

## **Structured questionnaire for cardiac surgery facilities**

Hospital Name:

Country:

Names of all professionals interviewed:

### **Section 1: MOH**

1. What is the role of Ministry of Health in the country?
  - i. What is the mission?
  - ii. What are the main healthcare challenges?
  - iii. What are the current priorities?
  - iv. How is the budget managed?
  - v. How works the healthcare system?
  - vi. Who have access to the healthcare system?

### **Section 2: Human resources in the institution: (Administrator or md)**

2. Number of cardiac surgeons?
3. Number of cardiologists?
4. Number of interventional cardiologists?
5. Number of echocardiographers-md?
6. Number of residents in cardiac surgery?
7. Number of residents in cardiology?
8. Number of medical students?
9. Number of anaesthesiologists? Are they specific to cardiac surgery?
10. Number of intensivists?
11. Number of internal medicine doctors?
12. Number of family doctors?
13. Number of radiologists?
14. Number of paediatricians?
15. Number of perfusionists?
16. Number of cardiac technicians?
17. Number of respiratory therapists?
18. Number of surgical assistant?
19. Number of operating room nurses?
20. Number of intensive care unit nurses?
21. Number of floor/cardiac surgery unit nurses?

### **Section 3: Administrative structure: (administrator or md)**

22. What is the structure of the cardiac surgery department and of the hospital?
23. Do you have department chief of cardiac surgery?
24. Do you have department chief of surgery?
25. Do you have a director of the hospital?
26. What is the frequency of administrative meetings regarding the surgery/cardiac department (who is involved/attends)?
27. Is cardiac surgery one of the main priorities of the hospital?
28. Is there a goal/mission for the cardiac surgery centre?

29. Is cardiac surgery cost covered by the government (public vs private vs the patient)?
30. What is the budget allowed for cardiac surgery in your hospital and what percentage it represents compared to other specialties or to the whole budget?
31. What part of this budget comes from the government?
32. What part of this budget comes from private/international funds?
33. What part of this budget comes from local organizations or any other organizations?
34. Are you affiliated to a university in Africa, outside Africa?
35. How many cardiac surgery cases are done per year?
36. How many patients do you see per year in clinic that requires a cardiac surgery?
37. How many patients are on the waiting list? How many die on the waiting list per year?
38. How many cardiac surgeries are cancelled per year because of the lack of resources (physical or material)?
39. Do you need at some point to send patients elsewhere to have their surgery taking care of?
40. What are the problems you encounter regarding the cardiac surgery centre (administrative, human/material resources, supply)?
41. How many cardiac surgery centres in the city?
42. How many cardiac surgery centres in the country?
43. Do you think your centre is well situated geographically in term of prevalence of the diseases and access to care?
44. Which healthcare allied professionals are missing in your institutions (nurses, physical therapists, occupational therapists, social workers, respiratory therapists, dieticians, pharmacists, cardiac technicians)?
45. Do you have volunteers that you train to help in the care of patients or that do prevention?
46. Is the retention of employees difficult? If yes, why?
47. Do you know the ratio of your patients coming from urban versus rural areas?
48. Do you operate more patients coming from the urban areas or rural areas?
49. Do the patients need to pay for their care? What is included in the cost? Do they pay at time of care or later on?

#### **Section 4- Specifics to cardiac surgeon (cardiac surgeon)**

50. Mean age of the cardiac surgeons in the hospital?
51. During their training, how many years did the cardiac surgeons train in general surgery?
52. During their training, how many years did the cardiac surgeons train in cardiac surgery?
53. Where was your training done (institutions, countries)?
54. Do you do exclusively cardiac surgery cases?
55. How many hours do you work per week?
56. How many hours of calls do you take per week?
57. How many cases do you do individually per year?
58. How many trainees/residents do you train per year and are those trainees local?
59. Do you train any other cardiac surgeons from other areas/countries?
60. Do you have time to do research? What is your definition of research? Do you have funds for research?
61. Do you have a cardiac surgery database?

