

Bangladesh

Cardiology

Bangladesh Cardiology

MedCOI

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Disclaimer

This report was written according to the EUAA COI Report Methodology (2023). The report is based on carefully selected sources of information. All sources used are referenced.

The information contained in this report has been researched, evaluated and analysed with utmost care. However, this document does not claim to be exhaustive. If a particular event, person or organisation is not mentioned in the report, this does not mean that the event has not taken place or that the person or organisation does not exist.

Furthermore, this report is not conclusive as to the determination or merit of any particular application for international protection. Terminology used should not be regarded as indicative of a particular legal position.

'Refugee', 'risk' and similar terminology are used as generic terminology and not in the legal sense as applied in the EU Asylum Acquis, the 1951 Refugee Convention and the 1967 Protocol relating to the Status of Refugees.

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The drafting of this report was finalised on 18 December 2023. Any event taking place after this date is not included in this report.





Glossary and abbreviations

Term	Definition
BDT	Bangladeshi Taka
CVD	Cardiovascular Disease
DGHS	Directorate General of Health Services
ECG	Electrocardiography
ICD	Implantable Cardioverter Defibrillator
IPD	Inpatient Department
JICA	Japan International Cooperation Agency
MOHFW	Ministry of Health and Family Welfare
NCD	Non-Communicable Disease
OPD	Outpatient Department
PCI	Percutaneous Coronary Intervention
PEN	Package of Essential Noncommunicable
PTCA	Percutaneous Transluminal Coronary Angioplasty
UNICEF	United Nations International Children's Emergency Fund
Upazila	An administrative unit, which is a subdivision of a district formerly known as "thana". Bangladesh has 495 <i>Upazilas</i>





Introduction

Methodology

The purpose of the report is to provide information on access to cardiology treatment in Bangladesh. This information is relevant to the application of international protection status determination (refugee status and subsidiary protection) and migration legislation in EU+ countries.

Terms of reference

The terms of reference for this Medical Country of Origin Information Report can be found in Annex 2: Terms of Reference (ToR). The initial drafting period finished on 06 October 2023, peer review occurred between 9-31 October 2023, and additional information was added to the report as a result of the quality review process during the review implementation up until 18 December 2023. The report was internally reviewed subsequently.

Collecting information

EUAA contracted International SOS (Intl.SOS) to manage the report delivery including data collection. Intl.SOS recruited and managed a local consultant to write the report and a public health expert to edit the report. These were selected from Intl.SOS' existing pool of consultants. The consultant was selected based on their experience in leading comparable projects and their experience of working on public health issues in Bangladesh.

This report is based on publicly available information in electronic and paper-based sources gathered through desk-based research. This report also contains information from oral sources with ground-level knowledge of the healthcare situation in Bangladesh who were interviewed specifically for this report. For security reasons, all oral sources are anonymised.

Quality control

This report was written by Intl.SOS in line with the European Union Agency for Asylum (EUAA) COI Report Methodology (2023),¹ the EUAA Country of Origin Information (COI) Reports Writing and Referencing Guide (2023)² and the EUAA Writing Guide (2022).³ Quality control of the report was carried out both on content and form. Form and content were reviewed by Intl.SOS and EUAA.

The accuracy of information included in the report was reviewed, to the extent possible, based on the quality of the sources and citations provided by the consultants. All the

¹ EUAA, Country of Origin Information (COI) Report Methodology, February 2023, [url](#)

² EUAA, Country of Origin Information (COI) Reports Writing and Referencing Guide, February 2023, [url](#)

³ EUAA, The EUAA Writing Guide, April 2022, [url](#)





comments from reviewers were reviewed and were implemented to the extent possible, under time constraints.

Sources

In accordance with EUAA COI methodology, a range of different published sources have been consulted on relevant topics for this report. These include: governmental publications, academic publications, reports by non-governmental organisations and international organisations, as well as Bangladeshi media.

In addition to using publicly available sources, two oral sources were contacted for this report. The oral sources are both medical doctors and they are anonymised in this report for security reasons. The sources were assessed for their background and ground-level knowledge. All oral sources are described in the Annex 1: Bibliography. Key informant interviews were carried out in June 2023.





