



Ndera Neuropsychiatric Teaching Hospital

# ANNUAL REPORT 2022-2023



Kigali, October 2023



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## **EXECUTIVE SUMMARY**

Ndera Neuropsychiatric Teaching Hospital provides specialized healthcare in psychiatry and neurology in accordance with the professional ethics and policy of Rwanda National Health Sector. The hospital is located in Ndera Sector, Gasabo District, City of Kigali, and has two branches; CARAES Butare in Huye District, Southern Province and Icyizere Psychotherapeutic Centre, in Kicukiro District, City of Kigali.

In the fiscal year 2022-2023, the hospital recorded 95,773 consultations, of which 87% were in psychiatry and 13% in Neurology. It is important to note that the consultations have decreased 0.6% from the previous year; down from 96,357 in 2021-2022. The most prevalent pathologies in psychiatry were schizophrenia and acute psychotic disorders, while the predominant pathology in neurology was epilepsy. The number of hospitalized patients increased to 5,646, up from 5,271 of the previous year. Other activities carried out during this fiscal year include community outreach programmes, which involved the hospital staff's contribution in capacity building for healthcare professionals at district hospitals level to boost mental health care.

The action plan of the hospital for the year 2022/2023 was successfully implemented and there was no stock out of psychotropic drugs and other pharmaceutical products.

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# **CHAPTER I. DESCRIPTION OF INSTITUTION STATUS**

## **1.0. Introduction**

Ndera Neuropsychiatric Teaching Hospital is a university teaching hospital specialized in psychiatry and neurology in accordance with the professional ethics and policy of Rwanda National Health Sector. Founded in 1968, the hospital is owned by the Congregation of the Brothers of Charity, a religious institution, in partnership with the Government Rwanda, with the Government setting health policies and providing human resources, and the Brothers of Charity assuring administrative matters and the daily management of the hospital. Following its inauguration at Ndera, Gasabo District, City of Kigali, the hospital saw a remarkable growth in all aspects, mainly the creation of two branches; CARAES Butare in Huye District, Southern Province in 1976 and Icyizere Psychotherapeutic Centre, in Kicukiro District, City of Kigali in 2003. Other notable achievements also include the creation of new services, strengthening of existing ones, and most recently, the Hospital was upgraded to Teaching Hospital Level (Prime Minister's Instructions No 001/03 of 10/08/2022), which comes with a responsibility of bringing together medical education, research, and patient care in a unique environment where the next generation of medical doctors, nurses, and other health professionals are trained.

## **1.1. Vision**

We strive to be a regional leader in the field of neurology and mental health through provision of excellent healthcare services accessible to all, as well as a modern medical training.

## **1.2. Values**

As a teaching Hospital, the values of the hospital are inspired by the Christian vision of human beings: human dignity, justice, compassion and respect to all, especially the most vulnerable.

### **1.3. Mission Statement**

The mission of the Hospital is to provide accessible specialized healthcare, to facilitate training, research and mentorship in mental health and neurology with reference to the National Health Policy.

### **1.4. Human Resource Service**

The Human Resource Service's main responsibility is to assist the hospital management in dealing with employee salary payment, statutory deductions declarations, recruitment and orientation process, capacity building, performance evaluation, administration policy and benefits, labor law and labor relations, safety and risk compliance, among others.

The Human Resource Service contributes to the success of the hospital by:

- Recognizing the uniqueness needs of employees,
- Acting in the best interests of the hospital and the workforce,
- Devoting to quality, excellence and continuous improvement,
- Adhering to high professional standards of quality, competency and conduct, and
- Balancing requests to share information clearly and openly while respecting confidentiality of personal information.

#### **1.4.1. Performance evaluation**

In order to assess employees' performance, appreciate their work, plan and prioritize training needs, the hospital uses a monthly employee performance evaluation, where each employee sets goals to achieve within a month, and at the end of the month, with his/her immediate supervisor, they assess the accomplishment of what has been set. The hospital has also a multidisciplinary team which conducts a quarterly evaluation in hospital units, services and its branches, to evaluate the quality of service delivery, implementation of recommendations and advice for quality improvement.

Through Result Based Performance Management System (RBM) the hospital staff are being assessed on an annual basis, where each and every staff is given annual targets (Imihigo) reported on a quarterly basis, so that the best performers can be rewarded with annual performance bonus and horizontally promotion to those who have been Indashyikirwa for a three consecutive years.

#### **1.4.2. Achievements**

1. The hospital has been upgraded to be the teaching level hospital as it was officially gazetted in the Prime Minister's Instructions N° 001/03 of 10/08/2022 determining the organizational structure of Ndera Neuropsychiatric Teaching Hospital and level two Teaching Hospitals.
2. The hospital had awarded its staff the annual performance bonus for the first time as it was requested by the Ministry of Health to pay annual performance bonus for fiscal year 2021/2022 for Health Sector Staff in letter N° 20/0157/DA/HR/2023.
3. Ndera Neuropsychiatric Teaching Hospital is working closely with Rwanda Development Board in offering professional internship in order equip Rwandan young and fresh graduates with professional experience for their career path.

#### **1.4.3. Human Resource Service project in 2023/2024**

The Human Resource Service will focus its efforts in:

1. Implementation of the new organizational structure;
2. Improving service delivery through accreditation process;
3. Strengthening employee development through capacity building and coaching.

#### 1.4.4. Hospital staff

Ndera Neuropsychiatric Teaching Hospital, at the end of the financial year as of June 30<sup>th</sup> 2022/2023, had 392 employees where 173 employees were Under Statute, 212 employees were Under Contract and 7 employees were Under Contract in CDC-COAG Project.

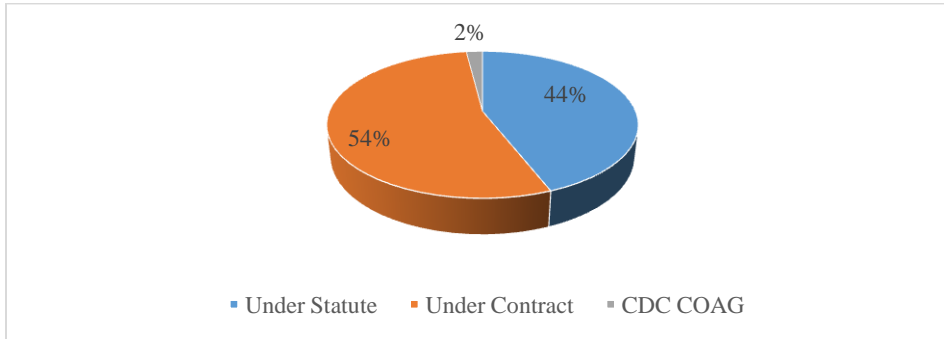


Figure 1: Hospital staff

#### 1.4.4.1. Staff by Gender

As the financial year 2022/2023 ended, Ndera Neuropsychiatric Teaching Hospital had 392 employees, among them 183 employees were female and 209 employees were male.

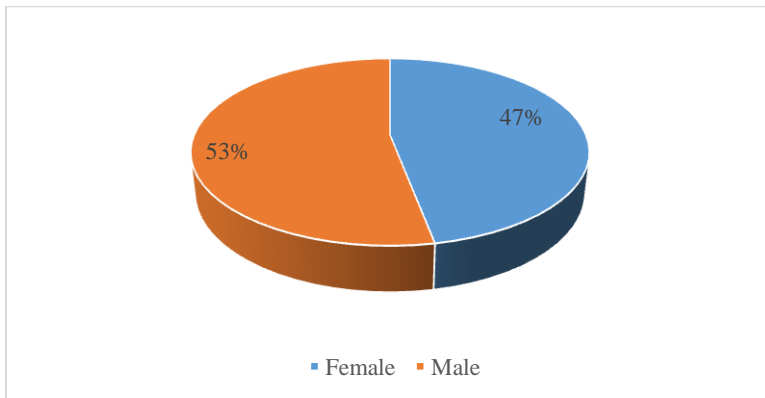


Figure 2: Staff by Gender

#### 1.4.4.2. Staff per department

As per the Prime Minister's Instructions N<sup>o</sup> 001/03 of 21/11/2016 determining organizational structure, salaries and fringe benefits for employees of Referral Hospitals, Provincial Hospitals, District Hospitals, Ndera Neuro-Psychiatric Hospital and Health Centres to which the hospital

has been using for financial year 2022/2023. The hospital counted 7 employees in DG’s Office, 47 employees in Administration and Finance, 7 employees in Education, Research, CPD and Quality Improvement, 44 employees in Medical and Allied Health Sciences, 137 employees in Mental Health and Nursing, 74 employees at CARAES Butare branch, 38 employees at Icyizere Psychotherapeutic Center branch and 38 employees who work as support staff.

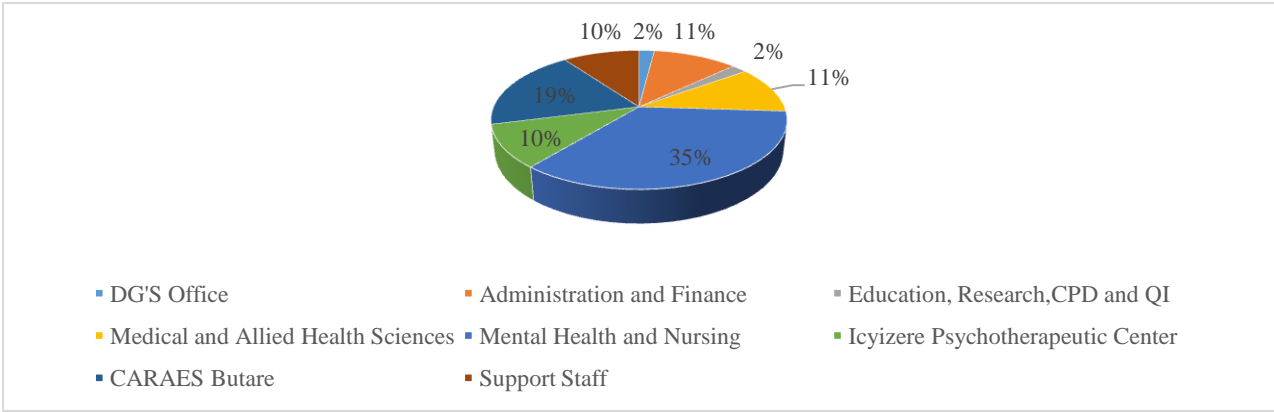


Figure 3: Staff per department

**1.4.5. Employee recruitment**

As per this financial year, Ndera Neuropsychiatric Teaching Hospital recruited 64 employees, among them, 49 were for Nursing Department, 10 for Medical and Allied Health Sciences Department, 5 for Administration and Finance Department.

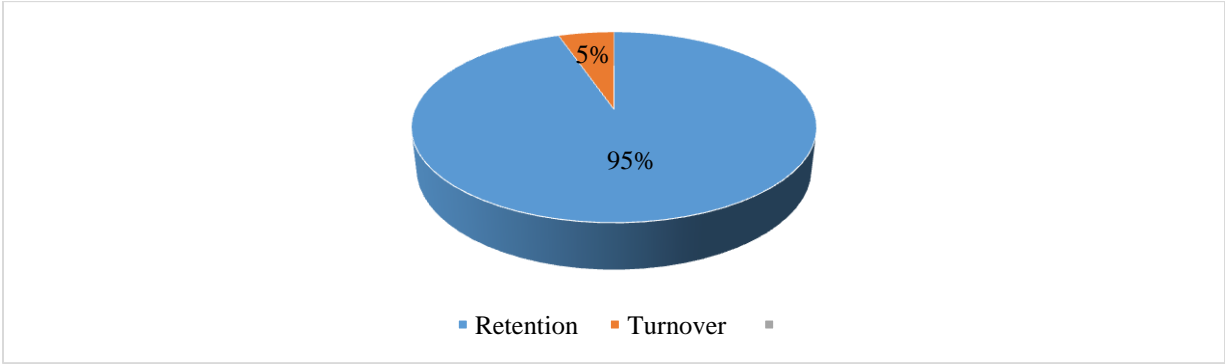
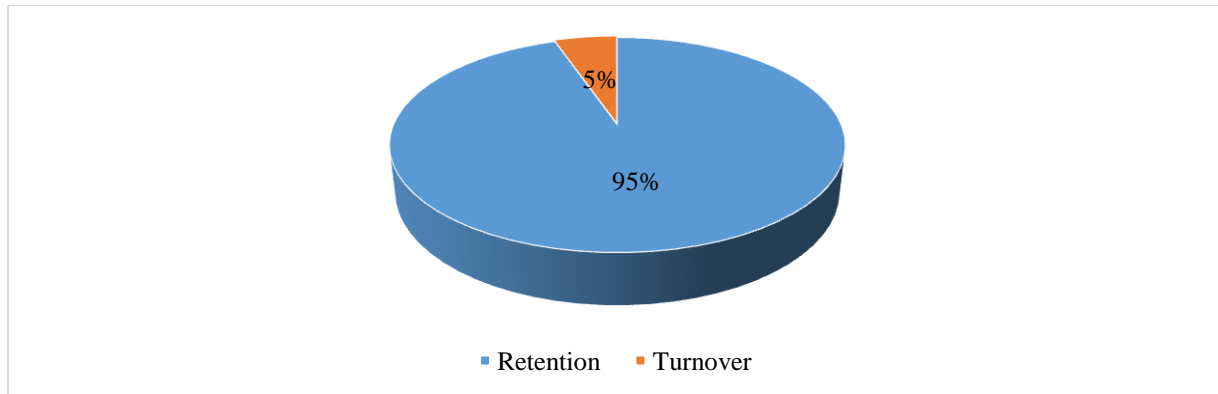


Figure 4: Employee recruitment

### 1.4.6. Employee turnover

During the course of this financial year 2022-2023, 22 employees have left Ndera Neuropsychiatric Teaching Hospital due to contract termination, retreat, voluntary dismissal and vocation mission.