62. Do you have time to go to national/international conferences/meetings? If yes how many per year and which ones?
63. Do you have multidisciplinary team meetings to discuss cases with the cardiologists? If yes, who is involved?
64. Do you have visiting surgeons/humanitarian missions? If yes how many come per year? How long do they stay? How many cases you operate during that period of time? Do they bring their own material? How are they funded? How do you choose the cases?
65. Do you have financial or other restrictions when you treat a patient?
66. How are the patients referred to you: self, cardiologist, and family/general doctor?
67. What do you think are the main barriers for the access to care for your patients?
68. Is your cardiac surgery programme sustainable? If not, how do you think your cardiac surgery programme can reach sustainability?
69. What are your needs for this program?

### **Section 5: Specific to cardiac surgery (cardiac surgeon)**

70. Prevalence of rheumatic heart disease?
71. What is the supply for antibiotic to treat rheumatic fever? Where it is coming from? Is there sometimes stockout/shortage of medication?
72. Prevalence of coronary artery diseases?
73. Prevalence of degenerative valve diseases?
74. Prevalence of congenital diseases?
75. Prevalence of "other" cardiac diseases and what are they?
76. How many cardiac surgery operating rooms do you have access in the hospital?
77. How many surgical cases are done per day or per week?
78. What is your strategies in term of valve replacement in young adults: mechanical or biological and in women with age of pregnancy.
79. What is the total number of cases done per year?
  - i. adult cases:
  - ii. adult congenital cases:
  - iii. congenital cases paediatric:
  - iv. Do you know approximately how many of these cases you do per year?
  - v. CABG on-pump:
  - vi. CABG off-pump:
  - vii. Aortic valve replacement:
  - viii. Aortic valve repair:
  - ix. Mitral valve replacement:
  - x. Mitral valve repair:
  - xi. Tricuspid valve repair:
  - xii. Tricuspid valve replacement:
  - xiii. Pulmonary valve replacement:
  - xiv. Congenital cases:
  - xv. Congenital adult cases:
  - xvi. Pericarditis cases:
  - xvii. Endomyocardial fibrosis cases:
  - xviii. Aortic surgery:
  - xix. Transplant:
  - xx. Redo surgery:

80. For valvular diseases, what is the percentage of:
  - i. rheumatic:
  - ii. degenerative:
  - iii. endocarditis:
  - iv. redo dysfunctional prosthesis:
  
81. In the last year (2015):
  - i. How many mechanical valves prosthesis did you have access to use?
  - ii. How many biological valves prosthesis did you have access to use?
  - iii. How many dacron tubes did you have access to use?
  - iv. How many bovine pericardial patches did you have access to use?
  - v. Do you have to use expired materials sometimes?
  
82. For the valves and dacron: do you have access to all the sizes that you need. If not what is your strategy?
83. What is the number of urgent and elective cases that you do in a year?
84. How many patients are seen in clinic during a year?
85. How many of these patients require cardiac surgery?
86. How do you select the patients that you will operate on? What are the priorities?
87. How many patients are currently on the waiting list? Is the waiting time the same for all cardiac surgery procedures? If not what are the cases that are prioritized?
88. How many patients die on the waiting list per year?
89. Do you know if patients go elsewhere (e.g in India or other parts of Africa, or North America/Europe) to get treated?
90. What is the average delay for an intervention for an elective case?
91. What is the ratio patients/surgeons in your country?
92. Does patients have access to narcotics when they are discharged?
93. Do you have a lot of pregnant women that you need to operate on?
94. What is the surgical consent looks like?
95. Do you feel that the patients understand the pathology or it is more of a trusted/paternalist relationship towards you?
96. How important are the religion/culture/beliefs in the choice of treatment, resuscitation and management of complications?
97. What hemostatic products do you have access?