1. Cardiovascular Diseases (CVDs)

1.1. Prevalence of CVDs

According to the Ministry of Health and Family Welfare (MOHFW), cardiovascular diseases (CVDs) account for 30 % of all deaths in Bangladesh. Non-communicable diseases (NCDs), which include diabetes and cancers and other conditions as well as CVDs, are a major public health challenge in Bangladesh.⁴ As of 2019, NCDs accounted for 70 % of all deaths in Bangladesh⁵ and within this, CVDs is the largest category.⁶

Diseases of the cardiovascular system encompass coronary artery disease, stroke, hypertension, heart failure, peripheral arterial disease and aortic disease. A meta-analysis of studies of CVD in Bangladesh found the prevalence of CVDs across the country (the 'weighted pooled prevalence') to be 5 % and to be more pronounced in urban areas (8 %) than in rural locations (2 %).⁷ In 2019 and 2020, acute myocardial infarction and stroke (not specified as haemorrhage or infarction) were the top two causes of death among inpatients in medical college hospitals, district/general hospitals and *Upazila* health complexes in Bangladesh.⁸

Chowdhury et al. conducted a systematic review of studies of the prevalence of hypertension in Bangladesh. They attributed a wide variation in the prevalence rates to the ways hypertension is defined across different studies and to the gender, age group and geographic area of subjects. Despite these variations, they noted that the prevalence of hypertension is high and that it is rising in Bangladesh.⁹ Between 2011 and 2017-18, the prevalence of hypertension increased for women and men aged 35 years and older. For women, hypertension increased from 32 % - 45 % and for men, it rose from 20 % - 34 %.¹⁰ In 2020, hypertension was ranked among the top 10 reasons for hospital admission.¹¹

1.2. Identification and treatment of CVD patients

A typical pathway for a CVD patient can be summarised as follows: a patient may either attend a health check-up or seek treatment for an exacerbation of pre-existing hypertension, for smoking-related transient chest pain or for breathlessness due to physical exertion.¹² A patient

⁴ Bangladesh, MOHFW, Health Bulletin 2020, 2022, [url](#), pp. 142-143

⁵ World Bank (The), Cause of death, by non-communicable diseases (% of total) - Bangladesh, 2023, [url](#)

⁶ Bangladesh, MOHFW, Health Bulletin 2020, 2022, [url](#), pp. 142-143

⁷ Chowdhury, M. Z. I., et al., Prevalence of cardiovascular disease among Bangladeshi adult population: a systematic review and meta-analysis of the studies, August 2018, [url](#), p. 165

⁸ Bangladesh, MOHFW, Health Bulletin 2020, 2022, [url](#), p. 269

⁹ Chowdhury, M. Z. I., et al., Hypertension prevalence and its trend in Bangladesh: evidence from a systematic review and meta-analysis, June 2020, [url](#), p. 16

¹⁰ Bangladesh, NIPORT, USAID, Demographic and Health Survey 2017-18, October 2020, [url](#), p. 215

¹¹ Bangladesh, MOHFW, Health Bulletin 2020, 2022, [url](#), pp. 268-269

¹² Source A, interview, June 2023, Dhaka. Source A is a Professor in the Cardiology Department at BSMMU. The person wishes to remain anonymous



can visit an *Upazila* healthcare centre, a secondary or tertiary healthcare facility, or a private clinic (including district hospitals, general hospitals or medical colleges). A patient will undergo clinical examinations and investigations, including electrocardiography (ECG), 2-D echo, exercise tolerance test and biochemical tests. Patients who are confirmed to have CVDs are then admitted to hospitals for definitive treatment. CVDs may also be diagnosed in private healthcare institutions by medical practitioners.¹³

Table 1. Facilities that treat CVDs

Facility	Web address
National Institute of Cardiovascular Diseases	http://www.nicvd.gov.bd/
National Heart Foundation of Bangladesh	https://www.nhf.org.bd/
Bangabandhu Sheikh Mujib Medical University	http://bsmmu.ac.bd/
Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders	http://birdembd.org/

