BOAS PRÁTICAS CLÍNICAS EM CARDIOLOGIA

Methods for developing valid and sensitive indicators for measuring quality

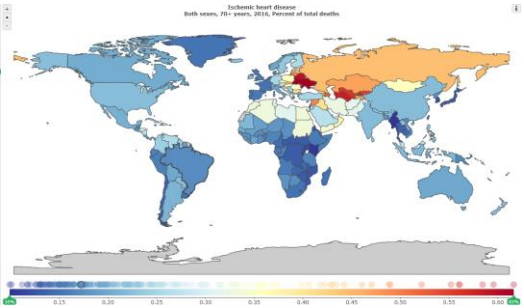
Focus on quality: forecasting the future

Fábio P. Taniguchi MD, MBA, PhD
Principal Investigator of the BPC Program

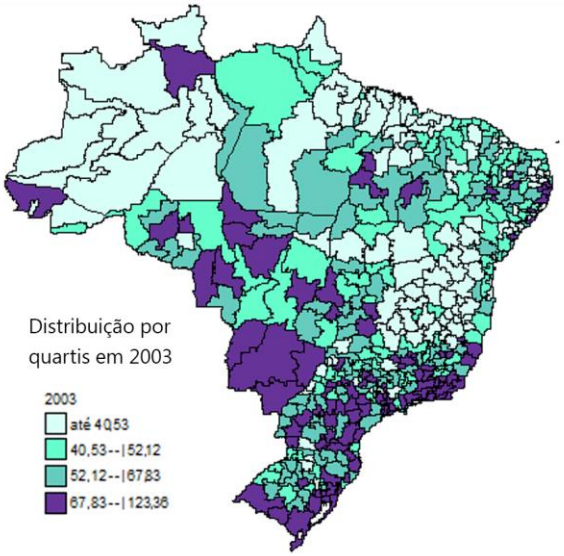
SBC2018 Brasília
73° CONGRESSO BRASILEIRO DE CARDIOLOGIA

