

# FFR guided acute complete revascularization *versus* culprit lesion only treatment

in STEMI patients presenting with multivessel disease;  
3-year cost-analysis data from the COMPARE-ACUTE trial

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On behalf of all COMPARE-ACUTE investigators

*With special thanks to:*

Pietro Laforgia, Hanneke Fischer, Geert W. Frederix, Elmir Omerovic,  
Mohamed Abdel-Wahab and Gert Richardt



# COMPARE-ACUTE Trial design

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24 Centres in  
Europe & Asia

Acute STEMI patients  
undergoing primary PCI

885 stable multivessel  
STEMI pts. randomized

1 : 2 randomization

FFR was  
measured  
by Pd/Pa at rest  
and after i.v. or  
i.c. adenosine

295 pts

FFR-guided complete  
revascularization of non-IRA lesions

590 pts

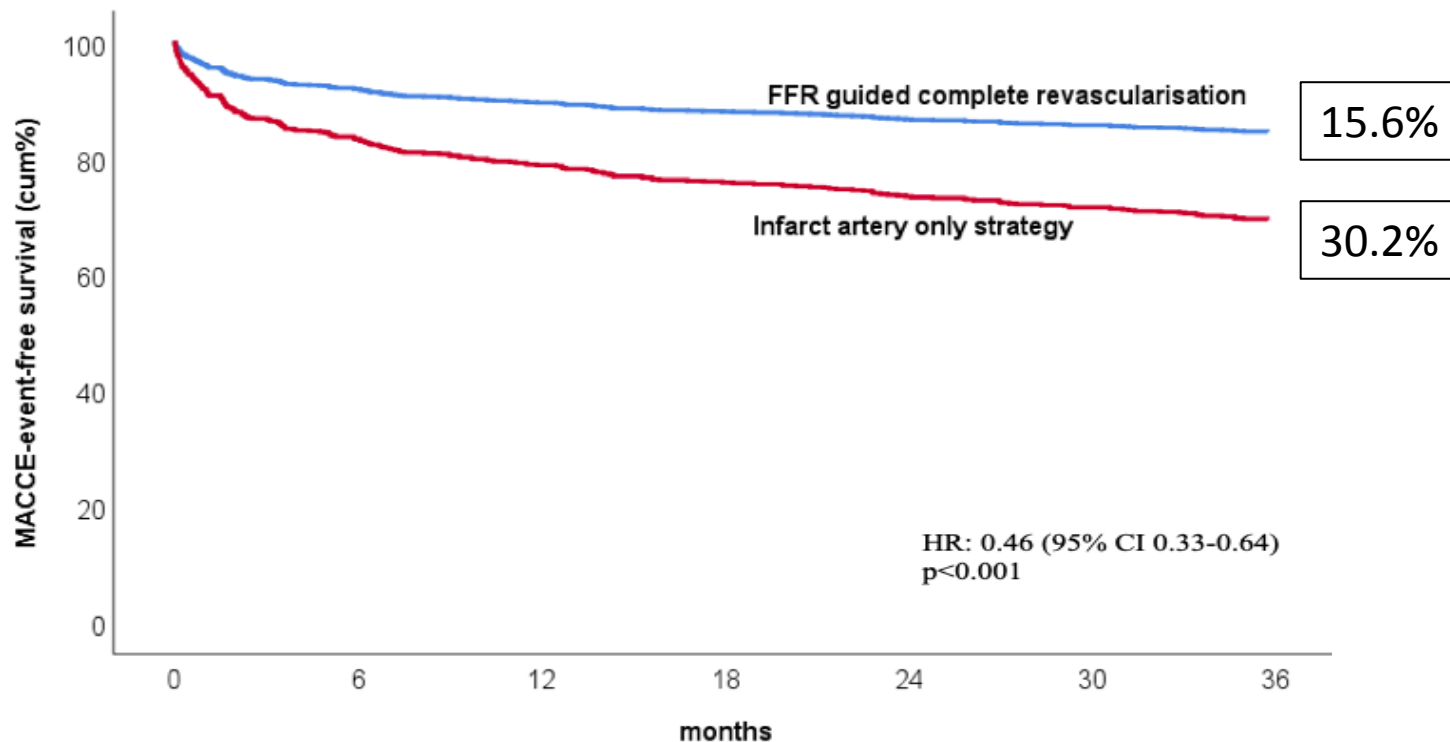
Infarct related artery only treatment  
+ blinded FFR of non-IRA lesions

45 day treatment window for  
elective clinically indicated PCI

Follow-up at 30 days, 12, 24 and 36 months

# Primary endpoint MACCE :

Cardiac death, Myocardial Infarction, Revascularization & Stroke



# Purpose of study :

Cost analysis of both strategies from a payer (health insurer) perspective using DRG costs

- **Costs:** index PCI, revascularisation, MI, Stroke, Hospitalizations
- **Costs per patient:**