2. Access to treatment

The MOHFW provides a protocol for the diagnosis and management of hypertension in primary healthcare settings and for ‘Integrated Cardiovascular Risk Assessment and Management,’ which is based on the Package of Essential Noncommunicable (PEN) disease protocol of the World Health Organization (WHO).¹⁴

Alongside improving the accessibility and availability of healthcare services, the MOHFW recognises that to prevent and control NCDs it is important to increase health literacy across the population and to promote a healthy lifestyle and that this needs to take place within the context of an increasing urban population and a complex urban environment.¹⁵

¹³ Source A, interview, June 2023, Dhaka. Source A is a Professor in the Cardiology Department at BSMMU. The person wishes to remain anonymous

¹⁴ Bangladesh, MOHFW, Hypertension Management Protocol for Primary Health Care Setting, n.d., [url](#)

¹⁵ Bangladesh, MOHFW, DGHS, Multisectoral Action Plan For Prevention and Control of Noncommunicable Diseases 2018-2025 with a three-year operational plan, May 2018, [url](#), p. 1



2.1. Insurance and national programmes

The Directorate General of Health Services (DGHS) has a specific treatment programme for CVDs, which is free at the point of use for low income individuals, and programmes for public health awareness aimed at the prevention and control of NCDs, such as hypertension and diabetes, which have been operational in the country since 2012 in three *Upazilas* in Bangladesh.¹⁶ This NCD Operational Plan uses the primary healthcare system for the prevention of ‘Major NCDs’ through raising public awareness, screening and early detection, treatment and referral. ‘Major NCDs’ are CVDs, diabetes, chronic obstructive pulmonary disorder (COPD) and cancer.¹⁷

The pilot programme for the treatment of hypertension in 54 *Upazilas*¹⁸ follows the PEN disease protocol of the WHO on four major thematic areas, including burden on NCDs and cost-effective intervention, health education and counselling on lifestyle, and NCD management and services within facilities.¹⁹ There are 300 designated ‘NCD Corners’ at district-level primary and secondary health facilities, which are used to conduct courtyard meeting and health facility based intervention.²⁰ There is no government insurance for CVDs.²¹

2.2. International donor programmes

The WHO, along with the Japan International Cooperation Agency (JICA) and the United Nations International Children’s Emergency Fund (UNICEF), provided the financial cost in pool fund for the implementation as part of the PEN programme.²²

3. Cost of treatment

The patient has to pay for each consultation at outpatient departments (OPDs) or inpatient departments (IPDs), for diagnostic services and, if admitted to a hospital, for the hospital bed charges. This applies to both public and private health facilities. Government hospitals and other healthcare facilities have Social Welfare Departments, which can evaluate and certify

¹⁶ World Bank (The), Hypertension and Type-2 Diabetes in Bangladesh: Continuum of Care Assessment and Opportunities for Action, June 2019, [url](#), pp. 24-26, 29-30

¹⁷ Bangladesh, MOHFW, DGHS, OP, Non Communicable Disease Control (January 2017-June 2022), April 2017, [url](#), p. 12

¹⁸ Daily SUN, 17 October 2022, NCD corners fighting against Hypertension, Diabetes [url](#)

¹⁹ WHO, Regional Office for South-East Asia, PEN disease and healthy lifestyle interventions, Training modules for primary health care workers, 2018, [url](#), p. 4

²⁰ Bangladesh, MOHFW, Health Bulletin 2020, 2022, [url](#), p. 146

²¹ Source A, interview, June 2023, Dhaka. Source A is a Professor in the Cardiology Department at BSMMU. The person wishes to remain anonymous

²² Bangladesh, MOHFW, DGHS, Health Services Division, 4th HPNSP, Non Communicable Disease Control (January 2017-June 2022), April 2017, [url](#), p. 2



individuals for exemption from payment of OPD or IPD charges, admittance fees, bed charges and laboratory charges if they are unable to afford healthcare. Private facilities have no provision to exempt patients from payment for any hospital service charge.²³

Official prices are fixed for laboratory investigations, fees for consultations, rents for patient bed and operation charges in public facilities; these are strictly implemented. Health insurance coverage for CVDs is not available in Bangladesh.²⁴