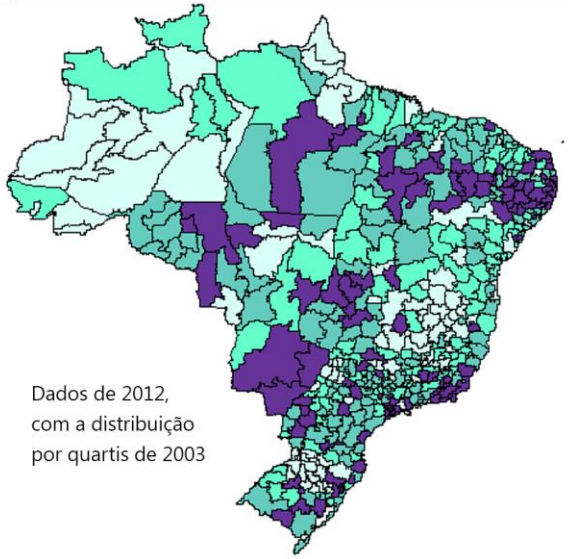
Declaration of Interest

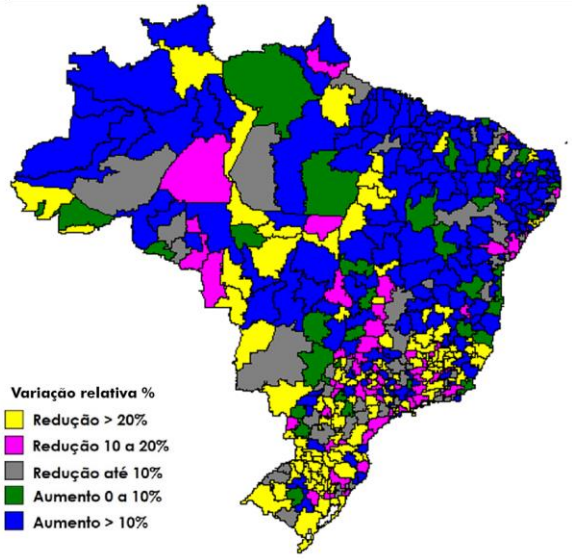
- I have nothing to declare



MYOCARDIAL INFARCTION MORTALITY RATE BRAZIL 2003 - 2012



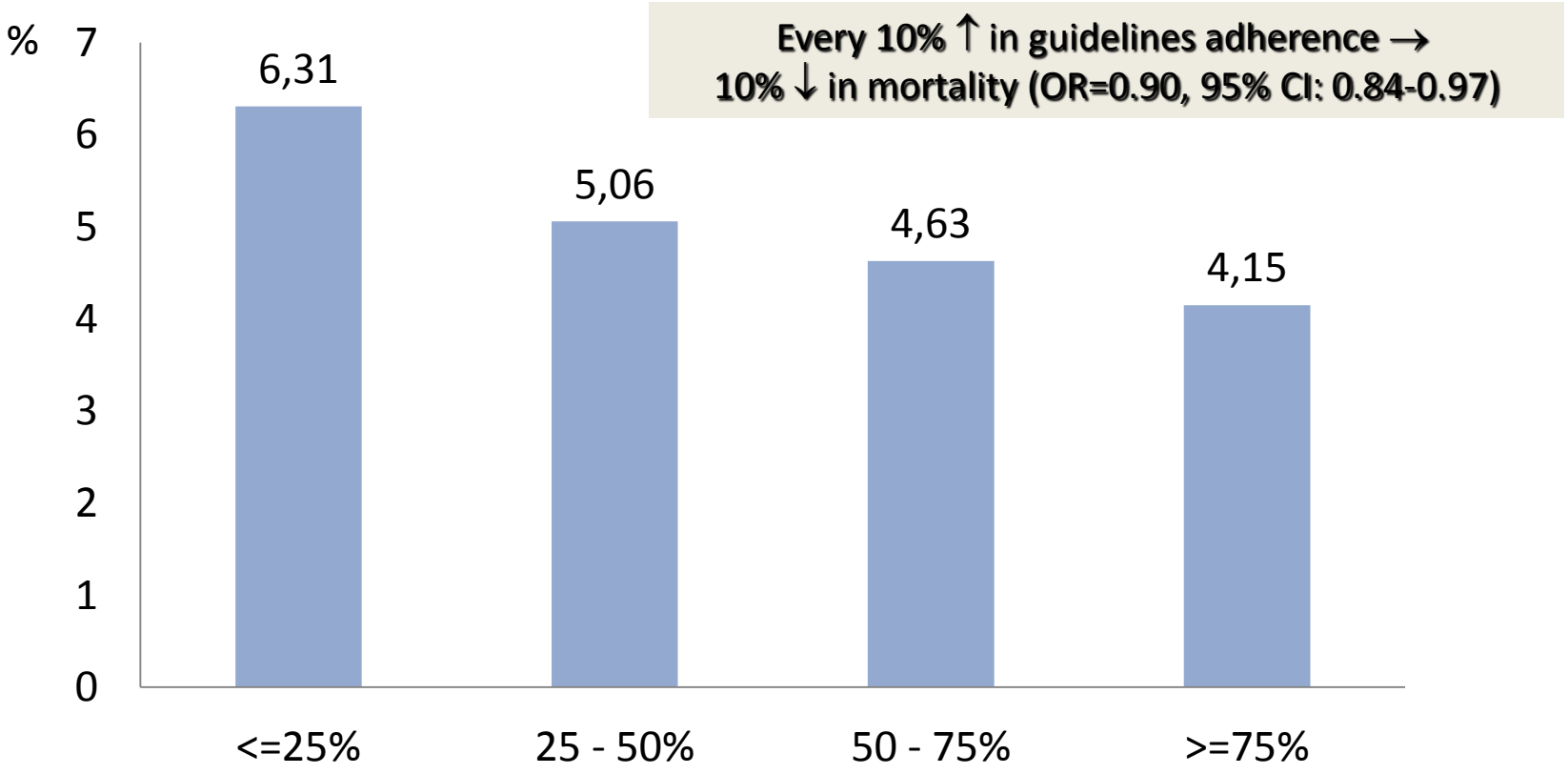




Fonte:SBC

Do you have an idea of how metrics in cardiology are running in your hospital?

Crusade Trial – Hospital Link Between Guidelines Adherences and Mortality



Every 10% ↑ in guidelines adherence →
10% ↓ in mortality (OR=0.90, 95% CI: 0.84-0.97)

Peterson E. JAMA 2006

Performance of hospitals according to the ESC ACCA quality indicators and 30-day-mortality for acute myocardial infarction using the United Kingdom Myocardial Ischeamia National Audit Project (MINAP) register

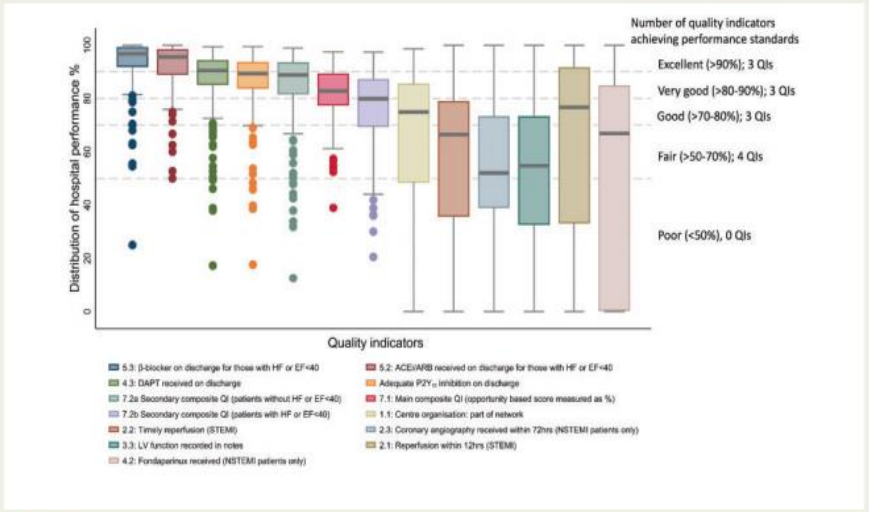


Figure 1 Distribution of hospitals' performance according to the European Society Cardiology; Acute Cardiovascular Care Association quality indicators for acute myocardial infarction.

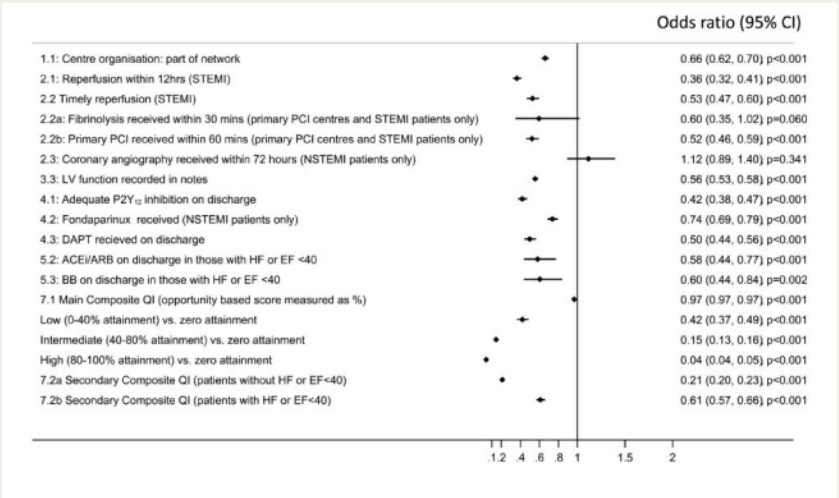


Figure 4 Association between the European Society Cardiology; Acute Cardiovascular Care Association quality indicators for acute myocardial infarction and crude 30-day mortality. The composite opportunity QI was divided into the following categories: zero–received no interventions out of those eligible for, low–received <40% of interventions eligible for, intermediate–received ≥40 to <80% of interventions eligible for and high–received ≥80% of interventions eligible for.