**Figure 5: Employee turnover**

# CHAPTER II: DETAILED DESCRIPTION OF THE K P U V K V W V K Q P ø U " R G T H Q T O C P E G

## 2.1. Medical Department

### 2.1.1. Consultations

**Table 1: Consultations done at NDERA Hospital and its branches following Month, Year, Age, New and Old cases**

Place of care	NC OC	NDERA						BUTARE						ICYIZERE						TOTAL
		0-19		20-39		40+		0-19		20-39		40+		0-19		20-39		40+		
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
July 2022	NC	67	105	200	178	173	168	5	4	16	26	7	6	12	14	25	32	17	19	1,074
	OC	772	539	1077	998	880	929	70	86	260	289	298	216	55	48	165	179	175	145	7,181
Aug. 2022	NC	71	87	223	201	167	302	3	3	11	8	9	10	8	4	25	27	10	9	1,178
	OC	601	351	990	797	743	617	86	91	301	327	290	268	43	36	200	224	149	226	6,340
Sep. 2022	NC	93	79	199	158	74	104	2	7	10	12	3	5	6	5	43	31	17	28	876
	OC	653	447	1,100	863	792	700	79	97	332	322	302	264	54	41	214	231	155	211	6,857
Oct. 2022	NC	86	69	246	120	117	112	13	9	26	10	17	8	5	1	23	20	6	11	899
	OC	731	452	1,076	851	818	898	130	89	346	337	287	269	47	43	223	215	169	276	7,257
Nov. 2022	NC	154	114	210	209	135	128	18	11	24	7	9	11	2	1	18	13	9	8	1,081
	OC	637	430	1,081	910	820	917	137	96	300	327	323	314	49	34	222	201	165	170	7,133
Dec. 2022	NC	95	63	229	189	113	96	22	16	35	5	9	17	4	1	18	8	6	7	933
	OC	705	412	1,015	904	831	881	111	78	338	305	312	281	48	33	265	153	133	219	7,024
Jan. 2023	NC	89	66	211	194	98	124	14	11	42	48	11	27	8	5	28	8	6	7	997
	OC	641	564	1,094	882	875	827	108	83	288	260	222	201	56	47	262	193	167	191	6,961
Feb. 2023	NC	88	89	89	99	62	121	15	2	21	15	13	12	7	3	23	9	13	5	686
	OC	666	358	994	846	811	805	101	74	316	280	268	212	45	46	276	185	161	137	6,581
March 2023	NC	134	105	159	102	113	105	12	3	27	13	5	15	7	1	47	28	12	11	899
	OC	843	461	1,012	885	835	892	150	87	337	256	222	202	59	31	123	144	172	200	6,911
April 2023	NC	92	78	100	85	85	117	12	8	24	6	23	11	2	0	25	14	7	13	702
	OC	755	399	1,060	791	912	985	121	78	337	298	301	241	54	33	231	173	204	268	7,241
May 2023	NC	99	72	168	166	94	116	29	6	25	12	13	10	9	1	32	11	11	11	885
	OC	836	592	1,190	928	869	1,036	150	48	347	304	276	233	54	32	214	190	195	267	7,761
June 2023	NC	105	89	124	88	73	74	15	6	23	9	9	13	8	11	18	20	16	12	713
	OC	780	510	1,150	804	924	1,030	146	88	304	338	315	345	65	30	200	189	192	193	7,603
TOT		9,793	6,531	14,997	12,248	11,414	12,084	1,549	1,081	4,090	3,814	3,544	3,191	707	501	2,920	2,498	2,167	2,644	95,773

### 2.1.1.1. Monthly consultations distribution

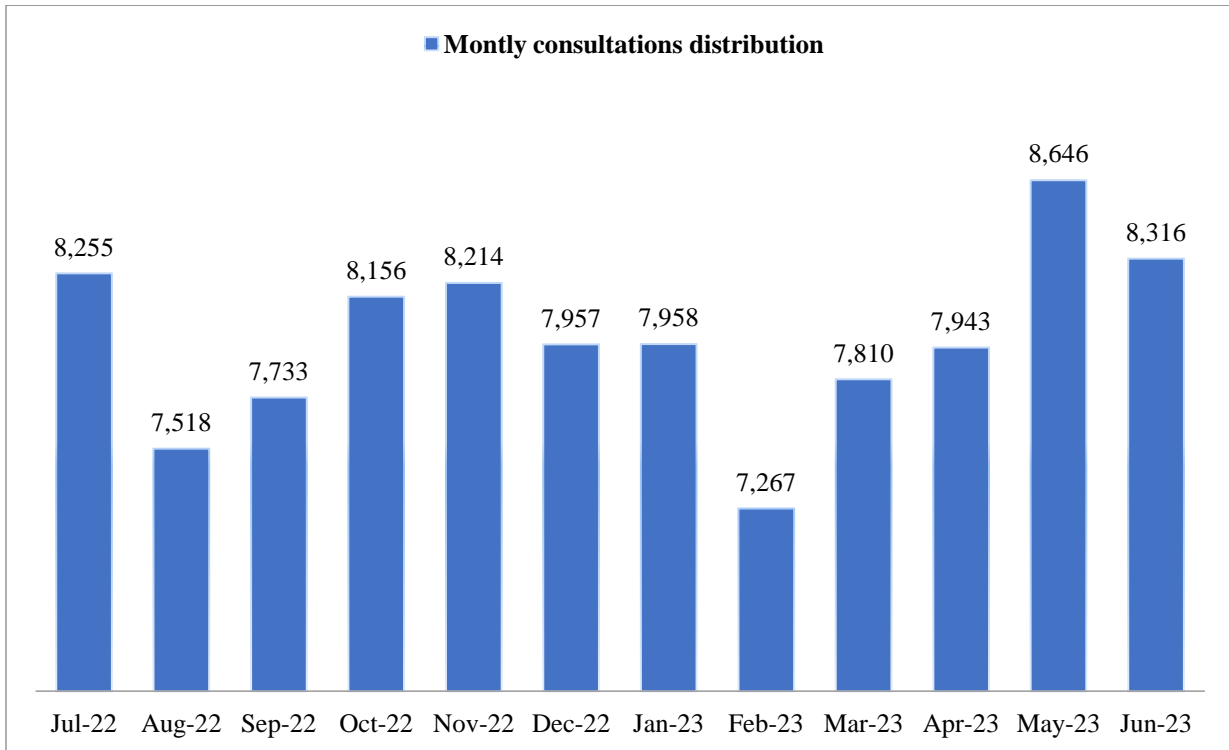


Figure 6: Monthly consultations distribution

May 2023 recorded the highest number of consultations, while February 2023 registered the lowest during the year 2022-2023.

### 2.1.1.2. Consultation per branch

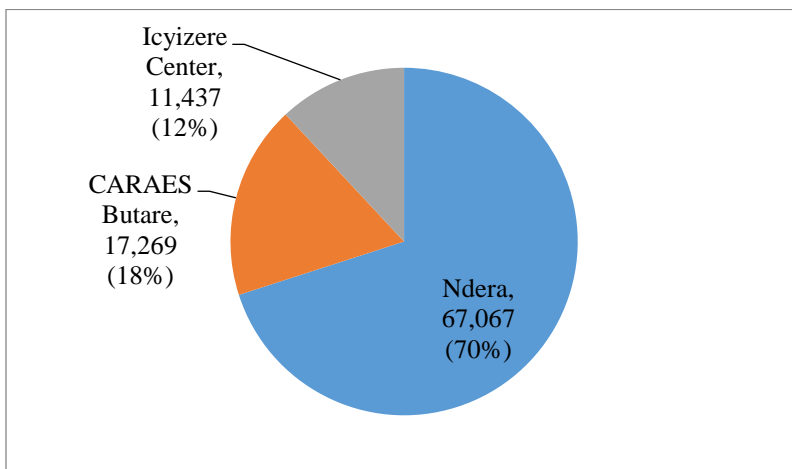


Figure 7: Consultation per branch

### 2.1.1.3. Consultation per gender

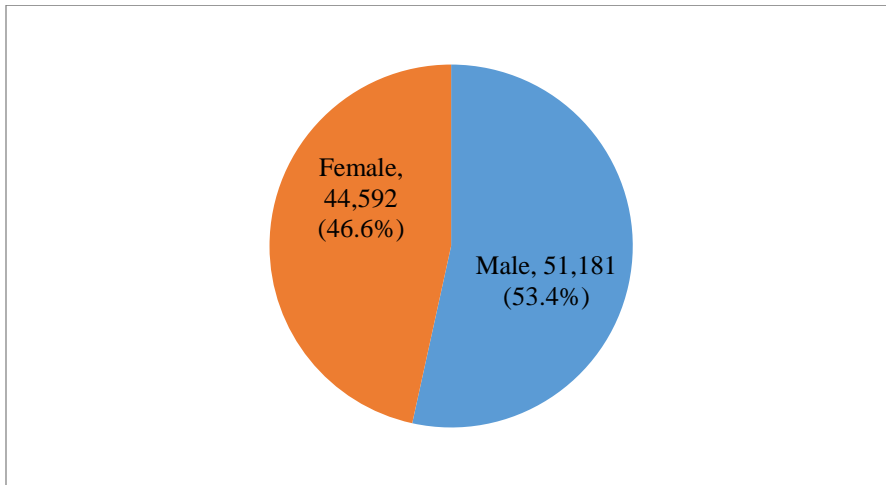


Figure 8: Consultation per gender

### 2.1.1.4. Consultations per age group

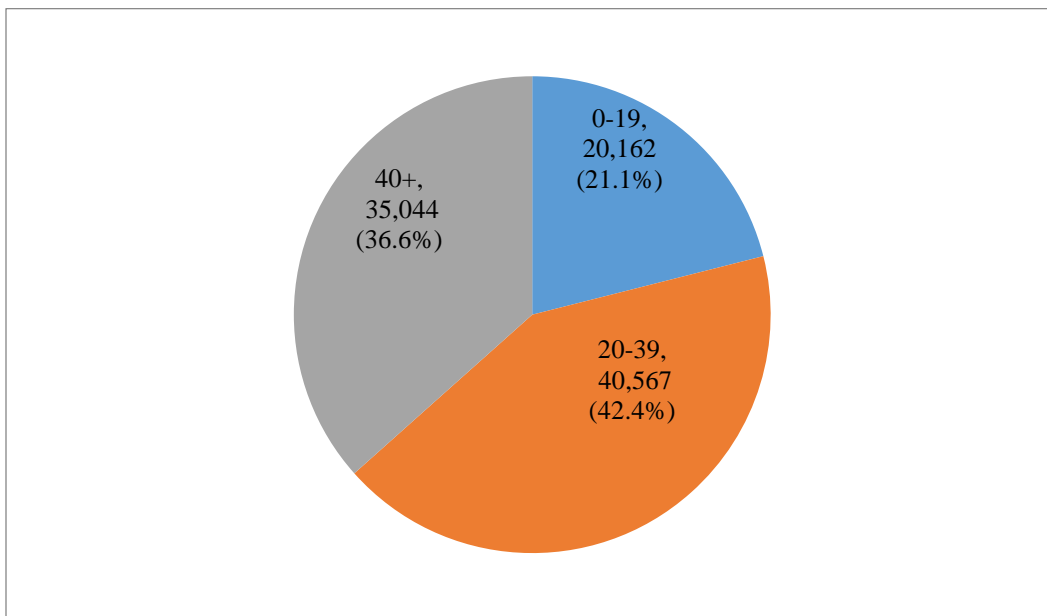


Figure 9: Consultations per age group

### 2.1.1.5. Consultations by provenance

The following are the number of patients consulted from Provinces and Kigali city:

Provenance	Ndera	CARAES Butare	ICYIZERE Center	TOTAL	%
City of Kigali	32,474	761	8,619	41,854	43.7
Northern Province	7,477	1,261	804	9,542	10
Western Province	7,137	3,912	562	11,611	12.1
Eastern Province	10,315	4,241	641	15,197	15.9
Southern Province	8,960	7,088	775	16,823	17.6
Foreigners	15	6	36	57	0.1
Non specified	689	0	0	689	0.7
Total	67,067	17,269	11,437	95,773	100