Table 2. Prices for consultation²⁵

Specialist	Public outpatient treatment price in BDT	Public inpatient treatment price in BDT	Private outpatient treatment price in BDT	Private inpatient treatment price in BDT	Reimbursement/ special programme/ free/ comments
Consultation by a cardiologist	300	500	1 200	1 800	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Consultation by a cardiac surgeon	300	500	1 200	1 800	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment

Table 3. Prices for treatments and diagnostic tests²⁶

	Public treatment price in BDT	Private treatment price in BDT	Reimbursement/special programme/free/ comments
Laboratory test			
Laboratory test of blood; INR e.g. in case of acenocoumarol anticlotting	500	900	Usually there is no exemption, but the Social Welfare Department can

²³ Source B, interview, June 2023, Dhaka. Source B is an Associate Professor of Cardiology at BIRDEM. The person wishes to remain anonymous

²⁴ Source A, interview, June 2023, Dhaka. Source A is a Professor in the Cardiology Department at BSMMU. The person wishes to remain anonymous

²⁵ Source B, interview, June 2023, Dhaka. Source B is an Associate Professor of Cardiology at BIRDEM. The person wishes to remain anonymous

²⁶ Source B, interview, June 2023, Dhaka. Source B is an Associate Professor of Cardiology at BIRDEM. The person wishes to remain anonymous



	Public treatment price in BDT	Private treatment price in BDT	Reimbursement/special programme/free/ comments
			recommend free or partial payment
Diagnostic imaging			
Diagnostic imaging: Angiography (= arteriography)	26 000	45 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Diagnostic imaging: ECG (electrocardiogram; cardiology)	400	800	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Diagnostic imaging: Holter monitor/ambulatory ECG device (cardiology)	4 000	6 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Diagnostic imaging: Ultrasound of the heart (= echocardiography = echocardiogram = TTE)	6 000	12 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Treatment			
Clinical admittance in cardiology department (daily rates)	7 000	15 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Clinical admittance in cardiac surgery department (daily rates)	8 000	15 000 - 18 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Intervention possibilities in case of (high risk of) myocardial infarction			
Cardiac surgery; cardiac catheterisation	12 000	40 000 - 50 000	Usually there is no exemption but the Social



	Public treatment price in BDT	Private treatment price in BDT	Reimbursement/special programme/free/ comments
			Welfare Department can recommend free or partial payment
Cardiac surgery; coronary artery bypass grafting, bypass	300 000	450 000 - 800 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Cardiac surgery; percutaneous transluminal coronary angioplasty (PTCA)/ percutaneous coronary intervention (PCI); coronary angioplasty incl. follow-up	12 000	40 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Intervention possibilities in case of severe heart rhythm disorders			
Cardiology, placement of pacemaker	220 000	350 000 - 500 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Cardiology, maintenance and follow-up of pacemaker	80 000	175 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Cardiology, placement of implantable cardioverter defibrillator (ICD)	75 000	150 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment
Cardiology, follow-up of ICD by cardiologist	50 000	100 000	Usually there is no exemption but the Social Welfare Department can recommend free or partial payment



4. Cost of medication

An associate professor of cardiology, interviewed for this report, explains that medications are priced according to the strength of unit, e.g. 5 mg or 10 mg. Specific prices are established for these strengths across nearly all pharmaceutical companies. These are reflected in Table 4 of this report where costs associated with various charges, including any medicine charges, are provided. Public health facilities typically have a Social Welfare Department, which evaluates and recommends who amongst the patients are poor and eligible to get discounts on charges for medicines. Other than this allowance, which is evaluated and determined by the Social Welfare Department, there is no health coverage from the government. Private health facilities do not have a Social Welfare Department type of entity to support patients.²⁷

