Implementation of JBS-2: Evidence versus affordability

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A NICE start

- Treat people with CVD risk ≥20%/10yrs
- Treat to cholesterol of ≤5 & LDL ≤3mmol/L
  - Use a statin with a low acquisition cost
  - 69% at target with simvastatin 40mg

From NICE to JBS-2:

- CVD Risk >20% over 10 years
- Treat to cholesterol of ≤4 & LDL ≤2mmol/L

16% at target with simvastatin 40mg

Implications:

- Need higher doses and more potent statins

Evidence for intensive treatment

Lipid treatment targets

Cholesterol and LDL cholesterol

There are no clinical trials which have evaluated the relative and absolute benefits of cholesterol lowering to different total and LDL cholesterol targets in relation to clinical events. Therefore, targets defined by guidelines are a matter of judgement set in the context of the total CVD risk of trial populations and using, where available, pre-specified and post hoc analyses of total and LDL cholesterol concentrations achieved. The Pravastatin Pooling Project (PPP) reported

JBS-2 Guidelines 2005

High dose statins: Evidence in secondary prevention

- **A to Z**
  - Post MI; S80 versus S20
  - No significant difference
- **PROVE IT**
  - ACS; A80 versus P40
  - Significant difference in CHD events
- **TNT**
  - Post MI; A10 versus A80
  - Significant benefit but also harm with high doses
- **IDEAL**
  - Prior MI; S20 versus A80
  - Significant difference in CHD
  - More withdrawals and adverse effects with high dose statin

IDEAL Trial

- Atorvastatin 80mg is **15-fold** more expensive than simvastatin 20mg and ~**7-fold** more expensive than simvastatin 40mg
- Will it be cost-effective patients atorvastatin 80mg instead of simvastatin 20-40mg?
- Compared to the mean dose of simvastatin 25mg/day, atorvastatin 80mg/day costs **£90,600** to prevent one major CV event

JBS-2 - Just Big Spending?

- Evidence:
  - Limited evidence to support high dose statins in people with established CHD
  - **No evidence** to support high dose statins in primary prevention

JBS-2 - Just Big Spending?

- Affordability:
  - A lot of people to treat
    - 7.2% already on lipid lowering therapy
    - 4.3% untreated for secondary prevention
    - 13.5% untreated for primary prevention

    - 1:4 population in England
    - 1:3 men in England
  - Cost per event prevented >100K

JBS-2 - Just Big Spending?

- In primary prevention JBS-2 are:
  - Not evidence-based
  - Fiscally unstable
  - May lead to more ADRs

Balancing evidence and affordability

- Moderate dose simvastatin is evidence based and cost-effective

- Switching patients from atorvastatin 10mg to simvastatin 40mg and
- Treating new patients with simvastatin 40mg
- Would save **~£1 billion** over 5 years

Moon & Bogle, *BMJ*, 332; 1344-1345