Bebb O. Eur Heart J 2017

Assessment of Quality Indicators for Acute Myocardial Infarction in the FAST-MI (French Registry of Acute ST-Elevation or Non-ST-Elevation Myocardial Infarction) Registries

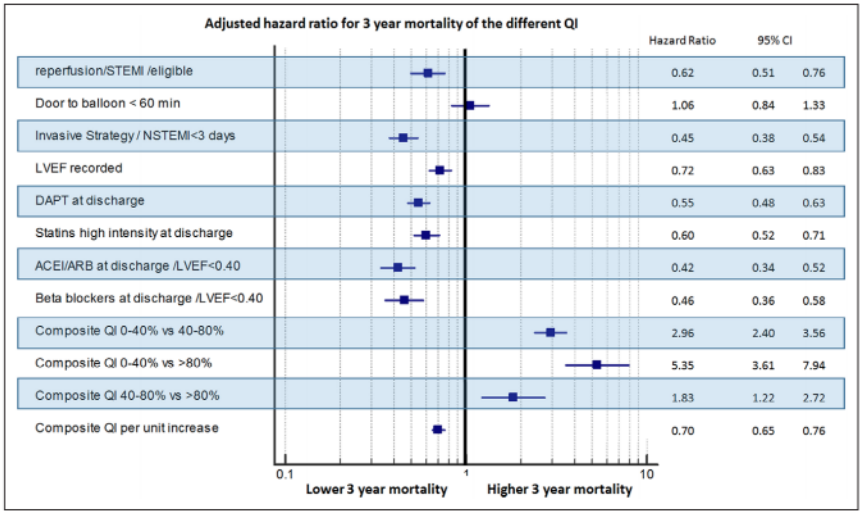


Figure 1. Quality indicators (QIs) associated with 3-year survival by Cox proportional hazards regression, adjusted for baseline characteristics, risk factors, type of myocardial infarction (MI; ST-segment–elevation myocardial infarction [STEMI] vs non–ST-segment–elevation myocardial infarction [NSTEMI]), deciles of the Global Registry of Acute Coronary Events (GRACE) score, biological variables at admission, volume of activity of the center, availability of coronary angioplasty on site and period (2005 or 2010 cohort). ACEI indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin-receptor blocker; DAPT, dual antiplatelet therapy; and LVEF, left ventricular ejection fraction.

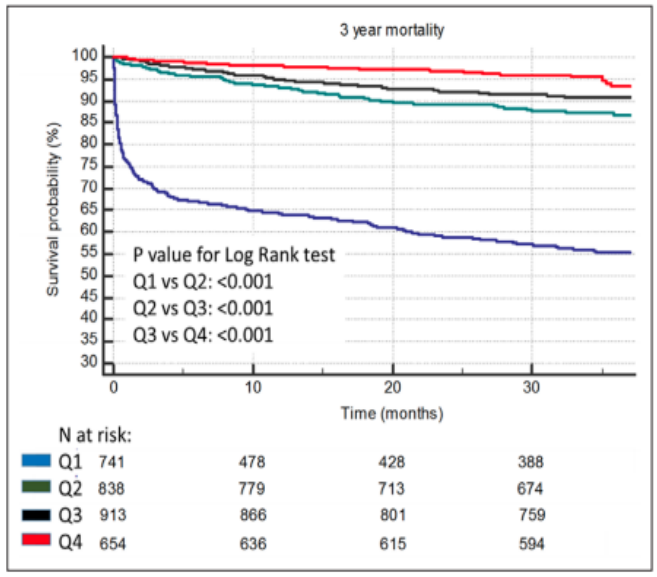
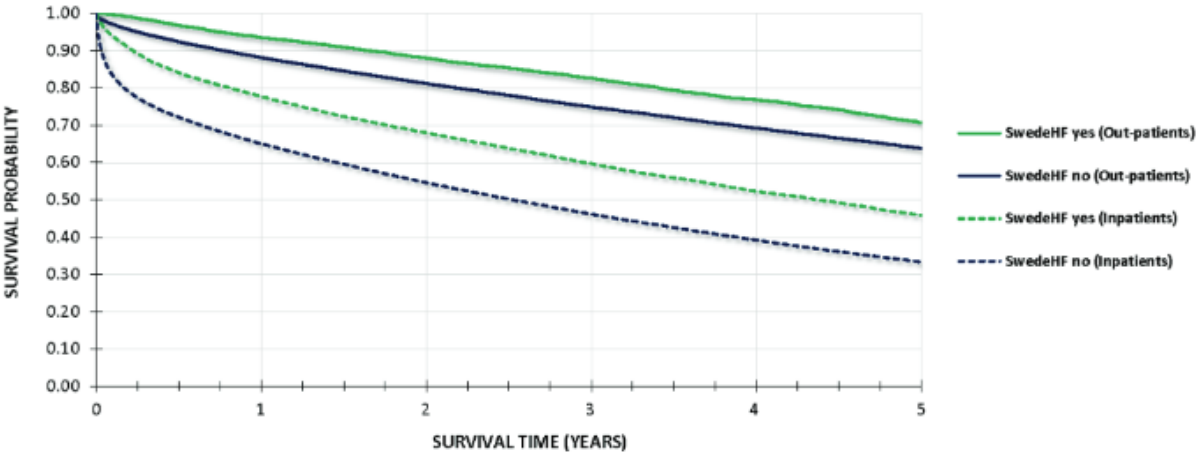


Figure 2. Kaplan–Meier survival curves according to quartiles of the opportunity-based composite quality indicator.

