



21 countries from 5 continents inspired by Stent for Life Initiative

Twenty one countries from five continents participated in the Stent for Life (SFL) Initiative during the past seven years, and their representatives met at the 5th SFL Forum 2016 in Prague recently.

The primary goal of each country organisation participating in SFL is to develop regional 24/7 primary-PCI networks to cover the country STEMI population's need, thus increasing the use of primary-PCI to more than 70% among all ST segment elevation myocardial infarction patients. Engaging all health-care stakeholders e.g. physicians, politicians, payers, industry partners and patients' organisations, integrating SFL into a government supported programme, and

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establishing a national ACS registry to measure the SFL progress, are the three major drivers of implementing the SFL model at a national level successfully.

SFL teams reported striking rises in primary PCI utilisation in Bulgaria, Greece, Spain, Serbia and Turkey in 2012, followed by SFL teams from Egypt, Portugal, and Romania in 2014. This year, SFL country representatives from Bosnia-Herzegovina and Ukraine, joining SFL in 2012, proved

at the SFL Forum 2016 that geographic mapping, situational analysis, proper planning and execution are critical success factors in building SFL regional STEMI networks even under complex political conditions.

153 primary-PCI/1 mio were performed in 2012 in Bosnia-Herzegovina, and 338 primary-PCI/1 mio were performed in 2015, increasing the percentage of primary-PCI performed from 19% to 41% of all STEMI patients hospitalised. Results from SFL Ukraine are encouraging as well. There were only three STEMI networks providing primary-PCI in 2012 in Ukraine, covering 13% of the country territory. In three years, 14 STEMI networks are involved in SFL covering 60% of the territory. The number of primary-PCI performed has increased from 75 primary-PCI/1 mio inhabitants to 146 primary-PCI/1 mio inhabitants, in 2012 and 2015 respectively.

In countries affiliated with SFL, e.g. India, Argentina, and Mexico, a pharmaco-invasive strategy for patients presented with STEMI is applied, while effort is taken to address local barriers to develop effective regional STEMI networks.

Christoph K. Naber appointed Stent for Life Initiative Chairman



Christoph K. Naber has been appointed Stent for Life (SFL) Chairman, and will lead SFL for the next three years. Christoph K. Naber has served as a member of the executive board of the European Association of Percutaneous Cardiovascular Interventions (EAPCI) of the European Society of Cardiology (ESC), and is an active member of the PCR family. Christoph K. Naber is the course co-director of EuroPCR and PCR London Valves, and the course director of AsiaPCR, and is a

member of the editorial boards of EuroIntervention and AsiaIntervention journals.

Stent for Life Mission remains the same. Worldwide

The primary goal is to reduce the mortality and morbidity of patients suffering from acute coronary syndromes (ACS) by supporting the development and implementation of clinical practice guidelines on myocardial revascularisation at national and regional levels. From building the regional STEMI networks to STEMI patients and public education, SFL is addressing all segments of STEMI patient's journey, and doing so improves time to treatment and patient outcomes.

Measuring SFL impact on clinical treatment guidelines implementation at national levels

A SFL survey will be conducted in 2016 to evaluate the current status of reperfusion therapy for ST elevation acute myocardial infarction. The ESC member and affiliate member countries will be invited to collect 2015 data on reperfusion treatment by using a self-administered questionnaire, and provide descriptive analysis of the type of reperfusion utilisation, time delays, pharmacotherapy and medical devices use at a national level.

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The implementation of the SFL Initiative resulted in a significant reduction of morbidity, mortality and labour productivity loss



The SFL Economic Model was developed to demonstrate the financial, economic, and clinical benefit of timely STEMI admissions and primary-PCI treatment (pPCI). SFL Romania, SFL Portugal, SFL Spain, and SFL Siberia teams have contributed to the SFL Health Economics Work Group's research for the past three

years. The cost analysis was calculated by comparing the wage loss due to mortality and morbidity with the direct treatment cost of a STEMI for four treatment options: (a) no reperfusion; (b) thrombolytic only; (c) pPCI and (d) Coronary Artery Bypass Graft (CABG).

Listed below are the highlighted results of the study by country/region:

Romania

The SFL economic model measured data from 2009 to 2014. STEMI pPCI was 136 per M population in 2009 and grew to 434 per M population over the course of the SFL Initiative. The PCI % of timely admits was one of the drivers for the improvement, increasing from 20% in 2009 to 60% in 2014. Despite the addition of 8 catheterisation labs, there was a net cost reduction of 40.4M USD across the 6 years measured.