Table 2: Consultations by provenance

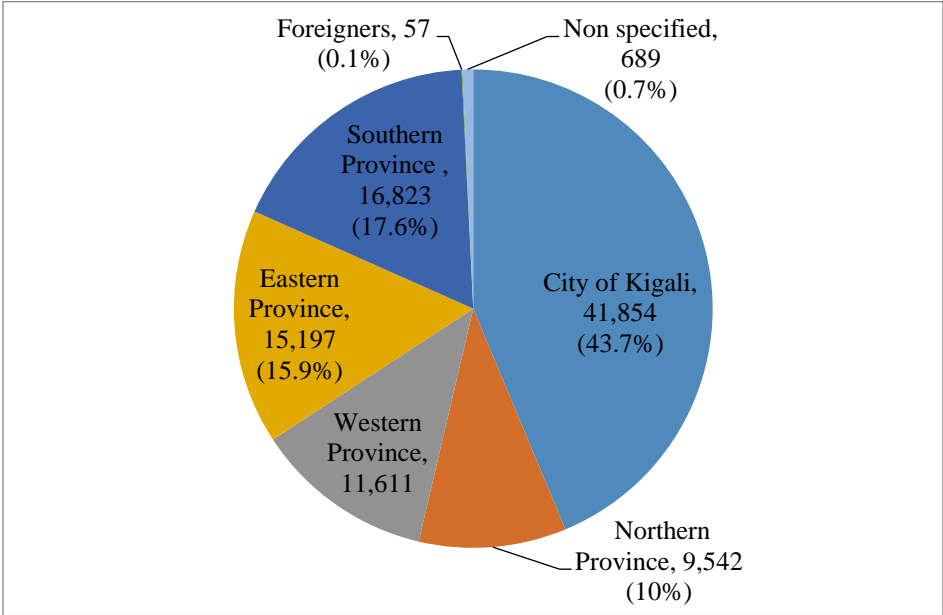


Figure 10: Consultations by provenance

## 2.1.2. Hospitalization

### 2.1.2.1. Bed capacity

The table below shows the bed repartition according the admission ward

Ward	Patients in crises wards	Patients in recovery ward	Total
Men (Ward A and B)	63	40	103
Women (Ward C and D)	72	40	112
Private Hospitalization	6	-	6
Children & Adolescents (Kundwa Center)	17	-	17
Neurology	-	24	24
Transitional Home Care	-	20	20
CARAES Butare	59	58	117
Centre Icyizere	-	29	29
<b>Total</b>			428

Table 3: Bed capacity

### Admission

The table below, show hospitalizations according month and Hospital services

Lieu de soins Mois	Caraes Ndera							Caraes Butare		Icyizere Center		TOTAL
	M	F	C		HSJ	Neurology		M	F	M	F	
			M	F		M	F					
July 2022	162	115	6	5	18	12	15	49	32	11	15	440
Aug 2022	207	140	6	9	18	12	16	46	50	12	12	528
Sep 2022	196	133	11	8	18	13	11	30	36	10	14	480
Oct 2022	152	125	7	6	18	12	13	50	36	11	8	438
Nov 2022	196	118	8	5	18	11	12	34	37	10	16	465

Dec 2022	166	115	10	8	18	13	9	32	35	11	7	424
Jan 2023	175	124	4	7	18	8	15	44	28	14	12	449
Feb 2023	146	114	10	6	18	12	6	30	38	8	13	401
March 2023	229	151	8	10	18	10	15	44	30	13	5	533
April 2023	159	126	10	6	18	8	11	42	45	10	12	447
May 2023	215	174	7	9	18	12	9	40	48	9	10	551
June 2023	188	148	10	11	18	13	7	33	41	10	11	490
<b>TOT</b>	2,191	1,583	97	90	216	136	139	474	456	129	135	<b>5,646</b>

Table 4: Admissions

The Admission rate has been increased for May 2023, August 2022 and March 2023.

### Monthly hospitalizations distribution

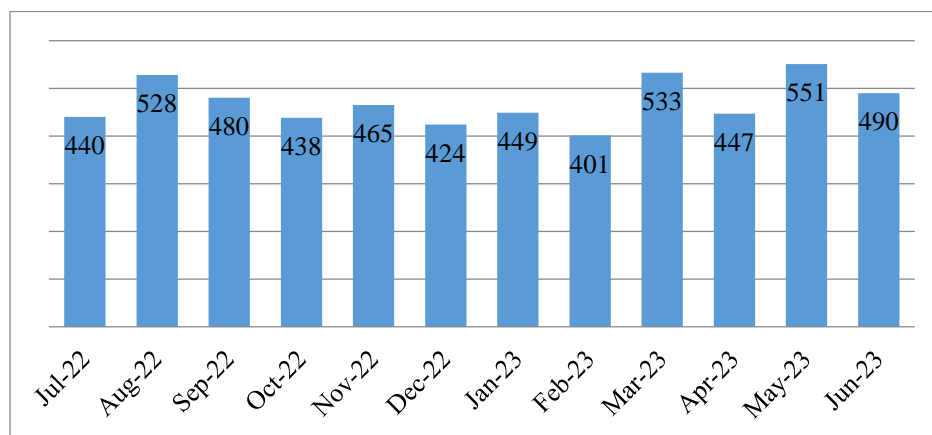


Figure 11: Monthly hospitalizations distribution

### 2.1.2.2. Hospitalization per branch

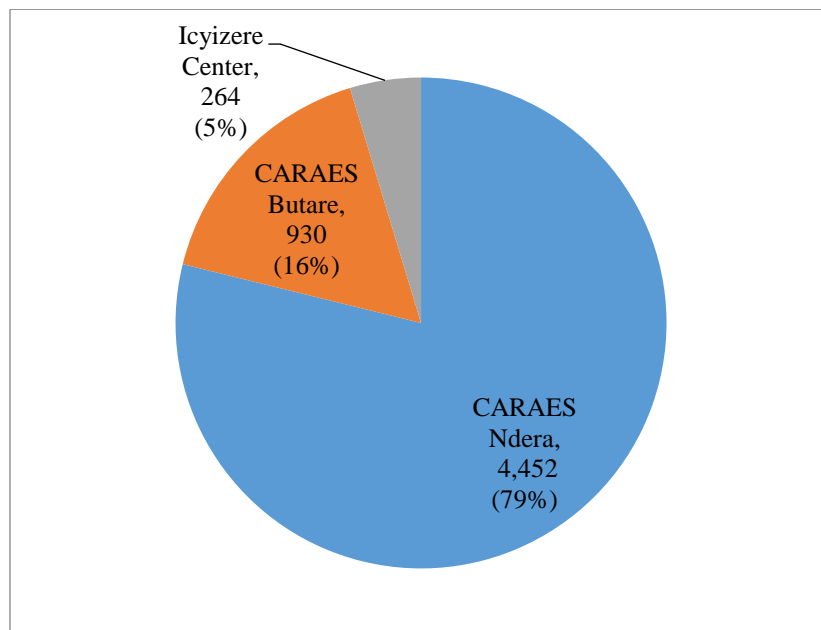


Figure 12: Hospitalization per branch

Overall, **5,646** patients (all ages), including new and old cases were hospitalized in the Ndera Neuropsychiatric Teaching Hospital. A total of 4,452 (79%) patients were hospitalized in Ndera, 930 (16%) patients in CARAES Butare, and 264 (5%) patients in Icyizere Center.

### 2.1.2.3. Bed occupancy

Place of care	CARAES Ndera					CARAES Butare	Icyizere Center	TOTAL
	M	F	C	HSJ (M+F)	Neurology (M+F+C)	M+ F	(M+ F)	
Month								
July 2022	3,467	2,920	340	6,570	416	4,879	691	19,283
Aug 2022	3,594	3,130	423	6,570	498	4,514	736	19,465
Sep 2022	3,910	3,077	413	6,570	252	4,859	677	19,758

Oct 2022	4,355	3,067	375	6,570	258	3,381	798	18804
Nov 2022	4,079	3,970	321	6,570	262	3,718	753	19,673
Dec 2022	4,165	4,108	417	6,570	168	4,037	695	20160
Jan 2023	4,584	3,759	349	6,570	188	4,795	348	20593
Feb 2023	4,302	3,962	314	6,570	347	4,059	539	20093
March 2023	4,128	3,009	468	6,570	334	3,158	743	18410
April 2023	3,065	3,014	450	6,570	180	3,249	693	17,221
May 2023	4,082	3,042	324	6570	212	4,176	640	19,046
June 2023	4,797	3,549	470	6,570	191	4,688	638	20903
<b>TOTAL</b>	48528	40607	4,664	78840	3,306	49513	7,951	<b>233,409</b>

Table 5: Bed occupancy

#### 2.1.2.4. Length of stay

For the FY 2022/2023, the average of the patient's length of stay in hospitalization was 27 days (calculated by applying this formula: Bed occupancy – Home Saint Jules / Number of admissions; thus the Length of stay =  $233409 - 78840 / 5646 = 27$  days). Being a referral and teaching hospital in mental health, the average length of stay in our hospital is reasonable due to the chronic pathologies referred by other hospitals.

#### 2.1.2.5. Official discharges

Hospital discharge is defined as the formal release of a hospitalized individual due to conclusion of the hospitalization stay, either by death, recovery, or transfer to another institution. The following table shows the number of patients discharged during 2022/2023.

Place of care	Caraes Ndera					Caraes Butare	Icyizere Center	TOTAL
	M	F	C	HSJ (M+F)	Neurology (H+F+E)	(M+F)	(M+F)	
<b>July 2022</b>	119	68	7	0	19	73	25	311
<b>Aug 2022</b>	110	83	16	0	12	68	22	311
<b>Sep 2022</b>	116	72	17	0	21	105	20	351
<b>Oct 2022</b>	119	82	19	0	11	53	18	302
<b>Nov 2022</b>	96	72	12	0	19	63	25	287
<b>Dec 2022</b>	152	76	13	0	15	80	18	354
<b>Jan 2023</b>	99	64	11	0	16	58	14	262
<b>Feb 2023</b>	88	65	11	0	17	73	16	270
<b>Mars</b>	107	63	14	0	24	78	19	305
<b>April 2023</b>	81	71	16	0	13	64	18	263
<b>May 2023</b>	132	72	16	0	20	86	15	341
<b>June 2023</b>	96	65	19	0	19	81	21	301
<b>TOTAL</b>	1,315	853	171	0	206	882	231	<b>3,658</b>

Table 6: Official discharges

### 2.1.2.6. Abandoned care (Non-official discharge)

Due to the status of mental illness, some patients escape the hospital, either by climbing on the roof of the hospital or by hiding during the occupational therapy activities, which are sometimes done outside the hospitalization units. A few go out at their will to have treatment elsewhere. The hospital documented 213 patients who left the treatment without the doctor's advice.

Place of Care  Month	CARAES Ndera					CARAES Butare	Icyizere Center	TOTAL
	M	F	C	HSJ (M+F)	Neurology	(M+ F)	(M+ F)	
July 2022	16	2	0	0	0	1	0	19
Aug 2022	13	0	0	0	0	3	1	16
Sep 2022	17	1	0	0	0	5	0	23
Oct 2022	19	2	0	0	0	6	0	27
Nov 2022	8	1	0	0	0	3	0	12
Dec 2022	7	1	0	0	0	1	1	10
Jan 2023	14	3	0	0	0	0	0	17
Feb 2023	15	0	1	0	0	2	0	18
March	11	2	1	0	0	2	2	18

2023								
April 2023	15	0	0	0	0	2	0	<b>17</b>
May 2023	17	0	0	0	0	2	1	<b>20</b>
June 2023	12	2	0	0	0	1	0	<b>15</b>
<b>Total</b>	164	14	2	0	0	28	5	<b>213</b>

Table 7: Non-official discharge

### 2.1.2.7. Transfers

Transfers to Ndera Hospital have been done in two steps. Either patients have been transferred by referral Hospital at Ndera or patients hospitalized at Ndera transferred to others referral hospital for appropriate care.

#### *a. Patients Hospitalized referred by District Hospital and Teaching Hospital by month*

<b>Area of Care</b>  <b>Month</b>	<b>CASES REFERRED BY DISTICT HOSPITAL AND TEACHING HOSPITAL</b>	<b>CASES NONE REFERRED</b>	<b>TOTAL</b>
July 2022	150	200	350
August 2022	138	244	382
September 2022	149	191	340
October 2022	130	212	342
November 2022	88	169	257
December 2022	130	162	292

January 2023	151	201	352
February 2023	101	197	298
March 2023	124	229	353
April 2023	152	186	338
May 2023	155	210	365
June 2023	140	188	328
<b>TOTAL</b>	<b>1,608</b>	<b>2,389</b>	<b>3,997</b>
<b>PERCENTAGE</b>	<b>40.23%</b>	<b>59.77%</b>	<b>100%</b>

Table 8: a. Patients Hospitalized referred by District Hospital and Teaching Hospital by month

*b. Transfer and count Transfer to referral hospitals and District Hospitals*

<b>Destination</b> <b>MONTH</b>	<b>TRANSFER AND COUNT TRANSFER TO REFERRAL AND DISTRICT HOSPITAL</b>	<b>PERCENTAGE</b>
July 2022	8	5.16
August 2022	17	10.96
September 2022	11	7.09
October 2022	12	7.74
November 2022	2	1.29
December 2022	5	3.22

January 2023	<b>11</b>	<b>7.09</b>
February 2023	<b>11</b>	<b>7.09</b>
March 2023	<b>15</b>	<b>9.67</b>
April 2023	<b>2</b>	<b>1.29</b>
May 2023	<b>32</b>	<b>20.64</b>
June 2023	<b>29</b>	<b>18.70</b>
<b>TOTAL</b>	<b>155</b>	<b>100%</b>

Table 9: b. Transfer and count Transfer to referral hospitals and District Hospitals

#### 2.1.2.8. Patients accompanied by Police

Those patients have been found on the road by police and bring them to Ndera for their security and the public movement. Some of them have no social assistance and are in errance.

The table below shows the number of patients brought by the Police and other security organs:

Place of care	Caraes Ndera		Caraes Butare	Icyizere Center	TOTAL
	M	F	(M+ F)	(M +F)	
Month					
July 2022	6	3	2	0	<b>11</b>
August 2022	4	4	0	0	<b>8</b>
September 2022	5	6	2	0	<b>13</b>

October 2022	8	5	4	0	17
November 2022	7	4	2	0	13
December 2022	6	5	5	0	16
January 2023	6	4	0	0	10
February 2023	3	5	1	0	9
March 2023	9	5	2	0	16
April 2023	5	7	3	0	15
May 2023	6	5	4	0	15
June 2023	11	7	1	0	19
<b>TOTAL</b>	<b>76</b>	<b>60</b>	<b>26</b>	<b>0</b>	<b>162</b>

Table 10: number of patients brought by the Police

### 2.1.2.9. Death

During the year 2022-2023, the Hospital documented 2 deaths.