Schiele F. Circ Cardiovasc Qual Outcomes 2017

Association between enrolment in a heart failure quality registry and subsequent mortality. SWEDEHF—a nationwide cohort study

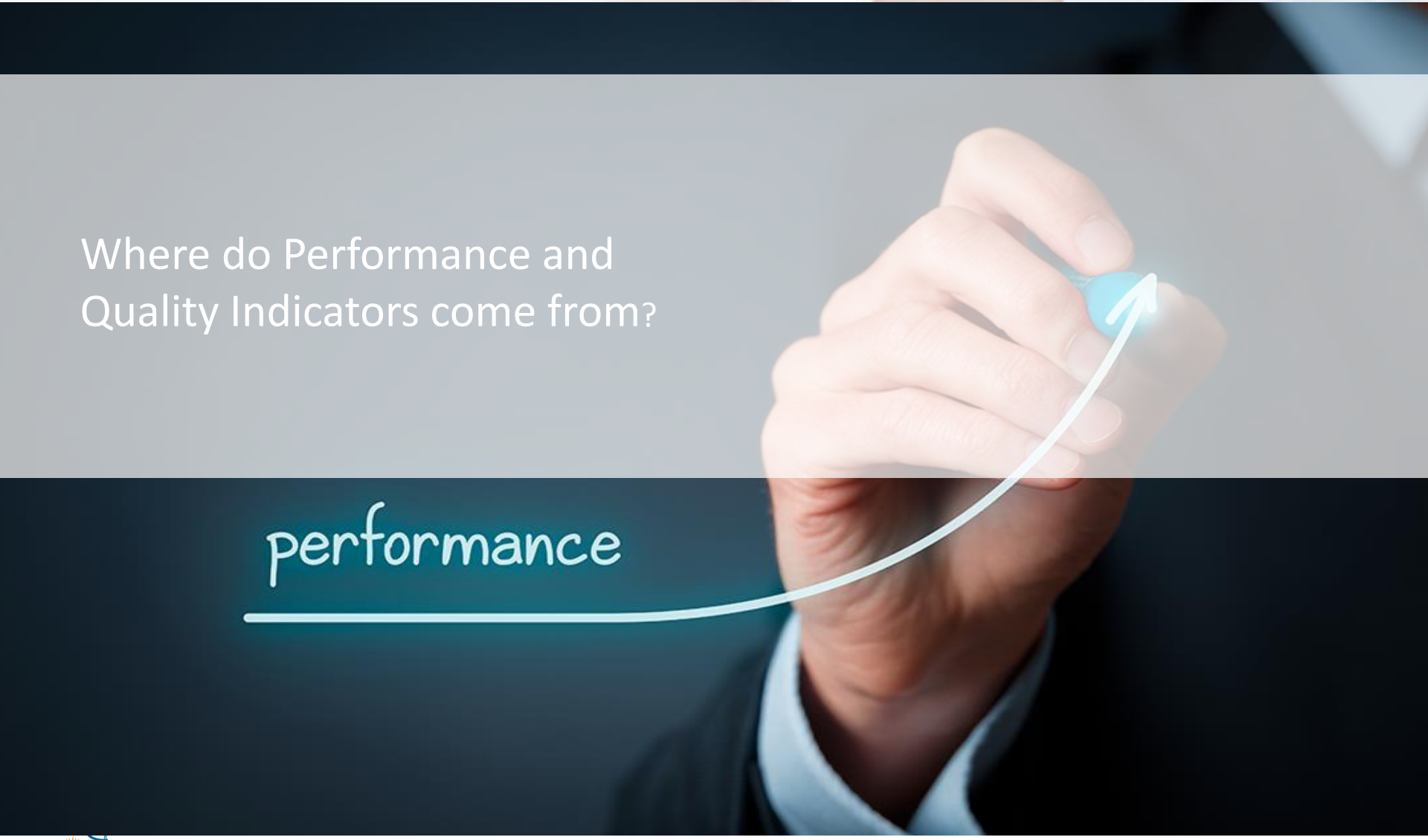


N patients						
SwedeHF yes (Out-patients)	6,996	6,544	5,542	4,272	3,137	2,219
SwedeHF no (Out-patients)	43,100	38,008	31,684	24,962	19,210	14,152
SwedeHF yes (In-patients)	14,892	11,575	9,374	7,175	5,201	3,651
SwedeHF no (In-patients)	166,449	108,207	83,137	60,462	43,084	29,560

