



# CVD and Multimorbidity Are we ready for the challenge?

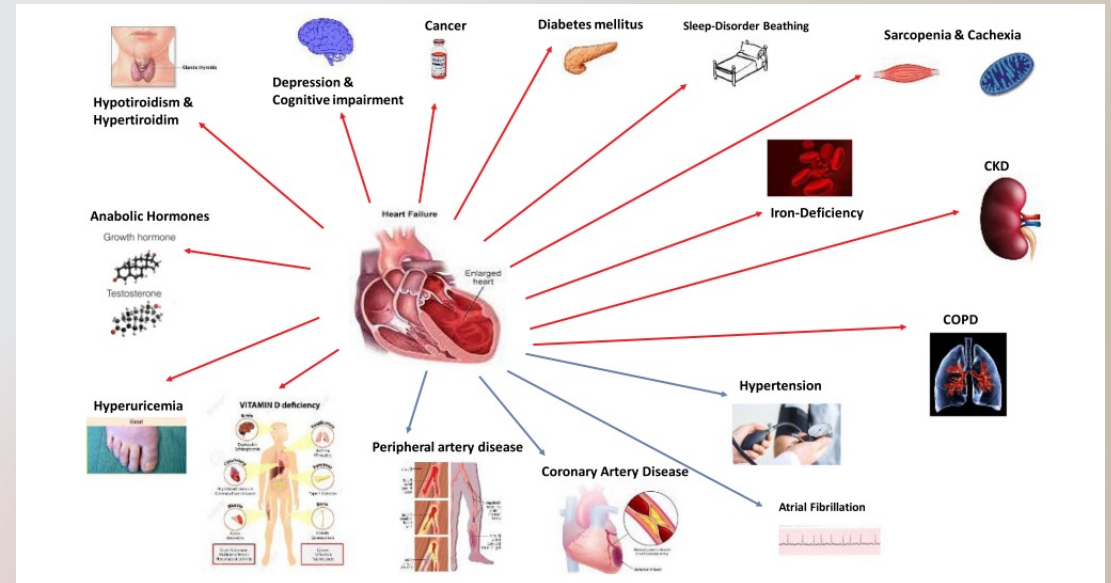
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# Heart disease – not a lonely rider

