekt Ebeltoft

Comparison: Health checks versus control

Outcome: Total mortality

Cochrane 2012 - Total mortality



Torsten Lauritzen Århus 19.05.2010.

Institut for Folkesundhed , Afdeling for Almen Medicin, Aarhus Universitet.

The ADDITION study

Anglo-Danish-Dutch study of intensive treatment of people with screen detected type 2 diabetes in primary care



DK: T Lauritzen, A Sandbæk, K Borch-Johnsen, AH Carlsen
UK: S Griffin, N Wareham, M Davies, K Khunti, Simmons RK, Sharp SJ
HL: G Rutten, M van den Donk



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The ADDITION study Europe

Anglo-Danish-Dutch study of intensive treatment of people with screen detected type 2 diabetes in primary care

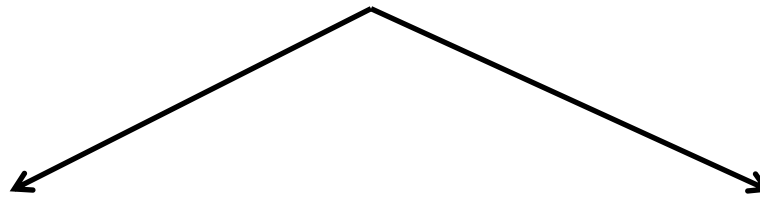
Screening study

Target group: 395.928 people 40-69 years (HL 50-69 years)
April 2001 - December 2006



Treatment study

343 general practices were randomised corresponding to
3,057 people with screen detected diabetes



Usual care

Intensive treatment



5 year follow-up on primary endpoint:
The first cardiovascular event, i.e. cardiovascular death, myocardial infarction, stroke, revascularisation and amputation

Screening for Diabetes also indentifies People with Prediabetes and Cardiovascular Risk

| ADDITION - Denmark | Ratio |
|--|--------------|
| Diabetes | 1 |
| High risk of diabetes (IFG, IGT) | 2 |
| High Cardiovascular Risk; i.e. $\geq 5\%$ risk of fatal event (EU heart SCORE) | 6 |

| | Baseline Routine Care | Baseline Intensive treatment | | | |
|-----------------------|--------------------------|------------------------------------|--|--|--|
| SBP mmHg | 149.8 | 148.5 | | | |
| DBP mmHG | 85.5 | 86.1 | | | |
| Cholesterol mmol/l | 5.6 | 5.5 | | | |
| HbA1c % | 6.6 | 6.5 | | | |
| BMI | 31.6 | 30.9 | | | |
| Weight Kg | 90.3 | 81.6 | | | |
| Smokers % | 27.8 | 26.9 | | | |