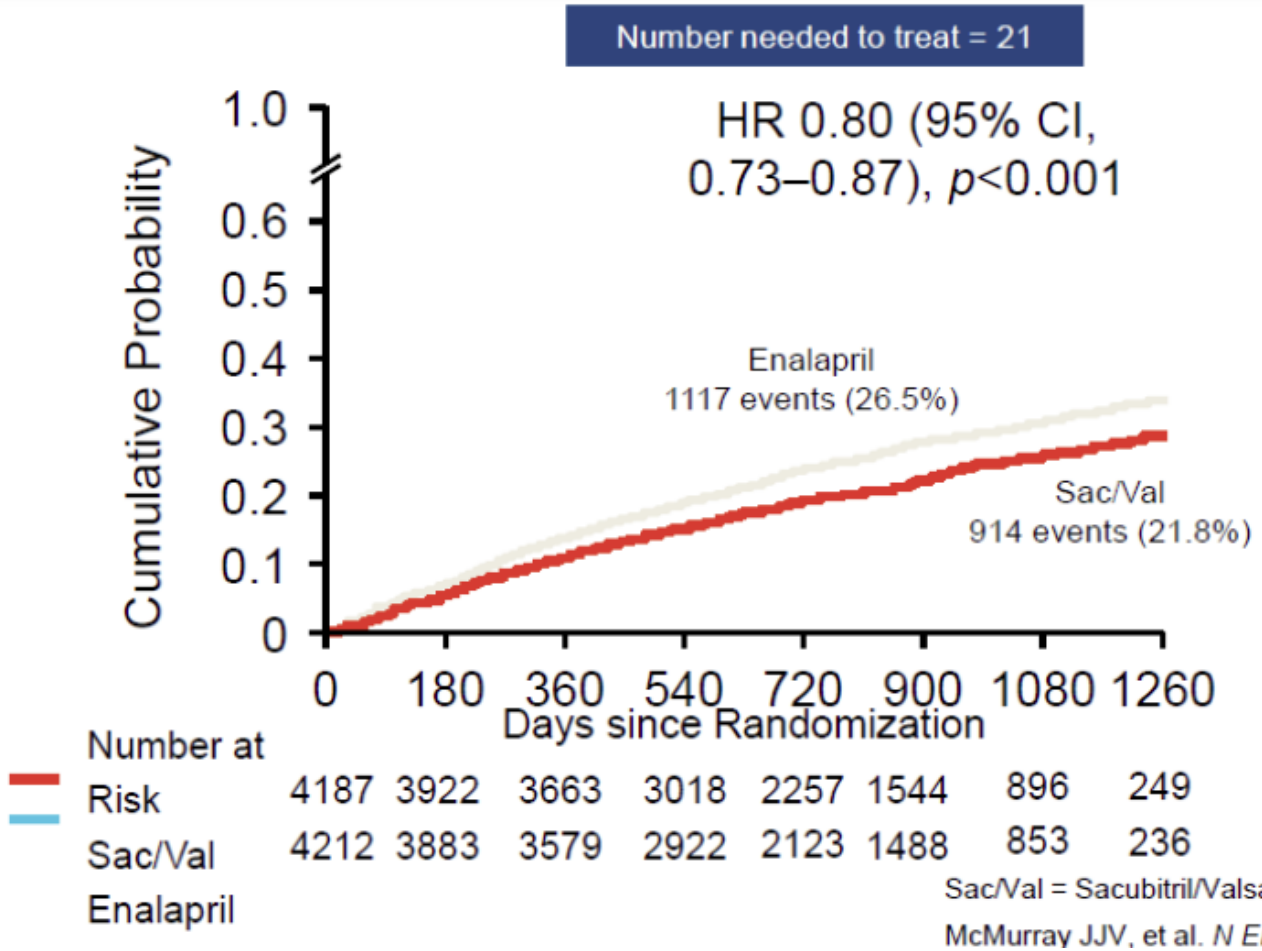
Figure 3 Kaplan–Meier survival curves according to enrolment in the Swedish Heart Failure Registry (SwedeHF) yes vs. no, for patients with incident heart failure (HF) seen as inpatients and as outpatients. NPR, National Patient Registry.

Lund LH. Eur Heart Fail 2017

Where do Performance and Quality Indicators come from?



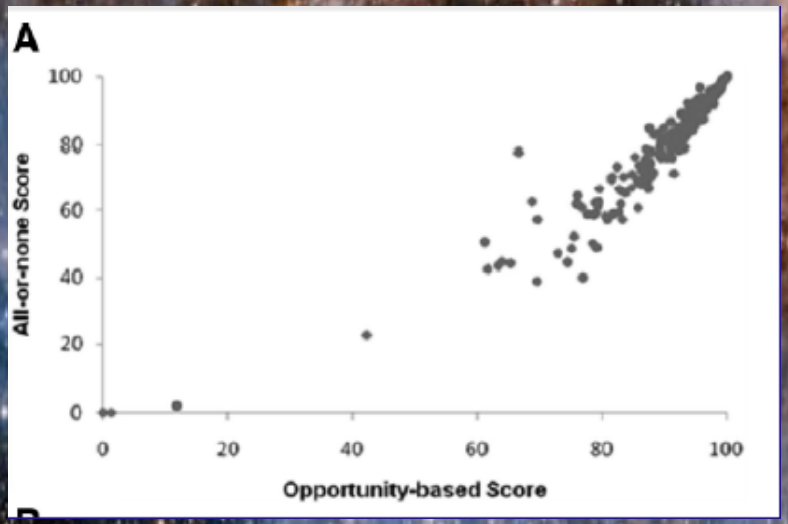
PARADIGM – HF : Primary Endpoint of Cardiovascular Death or FH Hospitalization

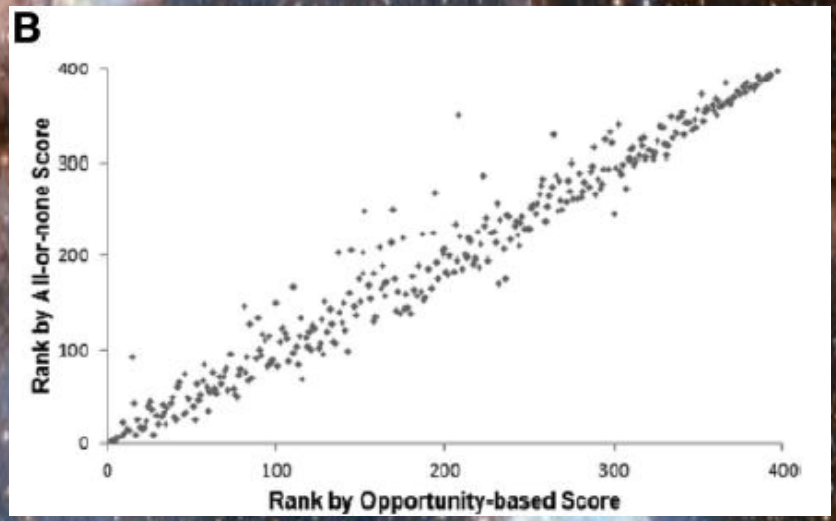


Sac/Val = Sacubitril/Valsartan.

McMurray JJV, et al. *N Engl J Med*. 2014;371:993-1004

Comparison of Composite Measure Methodologies for Rewarding Quality of Care An Analysis From the American Heart Association's Get With The Guidelines Program





Despite poor correlation between the two composites, ranking by the two scores is similar.

