

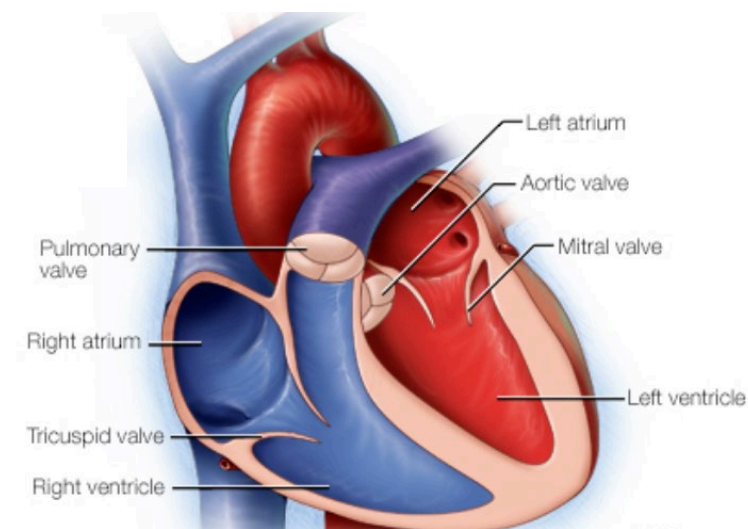
# Forskning vid hjärtsektionen

Medicinkliniken, Västerås Sjukhus

Per Grimfjärd

Överläkare, kardiolog

Doktorand CKF / Uppsala Universitet



# ESC Atlas of Cardiology

## Burden of Cardiovascular Disease

Understanding the burden of cardiovascular disease is essential for improving population health and wellbeing. This involves understanding how to use interventions and data to reduce the burden of disease, improve outcomes, and address differences in risk factors among individuals and populations.

"Burden of disease" is defined by the Harvard School of Public Health and the World Health Organization (WHO) as the combination of injuries and risk factors.

The most commonly used measures of burden are:

1. **Mortality** the number of deaths from a specific disease, often considered premature.
2. **Morbidity** the number of people living with a disease and the severity of the disease.
3. **Financial cost**, including the cost of management and treatment.

The societal impact of cardiovascular disease is significant, particularly in its management, which can affect productivity and mortality in a diagnostic group.

Technological innovations, such as those recorded in the Atlas, have important implications for the national economies of ESC member countries in addition to their implications for population health. Atlas data show that the economic burden of CVD falls particularly hard on middle income countries but, as emphasised elsewhere in this report, it can be potentially mitigated by relatively low-budget measures including reorganisation of service delivery and prioritising initiatives of proven value in other healthcare settings.

2.0

The Burden of Cardiovascular Disease

p.40

## Siffror presenterade 2019 – CVD i Europa

- Mortaliteten minskar i 14 europeiska länder
- 45% av alla dödsfall orsakas av CVD
- 210 miljarder Euro kostar CVD årligen
- 3,8 miljoner européer dör årligen av CVD

the cost of cardiovascular disease in Europe

3.8



million CVD deaths per annum in Europe

p.41



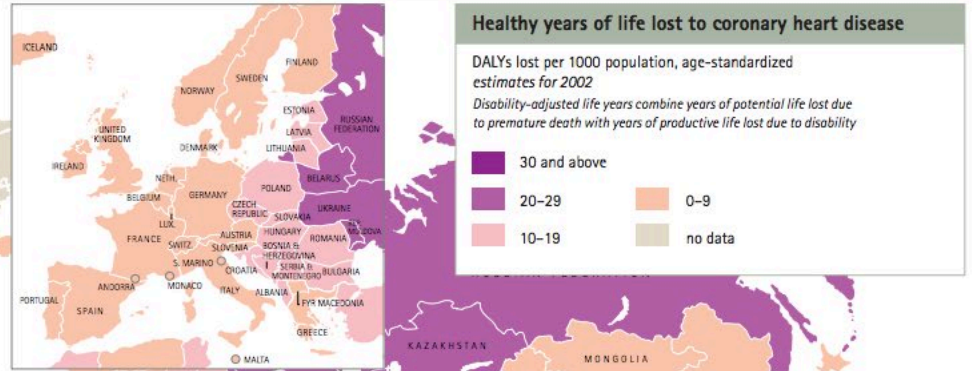
ESC

European Society of Cardiology

## Global burden of coronary heart disease



Coronary heart disease burden is projected to rise from around 47 million DALYs globally in 1990 to 82 million DALYs in 2020.



More than 60% of the global burden of coronary heart disease occurs in developing countries.