Portugal

The SFL economic model measured data from 2010 to 2013. STEMI pPCI was 264 per M population in 2010 when the SFL Initiative began and increased to 340 per M population by 2013. On-time STEMI admissions also increased over this time-period. The net result of these improvements was a reduction of mortality of 414 lives and nearly 45.6M USD of cost savings. The burden of disease (STEMI) also decreased by almost 150M USD.

Spain

We looked at the Basque Country region, as the data was the most consistent from this area. Over the course of the SFL Initiative, the initial pPCI per M population was estimated at 254 in 2012 and grew to 341 by 2015 while on-time admissions improved by 5 percentage points. Due to a relatively high GDP per Capita and low inflation rate, significant cost savings were achieved of approximately 2.8M USD in an area of less than 700,000 people.

Siberia

We focused on the Kemerovo region where most of the SFL gains have been achieved, measuring from 2011, the start of the SFL Initiative, to 2015. PCI as a % of on-time STEMI admissions, increased from 12% in 2011 to 39% in 2015 (which corresponds to 315 pPCI per M population). During this time period, there was approximately 1.8M USD of investment in catheterisation labs and interventional cardiologists. However, the productivity savings due to higher rates of PCI more than offset this amount, resulting in cost savings of 4.7M USD.

The analysis has shown that the SFL Initiative and government support can result in a significant increase in the number of timely PCI procedures for those with STEMI. Consequently, that when pPCI cases increase, there is a corresponding economic and cost savings (due to increased productivity from a healthier workforce) which can offset investments in devices, catheterisation laboratories, and interventional cardiologists.

	Romania (2009-2014)		Portugal (2010-2013)		Basque Ctry-Spain (2012-2015)		Kemerovo-Siberia (2011-2015)	
	Pre-SFL	Post-SFL	Pre-SFL	Post-SFL	Pre-SFL	Post-SFL	Pre-SFL	Post-SFL
On-time Admissions as % of Total Incidence	55%	60%	32%	39%	34%	39%	48%	63%
PCI % of Timely Admits	20%	60%	75%	88%	91%	97%	12%	39%
Pop per Cath. Lab	2,125K	1047K	330K	377K	628K	628K	2,700K	1,350K
pPCI, M Pop	136	434	264	340	254	341	78	315
Net Cost Savings (USD)	40.4M		45.6M		2.8M		4.7M	

'On-time admissions': STEMI patients where symptom onset to Admission is <12 hrs
'Net Cost Savings': net of productivity cost savings and fixed/variable cost increases

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SFL call for earliest secondary prevention at STEMI patients discharge from a hospital

SFL Initiative is calling for collaboration with the European Association of Cardiovascular Prevention and Rehabilitation (EACPR) and the Council of Cardiovascular Nursing and Allied Professions (CCNAP) to address the earliest secondary prevention after acute myocardial infarction.

To improve STEMI patient adherence to a secondary prevention therapy, Contract4Life|After Heart Attack, a structured nurse assisted education program, was initiated in May 2015, and is implemented in Greece, Portugal, Romania, Spain, and the Czech Republic. Total 26 primary-PCI hospitals participate in the programme, which is focused on individual STEMI patient's risk factors identification and setting individual objectives related to their lifestyle change.

Key barriers to implement early secondary prevention programmes at primary-PCI hospital

Huge differences exist among countries, regions and hospitals related to STEMI patients' access to the earliest secondary prevention intervention programmes, reports Stent for Life (SFL) based on preliminary results from situation mapping in SFL pilot countries participating in the recent SFL survey.

Health Care System Barriers at primary-PCI hospital

Lack of structured discharge processes

Absence of a dedicated education specialist at primary-PCI hospital heart team

Early discharge from a primary-PCI hospital to a referral center

Lack of patients' risk stratification at discharge from a primary-PCI hospital

Non-existing reimbursement for nurse assisted patient education

Patient Barriers

Old age and multiple co-morbidities

Lack of motivation to change a current behavior

Low socioeconomic status and level of education

Low or no support from family and relatives

Financial limitations

Multidisciplinary approach is required at national as well as at European levels to support the ESC treatment guidelines implementation related to an early secondary prevention after myocardial infarction.