How we see it



How it is

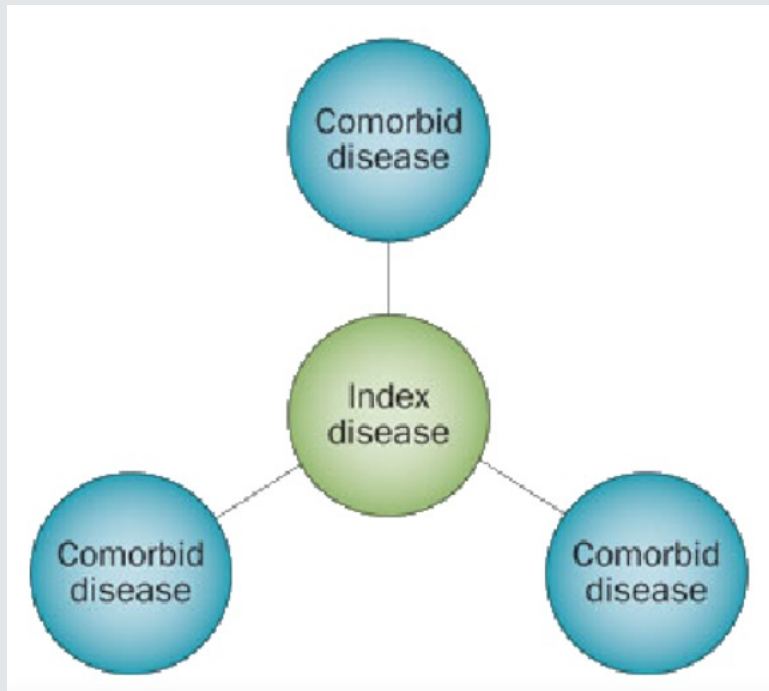


# CVD and multimorbidity – what is it

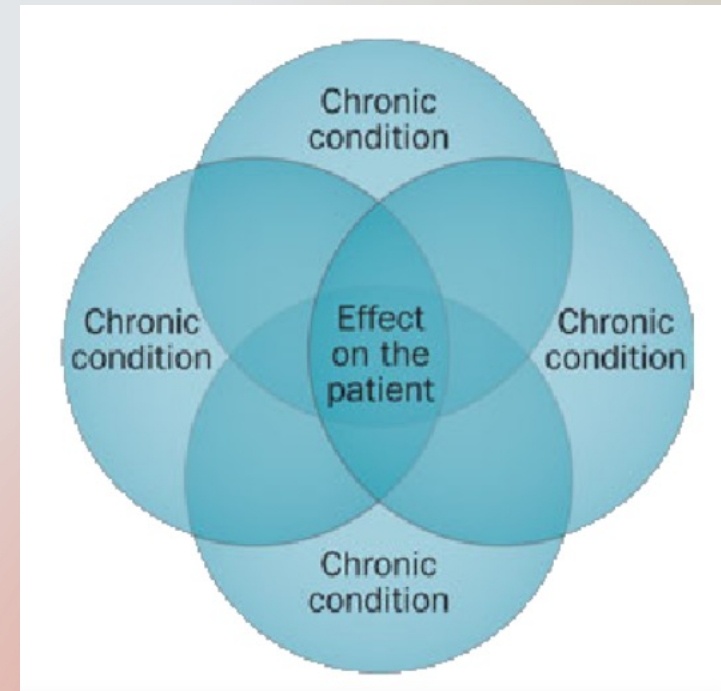
- Multimorbidity refers to the occurrence of 2 or more long term/chronic diseases in one individual
  - E.g.: Diabetes, COPD and CVD occurring in the same patient
- Comorbidity refers to the occurrence of and index/primary disease in combination with consequences of the disease
  - E.g.: a: Hypertension followed by heart failure or stroke, b: Diabetes followed by foot ulcer or diabetic retinopathy

# Comorbidity and Multimorbidity

## Comorbidity



## Multimorbidity



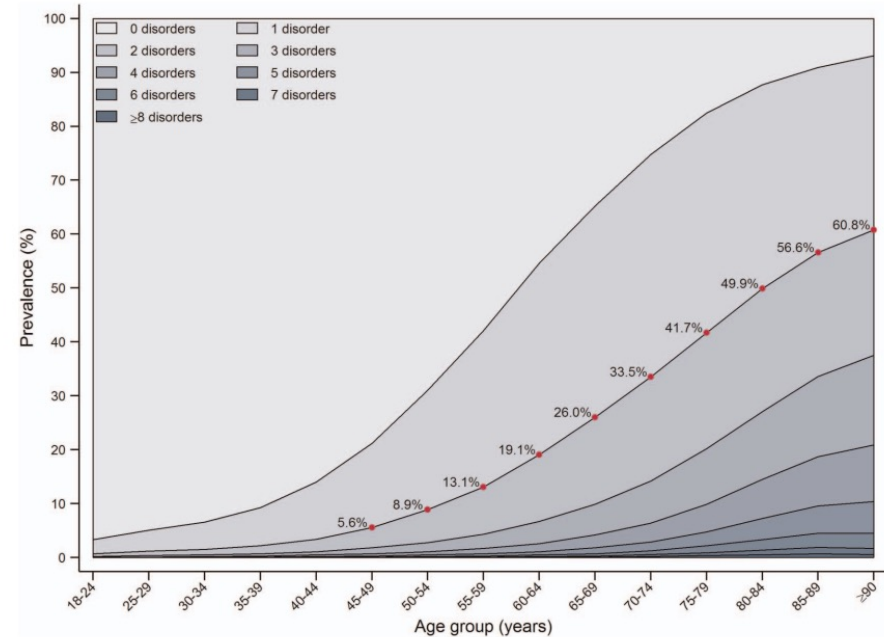


# Multimorbidity and age

## Age

- Most chronic diseases incl. Heart disease are age related
- Many chronic diseases share important risk factors like obesity, physical inactivity, smoking,

## Multimorbidity by age



**Figure 3** Number of chronic diseases by age group. Notes: Red dots indicate the prevalence of multimorbidity by age group.

