

Ministry of Health & Population National AIDS Program Arab Republic of Egypt

# Infection Control Practices Assessment Tool For Blood Banks







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Development of this tool was a fully collaborative effort with the Egyptian Ministry of Health and Population (MOHP), Family Health International (FHI) and the United States Agency for International Development (USAID). This activity was funded through FHI's Implementing AIDS Prevention and Care (IMPACT) Project, Cooperative Agreement HRN-A-00-97-00017-00. The views expressed in this document do not necessarily reflect the views of USAID

views of USAiD.



# Infection Control Practices Assessment Tool For Blood Banks







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These activities were a fully collaborative effort between the Egyptian MOHP, USAID and FHI.

Dr. Helmy Salah El Din Director General Directorate of Blood Bank Affairs Ministry of Health and Population

# Acronyms

BB	Blood Bank
ELISA	Enzyme-linked immunosorbant assay
FHI	Family Health International
HBs Ag	Hepatitis B surface antigen
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IC	Infection Control
IMPACT	Implementing AIDS Prevention and Care
MOHP	Ministry of Health and Population
NBTC	National Blood Transfusion Center
NBTS	National Blood Transfusion Services
NGO	Non Governmental Organization
Ob/Gyn	Obstetric and Gynecology
SOPs	Standard Operating Procedures
USAID	United States Agency for International Development
WHO	World Health Organization

### Introduction

Blood bank activities have always focused on the blood testing procedures performed, while little overall attention has been paid to infection control practices and the application of universal precautions. In the past, knowledge and practices regarding universal precautions were rarely assessed. In order to fill this gap, Family Health International (FHI) has provided technical assistance to the Ministry of Health and Population (MOHP) in conducting an assessment of universal precautions throughout 21 blood banks (BB) in Egypt. This activity was implemented under the Implementing AIDS Prevention and Care (IMPACT) Project, being funded by the United States Agency for International Development (USAID). Since 1998, the IMPACT Project has been working in Egypt to improve blood safety, promote universal precautions, perform disease surveillance, and expand HIV/AIDS prevention and care activities. The importance of infection control (IC) practices has been raised after establishing an Infection Control Program as a separate activity within the MOHP in Egypt. This program raised awareness for the need to assess the circumstances and practices that may cause the transmission of blood borne pathogens within health care settings, including blood banks. FHI and the MOHP are working to gain a deeper understanding of the current activities and practices related to universal precautions in blood banks. Results of this activity will be used as a guide for future interventions to promote blood donation and ensure blood safety, as well as the safety of staff, blood donors and recipients alike.

Two different research tools were used: the "blood bank questionnaire" and "health care worker questionnaire". Experts from the MOHP General Directorate of Blood Affairs (GD), Infection Control Program, NAMRU-3 and FHI revised the tools. Three physicians from the GD, experienced in blood bank procedures, were trained by FHI to perform the study. The tools were pre-tested for comprehensibility and appropriateness in the Shoubra General Hospital Blood Bank in Cairo and Boulak El Dakrour General Hospital Blood Bank in Giza during June 2002. Changes were made based on findings of the pre-tests.

Below is a description of the various uses of this tool.

- Assessing the infection control-related activities in blood banks:
  - Location of blood banks
  - Orientation and training activities
  - Infection control practices
  - Blood donation activities
  - Blood screening activities
  - Blood bank laboratory activities
  - Disposal of reactive units and biohazardous waste
  - Blood and blood product storage procedures
  - Availability of resources and supplies
  - Information systems
- Assessing the infection control related activities of blood bank staff:
  - Staff training
  - Staff knowledge
  - Staff practices
  - History of occupational exposure
  - Prevalence of hepatitis B vaccination

# **Blood Bank Questionnaire**

Date:	Interviewer name:
Governorate:	Name of Hospital/BB <u>:</u>
Number of beds:	

#### Interview with the Director of the Blood Bank

Nam	ne :				
Title	e: Physician	Status of BB:	Main Blood Bank District Blood Bank Storage Blood Bank	ĸ	
1. \	What are the activities of your blood	d bank?		Yes	No
0	Donation Screening Component preparation Blood grouping & cross matchir Therapeutic transfusion	-	oonitel?		
	is the blood bank a separate depar If no, is it shared by: Laboratory	tment inside the r	iospital?		
	Other departm	nents (specify)			

3. How many rooms available in the blood bank?

4. Staff (Number of staff in each shift)

	Shift				
	Morning	Afternoon	Night		
Doctors: - Specialists					
- Residents					
- General practitioner					
Chemists					
Technicians					
Nurses					
Other Staff (specify)					

