

## BSC vision for the future of cardiology

### **A. Introduction**

Although cardiovascular prevention by life-style changes and medical treatment of known cardiovascular risk factors together with technical improvement of cardiovascular interventions, percutaneously or surgically, has resulted in a dramatic decline in the morbidity and mortality of these diseases, cardiac diseases are still the leading cause of morbidity and mortality in Belgium. Aging of the population contribute certainly to this situation with an increasing number of patients with heart failure and other cardiac conditions including valvular heart disease.

Due to the increasing incidence of cardiovascular disease in recent years related to aging and due to increasing costs of diagnostic and interventional tools used within cardiology, patients with cardiovascular diseases have an important impact on the healthcare budget worldwide. Taking these elements together with the actual financial crisis one can understand the tension between the needs and the financial possible support. However, continuous investment in cardiology is the only rational way to go: Recent evidence shows that between 1990-2013, only in Central and Western Europe, gains in cardiovascular health (reduction in age-specific cardiovascular death rate) were sufficient to offset the demographic forces of aging (increase in cardiovascular death rate due to population aging – N Eng J Med 2015).

The following paper represents the vision of the board of the Belgian Society of Cardiology (BSC) on the needs within cardiology in the next 5 years: each Working group added its specific topics in this document. It is aimed to be the basis for a constructive participation of the BSC in the current debate with the authorities. As a general principle, the BSC underlines the fact that although cardiology is a discipline with technical diagnostic and therapeutic techniques, it will always be a discipline with an important intellectual effort and with a high responsibility.

### **B. General considerations**

The BSC is a scientific society aimed to promote cardiac care programs based on scientific evidence to assure the most appropriate cardiac care to patients. The BSC has no political preferences and has no connections with any lobbying group in Belgium. As a scientific organization our main associate in promoting optimal cardiac care in Belgium is the European Society of Cardiology.

The basic ideas set out in this paper are:

- Organization of “reference or competence centers” in the different subspecialties of cardiology, with the creation of networks of cardiology between the different hospitals: although quantity does not guarantee quality, for major procedures a critical mass of procedures is needed to permit quality. Therefore, centralization of these high-tech procedures is a prerequisite underlying once again the aberration of new heart centers in Belgium due to the KB-AR of Minister Onkelinx.
- Emphases on clinical pathways (trajet de soins/zorg programma) integrating all partners taking care of the patient with a cardiovascular problem, including the GP.
- Proposal for cardiac care based on generally accepted cardiac practice (European Society of cardiology (ESC) guidelines) and EBM medicine, without financial compromises nor influences by political or lobbying groups.
- Optimization of the existing databases to promote quality; an audit on the quality of the input in these databases is the responsibility of the government.
- Development of initiatives to improve quality of care and development of indices of quality, preferentially identical for the federal and regional governments.

- Allowing the development of innovative techniques. Reference centers within each cardiac network could take the lead avoiding too early widespread use of these expensive techniques. This should result in a cost-limiting start-up of these new techniques.
- Financial arguments in favor or against certain interventions can only be addressed on a scientific basis: use of QUALY's...
- The BSC has a tradition in education of cardiologists in Belgium. In the future these efforts should be continued and reinforced to guarantee optimal quality in cardiac care.

### **C. Specific considerations:**

#### **1. Coronary artery disease**

##### *Acute coronary syndrome:*

Organization of high volume centers for interventional cardiology and optimization of care of patients with STEMI (acute myocardial infarction) within the cardiac networks.

Need for organization and regulation of patients transfer, from home or peripheral centers to high volume centers with regulation of cost between referring and referred center. This must be organized by the authorities with the help of the physicians. Education of paramedics and generalization of electronic ECG transfer to the referring centers must be realized.

Recognition of dedicated coronary care units with adequate financial support.

Optimization of the STEMI database, with quality evaluation of the management for acute coronary syndrome (quality criteria developed with the support of the College of Cardiology and the working group for acute cardiology). Support (organization and financial) for quality.

##### *Non acute coronary syndrome:*

Organization of high volume centers for PCI and limitation of the number of centers allowed to perform angioplasty. This is in accordance to the previous position paper published in 2009 by the BSC (Acta Cardiologica 2009; 64 (4):537-539).

Optimization of the PCI database (Quermid), with quality evaluation of different parameter to be developed with the support of the College of Cardiology and the working group for interventional cardiology, with the possibility to be linked to other "health "database (mid and long term mortality, morbidity, follow up data..).

Monitoring of the use of PCI in accordance with European guidelines and EBM.

Recognition of the use of FFR as help for treatment decision as proposed in the ESC guidelines on revascularization.

Discussion of the most adequate treatment for the patient regarding the recent recommendations of the ESC guidelines. The "heart team" (surgeon, cardiologist, anesthesiologist...) is the organization for case-discussions and decision-making for interventions. This should be formalized within each cardiac network.

## **2. Heart failure**

Development of a multi-disciplinary care pathway for heart failure including recognition of heart failure nurse and the GP as actor of this pathway.

Competence centers with advanced heart failure technique: LVAD and heart transplant.

Reimbursement of cardiac rehabilitation for heart failure patients also without previous hospitalization.

Reimbursement for BNP in patients suspected with heart failure (on GP level / admission in hospital with suspicion of HF).

These 3 points correspond to the translation of ESC guidelines into national clinical practice.

Development of a national database for heart failure, allowing the definition of quality indices for the treatment and the follow up of these patients.