### **Section 6- Specific to cardiologist (cardiologist)**

98. What was your training?
99. How many cardiologists in your group?
100. How many transthoracic echo machines, how many transesophageal echo machines do you have?
  - I. Transthoracic echocardiography
  - II. Transesophageal echocardiography
101. Does hospital perform stress echocardiography?
102. How many catheterization lab rooms?
103. How many percutaneous coronary interventions done per year?
104. How many diagnostic catheterizations done per year?
105. How many congenital cases treated transcatheter per year?
106. Do you do hybrid cases with cardiac surgery?

107. How are you patients referred to you or to the hospital and where are your references coming from?
108. Do you do counselling for pregnant women with in utero cardiac defects?
109. What is the most prevalent congenital disease? What is their prognosis? Survival?
110. How many patients do you see with rheumatic diseases?
111. Who follows the patient after a cardiac surgery-the surgeon or cardiologist or both and at what frequency?
112. Who takes care of the medication refills? What if there is a stock out of medications?
113. What is the follow-up for congenital cases? Do you continue to do follow-up while adults?
114. How many patients are seen in cardiology clinics per year?
115. What is the ratio of patients that need cardiac surgery versus that who do not need cardiac surgery?
116. International normalized ratio (INR) management of the patients after surgery.  
Do you refer them to specific point of care clinics or you do follow all your patients?  
What is the compliance of patients to anticoagulation?
117. How is the compliance to treatment and to medication for patients in rural areas versus urban areas?
118. How do you manage coumadin in a pregnant patient?
119. Do you have access to death certificates of your patients if died outside the hospital?
120. Do you have prevention programs for diabetes, smoking cessation, and rheumatic fever?
121. Do you have cardiac rehab programs?
122. What do you feel are the main challenges for the access to care of patients?
123. What are your needs?

### **Section 7: Specifics to nurses (nurses)**

124. How many nurses are trained specifically to take care of cardiac surgery patients?
125. How many nurses per patient in intensive care unit?
126. How many nurses per patient in unit/floor?
127. How many hours do you work per week?
128. Is it difficult to keep your nurses?
129. What are the challenges in taking care of cardiac surgery patients?
130. Do the nurses have time to do education/prevention to the cardiac surgery patients?
131. Who takes care of patients' wound care after discharged?

### **Section 8- Specific to hospital infrastructures and to other health professionals (pharmacists, perfusionists, respiratory therapists, anesthesiologists, nurses)**

132. Do you have an haematology lab?
133. Do you have a biochemical lab?

134. Can you screen (blood test) for Heparin Induced Thrombocytopenia (HIT assay)?
135. What do you have in terms of radiology service? How many:
  - I. X-ray machines:
  - II. Computed tomography (CT) scan (Cardiac CT):
  - III. Computed tomography:
  - IV. Nuclear medicine:
136. How many respiratory ventilators?
137. Do you use invasive monitoring (swan ganz, central venous pressure, foley, radial line, central line)?
138. How many operating rooms for cardiac surgery?
139. How many intensive care unit beds for cardiac surgery?
140. How many floor beds for cardiac surgery?
141. How many cardiopulmonary bypass pumps? Do you have cell savers? Do you have enough reservoirs, oxygenators, heat/exchangers? What kind of cardioplegia do you use?
142. How many monitors for vital signs-telemetry do you have?
143. Surgical instruments-how many sets do you have?
144. How works the sterilization unit?
145. How works the hospital sanitation care?
146. How is the access to medications-pharmacy-shortage or stockout? Is the pharmacy in the hospital?
147. Where is the blood bank?
148. How many products available at the blood bank?
149. How the blood is typed and crossed-match?
150. How is the blood treated regarding infection? What is the rate of transmission of blood-borne disease (human immunodeficiency virus-hepatitis C virus, hepatitis B virus)?
151. Do you have Jehovah Witness' patients?
152. Do you have protocol for sickle cell patients?
153. How many Continuous renal replacement therapy-dialysis machines do you have?