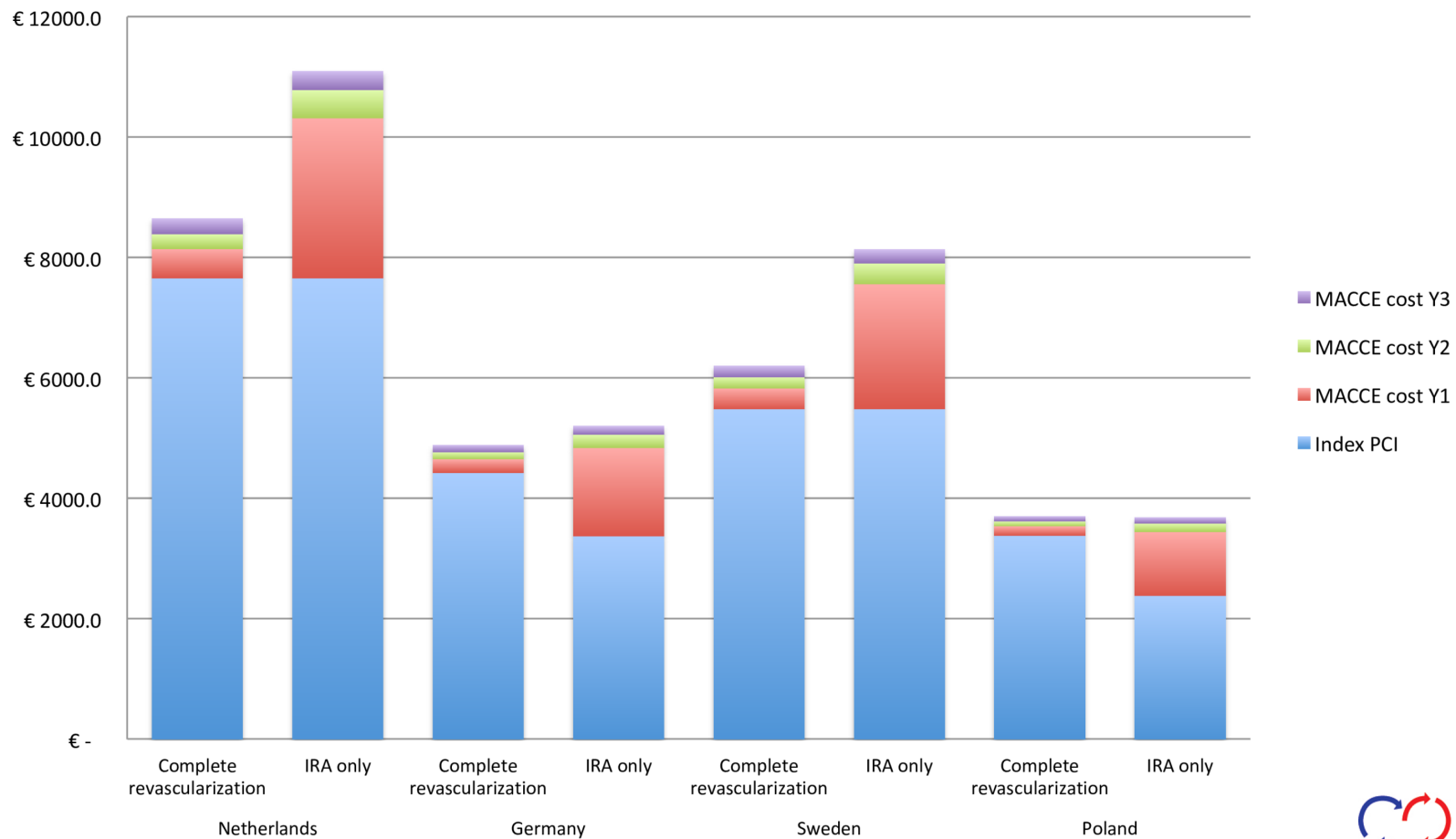
$$\text{Average costs} = \frac{\Sigma \text{ costs index PCI} + \Sigma \text{ costs per event} * \text{occurrence event}}{n}$$

- **Difference:**





$$\Delta \text{ Cost} = \text{average costs "IRA only"} - \text{average costs "Full revasc"}$$

$$\text{Cost reduction} = 100 - \frac{\text{Average costs per pt IRA only}}{\text{Average costs per pt Full revasc}} * 100 (\%)$$

## Governmental average costs per patient



# 3 year cost analysis outcome

Average cost/patient				
FFR guided complete Revascularization	€ 8.653	€ 4.887	€ 6.205	€ 3.704
IRA only Revascularization	€ 11.100	€ 5.200	€ 8.133	€ 3.685
Difference	€ 2.477	€ 314	€ 1.928	€ -19
Cost reduction	22%	6%	24%	-0.5%

# Conclusion

- FFR guided complete revascularization in the acute setting of STEMI PCI procedures can result in lower costs for society
- This strategy can result in 22% and 24% cost reduction for the Netherlands and Sweden, respectively, almost all obtained in the first year of follow-up
- In Germany a moderate 6% cost reduction and in Poland no cost reduction was seen, based on differences in DGR reimbursements at index procedure between both strategies, however FFR guided acute complete revascularization strategy results in less MACCE and less invasive procedures for patients

# Trial Organization

## **Steering committee**

Gert Richardt, Mohamed Abdel-Wahab, Elmir Omerovic, Franz-Josef Neumann, Pieter Smits (PI)

## **DSMB**

Per-Anders Jansson, Marianne Hartford, Kjell Petersson

## **CRO**

Gothia Forum (Gothenburg, Sweden): monitoring, data management

Diagram (Zwolle, The Netherlands): core lab and clinical event adjudication

## **Statistic analysis**

Bianca Boxma - de Klerk

## **Sponsor**

Maasstad Cardiovascular Research Organisation (Rotterdam, The Netherlands), receiving research grants from Abbott Vascular and St. Jude Medical

## **Trial manager**

Ria van Vliet-de Zeeuw



