Assessing Lifetime Risk for Cardiovascular Disease

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Disclosures

• Dr. Lloyd-Jones has no COI/RWI
Up to ~630,000 unique individuals
12M person-years of follow up
Study Sample Needed for LTR Estimates

- Ideal: Mix of large representative cohorts with wide age ranges at inception and long-term F/U with complete ascertainment of events
  - Multiple individuals passing through same ages
  - Minimizes cohort effects, birth cohort effects
  - Index age-based approach
  - Important if stratifying by RF levels

- Adequate: Mix of large and small cohorts with variable age ranges and F/U

- Unfavorable: Single or few cohorts with wide age range but short F/U
Issues in Pooling Datasets

Data Harmonization is a Bear

• Similarity/appropriateness of cohorts
  – Selection criteria: >40% of sample from 2 cohorts, limited person-time after age 80y
  – Exclusion criteria: No RCTs

• Aligning data points
  – Person-exams by age

• Exposure ascertainment
  – Blood pressure: “usual” vs single measures

• Outcomes ascertainment
  – Adjudication vs administrative data: What is CVD?
Important Findings

• Non-CVD death rate is a critically important determinant of lifetime risk for CVD
• Single RFs stratify lifetime risk moderately
• Aggregate RF burden can powerfully stratify lifetime risk
  – Optimal group at very low long-term risk for CVD
  – Importance of primordial prevention
• PAR% lower than expected
  – Worth attempting to assess PARs for behavioral factors over the longer term
  – Usually focus on modifiable RFs not biomarkers (which represent target organ damage and imminent risk and are less useful in the young)
Next Steps for Lifetime Risk

• Collaboration!
• How will we use lifetime risk estimates?
  – Incorporated into current guidelines in UK and US
  – Appropriate to motivate lifestyle change in younger people
  – Should we base drug therapy decisions in younger adults on lifetime risk estimates?
• ECAD trial
  – Consideration of withholding preventive therapy in older people?
Thank You