< 15% of guideline recommendations supported by high quality evidence

## Scientific Evidence Underlying the ACC/AHA Clinical Practice Guidelines

Pierluigi Tricoci, MD, MHS, PhD

Joseph M. Allen, MA

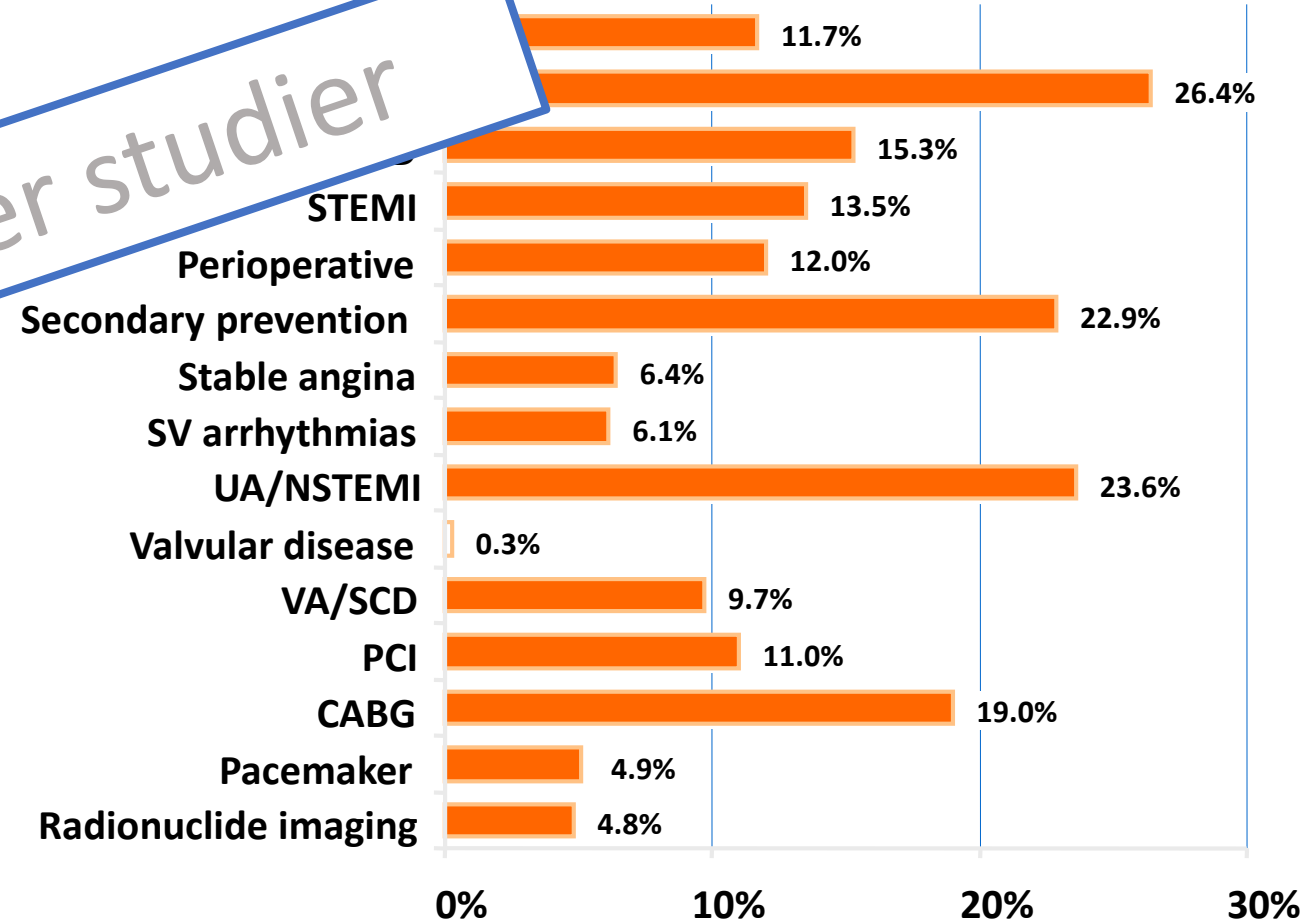
Judith M. Kramer, MD, MS

Robert M. Califf, MD

Sidney C. Smith Jr, MD

**Context** The joint cardiovascular practice guidelines of the American College of Cardiology (ACC) and the American Heart Association (AHA) have become important documents for guiding cardiac practice and establishing benchmarks for

**C**LINICAL PRACTICE GUIDELINES are systematically developed statements designed to assist practitioners and patient decisions about the appropriate use of



