

Health In Men's Study An Evolving Study of the Health of Older Men

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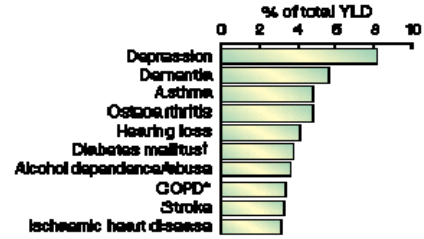
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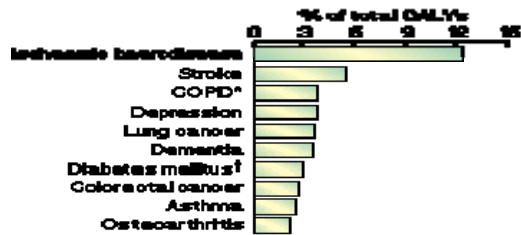


Years of Life Lost to Disability



B: Top 10 causes of YLD in Australia, 1996.

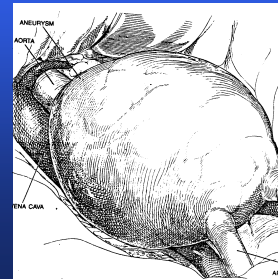
The 10 leading Causes of DALYs lost in Australia



C: The 10 leading causes of the DALYs lost in Australia, 1996.

WA randomised controlled trial of screening for abdominal aortic aneurysms

Norman, Jamrozik, Lawrence-Brown, Dickinson



AAAs can be detected by ultrasound scanning



Primary Aims 1996-8

- To conduct a population-based randomised control trial of ultrasound screening for AAA in men
- To measure and compare mortality from AAA in the screened and non-screened groups using an intention-to-treat analysis

Secondary aims 1996-8

- Cost benefit analysis
- Quality of life assessment
- Expansion rates in small AAAs

Methods

- Men aged 65-79 years identified from electoral roll
- Randomised to Screen and Control groups
- Postal letter of invitation
- Aortic ultrasound plus questionnaire
- Participant given a letter with his result and returned to care of GP
- Outcome via WA Linked Data System

Target population

- Men only – AAA rare in women
- Attempted 65-79 years
- Actual 65-83 years
- Mean (sd) 72.6 (4.7) years

Participation

- Randomised in Screen group (20,500)
- Died before invitation (1,148)
- Invited (19,352)
- 'Ineligible' (1,836)
- Eligible (17,516)
- Attended (12,213)
- Successfully scanned (12,203)

Attendance

- 12,213 attended for screening
- Crude: 63% (12,213/19,352)
- Corrected: 70% (12,213/ 17,516)

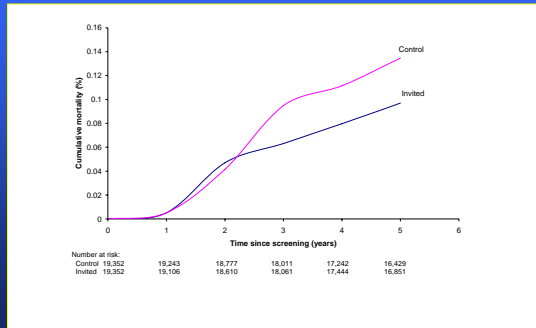
Age structure

Age	Attended
65-69	5,133 (42.1%)
70-74	4,072 (33.4%)
75-79	2,379 (19.5%)
80-83	619 (5%)
Total	12,213 (100%)

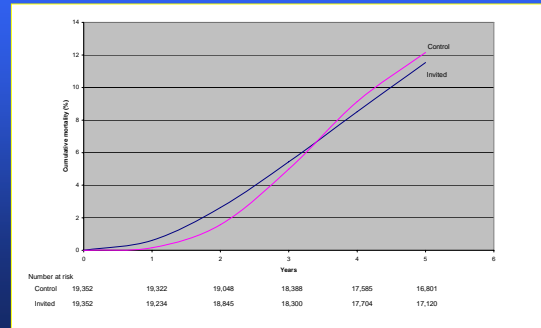
Assessment

- Risk factor survey (modified NHF risk factor questionnaire) included:
 - Medical history
 - Smoking, diet and alcohol
 - Edinburgh Claudication Questionnaire
 - Ethnicity & Education level
 - Physical activity
- Height, weight, BP and circumference at waist and hips measured
- Aortic ultrasound to measure aortic diameter
- Ankle:brachial pressure ratio (4,000 men only)

Cumulative mortality from AAA



All-cause mortality



Studies completed

- Prevalence and risk factors for AAA
- Selective screening
- Risk factors for PAD
- RCT for claudication
- QOL and AAA screening
- Screening and mortality
- Markers of AAA expansion
- Aortic diameter analyses
- Lifestyle score and mortality

Health In Men Study

Follow-up survey

Nov 2001-Oct 2004

Jamrozik, Norman, Hankey, Flicker, Almeida

Aims

- To examine the relationship between aspects of lifestyle and medical history and:
 - Mortality from all causes
 - Fatal and non-fatal cardiovascular disease
 - Incidence of cancers
 - Cognitive impairment
 -in older men

HIMS

AAA attendees	12,203 (100%)
Deaths before HIMS	2,379 (20%)
Non-participants in HIMS	4,240 (35%)
Questionnaire only	1,322 (11%)
HIMS attendees	4,262 (35%)
~43% survivors of AAA attended	

Assessment

- New questionnaire
- Height, weight, BP and circumference at waist and hips measured again
- Cognition: Mini Mental State (all men) and Word Recall in 700 men
- Fasting blood sample (lipids, sugar, creatinine, CRP, homocysteine, DNA, archived sera and plasma)