			Yes	No
5.	Do you have any orienta	tion programs for new staff?		
6.	Do you have any training	g programs for new staff?		
7.	If yes, where?	In the blood bank Outside the blood bank		
8.		aintained on occupational exposures njury)? If yes, review records.		
9.	Is there a written policy f (can we see it?)	or post-exposure procedures?		
10.	Are there any person(s) If yes, who are the mem	responsible for infection control in the facility? bers:		
		Hospital Director		
		Head of surgery department	H	П
		Head of Ob/Gyn department		
		Head of dentistry department		
		Head nurse of the hospital	E I	
		Supervisor of housekeepers	E I	
		Head of pharmacy	E E	П
		Director of laboratory	Π	
		Director of central supply	П	П
		Financial & administrative director		
11.	Do you have written guid in the blood bank? (can we see it?)	delines on safety and infection control		
12.	What kind of blood dona	tions do you collect?		
		Voluntary non-remunerated		
		Voluntary remunerated	Π	
		Family replacement		
		Directed		
		Obliged		
		Paid		
13.	. Do you have written don (can we see it?)	or selection criteria?		
14.	Is a blood donor question (can we see it?)	nnaire available?		
15.	. Do you have a donor rec (can we see it?)	cord?		
16	. Do you have mobile don	or clinic sessions?		

17. If yes, where do you go?		Yes	No
	Schools		
	Colleges	H	H
	Factories	H	H
	Gardens	H	H
	Stadiums	Н	Н
	Book fair		
	Others (specify)		
18. Is there a tap with runnin near these outside session	g water for hand washing available ons?		
	Always		
	Sometimes	H	
	Never		
19. Do you return waste from	n mobile sessions to the blood bank?		

## **Donation Area**

## Observation

20. Is donation area used only for donation?			
21. Are any educational materials, leaflets or posters seen in the donor area?			
22. Are any guidelines or Standard Operating Procedures (SOPs) available?			
23. Is there a separate clean area for preparing bleeding process materials?			
24. Is blood contaminated material visible?			
25. Mention available mate	rial for waste		
	Safety box for sharps		
	Container with disinfectant for glassware		
	Container for fluid waste		
	Leak proof waste basket		
	Others (specify)		
26. Does staff wash his/ he	er hands before examining donors?		
27. Does staff wear gloves	?		

·	Yes	No
28. If yes, does staff change gloves between donors?		
29. Does staff reuse lancets for more than one donor?		
30. Is venipuncture site disinfected?		
31. If yes, what did staff use for disinfection?		_
70% alcohol Betadine Others (specify)		
32. What was the procedure done?		
Circular		
One direction		
33. How was the procedure done?		
Once		
Several times		
34. Is a closed system applied during blood collection?		
35. Is a new bag used for each venipuncture?		
36. Does staff recap needles after the donation procedure?		
37. Was blood bag labeled with		
Donation number		
Donation date	Π	
Expiry date		
38. Was venipuncture site covered with bandage after donation?		
39. Are sharps & needles appropriately disposed?		
40. General comments on observation		

## **Discussion with Person in Charge of Donation Area**

41. What do you do in case of shortage of test kits to screen?

	HIV		HIV		HIV		HIV HBs Ag		HCV		Syphilis	
	Yes	No	Yes	No	Yes	No	Yes	No				
Stop issuing blood												
Perform rapid test												
Pooling of several samples												
Send sample tubes to other lab for screening												
Issue blood without testing												
Others (specify)												

42. What do you do in case of initially reactive test results?

	HIV		HIV HBs Ag		HCV		Syphilis	
	Yes	No	Yes	No	Yes	No	Yes	No
Repeat the test								
Results accepted								

43. What is done with repeatedly reactive samples & blood units?	Yes	No
Refer specimens for confirmation		
Discarded in general waste		
Autoclaved only		
Autoclaved then incinerated		
Incinerated only		
Bag opened and emptied		
Bag opened & emptied with disinfectant		
Sent to another hospital for incineration		
Buried		
Others (specify)		

44. What is done with the confirmed negative blood units?

Used	
Treated as positive	

	Yes	No
45. Is there a record of the discarded blood units? (If yes, please review the record)		
46. Do you routinely notify donors of positive screening results?		
HIV HBs Ag HCV Syphilis		
47. Do you report HIV positive results to MOHP?		
48. What is done with biohazardous waste? Discarded in general waste Emptied in sink Discarded in a container with disinfect Incinerated Others (specify)		
49. Is there a functioning hot air oven in the blood bank?		
50. Is there a functioning incinerator in the facility?		
51. Do you have frequent shortages of water?		
52. Do you have frequent power supply shortages? If yes, for how long? < 30 minutes > 30 minutes If > 30 minutes what do you do?		
53. Is there an emergency power supply in case of power failure? 54. Do you use cool boxes for transporting blood units?		
55. Do you perform routine maintenance of equipment? If yes, do you record it?		

56. What screening technique do you use routinely: ELISA Rapid HIV HBV HCV	Other	None
Syphilis Others (specify)		
57. What screening technique do you use in emergencies: ELISA Rapid HIV HBV HCV Syphilis Others (specify)	Other	None
58. Do you use quality control samples other than the controls supplied with the kits?	Yes	No
59. How often do you encounter an assay failure? Rarely Sometimes Never		
60. What do you do in case of assay failure?: Test repeated Test repeated by another staff Others (specify)		
61. Are assay failures recorded?		
62. Do you reuse tubes, pipette tips, slides, etc?		
63. If yes, how are they cleaned? Water Water & soap Disinfectant Hot air oven Autoclave Others (specify)		
<ul><li>64. Is there a functioning water distiller?</li><li>65. Are units randomly cultured for bacterial contamination?</li></ul>		

#### 

# Laboratory Area

Please observe procedures done (Y= Yes, N= No, N/A= Not applicable, X=Not observed).