### 2.1.2.10. Comparison of activities for 5 years

ACTIVITES	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Consultations	69,888	73,675	74,363	96,357	95,773
Hospitalizations	5,329	5,364	4,736	5,271	5,646
Bed occupancy	188,341	206,599	269,045	189,896	233,409
Discharges	3,223	3,582	3,024	2,964	3,658

Table 11: Comparison of activities for 5 years

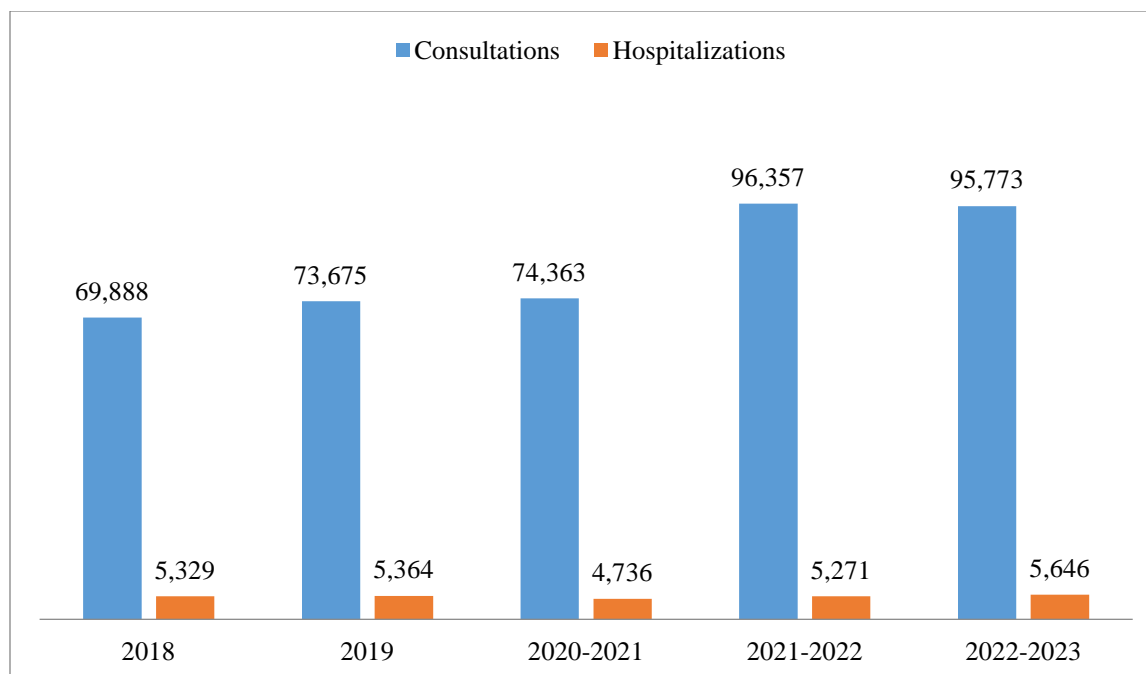


Figure 13: Comparison of activities for 5 years

### 2.1.3. Diagnostics

As the hospital provides care in neurology and psychiatry, the following statistics show the pathologies that make patients come to consult the Ndera Neuropsychiatric Teaching Hospital.

#### 2.1.3.1. Diagnostics in psychiatric Outpatients Department

N <sup>o</sup>	PATHOLOGIES	AGE			TOTAL	%
		0-19	20-39	40 +		
F00-F09	Organic, including symptomatic, mental disorders	0	10	295	305	0.36%
F10	Mental and behavioral disorders due to use of alcohol	63	526	298	887	1.06%
F14	Mental and behavioral disorders due to use of cocaine	0	0	0	0	0%
F12	Mental and behavioral disorders due to use of cannabinoids	53	507	65	625	0.74%

F10-F19	Mental and behavioral disorders due to other psychoactive substances	28	272	53	353	0.42%
F20	Schizophrenia	1338	21570	19165	42073	50.48%
F23	Acute and transient psychotic disorders	2916	6806	5975	15697	18.83%
F20-F28	Other psychotic disorders (Other Psychological problems)	258	642	469	1369	1.64%
F32	Depression	268	2176	2204	4648	5.57%
F30	Mania	133	179	60	372	0.44%
F31	Bipolar disorders	1760	4602	4202	10564	12.67%
F30-F39	Other mood disorders	22	364	329	715	0.85%
F45	Somatoform disorders	1130	800	898	2828	3.39%
F43.1	Post-Traumatic Stress Disease (PTSD)	3	104	91	198	0.23%
F40-F48	Other Neurotic disorders (Neurological problems)	27	186	132	345	0.41%
F50-F59	Behavioral syndromes associated with physiological disturbances and physical factors	4	2	1	7	0.08%
F60-F69	Disorders of adult personality and behavior	1	0	0	1	0.001%
F70-F79	Mental retardation	38	18	1	57	0.06%
F80-F89	Disorders of psychological development	6	8	2	16	0.01%

F90-F98	Behavioral and emotional disorders with onset usually occurring in childhood and adolescence	134	28	8	170	0.21%
F99-F99	Unspecified mental disorder	358	982	766	2106	2.52%
	NCD'S	0	10	295	305	0.36%
	Others comorbidity	63	526	298	887	1.06%
	Without Diagnosis	0	0	0	0	0%
	Others	53	507	65	625	0.74%
	<b>TOTAL</b>	<b>8.540</b>	<b>39.781</b>	<b>35.014</b>	83.335	<b>100</b>

Table 12: Diagnostics in psychiatric Outpatients Department

### Pathologies frequency in psychiatry

1. Schizophrenia with 50.48%
2. Acute and transient psychotic disorder with 18.83%
3. Bipolar Disorder with 12.67%
4. Depression disorder with 5.57%
5. Somatoforms with 3.39%

### 2.1.3.2. Diagnostics in neurology outpatient department

N0	PATHOLOGIES	0-19 ans	20-39 ans	40 et plus	TOTAL	%
G10-G14	Systemic atrophies primarily affecting the central nervous system	2	1	13	16	0.12%
G30-G32	Other degenerative diseases of the nervous system	1	1	57	59	0.47%

<b>G20</b>	Parkinson disease	0	4	86	90	0.72%
<b>G20- G26</b>	Other Extra pyramidal and movement disorders	3	2	32	37	0.29%
<b>G35- G37</b>	Demyelinating diseases of the central nervous system	0	0	3	3	0.02%
<b>G40</b>	Epilepsy	4191	4688	2513	11392	87.5%
<b>G41</b>	Status epilepticus	6	4	1	11	0.08%
<b>G43</b>	Migraine	27	58	50	135	1.08%
<b>G44</b>	Other headache syndromes	89	174	147	410	3.29%
<b>G45</b>	Transient cerebral ischemic attacks and related syndromes	0	0	1	1	0%
<b>G46</b>	Vascular syndromes of brain in cerebrovascular diseases	0	0	1	1	0%
<b>G47</b>	Sleep disorders	1	20	19	40	0.32%
<b>G50- G59</b>	Nerve, nerve root and plexus disorders	1	7	18	26	0.2%
<b>G60- G64</b>	Polyneuropathies and other disorders of the peripheral nervous system	0	4	3	7	0.05%
<b>G70- G73</b>	Diseases of myoneural junction and muscle	0	0	0	0	0%
<b>G80- G83</b>	Cerebral palsy and other paralytic syndromes	0	0	1	1	0%
<b>G90-</b>	Other disorders of the nervous system	54	90	66	210	1.68%

<b>G99</b>						
	NCD'S	2	1	13	16	0.12%
	Without Diagnosis	1	1	57	59	0.47%
	Others comorbidity	0	4	86	90	0.72%
	Others	3	2	32	37	0.29%
	<b>TOTAL</b>	<b>4275</b>	<b>5053</b>	<b>3110</b>	<b>12438</b>	<b>100</b>

Table 13: Diagnostics in neurology outpatient department

### Top pathologies frequency in Neurology

1. Epilepsy: 87.5%
2. Headaches syndrome: 3.29%
3. Migraine: 1.08%
4. Other Disorder of nervous system: 1.68%

### 2.1.3.3. Overall top five pathologies (Psychiatry & Neurology combined)

Nº	PATHOLOGY	DEPARTMENT	TOTAL	%
1	Schizophrenia	Psychiatry	42,073	43.93
2	Acute and transient psychotic disorders	Psychiatry	15,697	16.39
3	Epilepsy	Neurology	11,392	11.89
4	Bipolar disorders	Psychiatry	10,564	11.03
5	Depression	Psychiatry	4,648	4.85

Table 14: Overall top five pathologies

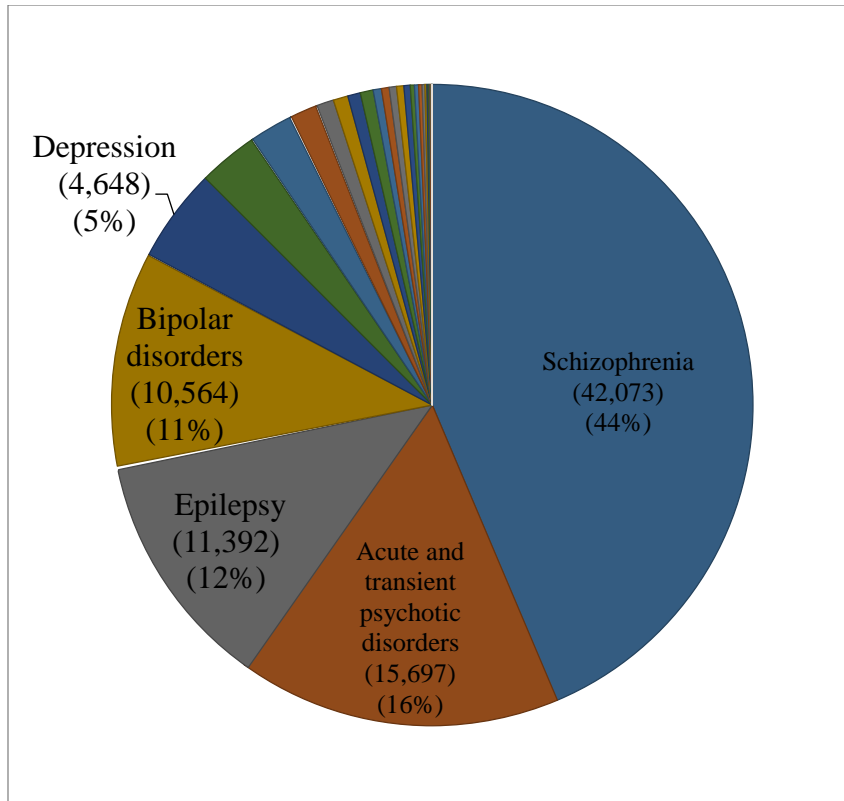


Figure 14: Overall top five pathologies

#### 2.1.3.4. Causes of hospitalization in psychiatry department

N°	PATHOLOGIES	AGE			TOTAL	%
		0-19	20-39	40 +		
F00-F09	Organic mental disorders	0	3	1	4	0.07%
F10	Mental and behavioral disorders related to alcohol use	3	44	34	81	1.53%
F14	Mental and behavioral disorders related to cocaine use	0	1	0	1	0.01%
F12	Mental disorders and behavioral disorders related to the use of cannabis	9	95	26	130	2.46%
F10-F19	Mental disorders and behavioral disorders related to the use of other substances	21	134	32	187	3.53%

F20	Schizophrenia				2413	45.62%
		41	1142	1230		
F23	Acute and transient psychotic disorders				737	14.03%
		74	342	321		
F20-F28	Other psychotic and schizotypal disorders				93	1.75%
		2	61	30		
F32	Depression				221	4.17%
		23	127	71		
F30	Mania				75	1.41%
		3	46	26		
F31	Bipolar affective disorder				624	11.79%
		29	367	228		
F30-F39	Other mood disorders				56	1.05%
		3	36	17		
F45	Somatoform disorders				95	1.80%
		82	4	9		
F43.1	Post-traumatic stress disorder (PTSD)				6	0.11%
		0	0	6		
F40-F48	Other neurotic disorders				6	0.11%
		0	2	4		
F50-F59	Behavioral syndromes associated with physiological disturbances				9	0.04%
		8	1	0		
F60-F69	Adult personality and behavioral disorders				1	0.02%
		0	0	1		
F70-F79	Mental Retardation				35	0.66%
		30	5	0		
F80-F89	Psychological developmental disorders				0	0.06%
		0	0	0		

F90-F98	Behavioral and emotional disorders in childhood or adolescence	33	3	0		0.62%
F99-F99	Mental disorders not specified	2	76	23	101	1.90%
	<b>TOTAL</b>	445	<b>2785</b>	2059	5289	<b>100</b>

Table 15: Causes of hospitalization in psychiatry department

### Top five causes of hospitalization in psychiatry department

1. Schizophrenia (45.62%)
2. Acute and transient psychotic disorders (14.03%)
3. Bipolar disorders (11.79%)
4. Depression (4.17%)
5. Mental disorders and behavioral disorders related to the use of other substances (3.53)