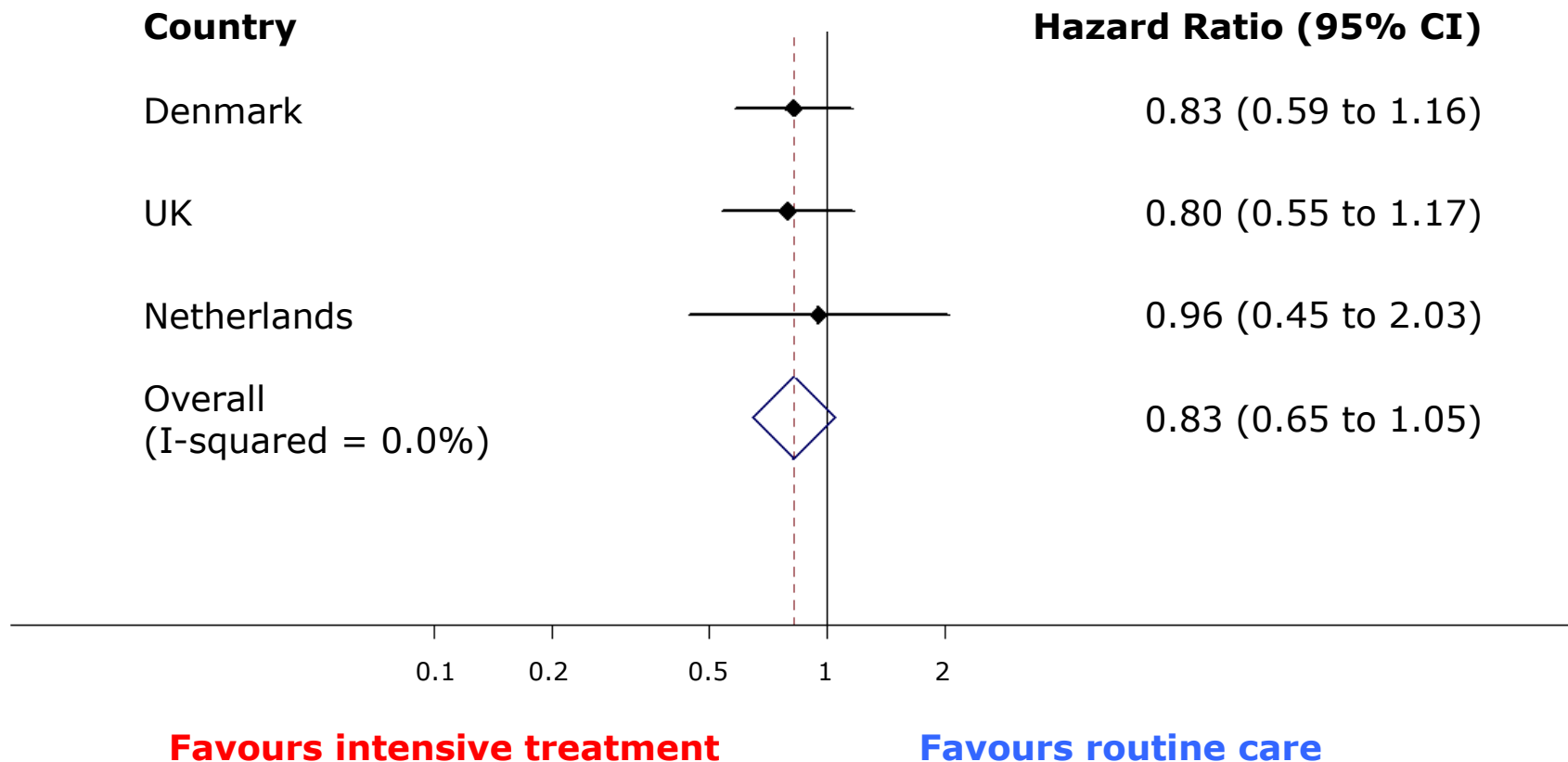
| | Baseline Routine Care | Baseline Intensive treatment | Change Baseline - 5 y Routine Care | | |
|-----------------------|--------------------------|------------------------------------|--|--|--|
| SBP mmHg | 149.8 | 148.5 | -11.7 | | |
| DBP mmHG | 85.5 | 86.1 | -4.8 | | |
| Cholesterol mmol/l | 5.6 | 5.5 | -1.2 | | |
| HbA1c % | 6.6 | 6.5 | -0.1 | | |
| BMI | 31.6 | 30.9 | -0.6 | | |
| Weigth Kg | 90.3 | 88.4 | -1.9 | | |
| Smokers % | 27.8 | 26.9 | -9.4 | | |

| | Baseline Routine Care | Baseline Intensive treatment | Change Baseline - 5 y Routine Care | Change Baseline - 5 y Intensive Care | |
|--------------------|-----------------------|------------------------------|------------------------------------|--------------------------------------|--|
| SBP mmHg | 149.8 | 148.5 | -11.7 | -13.7 | |
| DBP mmHG | 85.5 | 86.1 | -4.8 | -6.6 | |
| Cholesterol mmol/l | 5.6 | 5.5 | -1.2 | -1.3 | |
| HbA1c % | 6.6 | 6.5 | -0.1 | -0.1 | |
| BMI | 31.6 | 30.9 | -0.6 | -0.5 | |
| Weight Kg | 90.3 | 88.6 | -1.9 | -1.8 | |
| Smokers % | 27.8 | 26.9 | -9.4 | -6.7 | |



| | Baseline Routine Care | Baseline Intensive treatment | Change Baseline - 5 y Routine Care | Change Baseline - 5 y Intensive Care | Routine Care minus Intensive Care at 5 y |
|-----------------------|--------------------------|------------------------------------|--|---|---|
| SBP mmHg | 149.8 | 148.5 | -11.7 | -13.7 | -2 |
| DBP mmHG | 85.5 | 86.1 | -4.8 | -6.6 | -1.8 |
| Cholesterol mmol/l | 5.6 | 5.5 | -1.2 | -1.3 | -0.1 |
| HbA1c % | 6.6 | 6.5 | -0.1 | -0.1 | 0 |
| BMI | 31.6 | 31.6 | -0.6 | -0.5 | 0.1 |
| Weigth Kg | 90.3 | 31.6 | -1.9 | -1.8 | 0.1 |
| Smokers % | 27.8 | 26.9 | -9.4 | -6.7 | 2.7 |