## **3. Electrophysiology**

Limitation of the number of centers involved in complex ablations in Belgium: concordant with Western European distribution and especially to improve quality of care for patients with complex cardiac arrhythmias. A limitation of these centers should result in a decrease in investments in expansive infrastructure and probably also in a reduction of the number of procedures, leading to an economical window which should allow better reimbursement for device therapy.

Reevaluation of the reimbursement (1) in device therapy: reassessment of the honoraria for device (Pm, ICD, CRT, ILR) implantation and follow up, (2) in ablation material: reassessment of forfaits especially in VT/AF ablation.

Optimize the present Quermid database (PM, ICD, ILR) including modern technology connection to bar code reading,... and link to all other authority databases to be able to analyze mid and long term mortality, morbidity, follow up data... Development of quality criteria with the support of the College of Cardiology and the Belgian Heart Rhythm Association.

## **4. Valvular heart disease:**

With the aging of the population, there is also an increase in the number of patients presenting degenerative valve disease and especially aortic stenosis.

Recent developments within interventional cardiology, allow now to implanted heart valves "percutaneously" : TAVI and devices to treat mitral regurgitation such as the Mitraclip now. Other new percutaneous valve devices will appear in the following years. Within competence centers these techniques should be offered to certain of these well selected patients within a normal reimbursement system. These innovative percutaneous techniques will change the clinical practice within cardiology, limiting the number of hospitalizations for heart failure and decreasing the number of surgical procedures. This must create an economical opportunity.

There is actually no "programme de soins/zorg programma" regarding valvular heart disease. According to ESC guidelines, optimal decision regarding treatment for valvular disease must be decided inside de "heart team" (surgeon, cardiologist, anesthesiologist...).

We propose to create a new “programme de soins/zorg programma” for valvular heart disease for specific centers with a high volume and the presence of both an interventional and surgical team with experience in all treatment strategies.

National databases for interventional procedures must be encouraged and used for quality indices.

### **5. Cardiac imaging**

At the era of multimodality non-invasive cardiac imaging (echocardiography, cardiac nuclear medicine, cardiac- CT and MRI), only the cardiologist has the expertise to interpret and to choose the most appropriate modality(ies) that should be used for each specific clinical situation. Therefore, he would be able to act as a gatekeeper in order to avoid unnecessary exams, costs and radiation exposure.

We need to promote quality in cardiac imaging by encouraging high standards in education and the use of appropriateness criteria as proposed by the European Association of Cardiovascular Imaging.

A global certification in cardiac imaging for cardiologists and the use of appropriateness criteria defined by the working group need to be set up.

### **6. Cardiac prevention and rehabilitation**

The first steps in prevention of cardiovascular disease start with promotion of healthy consumption habits (food, smoking) and exercise. This must be encouraged not only at the level of primary prevention but also for secondary prevention. The aim is to reduce the burden of heart disease and thus reduce health care cost and socio economic cost by reducing the number of patient not returning at work after a first cardiac event.

Organization of cardiac rehabilitation must be patient tailored, high quality, using a multidisciplinary approach and organized in supra-regional networks. In these networks we see a central, coordinating role for recognized cardiac rehabilitation centers (called hubs) that co-work intensively with more peripheral or remote centers (or cardiologists with a private practice) who execute at least part of the multidisciplinary program, prescribed by the central hub. Parts of the multidisciplinary program (i.e. lifestyle and nutrition advice, psychological coaching) can be organized in the central hub.

The family doctor of the patient plays a key role in the success of the rehab program, especially the phase after the organized in-center program, and a good interaction with correct feed-back and advice on the patient is primordial.

The aim of these programs will be lowering morbidity and mortality with at least 25%, but also to allow a maximum ‘return to work’ rate after cardiovascular events.

### **7. Adult Congenital heart disease**

Recognition of the importance of this growing population with special needs and a particular impact on society since it is a young and professional active group.

Recognition as a “rare disease” and creation of a national database with quality criteria.

Recognition of the subspecialty “Adult Congenital Cardiology” in competence centers able to organize specific care in continuity with pediatric and congenital cardiology and surgery, within the center or with a close collaboration with a competence center within the cardiology network.

Development of a network connection with other specialties inside the hospital and with other hospitals.

Recognition of dedicated nurse specialists as recommended in the international guidelines.

### **8. *Cardiovascular nursing***

Education of nurses in order to guarantee optimal patient care. If this training should be integrated in the basic formation or should be a specialization afterwards can be discussed but it should be recognized that a supplementary education has become a priority in most sub disciplines within cardiology: heart failure, imaging, electrophysiology, congenital heart disease...

### **D. Conclusions**

Because care of cardiac patients frequently involves different cardiology subspecialties and because adequate care need to consider all the aspect of the cardiac disease in one patient, competence (reference) centers need to be defined. These reference centers could have access to advanced techniques such as: LVAD, heart transplant, mitraclip, complex ablation procedures... This allows to create a pyramidal organization with prioritization of the cardiac heath care. According to the size of the country only a few reference centers are needed in the North, Brussels and South of the country.

By centralizing these high-tech expensive treatment options within reference centers, cost savings can be realized and used for better reimbursement of more frequently used diagnostic and therapeutic strategies used in the non-reference centers.

Collaboration between the reference center and the other cardiovascular departments must be organized within the cardiac network.

These measurements should increase quality of care without increasing the cost.

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