### 2.1.3.5. Causes of Hospitalization in neurology department

N°	PATHOLOGIES	0-19	20-39	40 +	TOTAL	%
<b>G10-G14</b>	Systemic atrophies primarily affecting the central nervous system	0	0	3	3	1.35%
<b>G30-G32</b>	Other degenerative diseases of the nervous system	0	3	0	3	1.35%
<b>G20</b>	Parkinson disease	1	2	2	5	2.25%
<b>G20-G26</b>	Other Extrapiramidal and movement disorders	1	1	1	3	1.35%
<b>G35-G37</b>	Demyelinating diseases of the central nervous system	0	0	2	2	0.90%

<b>G40</b>	Epilepsy	134	101	29	261	73.10%
<b>G41</b>	Status epilepticus	0	0	0	0	0.27%
<b>G43</b>	Migraine	3	1	1	5	2.24%
<b>G44</b>	Other headache syndromes	3	1	4	8	1.35%
<b>G45</b>	Transient cerebral ischemic attacks and related syndromes	0	0	1	1	0.45%
<b>G46</b>	Vascular syndromes of brain in cerebrovascular diseases	0	1	1	2	0.90%
<b>G70-G73</b>	Diseases of myoneural junction and muscle	0	0	0	0	0.55%
<b>G80-G83</b>	Cerebral palsy and other paralytic syndromes	0	0	0	0	0.55%
<b>G90-G99</b>	Other disorders of the nervous system	5	1	2	8	3.60%
<b>TOTAL</b>		147	111	99	357	<b>100</b>

**Table 16: Causes of Hospitalization in neurology department**

In the neurology department, the following are top three causes of hospitalization:

1. Epilepsy (73.10%)
2. Parkinson disease (2.25%)
4. Migraine (2.24%)

## **2.2. Nursing Department**

### **2.2.1. Introduction**

The Mental Health and Nursing Department consists of; Emergency Service, Men’s crisis ward (WA), Men’s recovery ward (WB), Women’s crisis ward (WD), Women’s recovery ward (WC), private hospitalization service (Ituze Center), Neurology Service, Pedopsychiatry Service

(Kundwa Center), and service for homeless with chronic mental illnesses (Home Saint Jules). The year 2022-2023 was mostly marked by different activities both in hospitalization wards and outpatient department, whereby mental health and somatic care have been provided; coaching of nurses, clinical case review, interviews, and medical round for hospitalized patients, patient groups, and other nursing care.

### **2.2.2. Clinical case review (colloquium)**

Clinical case review (colloquium) is a multidisciplinary team in which doctors, psychologists, physiotherapist, social workers, nurses and occupational therapists meet for common understanding and review the management of the patients as a whole, using multi-disciplinary approach to provide health care services. All hospital services perform this activity in the chosen days depending on the availability of the team, as the discussion is done using 'SBAR' approach to maximize the number of patients to be discussed.

### **2.2.3. Medical round for hospitalized patients**

Medical rounds are a way of sharing information about the patient's medical condition with the members of the healthcare team to enhance the patient's quality health care delivery. During the medical rounds, the patient's medical problems are identified and treated, and decided for discharge or transfer.

### **2.2.4. Coaching of nurses**

Coaching is a process aimed at improving the behaviour and performance of the health care providers to provide quality specialised health service. Ndera Neuropsychiatric Teaching Hospital has initiated the coaching system for nurses from 2014; every ward in the hospital and its branches has nominated assistant coaches who work collaboratively with coaching coordinator and heads of services in a supportive manner for nurses.

### **2.2.5. Patient group**

Patient group is an organized gathering of patients with psychiatric/ somatic and other conditions with multidisciplinary team. It helps on evaluation of mental state, evolution of illness and health education through a chosen topic, timeline, rules, and moderator. Every participant has right to

give his or her opinion related to the topic. It is done from Monday to Friday from 9h00 to 9h45, except Thursday due to particular activities.

The table below shows the aforementioned summarized activities frequency in the hospitals:

<b>Service</b>	<b>Medical round</b>	<b>Patient group</b>	<b>Colloquium</b>
<b>WA</b>	258	154	43
<b>WB</b>	88	226	45
<b>WC</b>	134	217	41
<b>WD</b>	183	178	43
<b>CK</b>	52	98	53
<b>ITUZE</b>	202	123	51
<b>Neurology</b>	129	0	45
<b>Total</b>	1,046	996	321

The table above shows that 1,046 medical rounds have been performed for inpatients. The big number of medical round executed was observed in Ward A. Each hospitalized patient is visited by medical staff at least once a week during medical rounds but when a patient presents any particular condition is visited on daily basis at any time.

The patient groups performed are 996 in total. Each hospital service organized patient group at least 4 days a week in crisis whereas in recovery wards 3 patients group could be performed. The high number of patient groups performed was observed at Ward B.

The colloquium performed in hospital wards/services are 321 in total. The colloquium is planned and executed at least once a week to discuss on patients health condition and evolution. The high number of colloquium performed is observed in Ituze Center and Kundwa Center.

### **2.2.6. Interviews**

The psychiatric interview refers to the set of tools that a mental health providers use in order to know the information of the patient's illness (background, chief complaint, mental status, disease and personal history) and providing psycho education. This is done during admission, hospitalization, at family member visit and before discharge and involves patients, health care providers, family members or both. Every patient/family member in psychiatric settings

underwent interview (data collection, psycho-education, family/group therapies) during the hospitalization period.

### **2.2.7. Nursing Care**

Nursing care involves all nursing interventions done by nurses to meet and safeguard the patients' needs like vital signs, wound dressing, drug administration, and patient hygiene.

### **2.2.8. Transitional home care for homeless patients with mental illnesses (Home Saint Jules)**

Home Saint Jules is a service for the homeless patients with mental illnesses of Ndera Neuropsychiatric Teaching Hospital, established with the aim of integration and a social rehabilitation of the patients, as they have various situations preventing them from immediate return to the community, or patients who have lost some superior ability due to their mental illness.

Home Saint Jules has a capacity of 20 beds. At the end of the fiscal year 2022/2023, the hostels had 18 patients and the majority of them are above 45 years old. The service has 11 members of staff: 6 nurses, 1 social worker, 4 support workers and a night guard.

The activities at Home Saint Jules can be summarized as follows:

- Ø Providing residents with bio-psychosocial service such as regular medication, psycho-educational sessions, social assistance and prepare family reunification when possible.
- Ø Helping the patients to take some responsibilities even if they have psychological, physical and / or moral difficulties.
- Ø Helping them to take care of their body and cloths.
- Ø Stimulating them through occupational therapy, discussion groups (during patients groups), relaxation, agriculture, livestock and assist them in household activities.
- Ø Helping resident patients get their basic needs.

It is also worth noting that the construction of a new and modern service for homeless patients with mental illnesses is ongoing, and the phase 1 will have the space for more than 40 beds created. This service will help the hospital to reduce the big number of homeless and patients with a long stay in hospitalisation units overcrowding the wards.

### **2.2.9. Emergency Psychiatric Services**

A psychiatric emergency is an acute disturbance of behaviour, thought or mood of a patient which if untreated may lead to harm, either to the individual or to others in the environment, Emergency service walk-in evaluation and crisis phone services available 24 hours a day, 7 days a week, for people of all ages. The following services are provided within the emergency service:

- Neurological consultation;
- Psychiatric consultation;
- Neuropsychiatric emergency cases management;
- Screening for inpatient psychiatric hospitalization;
- Ambulance and patients transfer;
- Routine examinations in all admitted patient;
- General assessment for emergency patients.

### **Challenges**

- Difference services still need enough resuscitation materials;
- The emergency service should have a waiting room for 48 hrs observation;
- The ward in crisis still has the problems of overcrowding of patients ;
- Small number of private room;
- Small number of nurses, especially recovery ward, where we have one nurse to night shift and week end

### **RECOMMENDATIONS**

- ✚ The hospital administration should help to find the enlargement of emergency service for 48 hrs observations of admitted patient before being transferred to different wards.
- ✚ Private rooms need to be increased to accommodate all VIP patients in needy.
- ✚ The hospitalization wards needs updated facilities of toilettes, bathrooms and ways that can even facilitate patients with disabilities.

## **2.2.10. HIV Service**

### **2.2.10.1. Introduction**

HIV-Mental Health service is concerned with patients with co-morbidities of HIV and mental disorder that are followed on a daily basis. In the service there are social worker and mental health nurses, psychologist and medical doctor who are working with the patient day to day, providing holistic care to our clients suffering from co-morbidity of HIV and Psychiatric conditions according to protocol and National guidelines 2018-2019. The service has different activities working day-to-day, including PIT, counseling and HIV testing, linkage to care and treatment, enrolment (psychosocial and medical enrolment), support group, home visit, biological and physical exam and follow up, adherence assessment and drug initiation, medical and psychosocial follow up, pharmacy dispensary, appointment management, STIs and OIs screening and follow up.

### **2.2.10.2. Main activities and achievements**

As service team followed patients daily to daily are trying to overcome with those situations in way of improving and ensuring preventions and treatment, care and support group and psycho educations for people with both HIV and Mental health problems. The following are the activities done and achieved:

#### **i. HIV Testing and Counseling (PIT)**

<b>Patients Tested for HIV</b>	<b>Number of patients</b>
Client counseled and tested for HIV through HTC	1,016
Number of Client tested HIV positive ( new cases in year)	14
Number of HIV positive client linked to care and treatment	14
Couples counseled and tested for HIV through HTC	3
Discordant couples identified through	0

**ii. Transfer in and out of HIV service / Return / death**

<b>Activity</b>	<b>Number of patients</b>
Patients Transferred in	<b>10</b>
Patients transferred out	<b>3</b>
Patients Return	<b>1</b>
Deaths recorded	<b>2</b>

**iii. Home visits**

<b>Year from July 2022 to June 2023</b>	<b>Total of home visits</b>
Number of home visit completed	<b>25 visits</b>

**iv. Post-Exposure Prophylaxis (PEP)**

<b>N°</b>		<b>Total Numbers</b>
1	Clients at risk of HIV infection as a result of rape/sexual assault	<b>0</b>
2	Clients at risk of HIV infection as a result of rape/sexual assault who received PEP	<b>0</b>
3	Clients at risk of HIV infection as a result of other non-occupational exposure including road's accidents	<b>0</b>
4	Clients at risk of HIV infection as a result of other non-occupational exposure including road's accidents who received PEP	<b>0</b>
5	Clients at risk of HIV infection as a result of occupational exposure	<b>9</b>

6	Clients at risk of HIV infection as a result of occupational who received PEP	<b>9</b>
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**v. TB Preventative therapy (TPT)**

Highlight	Total clients
Number of clients initiated TB preventative therapy	<b>4 patients</b>

**vi. Enrollment and ART**

	10-14 years		15-19 years		20-24 years		25 and above years		<b>Total</b>
	male	female	male	female	male	female	male	female	
Total number of clients initiated on ART.	0	0	0	0	0	3	2	9	<b>14</b>
Total number of clients with recent HIV infection among initiated on ART	0	0	0	0	0	3	2	9	<b>14</b>

**vii. Total Number of Patients on ART end of year**

Year from July 2022 to June 2023	<b>Total</b>
Total number of clients on ART	<b>161</b>

**viii. Total number of patients on ART regimens line**

Highlight	<b>Total</b>
Patients on 1 <sup>st</sup> line regimen	<b>133</b>
Patients on 2 <sup>nd</sup> line regimen	<b>8</b>
Patients on 3 <sup>rd</sup> line regimen	<b>0</b>

**ix. Sexually Transmitted Infections (STI)**

<b>Activity</b>	<b>Total</b>
Clients who received screening and counseling on STI	<b>161×12=1931 frequencies</b>
Clients confirmed positive for STIs	<b>4 patients</b>
Clients confirmed positive for STIs who are HIV positive	0
STIs cases treated	<b>4 patients</b>

#### **x. Case sharing on HIV/MH integration**

In case sharing is where the HCPs from HIV and Mental health service at **30** district hospitals , come and sit together by sharing the way for managing and supporting patient with the comorbidities such HIV/AIDS and Mental issues.

<b>Sessions of case sharing and where were taken place</b>	<b>Number of Participants</b>
From July 2021 up to June 2022, participants come from 30 districts hospitals supported by CDC-COAG in 2 sessions at <b>Muhanga</b> and <b>Musanze</b> locations	<b>60 participants were involved in case sharing on HIV/MH</b>

#### **xi. Mentorship on HIV/MH integration program**

The mentorship was conducted by Staff from Ndera Hospital, with the team made of 1 Doctor, one Nurse from HIV/MH service and mental health Nurse from a designated service in Hospital, where they went to provide technical support and clinical intervention on comorbidities (HIV/MH) management to visited hospitals supported by CDC-COAG. It has special objectives to strengthen HIV/MH integration program at 30 district hospitals in the way of promoting health of the population.