Procedure	Screening	Grouping &	Component Preparation
66. Safety & Infection Control guidelines displayed		X-matching	_
67. SOPs (standard operating procedures) available			
68. Non-authorized persons present			
69. Staff wearing lab coats/uniforms			
70. Sink with running water available			
71. Soap for hand washing available			
72. Available materials for waste disposal			
Safety box for sharps			
Container with disinfectant for glassware			
Container for fluid waste			
General waste basket			
Others (specify)			
73. Visible blood contaminated materials e.g. gauze, cotton, etc.			
74. Food or drink seen			
75. Working surface cleaned before starting the procedure			
76. If cleaned, with what?			
Chlorox			
Alcohol			
Savlon			
Water only			
Others (specify)			

77. Staff wears gloves during procedure		
78. Gloves worn outside work place		
79. Expiry dates of kits/reagents checked		
80. Equipment checked before procedure		
81. Samples clearly labeled		
82. Mouth pipetting observed		
83. Test results recorded		
84. Working surface cleaned after finishing the procedure		
85. If cleaned, with what?		
85. If cleaned, with what?		
85. If cleaned, with what? Chlorox		
85. If cleaned, with what? Chlorox Alcohol		
85. If cleaned, with what? Chlorox Alcohol Savlon		
85. If cleaned, with what? Chlorox Alcohol Savlon Water only		

87. General comments on observation

## Storage Area

Please check all refrigerators & freezers in the blood bank (Y= Yes, N= No, N/A= Not applicable).

Refrigerators/Freezers			d Ban gerato		Domestic Refrigerator				Freezer	
Number										
Number functioning										
88. Location										
	1	2	3	4	1	2	3	4	1	2
89. Test kits/reagents										
90. Blood samples										
91. Blood products										
92. Food or drink										
93. Blood spills										
94. Thermometer inside										
95. Read & record temperature										
96. Any expired kits/ reagents										
97. Any expired blood units										
98. Screened units separate from unscreened										
99. Cross matched separate from stock										
100. Screening results labeled on units										
101. Positive blood units separated from the stock										

102. Temperature chart recorder					
103. Temperature chart on door					
104. Alarm system					
105. Inventory list with expiry dates					
106. Emergency power supply					
107. Record of times door opened					

108. Comments

# Availability of Test Kits

	HIV	HBs Ag	нси	Syphilis
109. Number available				
110. Туре				
111. Number of expired kits				

Discu	Discussion with Person in Charge of Supplies							
112.	Do you have a system for stock control	? (If yes, please	see the list)					
113.	Please comment on availability:	all the time	sometimes	not available				
	Lab coats Gloves Needles Lancets Tubes Pipette tips Cotton Alcohol							
	Blood bags Reagents Kits: HBV HCV HIV Syphilis Disinfectants Sharps boxes Leak proofed waste container Others (specify)							

#### Data from Blood Bank Records

Please complete the following table upon examining blood bank records.

Month	# of donors	# bags screened	# with pos. screening test	Units Issued
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

# Health Care Worker Questionnaire

Date: Governorate:	
Name: Name of Hospital/BB:	
Job:	
Physician Chemist Nurse Technician	
Clerk Driver Housekeeper	
Others (Specity)	
<ol> <li>Have you received any training on blood bank activities during the past year? If yes, by whom:</li> </ol>	
Yes MOHP	No
WHO	Н
NGO	
NBTC	П
Others	
<ol><li>Have you received any training on infection control during the past year? If yes, by whom:</li></ol>	
MOHP	
WHO 🔲	
NGO 🗌 NBTC	
Others	
3. Have you received Hepatitis B Vaccine (HBV)?	
4. Are gloves available in the Blood Bank?	
Always	
Sometimes	
Never	
5. What kind of gloves are available?	
Latex	
Plastic	
Rubber	
Others	

to		when there is potential for exposure venipuncture, lab procedures, handling ste, etc.)?	Yes	No
7. lf	no, why don't you wear glov	es during these procedures?		
		Not available		
		Allergic to gloves		
		Loss of sensation		
		Others (specify)		
	lave you encountered any no or any occupational exposur	eedle stick injuries? e e.g. eye splashes, cuts, wounds, etc.)		
lf	yes:			
9.	How many times?			
10.	How did it occur?			
		During two handed recapping		
		During lab procedures		
		During collecting waste		
		Others (specify)		
	11. What service was	offered to you?		
		Inform supervisor		
		Referral		
		Follow up		
		Immunoglobulins		
		Nothing was done		
		Others (specify)		
12.	Do you think you can beco	ome infected through contact with blood?		
13.	If yes, what kind of infect	ion?		
14.	Do you know that some i	nfections are dangerous?		
Corr	iments:			