Eapen ZJ, Circ Cardiovasc Qual Ourcomes 2011

AHA/ACC Performance Measures

2017 AHA/ACC Clinical Performance and Quality Measures for Adults With ST-Elevation and Non–ST-Elevation Myocardial Infarction

A Report of the American College of Cardiology/American Heart Association Task Force on Performance Measures

Developed in Collaboration With the Society for Cardiovascular Angiography and Interventions

Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation

WRITING COMMITTEE MEMBERS
Hani Jneid, MD, FACC, FAHA, Chair; Daniel Addison, MD; Deepak L. Bhatt, MD, MPH, FACC, FAHA; Gregg C. Fonarow, MD, FACC, FAHA; Sana Gokak, MPH; Kathleen L. Grady, PhD, FAHA; Lee A. Green, MD, MPH; Paul A. Heidenreich, MD, MS, FACC, FAHA*; P. Michael Ho, MD, PhD, FACC, FAHA; Corrine Y. Jurgens, PhD, RN, ANP-BC, FAHA; Marjorie L. King, MD, FACC; Dharam J. Kumbhani, MD, SM, FACC, FAHA; Samir Pancholy, MD, FACC†

Box. 2017 AHA/ACC Clinical Performance and Quality Measures for Patients With Acute Myocardial Infarction

Performance Measures

PM-1. Aspirin at arrival

PM-2. Aspirin prescribed at discharge

PM-3. β Blocker prescribed at discharge

PM-4. High-intensity statin prescribed at discharge

PM-5. Evaluation of LVEF

PM-6. ACEI or ARB prescribed for LVSD

PM-7. Time to fibrinolytic therapy (only for patients with STEMI)

PM-8. Time to primary PCI (only for patients with STEMI)

PM-9. Reperfusion therapy (only for patients with STEMI)

PM-10. Time from ED arrival at STEMI referral facility to ED discharge from STEMI referral facility in patients transferred for primary PCI (only for patients with STEMI)[a]

PM-11. Time from FMC (at or before ED arrival at STEMI referral facility) to primary PCI at STEMI receiving facility among transferred patients (only for patients with STEMI)[a]

PM-12. Cardiac rehabilitation patient referral from an inpatient setting

PM-13. PY12 Receptor inhibitor prescribed at discharge

PM-14. Immediate angiography for resuscitated out-of-hospital cardiac arrest in patients with STEMI

PM-15. Noninvasive stress testing before discharge in conservatively treated patients

PM-16. Early cardiac troponin measurement (within 6 hours of arrival)

PM-17. Participation in at least 1 regional or national registry that includes patients with acute myocardial infarction[a]

Quality Measures

QM-1. Risk stratification of patients with NSTEMI with a risk score

QM-2. Early invasive strategy (within 24 hours) in high-risk patients with NSTEMI

QM-3. Therapeutic hypothermia for comatose patients with STEMI with out-of-hospital cardiac arrest

QM-4. Aldosterone antagonist prescribed at discharge

QM-5. Inappropriate in-hospital use of NSAIDs

QM-6. Inappropriate prescription of prasugrel at discharge in patients with a history of stroke or TIA

QM-7. Inappropriate prescription of high-dose aspirin with ticagrelor at discharge

Abbreviations: ACC, American College of Cardiology; ACEI, angiotensin-converting enzyme inhibitor; AHA, American Heart Association; ARB, angiotensin receptor blocker; ED, emergency department; FMC, first medical contact; LVEF, left ventricular ejection fraction; LVSD, left ventricular systolic dysfunction; NSAID, nonsteroidal anti-inflammatory drug; NSTEMI, non-ST-segment myocardial infarction; PCI, percutaneous coronary intervention; PM, performance measure; QM, quality measure; STEMI, ST-elevation myocardial infarction; TIA, transient ischemic attack.

[a] Attribution is to the facility for these 3 PMs. All other measures have attribution to the facility or health care professional.

Hospital do Coração
HCor
Associação do Sanatório Sírio

PROADI-SUS

SOCIEDADE BRASILEIRA DE CARDIOLOGIA
SBC
1943

American Heart Association.
life is why™

Core Principles of BPC

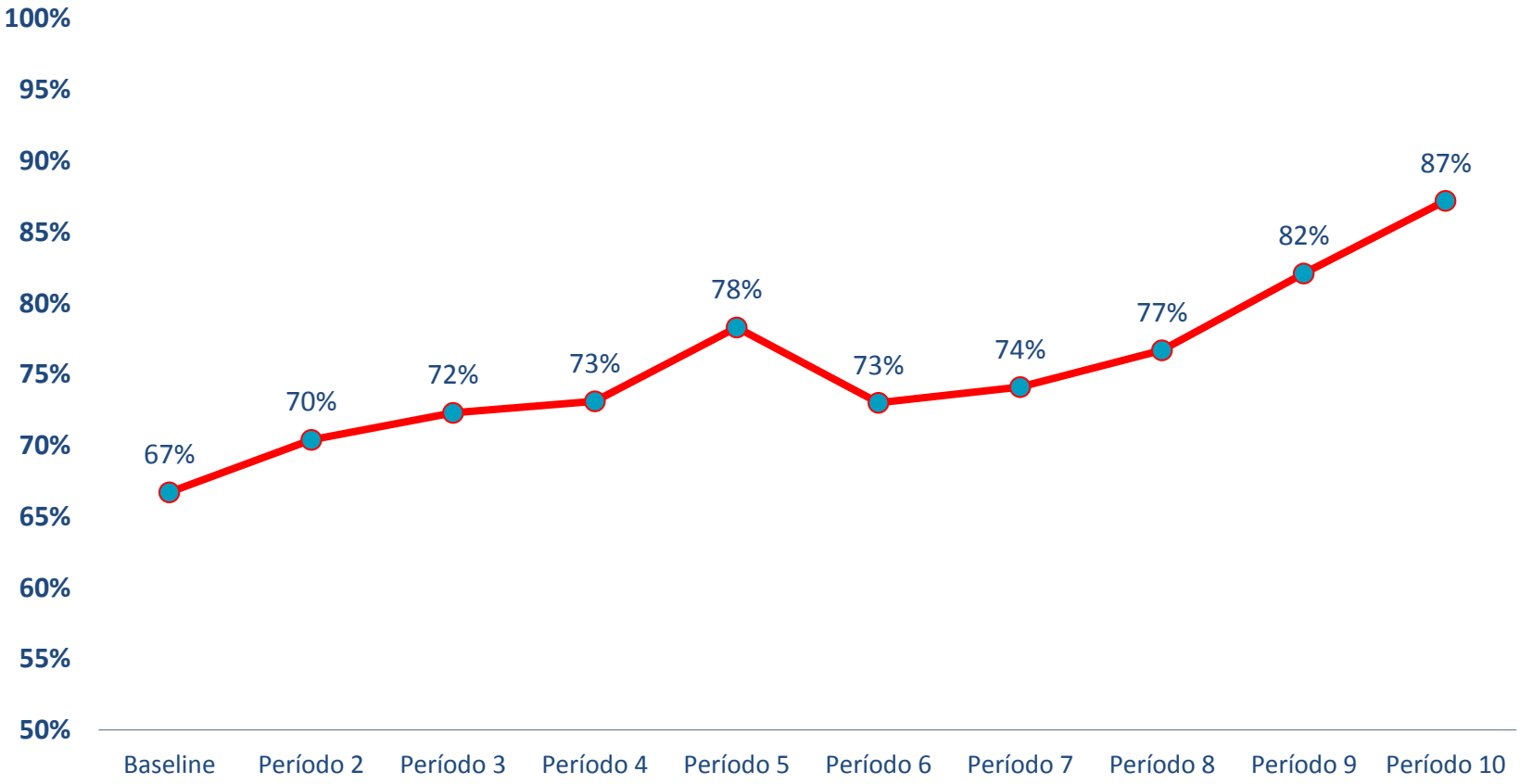
- Quality Improvement
- Guidelines into clinical practice
- ‘Teachable moment’
- Collecting data to driving process
- Highlight key insights
- Benchmarking