<b>Activity</b>	<b>Total</b>
The Mentorship to the 28 district hospitals , done in 2 sessions	<b>56 mentorship in 28 district hospitals</b>

#### **xii. Intensive mentorship and training on HIV/MH integrated care**

Intensive mentorship was structured to strengthen HIV/MH integrated service at 5 district hospitals level, which have high burden of stable and new mental ill patients and creation of stable mental patients association in its catchment area. It is done in 2 days for every hospital quarterly, 4 sessions have done at 5 district hospitals and training of HCPs at HCs on HIV/MH

<b>Activity</b>	<b>Total frequency</b>
Intensive mentorship on HIV /MH integrated care in 4 sessions	<b>20 visits</b>
Created new stable mental patients association in HCs , its catchments area	<b>10 Patients Associations</b>
HCPs trained on intensive mentorship and creation of associations from Health centers and DHs	<b>110 health care professional from DHs and its health centers.</b>

### **2.2.10.3. Challenges facing HIV/MH service**

- § Some of patients do not adhere to the ARVs appointment and psychosocial group due to relapse of mental disorders;
- § HCPs (some Doctors and Nurses) in different Wards are not aware of HIV/MH integrated program due to being new staff;
- § Apart from the mentorship, the HCPs providers are not yet aware on the HIV/MH integration program due to the fact that some of them are new and turnover of staff
- § There is an increase of patients with the comorbidities in different wards and some of them have poor adherence to ARVs /psychotropic medication
- § On intensive mentorship on HIV/MH integrated care; 2 days are limited and no HCPs trained on HIV/MH integrated care at HCs in catchment area at district level.

### **2.2.10.4. Recommendations and suggestions**

- § Improving PIT to all branches in order to increase number of patients screened.
- § Empowering of mentorship and training to health care providers who are working in district hospitals and health centers in order to improve, share their skills and knowledge for ensuring the prevention, care and treatment to all people living with HIV and mental problems.
- § Training is needed to the Doctors and Nurses working in different wards, on care and management of patients with comorbidities

§ Training and case sharing should be extended to the HCPs who are new in services at Ndera Hospital and those working in 30 district hospitals, by improving their knowledge on care and management of patient with Comorbidities HIV/MH.

### 2.3. Allied health sciences Services

The medical department cannot complete the mission of the hospital without the service provided by allied health sciences services. Physiotherapy, Laboratory, Medical Imagery, Occupational Therapy, Clinical psychology, Social Services, Pharmacy and Environmental Health Service help the hospital to accomplish its mission.

#### 2.3.1. Physiotherapy

The physiotherapy service plays a big role in the rehabilitation of patients with neuro-musculoskeletal problems; whether they are mentally ill or not. It has the capacity to receive fifteen clients a day and receives out/inpatients. The most encountered cases are classified into five categories, neurological, orthopedic, traumatic, rheumatologic, and psychiatric.

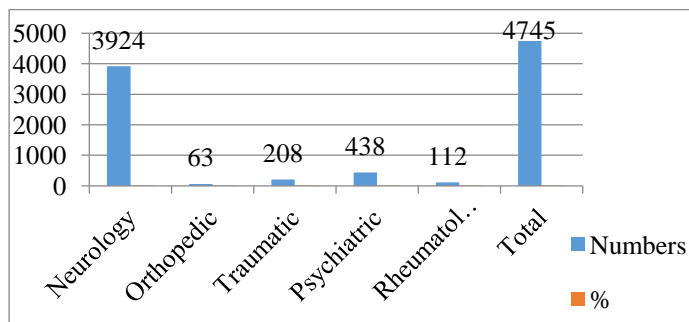
In/out	Numbers	Percentage
Outpatient	3,476	74%
Hospitalisation	1,250	26%
Total	4,726	100%

In the fiscal year 2022-2023 the Physiotherapy Service received total number of 4,726 patients, among of them 3,476 were outpatients and 1,250 were hospitalized.

#### Category per pathologies

The below analytic graph indicates that neurological cases were on high frequency which are 3924, others respectively are psychiatric 438; traumatic 208, rheumatology 112 and orthopedic are 63 patients.

Type of cases	Numbers	%
Neurology	<b>3,924</b>	82.70%
Orthopedic	<b>63</b>	1.30%
Traumatic	<b>208</b>	4.30%
Psychiatric	<b>438</b>	9.30%
Rheumatology	<b>112</b>	2.40%
Total	<b>4,745</b>	100%



**Table 17: Categorizing the cases**

Number of Medical imagery	2022														2023										Total	
	July		August		Sept		Oct.		Nov.		Dec.		Jan		Feb.		Marc.		April		May		June			
	OUT	Hosp	OUT	HOSP	Hosp	Out	Hosp	Out	Hosp	Out	Hosp	Out	Hosp	Out	Hosp	Out	Hosp	Out	Hosp	Out	Hosp	Out	Hosp			
Neurology	240	60	261	86	19	251	57	319	101	214	69	259	66	247	76	223	71	268	80	188	90	300	22	323	34	<b>3,924</b>
Orthopedic	0	0	0	0	0	4	0	0	0	0	0	4	0	7	0	16	0	16	0	8	0	2	0	6	0	<b>63</b>
Traumatic	16	0	15	0	0	14	0	23	0	49	0	14	0	14	0	14	0	24	0	6	0	6	0	13	0	<b>208</b>
Psychiatric	0	16	0	8	0	0	12	0	40	0	64	0	28	0	65	0	39	0	55	0	40	0	62	0	9	<b>438</b>
Rheumatology	0	0	9	0	0	10	0	14	0	19	0	4	0	0	0	0	0	0	0	20	0	18	0	18	0	<b>112</b>
<b>Total</b>	<b>256</b>	<b>76</b>	<b>285</b>	<b>94</b>	<b>19</b>	<b>279</b>	<b>69</b>	<b>356</b>	<b>141</b>	<b>282</b>	<b>133</b>	<b>281</b>	<b>94</b>	<b>268</b>	<b>141</b>	<b>253</b>	<b>110</b>	<b>308</b>	<b>135</b>	<b>222</b>	<b>130</b>	<b>326</b>	<b>84</b>	<b>360</b>	<b>43</b>	<b>4,745</b>

## 2.3.2. General Laboratory

### 2.3.2.1. Introduction

Ndera Neuropsychiatric Teaching Hospital has a General Laboratory Service performing various laboratory tests contributing to the effectiveness of patient monitoring. This service has nine (9) Laboratory Technicians, and provides health diagnostic in the following tests: Biochemistry, Hematology, Bacteriology, immunoserology, serology, parasitology, dosage of drugs and Toxicology.

In general, 159,066 tests were completed, this means an increase of 60.79.7% in comparison to the tests completed in the previous year; at Ndera, 112,583 tests were done with increase of 61.3% compared to the last year, At Icyizere Psychotherapeutic Center, 10,408 tests were done with 57.3% increase compared to first year, while 36,075 tests were done at CARAES Butare with 60.1% increase compared to previous year 2021-2022.

Below are the details on the tests carried out throughout the year 2022-2023:

#### a. At CARAES Ndera

N°	Services	Laboratory Tests	Positive	Negative	Total
1	PARASITOLOGY	Thick smear	15	595	614
		Stool analysis			352
2	BACTERIOLOGY AND MYCOBACTERIOLOGY(TB)	Urine Direct examination			401
		Urine Gram staining			260
		Vaginal swab Direct examination			67
		Vaginal swab Gram stain			43
		Uretral swab			4
		Uretral gram			2
		CSF& Body fluids			6
3	BIOCHEMISTRY&IONOGRAM	Glucose			5,164
		Urea			5,738
		Creatinine			5,865
		Alanine aminotransferase (ALAT/SGPT)			5,754
		Aspartate Aminotransferase (ASAT/SGOT)			5,736
		Gamma-Glutamyltransferase			4,416

		(GGT)			
		Glycosuria			69
		Total Protein			2,919
		Proteinuria(Urine Protein)			88
		Alkaline Phosphatase (ALP)			3,271
		Total Bilirubin (Bil-T)			3,255
		Direct Bilirubin (Bil-D)			3,206
		Uric Acid			3,397
		Low Density Lipoprotein( LDL-Cholesterol)			1,673
		High Density Lipoprotein ( HDL-Cholesterol)			2,025
		Cholesterol			2,147
		Triglycerides			2,102
		dehydrogenase Lactate (LDH)			2,984
		Creatine Kinase(CKL)			402
		Creatine kinase-MB (CK-MB)			187
		Albumin			3,091
		Glycated Hb			702
		Vitamine B12 Blood concentration			297
		Folic Acid(B9 Vitamin)			146
		Ferritin			135
		IRON			174
		Sodium (Na+)			4,698
		Potassium (K+)			4,694
		Lithium ( Li+ )			306
		Magnesium ( Mg++ )			987
		Calcium			1,234
		Chloride(Cl <sup>-</sup> )			4,542
4	SEROLOGY&IMMUNOLOGY	C-Reactive proteine (CRP)			3,243
		VDRL/RPR	25	449	474
		Pregnancy test	13	161	177
		HCV test(Hepatitis C test)	79	2948	3,031
		AgHBs(Hepatitis B test)	69	3211	3,285
		Arthri-Test/RF			325
		ASLO			156
		PSA			57
5	HEMATOLOGY	Erythrocyte Sedimentation rate			631
		Full Blood Count			6,382

		ABO Rhesus/Cross Matching			131
6	DRUG MONITORING/TOXICOLOGY	PHNY2(Phenytoin)			98
		PHNO2(Phenobarbital)			85
		VALP2(Valproic Acid)			436
		CARB2(Carbamazepine)			220
		CANNABINOIDS			166
7	ENDOCRINOLOGY				3,195
		T3(Triiodothyronin)			
		T4(Thyroxin)			3,732
		TSH(Thyroid Stimulating Hormon)			2,345
		PROLACTIN			667
		HCG BETA(Beta human chorionic gonadotrophin) Quantitative			594
	<b>Total</b>				112,583

Table 18: Lab tests carried out for CARAES Ndera

### b. At Icyizere Psychotherapeutic Centre

N <sup>o</sup>	Services	Laboratory Tests	Positive	Negative	Total
1	PARASITOLOGY	Thick smear	3	12	15
		Stool analysis			4
2	BACTERIOLOGY AND MYCOBACTERIOLOGY(TB)	Urine Direct examination			11
		Vaginal swab examination/Gram			0
		Uretral swab/ gram			0
		CSF& Body fluids			0
3	BIOCHEMISTRY&IONOGRAM	Glucose			386
		Urea			396
		Creatinine			395
		Alanine aminotransferase (ALAT/SGPT)			403
		Aspartate Aminotransferase (ASAT/SGOT)			403
		Gamma-Glutamyltransferase			384

		(GGT)			
		Glycosuria			4
		Total Protein			347
		Proteinuria/albiminuria			2
		Alkaline Phosphatase (ALP)			373
		Total Bilirubin (Bil-T)			364
		Direct Bilirubin (Bil-D)			361
		Uric Acid			357
		Low Density Lipoprotein( LDL- Cholesterol)			338
		High Density Lipoprotein ( HDL- Cholesterol)			352
		Cholesterol			354
		Triglycerides			348
		dehydrogenase Lactate (LDH)			344
		Creatine Kinase(CKL)			7
		Creatine kinase-MB (CK-MB)			6
		Albumin			365
		Glycated Hb			66
		Vitamine B12 Blood concentration			21
		Folic Acid(B9 Vitamin)			15
		Ferritin			13
		IRON			18
		Sodium (Na+)			354
		Potassium (K+)			346
		Lithium ( Li+ )			42
		Magnesium ( Mg++ )			11
		Calcium			7
		Chloride(Cl <sup>-</sup> )			347
4	SEROLOGY&IMMUNOLOGY	C-Reactive proteine (CRP)			352
		VDRL/RPR	0	10	10
		Pregnancy test	0	22	22
		HCV test(Hepatitis C test)	2	319	321
		AgHBs(Hepatitis B test)	8	315	323
		Arthri-Test/RF			15
		ASLO			15
		PSA			0
5	HEMATOLOGY	Erythrocyte Sedimentation rate			2
		Full Blood Count			413

		ABO Rhesus/Cross Matching			4
6	DRUG MONITORING/TOXICOLOGY	PHNY2(Phenytoin)			2
		PHNO2(Phenobarbital)			1
		VALP2(Valproic Acid)			30
		CARB2(Carbamazepine)			7
		CANNABINOIDS			93
		OPIATES			304
		AMPHETAMINES			233
		BENZODIAZEPINES			232
		COCAINE			138
		Other Drug of abuse			208
		7	ENDOCRINOLOGY		
T3(Triiodothyronin)					52
T4(Thyroxin)					29
		TSH(Thyroid Stimulating Hormon)			
	<b>Total</b>				10,408

Table 19: Lab tests carried out for Icyizere Center

**c. At CARAES Butare**

N0	Services	Laboratory Tests	Positive	Negative	Total
1	PARASITOLOGY	Thick smear	2	57	59
		Stool analysis			139
2	BACTERIOLOGY AND MYCOBACTERIOLOGY(TB)	Urine Direct examination			83
		Vaginal swab examination/Gram			36
		Uretral swab/ gram			1
		CSF& Body fluids			0
3	BIOCHEMISTRY&IONOGRAM	Glucose			1,931

Urea			1,938
Creatinine			1,933
Alanine aminotransferase (ALAT/SGPT)			1,918
Aspartate Aminotransferase (ASAT/SGOT)			1,914
Gamma-Glutamyltransferase (GGT)			1,434
Glycosuria			35
Total Protein			813
Proteinuria/albuminuria			5
Alkaline Phosphatase (ALP)			815
Total Bilirubin (Bil-T)			818
Direct Bilirubin (Bil-D)			823
Uric Acid			1,128
Low Density Lipoprotein( LDL-Cholesterol)			1,050
High Density Lipoprotein ( HDL-Cholesterol)			1,055
Cholesterol			839
Triglycerides			1,038
dehydrogenase Lactate (LDH)			15
Creatine Kinase(CKL)			15
Creatine kinase-MB (CK-MB)			15
Albumin			820
Glycated Hb			0
Vitamine B12 Blood concentration			0
Folic Acid(B9 Vitamin)			1
Ferritin			2
IRON			1
Sodium (Na+)			1,080
Potassium (K+)			1,080
Lithium ( Li+ )			26
Magnesium ( Mg++ )			0
Calcium			11
Chloride(Cl <sup>-</sup> )			988
C-Reactive proteine (CRP)	68	1,203	1,271
VDRL/RPR	62	1,342	1,404
Pregnancy test	10	371	381

		HCV test(Hepatitis C test)	77	1,532	1,609
		AgHBs(Hepatitis B test)	16	1,602	1,618
		Arthri-Test/RF	13	1,374	1,387
		ASLO	9	1,377	1,386
		PSA			0
5	HEMATOLOGY	Erythrocyte Sedimentation rate			872
		Full Blood Count			2,016
		ABO Rhesus/Cross Matching			68
		MULTIDRUG	3	17	20
6	DRUG MONITORING/TOXICOLOGY	VALPROIC ACID/DEPAKINE			4
		PHENYTOINE			3
7	ENDOCRINOLOGY	T3(Triiodothyronin)			3
		T4(Thyroxin)			3
		TSH(Thyroid Stimulating Hormone)			4
		Others tests			167
	<b>Total</b>				36,075

Table 20: Lab tests carried out for CARAES Butare

### Achievements

- Ø Laboratory have extended tests package to each branches by providing new lab automated machines for improving diagnosis and follow up of patients;
- Ø The laboratory scored 18/18 in hospital laboratories Accreditation in Rwanda 2023;
- Ø The laboratory is participating in research by carrying out and follow-up the tests of patients;
- Ø The laboratory is 24h/7 days working as tests increased and need from patients clinicians follow up.