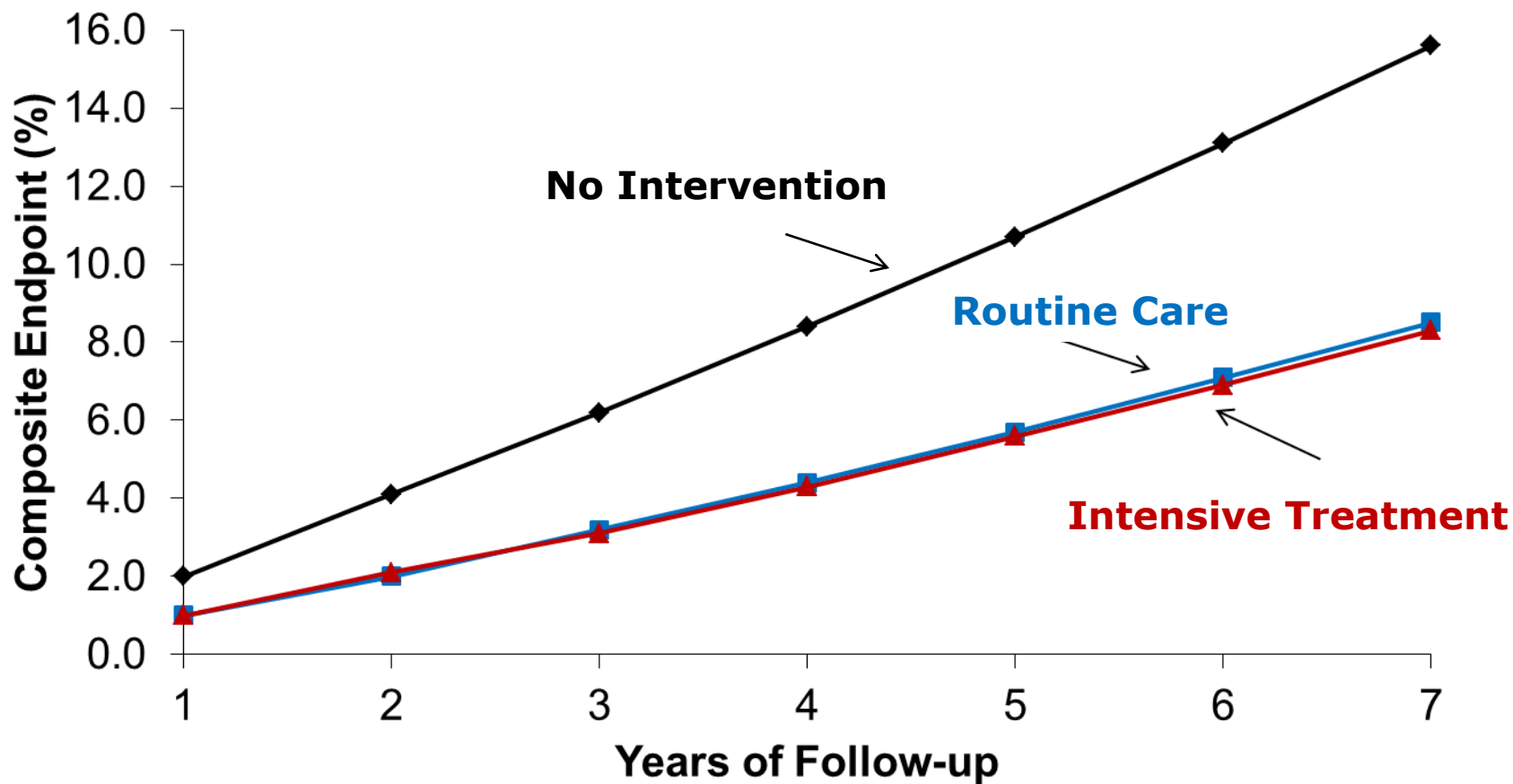
Relative risk of first cardiovascular event, i.e. cardiovascular death, myocardial infarction, stroke, revascularisation and amputation





| | Baseline Routine Care | Baseline Intensive treatment | Change Baseline - 5 y Routine Care | Change Baseline - 5 y Intensive Care | Routine Care minus Intensive Care at 5 y |
|-----------------------|--------------------------|------------------------------------|--|---|---|
| SBP mmHg | 149.8 | 148.5 | -11.7 | -13.7 | -2 |
| DBP mmHG | 85.5 | 86.1 | -4.8 | -6.6 | -1.8 |
| Cholesterol mmol/l | 5.6 | 5.5 | -1.2 | -1.3 | -0.1 |
| HbA1c % | 6.6 | 6.5 | -0.1 | -0.1 | 0 |
| BMI | 31.6 | 31.6 | -0.6 | -0.5 | 0.1 |
| Weight Kg | 90.3 | 31.6 | -1.9 | -1.8 | 0.1 |
| Smokers % | 27.8 | 26.9 | -9.4 | -6.7 | 2.7 |

Simulated-CVD endpoint using the Michigan model for people with screen detected diabetes



Conclusion:

**Preventive Health Checks and
Screening for Diabetes and
Cardiovascular disease
in general practice**

**have huge potentials for improved health
and may be transferable to Arctic Health**



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