Table 4. Cost of medications²⁸

Generic name	Brand name	Strength of unit	Form	Number of units in the container	Price per box in BDT	Place (pharmacy, hospital ...)
Amlodipine	Amlocard [®]	5 mg	Tablet	98	490	Both in pharmacy and hospital
Atenolol	Tenormin [®]	50 mg	Tablet	100	77	Both in pharmacy and hospital
Bisoprolol	Betapro [®]	5 mg	Tablet	30	300	Both in pharmacy and hospital
Bumetanide	Bumecard [®]	1 mg	Tablet	30	150	Both in pharmacy and hospital
Candesartan	Vesotan [®]	16 mg	Tablet	30	330	Both in pharmacy and hospital

²⁷ Source B, interview, June 2023, Dhaka. Source B is an Associate Professor of Cardiology at BIRDEM. The person wishes to remain anonymous

²⁸ Source B, interview, June 2023, Dhaka. Source B is an Associate Professor of Cardiology at BIRDEM. The person wishes to remain anonymous



Generic name	Brand name	Strength of unit	Form	Number of units in the container	Price per box in BDT	Place (pharmacy, hospital ...)
Carvedilol	Arilol [®]	12.5 mg	Tablet	30	150	Both in pharmacy and hospital
Enalapril	Anapril [®]	5 mg	Tablet	100	151	Both in pharmacy and hospital
Furosemide	Fusid [®]	40 mg	Tablet	200	200	Both in pharmacy and hospital
Irbesartan	Cavapro [®]	150 mg	Tablet	30	360	Both in pharmacy and hospital
Lisinopril	Lipril [®]	5 mg	Tablet	50	150	Both in pharmacy and hospital
Losartan	Angilock [®]	50 mg	Tablet	50	250	Both in pharmacy and hospital
Metoprolol	Metaloc Tab [®]	50 mg	Tablet	100	131	Both in pharmacy and hospital
Nifedipine	Nidipine [®]	20 mg	Tablet	100	64	Both in pharmacy and hospital
Perindopril	Coversyl [®]	4 mg	Tablet	30	495	Both in pharmacy and hospital
Propranolol	Indever [®]	40 mg	Tablet	100	150	Both in pharmacy and hospital
Torasemide	Torsid [®]	20 mg	Tablet	30	240	Both in pharmacy and hospital



Generic name	Brand name	Strength of unit	Form	Number of units in the container	Price per box in BDT	Place (pharmacy, hospital ...)
Valsartan	Diovan®	80 mg	Tablet	30	517	Both in pharmacy and hospital
Carbasalate calcium	Calcium Calcicar®	500 mg	Tablet	10	250	Both in pharmacy and hospital
Prasugrel	Prasurel®	10 mg	Tablet	20	181	Both in pharmacy and hospital
Ticagrelor	Ticacard®	90 mg	Tablet	10	750	Both in pharmacy and hospital

Note: Medications prices are not reimbursed by any public health insurance mechanisms. Only for atenolol there are special programmes in few *Upazilas*.



Annex 1: Bibliography

Oral sources, including anonymous sources

Source A, interview, June 2023, Dhaka. Source A is a Professor in the Cardiology Department at BSMMU. The person wishes to remain anonymous.

Source B, interview, June 2023, Dhaka. Source B is an Associate Professor of Cardiology at BIRDEM. The person wishes to remain anonymous.

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Chowdhury, M. Z. I., Rahman, M., Akter, T., Akhter, T., Ahmed, A., Shovon, M. A., Farhana, Z., Chowdhury, N. and Turin, T. C., Hypertension prevalence and its trend in Bangladesh: evidence from a systematic review and meta-analysis, in: *Clinical hypertension*, Vol. 26, Issue 10, June 2020, <https://pubmed.ncbi.nlm.nih.gov/32514373/>, accessed 13 June 2023

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Annex 2: Terms of Reference (ToR)

Cardiovascular diseases

Note for drafters: These are guidelines on the information to be included. If one aspect is not relevant, e.g., there is no national institute to treat this disease or no international donor programme, there is no need to mention it. Keep the focus on treating medicine – preventive care can be mentioned but is of less interest to the target group.