### Suggestions:

- J To strengthen the 24/7 days working Laboratory, the lab needs an increase of Lab staff as lab activities and tests request increase at the main centre and branches as well;
- J For management of waste in branches there is need of autoclave machines at hospital Branches Laboratories.

### **Planning for the future:**

- J For the Laboratory of Ndera Neuropsychiatric Teaching Hospital continuity in different researches participation, there is a need to be registered and monitored in external accreditation bodies alongside the trainings;
- J We plan to make a rehabilitation of Laboratory at main centre and Branches to attend request of accreditation bodies.

### **2.3.3. Medical Imagery**

The hospital uses EEG, EMG, ENMG, ECG and X-Ray for supplementary exams:

- i. **Electroencephalography (EEG)** is a method of cerebral exploration that measures the electrical activity of the brain by electrodes placed on the scalp, often represented in the form of a tracing called an electroencephalogram.
- ii. **Electromyography (EMG)** measures muscle response or electrical activity in response to a nerve's stimulation of the muscle. It is a diagnostic procedure to assess the health of muscles and the nerve cells that control them (motor neurons). EMG results can reveal nerve dysfunction, muscle dysfunction or problems with nerve-to-muscle signal transmission.
- iii. **Electroneuromyography (ENMG)** is a method of measuring changes in a peripheral nerve by combining electromyography of a muscle with electrical stimulation of the nerve trunk carrying fibers to and from the muscle.
- iv. **Electrocardiogram (ECG)** is a non-invasive test that records the electrical activity of the heart. An ECG can help diagnose certain heart conditions, including abnormal heart rhythms and coronary heart disease (heart attack and angina). Electrodes are placed on the chest to record the heart's electrical signals, which cause the heart to beat. The signals are shown as waves on an attached computer monitor or printer.
- v. **X-ray** is a type of medical imaging (radiology) that creates pictures of your bones and soft tissues, such as organs. X-rays use safe amounts of radiation to make these pictures. The images help your provider to diagnose conditions and plan treatments.

The table below shows the EEG exams that were done during the year-2023

Pathologies/Months	Jul.	Aug	Sept.	Oct .	Nov .	Dec.	Jan.	Feb.	Mar	Apr	May	Jun	Tot	%
<b>Epilepsy and seizures disorders</b>	316	374	358	363	453	332	481	409	472	488	553	497	5096	64.3
<b>Headaches</b>	71	126	106	118	123	102	123	104	119	107	133	123	1355	17.2
<b>Psychotic disorders</b>	35	32	76	61	64	61	62	79	60	65	80	45	720	9.2
<b>Behavior disorders</b>	30	54	29	26	21	20	39	49	33	36	20	45	402	5.0
<b>others</b>	35	22	35	9	27	20	28	55	46	18	26	22	343	4.1
<b>Total</b>	<b>487</b>	<b>608</b>	<b>604</b>	<b>577</b>	<b>688</b>	<b>535</b>	<b>733</b>	<b>696</b>	<b>730</b>	<b>714</b>	<b>812</b>	<b>732</b>	<b>7916</b>	<b>100</b>

Table 21: EEG exams that were done during the year 2022-2023

<b>ENMG/EMG</b>	12	10	28	43	22	22	15	17	13	6	5	57	250	3.1
<b>ECG</b>	2	3	11	6	2	1	0	0	2	1	2	0	30	0.4
<b>X-RAY</b>	0	0	0	0	0	22	0	0	5	13	14	11	65	0.8

- J As the statistics show, the major causes of EEG requests are Epilepsy and seizure disorders;
- J Etiological assessment of psychological disorders and behavioral disorders showed an important place, because often the organic and biological causes of these disorders were ignored;
- J The requests come mainly from hospitals and other health institutions covering the entire region of our Country;
- J The average number of examinations performed is 660 patients per month for EEG;

- J The request for an electroneuromyography (ENM/EMG) examination came second on the frequency list, because only 250 (3.4%) of ENMG/EMG examinations were done during the year 2022-2023;
- J The average number of examinations performed is 21 patients per month for ENM/EMG;
- J The request for an electrocardiogram (ECG) examination was considered less requested, because only 0.4% of ECG examinations were done during the year 2022-2023;
- J The request for an X-RAY examination was considered less requested, because only 0.8% of X-ray examinations were done during the year 2022-2023.
- J The average number of examinations performed is 5 patients per month for X-ray.

It is important to note that X-Ray service is new and is still being tested and still in the hand on the supplier (RBC) while waiting for the handover.

#### **2.3.4. Occupational Therapy**

The primary goal of occupational therapy is to enable people to participate in meaningful and purposeful activities of everyday life, thus promote independence and autonomy of the individual in his environment. Occupational therapy is one of the most beneficial packages in psychiatry, as it aims at addressing the consequences of a mental illness on individual functioning and restores normal function.

Occupational therapy service conducts the activities of daily living, productivity and leisure based activities which not only deal with the impact of a mental illness on individual functioning, but also to deal with side effects of medications. These activities are carried out in groups and individually, based on the client's condition in order to achieve the optimum level of autonomy and independence.

Individual based activities are recorded in open clinic, a web based form that must be filled by the therapist showing the progress, and other relevant observation, while group based activities are recorded in the register/book as mentioned below.

**Below are the data on participation in different occupational activities for the year 2022-2023, as grouped into 6 categories.**

<b>Type of activity</b>	<b>IADLs</b>	<b>Revalidation</b>	<b>Arts</b>	<b>Expressive</b>	<b>Sport</b>	<b>Psycho-Education</b>
Participation of crisis units	2,904	2,077	2,319	2,071	3,344	60
Participation of recovery	3,401	2,442	2,959	4,933	10,062	921

**IADL:** Instrumental activities of daily living include peeling potatoes, Cooking, Dressing, Cleaning and toilet and tooth brushing. Cooking session take place either in the main kitchen or therapeutic kitchen and it is an enjoyable activity for most of the patients.

**SPORT:** includes but not limited to walking, dancing, gymnastics, volleyball, basketball and football.

**2.3.4.1. Therapeutic activities with regular monitoring and evaluation (July 2022- June 2023)**

<b>Month</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Dec.</b>	<b>Jan.</b>	<b>Feb.</b>	<b>Mar.</b>	<b>April</b>	<b>May</b>	<b>June</b>
<b>Participants</b>	18	19	12	12	18	17	15	29	9	20	10	20

The diagram above summarizes the number of patients followed in occupational therapy on a regular basis. The follow-up is either individual or individualized in the group, and the follow-up is based on the diagnosis of each client and expected outcome.

During this year, in order to help those patients with chronic disease, occupational therapy trained a male patient, resident of Home Saint Jules for modern basketry with success and for the moment the patient can make some baskets himself with minimum assistance. In addition he has been initiated for basic tailoring skills. The therapeutic kitchen has been fully exploited and the patients gained sense of life through meal preparation. CARAES Butare has got a separate and appropriate occupational therapy service with appropriate equipment which are playing a big role in helping as many patients as possible with improved quality of service.

### 2.3.4.2. Participation in Occupational therapy at CARAES BUTARE and ICYIZERE Center

The table below shows number of patients referred in occupational therapy service with regular follow up from July, 2022-June, 2023 at **CARAES Butare**.

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
N <sup>o</sup>	11	12	10	12	9	14	16	20	18	15	20	18	175

#### Group activities conducted at CARAES Butare

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
N <sup>o</sup> in Crisis	85	110	20	18	16	105	305	615	708	493	760	820	<b>4,055</b>
N <sup>o</sup> in Recovery	100	200	70	56	47	83	320	620	690	570	730	820	<b>4,306</b>

The table below shows the number of patients who participated in Occupational therapy at Icyizere Psychotherapeutic Center based on their respective hospitalization units (Mental health unit and Addiction unit)

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
N <sup>o</sup> in Mental Health	11	13	10	7	10	12	8	11	9	14	12	10	<b>127</b>
N <sup>o</sup> in Addiction	9	11	10	7	9	10	13	10	11	12	10	9	<b>121</b>

#### **2.3.4.5. Suggestions and recommendations**

Recently, the Hospital has invested a lot in improving the quality of occupational therapy service; by providing improved and equipped facilities and qualified occupational therapists in all its branches. However with increase in number of demands and technology the service faces some challenges that should be addressed in the future:

1. There is a need of continuous professional development through trainings for occupational therapy staff in order to improve the quality of care.
2. As the hospital is becoming bigger, with increase in number of patients, we suggest that the number staff be increased in all branches with a great emphasis at CARAES Butare and icyizere Center, which still only have one occupational therapist each. This will help avoid disruption of activity in absence of one staff, especially during annual leave.
3. icyizere Center is in need of adequate infrastructure for occupational therapy department because it is currently operating in a small room.
4. CARAES Butare is in need of volleyball and basketball playgrounds
5. As a new profession, occupational therapy services are still not paid by the customers, while advocacy is ongoing, we suggest that in the meantime, a certain percentage be paid privately by those holding CBHI insurance, while those with commercial insurances should fully pay the bill.
6. There a need of creation of small and equipped library in order to help students and other literate patients.

#### **2.3.5. Clinical Psychology**

##### **2.3.5.1. Short description of the service**

The Clinical Psychology Department is part of the Medical Allied Health Professions department which, together with the Nursing department, is the core clinical department of the hospital, because our clients are treated in this department. Our department always works in close collaboration with the multidisciplinary team, whether on an outpatient or inpatient basis, while following our care plan. We rely heavily on and promote interdisciplinarity in the management

of all the patients who come to us as part of a holistic approach to the care of people with mental health problems.

To achieve this mission, which is always in line with the vision of the teaching hospital, we have a total staff of 11 clinical psychologists, seven of whom work at Ndera and four at Butare and Icyizere branches.

Below is a summary of the activities carried out in Ndera and Butare during this fiscal year from July 2022 to June 2023. While identifying the number and categories of patients received during the year, we also highlight what we have been able to achieve but also the challenges encountered and some suggestions for better performance in the years to come.

#### **2.3.5.2. Daily activities**

There are currently seven members of the department team, including two women and five men. This is in response to the concern expressed in last year's report about the need to have more female psychologists to balance out and give our patients a greater choice of psychologists, especially as this is their right.

The team participated in and coordinated the following activities:

- § Participating in multidisciplinary team in their various assigned wards
- § Conducted individual, couple, family therapy, and group therapy
- § Supervised and coached students on training and internship
- § Conducted groups for drug abusers
- § Participated in case presentations and supervision
- § Attended workshops and seminars
- § Performed any other duties assigned by administration
- § Awareness program in district hospitals in partnership with RBC

#### **2.3.5.3. Number of patients received in the service**

Compared with the previous year, we have experienced an increase in the number of patients received in the department, both in the outpatient department and in hospital. This is due both the high number of referrals to our services, and the good cooperation of the doctors in consultation who always refer patients, when necessary, as well as to the good coordination of the ward

managers who regularly transfer patients capable of undergoing psychotherapy to the relevant psychologist.

Patients who consult are either referred by the doctors, nurses who receive them, or self-referred. For those who are admitted, each ward is assigned a psychologist who work there as part of the medical team. Below is a summary presentation of patients served in the service:

	<b>New Case</b>	<b>Old Case</b>	<b>TOTAL</b>
<b>Outpatients</b>	658	2,589	<b>3,247</b>
<b>Inpatients</b>	417	1,301	<b>1,718</b>
<b>Group therapy for drugs abusers</b>	543	830	<b>1,373</b>
<b>TOTAL</b>	<b>1,618</b>	<b>4,720</b>	<b>6,338</b>

At CARAES Butare, 1,062 individual psychotherapy and 83 group therapy sessions were conducted. At Icyizere Center, the clinical psychology provided therapy to 806 inpatients and 1,279 outpatients.

Based on these numbers, one of our objectives is to increase not only the number of patients served but also, and above all, the quality of our services.