Lenzi J, et al. *BMJ Open* 2016;6:e012812. doi:10.1136/bmjopen-2016-012812

# Multimorbidity and Socioeconomic status

Barnett & al, www.thelancet.com online, 2012 DOI:10.1016/S0140-6736(12)60240-2

## 10 years difference in multimorbidity

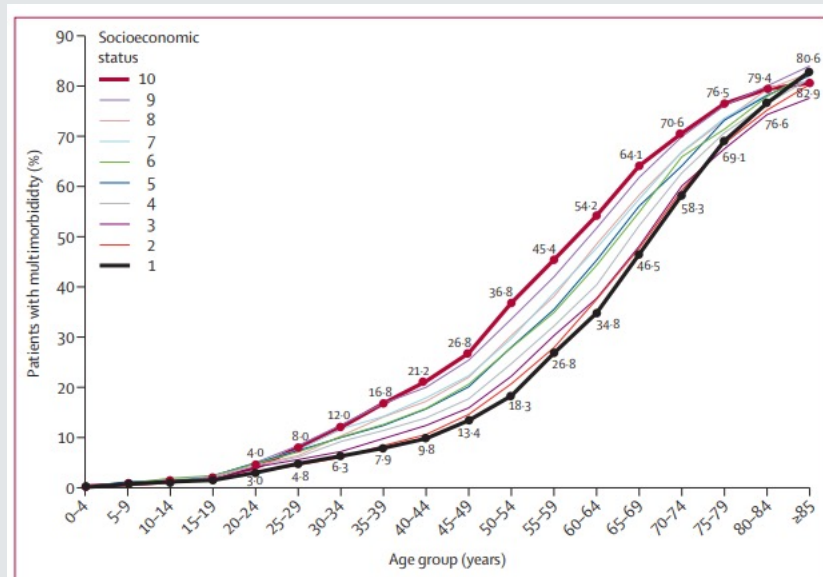


Figure 2: Prevalence of multimorbidity by age and socioeconomic status  
On socioeconomic status scale, 1=most affluent and 10=most deprived.

## Increased risk across all disease categories

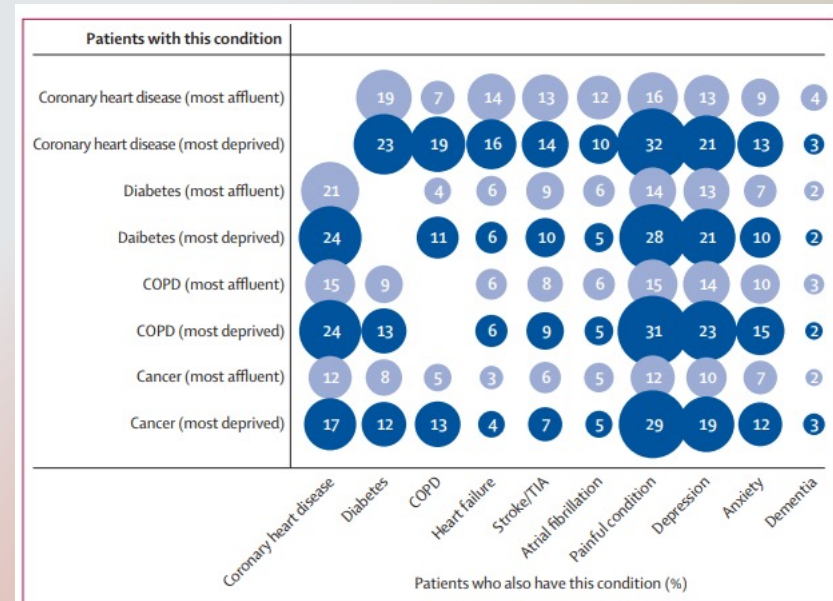


Figure 4: Selected comorbidities in people with four common, important disorders in the most affluent and most deprived deciles

COPD=chronic obstructive pulmonary disease. TIA=transient ischaemic attack.



# CVD and multimorbidity – important in a patient perspective?

- Heart disease often part of a cluster of diseases – potential consequences?
- Screening/diagnosis – is the patient with Diabetes or COPD properly screened for CVD and CVD risk factors?
- Treatment – how to prioritize treatment in case of multimorbidity (Polypharmacy and low compliance is a risk)
- Organization of care – is your health care system ready for the challenge and who is responsible for coordination



# Screening and diagnosis

- Presence of other NCD (including several mental disorders) increase the likelihood of having undiagnosed CVD
- National, regional or local guidelines for handling of this should be available **and implemented**
- These guidelines should be known by the patients and the patient organizations also in "non-medical" and easily understandable formats.



# Treatment

- Different diseases require different treatments which may lead to
  - Polypharmacy
  - Increased risk of side-effects and interactions between drugs
  - Reduced compliance
- Solution
  - Rational pharmacotherapy based on optimal risk reduction
  - Increased knowledge regarding drug interactions

# Organization of care

- Who should treat patients with multiple chronic diseases?
  - Specialists versus General Practitioners?
  - Multiple specialist (one for each disease) versus Team with patient-specific coordinator?
  - One unit/several units
- Challenge what do we treat?
  - Several diseases each needing specialized care
  - Or
  - One patient needing care for several conditions?





**THANK YOU**