General information

- Briefly describe prevalence and incidence of cardiovascular diseases / types of this disease (epidemiologic data).
- How is the health care organized for cardiovascular diseases?
- How are cardiovascular diseases treated – at specific centres, in primary health care centres, secondary care / hospitals, tertiary care etc.?
- Which kinds of facilities can treat cardiovascular diseases [public, private not for profit (e.g., hospitals run by the church), private for-profit sector]? Include links to facilities' websites if possible.
- How are the resources organized in general to treat patients with cardiovascular diseases? Are there sufficient resources available to treat all patients?
- Is there a particular type of cardiovascular diseases for which no (or only partial) treatment exists in the country?
- Is there a (national) institute specialised in treating cardiovascular diseases?
- Are there any national or international plans or (donor) programmes for cardiovascular diseases; if yes, could you elaborate on such programme(s) and what it entails?

Access to treatment

- Are there specific treatment programmes for cardiovascular diseases? If so, what are the eligibility criteria to gain access to it and what they contain?
- Are there specific government (e.g., insurance or tax) covered programmes for cardiovascular diseases? If so, what are the eligibility criteria to gain access to it?
- Are there any factors limiting the access to healthcare for patients? If so, are they economic, cultural, geographical, etc.? Are there any policies to improve access to healthcare and/or to reduce the cost of treatments and/or medication? What is the number of people having access to treatment? Keep focus on e.g., waiting times rather than the exact number of specialists in the field.
- If different from information provided in the general section; is the treatment geographically accessible in all regions?
- What is the 'typical route' for a patient with this disease (after being diagnosed with the disease)? In other words: for any necessary treatment, where can the patient find help and/or specific information? Where can s/he receive follow-up treatment? Are there



waiting times for treatments (e.g., cardiac surgery, consultation by a cardiologist/cardiac surgeon, etc)?

- What must the patient pay and when?
- Is it the same scenario for a citizen returning to the country after having spent a number of years abroad?
- What financial support can a patient expect from the government, social security or a public or private institution? Is treatment covered by social protection or an additional / communal health insurance? If not, how can the patient gain access to a treatment?
- Any occurrences of healthcare discrimination for people with this disease?

Insurance and national programmes

Include if relevant, otherwise delete section.

- National coverage (state insurance).
- Programmes funded by international donor programmes, e.g., UNICEF, Gates foundation, Clinton foundation etc.
- Include any insurance information that is specific for patients with this disease.

Cost of treatment

Guidance / methodology on how to complete the tables related to treatments:

- Do not delete any treatments from the tables. Instead state that they could not be found if that is the case.
- In the table, indicate the price for inpatient and outpatient treatment in public and private facility and if the treatments are covered by any insurance or by the state.
- For inpatient, indicate what is included in the cost (bed / daily rate for admittance, investigations, consultations...). For outpatient treatment, indicate follow up or consultation cost.
- Is there a difference in respect to prices between the private and public facilities?
- Are there any geographical disparities?
- Are the official prices adhered to in practice?
- Include links to online resources used, if applicable (e.g., hospital websites).

Note: a standardised list of treatments was also included in the original ToR, as can be viewed in the report.

Cost of medication

Guidance / methodology on how to complete the tables related to medications:

- Do not delete any medicines from the tables. Instead, state that they could not be found if that is the case.
- Are the available medicines in general accessible in the whole country or are there limitations?





- Are the medicines registered in the country? If yes, what are the implications of it being registered?
- Indicate in the tables: generic name, brand name, dosage, form, pills per package, official prices, source, insurance coverage.
- Are (some of the) medicines mentioned on any drug lists like national lists, insurance lists, essential drug lists, hospital lists, pharmacy lists etc.?
 - If so, what does such a list mean specifically in relation to coverage?
- Are there other kinds of coverage, e.g., from national donor programmes or other actors?
- Include links to online resources used, if applicable (e.g., online pharmacies).

Note: a standardised list of medication was also included in the original ToR, as can be viewed in the report.

NGOs

Include if relevant, otherwise delete section.

- Are any NGOs or international organisations active for patients with cardiovascular diseases? What are the conditions to obtain help from these organisations? What help or support can they offer?
- Which services are free of charge and which ones are at a cost? Is access provided to all patients or access is restricted for some (e.g., in case of faith-based institutions or in case of NGOs providing care only to children for instance).