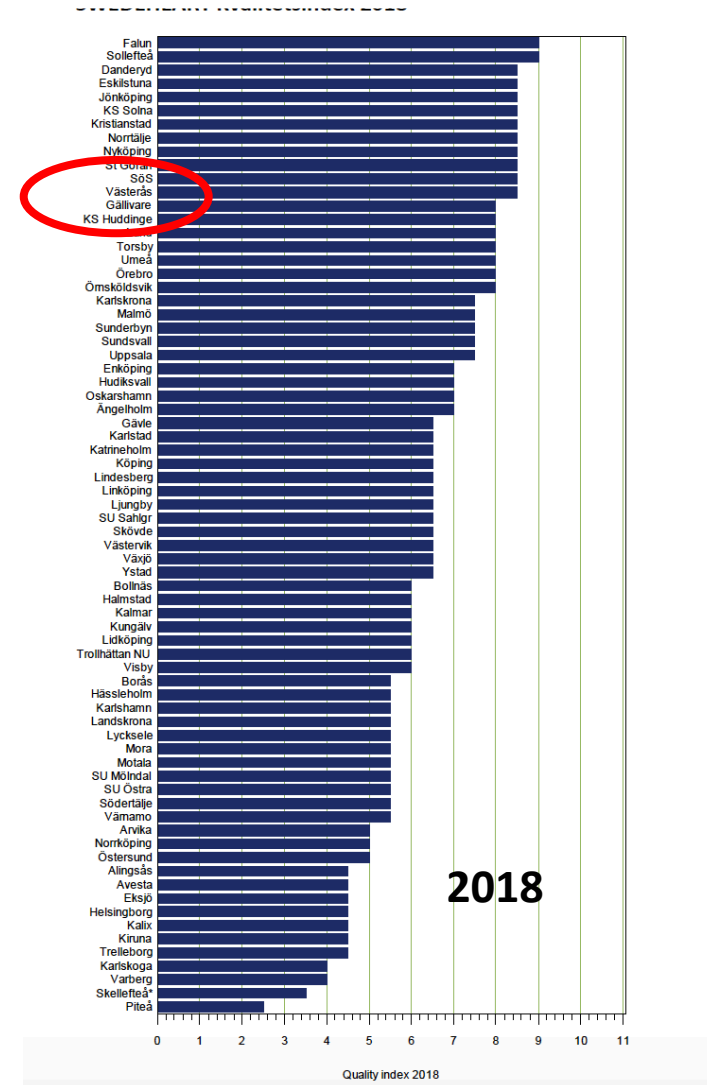
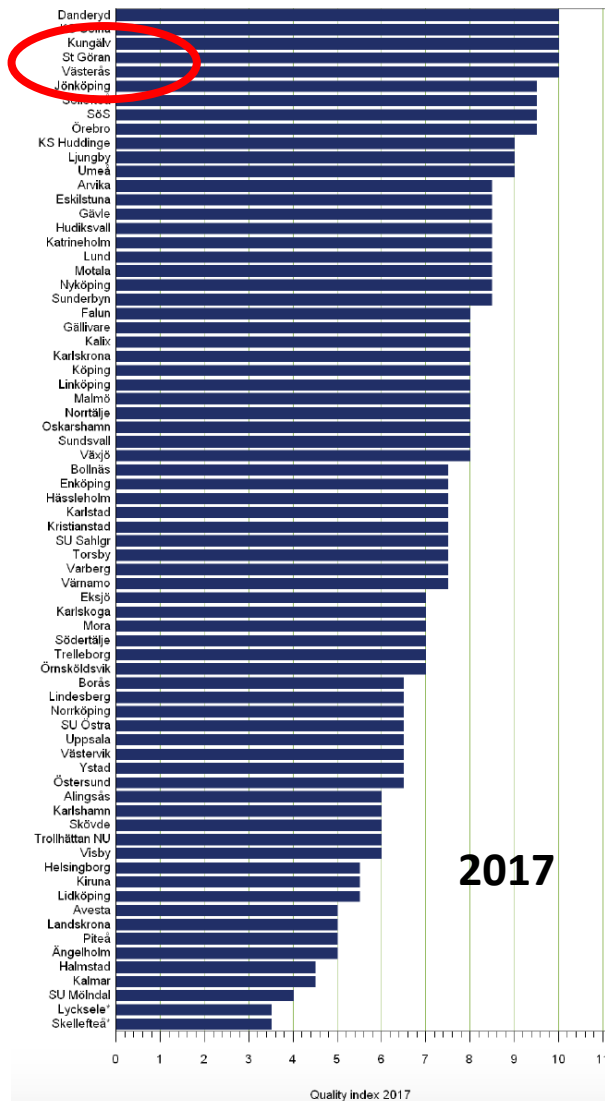
Vi behöver fler studier