BPC Sites

Hospitais Participantes

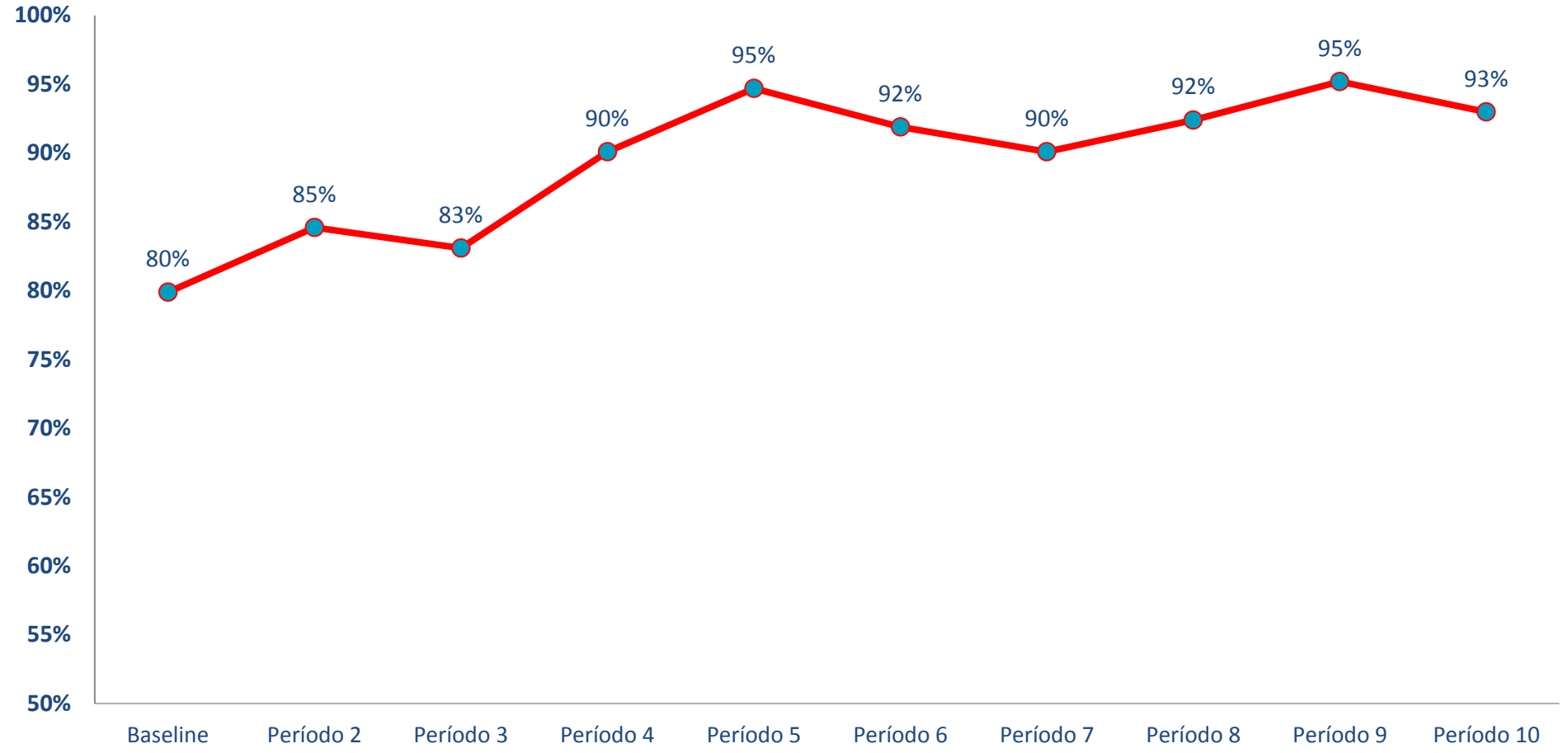
Estado	Cidade	Hospital	PI
Alagoas	Maceió	Santa Casa de Misericórdia de Maceió	Dra. Maria Alayde Mendonça da Silva
Bahia	Salvador	Hospital Ana Nery	Dr. Marco Antônio Vieira Guedes
Ceará	Fortaleza	Hospital de Messejana Dr. Carlos Alberto Studart Gomes	Dr. João David de Souza Neto
Distrito Federal	Brasília	Instituto de Cardiologia - ICDF	Dr. Vitor Salvatore Barzilai
Goiás	Goiânia	Hospital de Clínicas – Universidade Federal de Goiás	Dr. Weimar Kunz Sebba Barroso de Souza
Maranhão	São Luís	Hospital Universitário Federal do Maranhão (HU – UFMA)	Dr. José Albuquerque Figueiredo Neto
Minas Gerais	Belo Horizonte	UFMG - Universidade Federal de Minas Gerais	Dr. Luiz Guilherme Passaglia
Minas Gerais	Uberlândia	Hospital de Clínicas – Universidade Federal de Uberlândia	Dr. Elmiro Resende
Pará	Belém	Fundação Pública Estadual Hospital das Clínicas Gaspar Vianna	Dr. Kléber Renato Ponzi Pereira
Pernambuco	Recife	PROCAPE - Pronto_Socorro Cardiológico de Pernambuco	Dr. Sergio Montenegro
Pernambuco	Recife	Comando da Aeronáutica (Hospital de Aeronáutica de Recife)	Dr. Rafael Alessandro Ferreira Gomes
Rio de Janeiro	Rio de Janeiro	UERJ- Universidade do Estado do Rio de Janeiro	Dr. Denilson Albuquerque
Rio de Janeiro	Rio de Janeiro	Instituto Nacional de Cardiologia	Dra. Marília Vasconcelos
Rio Grande do Sul	Porto Alegre	HCPA- Hospital de Clínicas de Porto Alegre	Dr. Luis Eduardo Paim Rohde
São Paulo	São Paulo	UNIFESP- Universidade Federal de São Paulo	Dr. Angelo V. A. de Paola

