How do I use the SCORE charts to assess CVD risk in asymptomatic persons?

1. Use the low risk charts in Andorra, Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden*, Switzerland and the United Kingdom.

2. Find the cell nearest to the person's age, cholesterol and BP values, bearing in mind that risk will be higher as the person approaches the next age, cholesterol or BP category.

3. Check the qualifiers.

4. Establish the total 10 year risk for fatal CVD.

Note that a low total cardiovascular risk in a young person may conceal a high relative risk; this may be explained to the person by using the relative risk chart. As the person ages, a high relative risk will translate into a high total risk. More intensive lifestyle advice will be needed in such persons. This chart refers to relative risk, not percentage risk, so that a person in the top right corner is at 12 times higher risk than a person in the bottom left corner.

Another approach to explaining risk to younger persons is to use cardiovascular risk age. For example, in the high risk chart, a 40 year old male hypertensive smoker has a risk of 4%, which is the same as a 65 year old with no risk factors, so that his risk age is 65. This can be reduced by reducing his risk factors.

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Risk estimation using SCORE: Qualifiers

- The charts should be used in the light of the clinician's knowledge and judgement, especially with regard to local conditions.
- As with all risk estimation systems, risk will be over-estimated in countries with a falling CVD mortality rate, and under estimated if it is rising.
- At any given age, risk appears lower for women than men. However, inspection of the charts shows that their risk is merely deferred. Women, with a 60 year old woman resembling a 50 year old man in terms of risk.
- Risk may be higher than indicated in the chart in:
  - Sedentary or obese subjects, especially those with central obesity
  - Those with a strong family history of premature CVD
  - Those with type 1 diabetes without target-organ damage; other diabetic subjects - Individuals with diabetes the SCORE charts should only be used in those with type 1 diabetes without target-organ damage; other diabetic subjects are already at very high risk.
  - Those with low HDL cholesterol* or increased triglycerides, fibrinogen, Lp(a), Lp(PLA) levels and perhaps increased high-sensitivity CRP.
  - Asymptomatic subjects with evidence of preclinical atherosclerosis, for example plaque on ultrasonography.
  - Those with moderate to severe chronic kidney disease (GFR <60 mL/min/1.73 m²)

*Note that HDL cholesterol impacts on risk in both sexes, at all ages, and at all level of risk. The effect can be estimated using the electronic version of SCORE, HeartScore, which has been updated to include HDL cholesterol level.

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Source: European Guidelines on CVD Prevention in Clinical Practice (2012)
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Note that a low total cardiovascular risk in a young person may conceal a high relative risk; this may be explained to the person by using the relative risk chart. As the person ages, a high relative risk will translate into a high total risk. More intensive lifestyle advice will be needed in such persons. This chart refers to relative risk, not percentage risk, so that a person in the top right corner is at 12 times higher risk than a person in the bottom left corner.

Another approach to explaining risk to younger persons is to use cardiovascular risk age. For example, in the high risk chart, a 40 year old male hypertensive smoker has a risk of 4%, which is the same as a 65 year old with no risk factors. This chart shows that their risk is merely deferred by 10 years, inspection of the charts shows that their risk is merely deferred by 10 years, so that his risk age is 65. This can be reduced by reducing his BP, or by reducing his smoking status. Note that the risk age of a person with diabetes is related to the age of their complications, with a 60 year old woman resembling a 50 year old man in terms of risk. The charts should be used in the light of the clinician’s knowledge and judgement, especially with regard to local conditions.

Risk estimation using SCORE: Qualifiers

- The charts should be used with all risk estimation systems, risk will be over-estimated in countries with a falling CVD mortality rate, and under-estimated if it is rising.
- At any given age, risk appears lower for women than men. However, inspection of the charts shows that their risk is merely deferred by 10 years, with a 60 year old woman resembling a 50 year old man in terms of risk.
- Risk may be higher than indicated in the chart if:
  - Sedentary or obese subjects, especially those with central obesity
  - Those with a strong family history of premature CVD
  - Socially deprived individuals and those from some ethnic minorities
  - Individuals with diabetes: the SCORE charts should only be used in those with type 1 diabetes without target-organ damage; other diabetic subjects are already at very high risk.
  - Those with low HDL cholesterol* or increased triglycerides, fibrinogen, s-CRP, Lp(a) levels and perhaps increased aortic strain - asymptomatic subjects with evidence of pre-clinical atherosclerosis, for example plaque on ultrasound or those with moderate to severe chronic kidney disease (GFR<60 mL/min/1.73 m²).
  - With moderate to severe chronic kidney disease (GFR<60 mL/min/1.73 m²).
- Note that HDL cholesterol impacts on risk in both sexes, at all ages, and at all level of risk. This effect can be estimated using the electronic version of SCORE, HeartScore, which has been updated to include HDL cholesterol level.

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