# Hjärtsektionen i Västerås

- Återkommande toppnotering i SWEDHEART:s kvalitetsindex.
- Sedan decennier deltagit i många nationella och internationella kliniska studier.
- Forskningssjuksköterskor
- Devis: alla patienter som vårdas inneliggande bör komma i fråga för en klinisk studie.
- Pålitlig och kompetent partner i regionen när studier ska genomföras.
- Tre disputerade och två doktorander – av 20 läkare.

# Swedehearts nationella kvalitetsindex







# Kostnadsdrivande faktorer i randomiserade studier

- Mängden studiespecifika procedurer och undersökningar
- Mängden studiespecifika kontakter och besök
- Data-insamling - antalet variabler i CRF
- Monitorering av data - % source document verification
- Mängd och komplexitet i säkerhetsrapportering
- Läkemedelshantering
- **Total studietid!**

Vi behöver mer  
resurseffektiva studier



# The Registry-based Randomized Clinical Trial (R-RCT)

Definition: En prospektiv randomiserad klinisk studie som använder ett register för hela eller delar av studien

- Identifiera en lämplig studiepopulation vid studieplanering
- Underlätta rekrytering genom identifikation av lämpliga patienter
- Underlätta insamling av informerade samtycken
- Randomisering integrerad i registret
- Insamling av baslinje- och procedur/interventionsdata (eCRF)
- Identifiering och insamling av utfallshändelser



# Nycklar för moderna R-RCT

Registry	Contents
Swedish Population Registry	Place of residency; country of own and parents' birth; marital status
Swedish Censuses	Socioeconomic group
Swedish National Insurance Agency	Sick leave, pensions
Swedish Education Registry	Highest education
Swedish 9th Grade Registry	Junior high school grade
Swedish Multi-Generation Registry	Number of children and grandchildren
Swedish Medical Birth Registry (since 1973)	Numbers of pregnancies, births, stillbirths, abortions, and deaths
Swedish Prescription Registry (since 2005)	Pharmacy-expedited
Swedish In-Patient Registry (since 1987)	All diagnoses of all hospitalized patients
Swedish Cancer Registry (since the 50's)	All cancer diagnoses
Swedish Cause-of Death Registry	Causes of death, including contributing factors



European Heart Journal (2009) 30, 2165–2173  
doi:10.1093/eurheartj/ehp299

CardioPulse



Sweden's new online cardiac  
its kind

WEDEHEART is unique because  
immediate feedback, says Ulf  
professor of cardiology and Senior  
ist, Department of Cardiology,

University Hospital, Linköping, Sweden, and President of  
SWEDEHEART.

Web-baserade register som används "on-line", offentliga register, och nätverk/team av forskare är framgångsfaktorer

# Internationella guidelines ändras pga RRCT

TASTE



iFR-  
SWEDEHEART

	Guideline	Reco		Guideline	Reco
Thrombus aspiration	2012 Routine thrombus aspiration should be considered	IIa B	➔	2017 Routine use of thrombus aspiration is not recommended	III A
Bivalirudin vs heparin	2012 Bivalirudin (GP IIb/IIIa blocker restricted to bailout) is recommended over heparin and a GP IIb/IIIa blocker	I B	➔	2018 Bivalirudin may be considered as an alternative to UFH	IIb A
Oxygen vs ambient air	2012 Oxygen is indicated if hypoxia (SaO2 <95%), breathlessness, or acute heart failure.	I C	➔	2017 Routine oxygen is not recommended if SaO2 > 90%	III B
iFR vs FFR	2014 FFR to identify haemodynamically relevant coronary lesion(s) in stable patients when evidence of ischaemia is not available.	I A	➔	2019 When evidence of ischaemia is not available, FFR or iFR are recommended to assess the haemodynamic relevance of intermediate-grade stenosis.	I A



# Varför forskning vid hjärtsektionen i Västerås?

- Ökad kompetens och kvalitet på vården
  - Bättre resursutnyttjande – dålig vård är dyr vård
  - Viktigt för att rekrytera och behålla nyckelkompetens
  - Möjlighet att ingå i regional nod/hub för forskning
- 
- **Att stärka forskningsaktiviteten är högt prioriterat för att på sikt garantera verksamhetens kvalitet**

**Tack!**