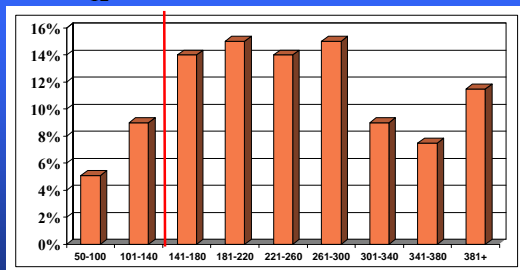
HIMS questionnaire

- Repeat ECG
- Medical history in the last 5 years
- Smoking
- Medication
- Psycho-social – based on ALSWH
- GDS

HIMS Studies

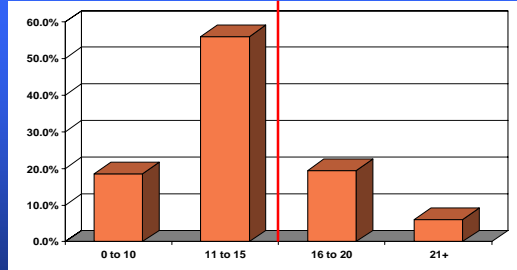
- Homocysteine and cognition (both observational and RCT)
- Markers of cognitive impairment
- Cardiovascular risk and depression
- Sex hormones in older men (Bu Yeap)
 - Values
 - Relationship to cognition, depression and lifestyle
- CRP and depression

B₁₂ levels in 299 Older Men



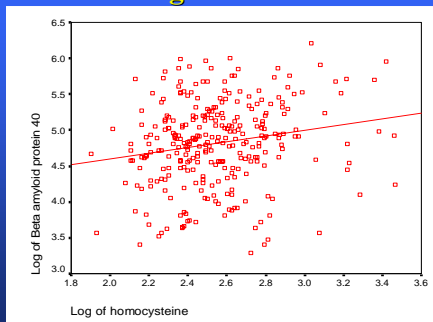
Reference range 140 - 646 pmol/L
 Percentage < 140 pmol/L = 13.9%
 Median - 235 pmol/L
 Mean 254 pmol/L +/- 117 pmol/L

Homocysteine Levels in 299 Older Men



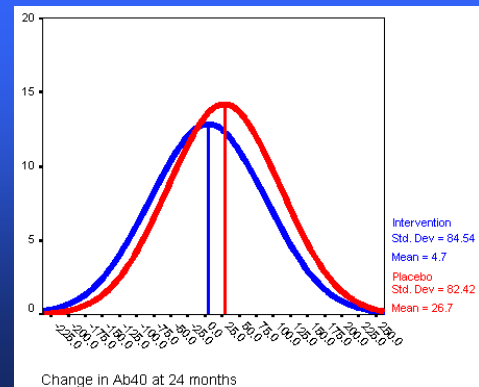
Reference range 6 - 15 umol/L
 Percentage > 15 umol/L = 20.5%
 Median 12.4 umol/L
 Mean 13.5 umol/L +/- 5.3 umol/L

Scatterplot of Log Hcy against log Aβ₄₀ with Regression Line

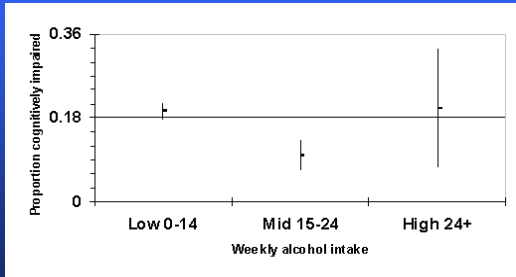


After adjusting for cGFR and B₁₂, this remained significant

Changes in Aβ₁₋₄₀ over 24 months (pg/ml)

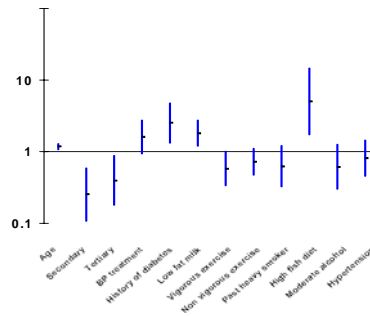


Association between alcohol consumption at baseline and follow-up MMSE 6 years later in 80+ year old men in Perth



Cognitive impairment MMSE < 24

Hazard Ratios for Risk of Cognitive Impairment

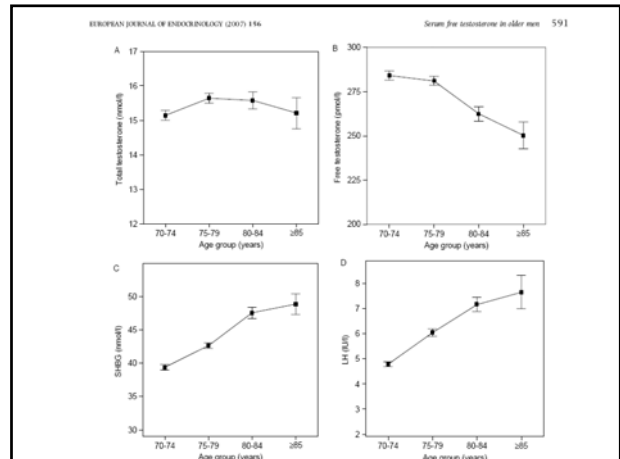


HIMS work in progress

- Metabolic syndrome (various)
- Stroke (various)
- Screening for AAA and mortality

Additional biochemistry

- Testosterone, sex protein binding globulin, luteinizing hormone
- Insulin, TSH



Administrative progress

- Database now (nearly) spotless
- Drug data coded
- Linkage approved and provided for AAA and HIMS cohorts
- Awaiting linkage on control group
- Linkage very powerful tool in
 - 1) Prediction of events
 - 2) Ability to adjust for physical co-morbidity

Acknowledgements

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