Atrial Fibrillation- Composite Performance Score



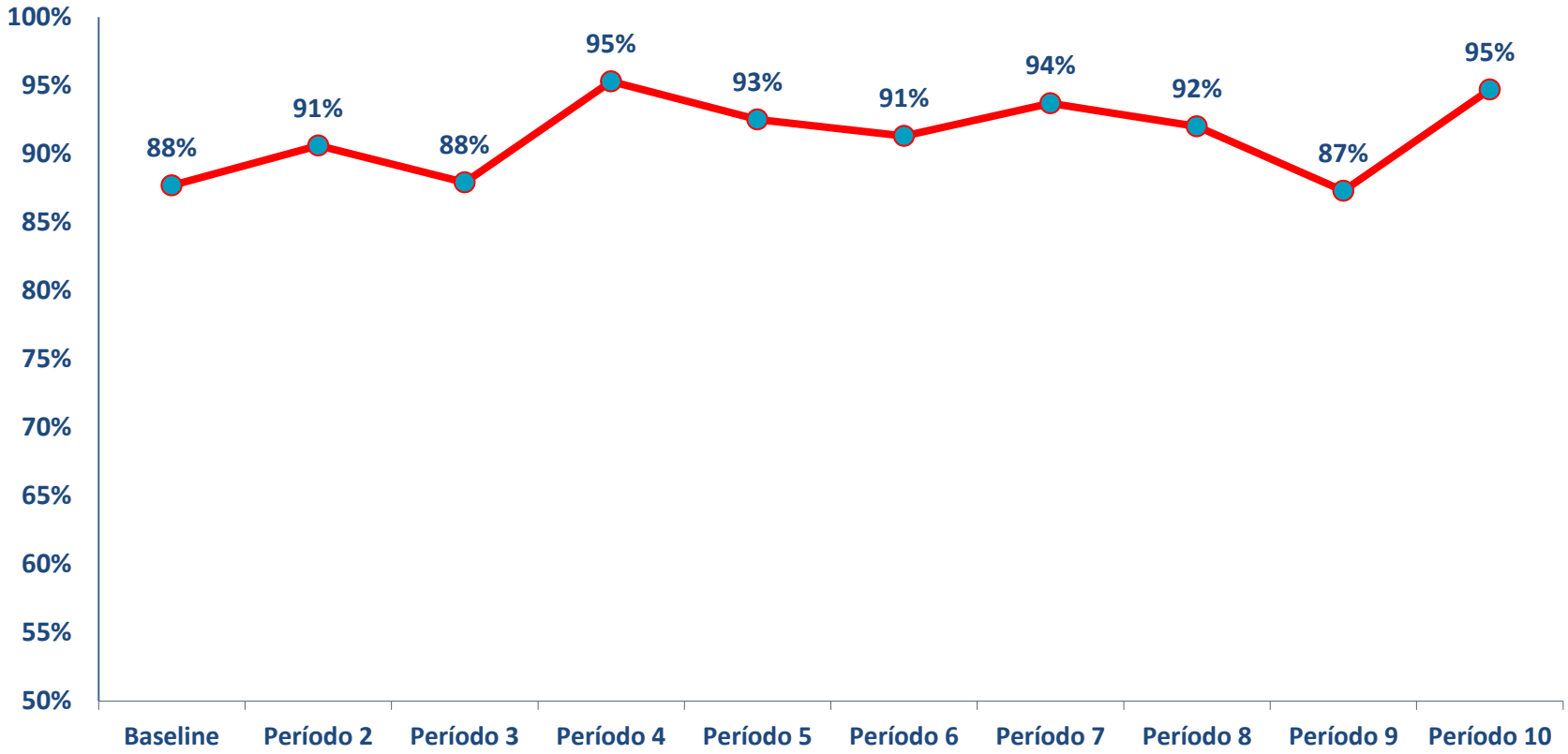
n= 1557; p<0,001

Heart Failure – Composite Performance Score



n=1488; p<0.001

Acute Coronary Syndrome – Composite Performance Score



n= 1941; p=0.003

BOAS PRÁTICAS CLÍNICAS EM
CARDIOLOGIA

SBC2018 Brasília
73° CONGRESSO BRASILEIRO DE CARDIOLOGIA

cardiol.br/boaspraticasclinicas
bpc@hcor.com.br