#### **2.3.5.4. Achievements**

During this period, our team saw the departure of Sister Kayitesirwa Séraphine, who was in charge of the department, and therefore moved on to Nsengiyumva Innocent, who, at the request of his colleagues, acted as interim manager. We are grateful to him for this, as he was able to ensure the smooth running of the activities and ensure cohesion between the members of the team. Since January 2023, Brother Kiyombo Wa Nyembo Bienvenue has come from the Icyizere Centre to Ndera to take charge of the service. Towards the beginning of June, Father Hategekimana Prudence received a new appointment from his congregation and left the team. However, his departure coincided with the arrival of Mrs. Ishimwe Christelle, and there are now seven of us. The following achievements were made during the year:

- J New members of staff were added to the existing members of staff to make a total of seven and cover up the gap left by those who left;
- J Staff members received different trainings as part of continuous professional development;
- J More collaboration between Ndera and the branches is being established and reinforced in order to have a uniform way of practicing;
- J Reinforced team work and collaboration with the multidisciplinary team;
- J New consultancy partnership between NNPTH and RICA: from 20<sup>th</sup> June, two hospital staff members were regularly sent to RICA to give psychological service to students and the staff (see the quarterly report).

#### **2.3.5.5. Challenges and suggestions**

- J The need to have more Psychologist at Ndera and the branches especially at Icyizere Center and the necessity to assign a permanent psychologist in the ward in order to increase the number of admitted patients attended to;
- J The need to train in psychological testing (psychometrics);
- J The need to find license in some psychological testing requested by international NGOs;
- J The need to have InterVision to help members deal with daily challenges and the demands of work is necessary;
- J The need for more convenient office spaces and equipment: restructuring our offices so that we can share our space more effectively. The project is still in progress and there is need of more equipment;
- J Special attention should be paid to drug and narcotics users, and an attempt should be made to draw up a protocol for dealing with this category of customer.

#### **2.3.6. Social Services**

The function of the social service in psychiatry is to play an interface role between the patient, his entourage, the multidisciplinary psychiatric team and the other components of the hospital organization, as well as all the public or private institutional actors in the sector health, social and medico-social, likely to contribute to their reintegration, and to the maintenance of their integration within the community.

During the year 2022-2023, in collaboration with the members of the multidisciplinary team, the social service was able to carry out various activities, as indicated in the table below.

ACTIVITIES	MONTHS FROM JULY TO DECEMBER 2022						MONTH FROM JANUARY TO JUNE 2023						TOTAL
	7	8	9	10	11	12	1	2	3	4	5	6	
Number of individual interviews	63	84	66	60	58	54	41	57	49	46	44	50	<b>672</b>
Number of interviews with families	36	37	37	35	39	22	40	41	30	31	29	32	<b>409</b>
Number of radio announcements	1	0	0	0	0	0	1	2	0	3	1	0	<b>8</b>
Number of phone calls	289	290	250	152	144	185	261	288	266	257	337	253	<b>2,972</b>
Number of outputs	265	245	281	265	253	277	221	248	276	219	337	271	<b>3,158</b>

Number of transfers	4	4	4	0	3	4	5	5	5	8	7	3	<b>52</b>
Number of SSAMs	9	8	14	12	14	8	10	15	13	8	9	17	<b>137</b>
Number of social cases identified	29	7	31	59	15	19	21	17	23	14	28	28	<b>331</b>
Number of visits to the field:													
• Home visits	1	3	0	1	0	1	1	1	0	0	1	0	<b>9</b>
• Social reintegration	1	1	0	4	1	1	4	7	2	2	2	1	<b>26</b>
Contacts and collaboration with other departments	48	52	40	33	33	27	25	43	28	33	36	37	<b>435</b>

Table 22: Social Service activities

### **2.3.6.1. Comments**

In the last 12 months, the social service has been able to carry out various activities with the aim of helping patients to find solutions to the social problems encountered or to adapt to the situation in which they find themselves.

The activities carried out are: Identification of social cases, individual interviews, interviews with families, telephone calls (family, local authorities, etc.), assisting social cases transferred to other specialized hospitals, field visits for the social reintegration of patients who need it, identification of social cases, preparation of patients for discharge. Apart from these activities mentioned above, we participated in the following other activities: medical rounds, conferences, patient groups, counting during the preparation of patient discharges (Butare), etc.

The service conducted individual interviews with the patients, the objective of which was to collect information relating to their socio-family life. This allowed us to find their families because they had come without family. But also these interviews were conducted with the aim of seeing how to help the patients concerned to get out of socio-family difficulties which could be at the origin of their crisis or to adapt to it.

The service conducted family interviews with families or other resource persons not only to supplement the information we had but also to talk about the importance of their involvement in the care of their patients. In addition, these interviews were conducted with a view to the social reintegration of patients who had to leave the hospital to return to their places of origin.

The service has used telephone means for a variety of patient care reasons. This involves, for example, inviting families or communicating with families if necessary, either for interviews with the care team, or for the discharge of patients, or to give them important information that should not wait for the visit.

The service have also used telephone calls to work with local authorities so that they not only help us find the families of patients with social cases and those who have posed the problem of socio-family reintegration, but also to intervene in their social reintegration and their hospital or extra-hospital care.

Transfers to other hospitals concern hospitalized patients suffering from somatic diseases, having no family or whose families were not available to accompany them. These cases are referred to general hospitals because they had somatic problems for better management.

For outings without medical advice (escapes), their respective families have all been contacted and some have been taken back to hospital for further treatment.

As for the deaths that took place, these were social cases brought by the local authorities. We broadcast radio announcements to see if we could find their families, but their burials were organized by the administration of the sectors that brought them, as their families had not been identified.

We have also collaborated with different institutions, with the aim of finding solutions to problems requiring social intervention. These were social cases, patients brought by them or those who should be discharged from the hospital, or those who are supported by the mentioned institutions.

These institutions are: NGOs (HI, Word vision, Caritas Rwanda, NCDA, HI, Word vision, etc.), the various local authorities (villages, cells, sectors, neighborhoods), the immigration service for foreign social cases, the military demobilization commission, MINALOC for social cases are in our hospital, MINUBUMWE for genocide survivor patients, different district hospitals, national police, prisons, RIB, RSSB,...

As part of the preparation of patients for discharge from hospital, we facilitated psychoeducation sessions carried out for them. On this subject, we have insisted on the prevention of relapses (the importance of adhering to medication and appointments, good family social relations, etc.), membership of mutual health insurance, and attitudes favoring socio-family reintegration, etc.

The social cases identified, the majority were cases brought by the police in collaboration with the local authorities. Among them, there are those whose respective families we have been able to find, but there are those who are still in hospitalization due to the lack of information that can help us locate their respective families or those who have been abandoned by their respective families. Some of these social cases were solved in collaboration with different local authorities.

As for the others, we made field visits in the different districts (Bugesera, Rwamagana, Nyarugenge, Gasabo, Rulindo, Kicukiro, Gatsibo, Kamonyi, Huye, Gicumbi Ngoma Kayonza, Nyanza, Gatsibo, Kirehe, Nyaruguru and Ruhango) in order to reintegrate them in their families. In addition to these social reintegration activities, there were also home visits for patients living with HIV/AIDS who required special follow-up. Currently, there are 74 cases of that kind at the main center and the branches.

#### **2.3.6.1. Community activities**

In order to strengthen the social reintegration and rehabilitation of the mentally ill in the community, the social service has provided technical support to associations of the mentally ill.

During the monitoring of these associations, various activities were carried out. Health education, based mainly on mental illness (the causes, the signs, what to do for care, the prevention of relapses, etc.), the stigmatization and discrimination of mentally ill people, the rights and obligations of patients.

The service also continued to stress the importance of income-generating activities. The different associations practice agriculture, livestock, trade, savings and credit in order to get out of poverty for some and to make them autonomous or active or independent for others.

The service found that through income-generating activities (agriculture, livestock, trade), savings and credit; the stigma and discrimination of the mentally ill is reduced because the population has noticed that despite the mental illness, the members are able to do the economic activities

Considering the testimonials of the members in the associations, they are satisfied with the benefits they have obtained. According to them they went out in solitude, self-esteem increased, they learned to manage their illnesses or their patients ...

The service has also worked with various local authorities to raise awareness of mental illness and their role in caring for patients. In addition to raising awareness, we reminded them to involve other local authorities who are under their responsibility to take charge of the problem of the mentally ill in their communities for a good reintegration of these patients.

In collaboration with the HIV service, medical consultations are carried out in the associations. We note that this follow-up is not currently done because it is not part of the activities of the HIV service. Patients who find it difficult to come to Ndera suffer a lot.

**The community activities were done in the associations found in the table below**

N°	PLACES	ASSOCIATIONS
1	RUHANGO	UBUZIMA BWIZA
2	KAMONYI	IMBEREHEZA
3	RUSHAKI/GICUMBI	DUTABARANE
4	MURARA/RUBAVU	DUKURANEMUBWIGUNGE
5	MBUYE/RUHANGO	ABIHUJE
6	HUYE/SOVU	DUSANGIRUBUZIMA
7	RULINDO/KIYANZA	
8	MUSHISHIRO/MUHANGA	ABISHYZEHAMWEA&B TWISUNGANE&EJO HEZA
9	NGOMA/MUGESERA	UMUNTUNKUNDI
10	NGOMA/ZAHA	DUHARANIREKwigira
11	KIZIBERE/RUHANGO	TUZAMURANE
12	NYARUREMA/NYAGATARE	TWITEKUBUZIMABWACU
13	KIRAMBI/NYANZA	DUHARANIREKUBAHO
14	KABGAYI/MUHANGA	TUVEMUBWIGUNGE
15	HIGIRO/GISAGARA	TUZAMURANE et EJO

		HEZA
16	KIVUMU/RUTSIRO	ABAHUJUMUGAMBI
17	NDERA/GASABO	ABISUNGANYE
18	NGOMA/ SANGAZA	DUHARANIREKUBAHO
19	HUYE /CARAES BUTARE	DUTIZANYIMBARAGA

Table 23: Community activities done in the associations

### 2.3.6.3 Difficulties encountered and suggestions

Currently, the cases that pose the problem of discharge from hospital number 74, including 26 foreigners. We have cooperated with the immigration service but we are still waiting for them to be repatriated to their country of origin.

The other cases that pose the problem of social reintegration are those who have been abandoned by their families and/or those who are unable to give us their original address. For these cases, an adapted environment is necessary for them in order to have better care and to decongest the hospitalization.

### 2.3.7. Pharmacy

#### 2.3.7. 1. Introduction

Psychotropic drugs are essential drugs for Ndera Neuropsychiatric Teaching Hospital. Psychotropic drugs are not easily found on the local market in Rwanda, and the hospital has decided to buy the missing psychotropic drugs in Europe by the help of Fracarta Belgium. In 2022-2023, Ndera Hospital has got donations of antiepileptic from UCB Belgium.

The main mission of the Hospital Pharmacy is to manage the use of psychotropic drugs and other health commodities of the hospitals. Its goals include the selection, procurement, delivery, administration and review of medication to optimize patient outcomes. The hospital pharmacy plays an important role in ensuring that the right patient, right route of administration, right drug, information, and documentation are respected when any medication is used.

### 2.3.7.2. Consumption analysis of psychotropic drugs in 2022-2023

- The consumption of psychotropic drugs which are the essential medicines for Ndera Neuropsychiatric Teaching Hospital, was very high in almost all products during the year 2022-2023, the number of patients on psychotropic drugs has been more increased. The Neuroleptics drugs are the most psychotropic drugs used for the hospital; antiepileptic drugs have been used in the second place in epileptic patients also as mood stabilizer; then antidepressants. Benzodiazepines and hypnotics are less used and most of them were in stock out. Some neuroleptics were used in large quantities in 2022-2023, those are chlorpromazine tablets, haloperidol 5mg tablets, dipiperon 40mg tablets, nozinan 20mg tab and risperidal 2mg tablets, Olanzapine 5mg tablet, haloperidol decanoas 50mg/ml, Haloperidol injection 5mg/ml and chlorpromazine injection 25mg/ml-2ml. The most used antiepileptic drugs in 2022-2023 are Sodium valproate all dosage, carbamazepine 200mg tab, phenobarbital 100mg tablet and Keppra all dosages. The supply of psychotropic drug was done by ORBI-PHARMA Belgium and IMRES the Netherlands, the two suppliers helped the hospital to get the psychotropic drugs as decided by the hospital management, because of lack of psychotropic drugs at the local market, but they have been delay of delivery for some psychotropic drugs, some psychotropic drugs had no supplier in Europe in 2022-2023, and the hospital experienced a stock out of those psychotropic drugs because of their absence of local market, and also in the market of Europe. Those medicines are alprazolam 0.5mg tab, Zolpidem 10mg tablet, Clonazepam 2mg tablet, clonazepam 0.5mg tablet, clorazepate 10mg tablet, and Phenobarbital 50mg tablet. we experienced also a stock out of olanzapine 10 mg, Clopixol 50 mg/ml, dipiperon 40mg/ml gouttes, pimozide 1mg tab, topiramate 50mg tablet, trazodone 100mg tablet, Sulpride 200mg tablet, and Ergotamine tartrate 1mg/Caffeine. Among 62 psychotropic drugs, 14 products have been in stock out in different time.
- The **rate of stock** out of psychotropic drugs in 2022-2023 was **22.58%** because of lack of psychotropic drugs at local market of the country and in the suppliers of Europe. This rate was very high compared to the previous year; there is an increase of 0.58% of stock out.
- Some psychotropic drugs have not more used; those are Droperidol injection 2.5mg/2ml and Disulfiram 400mg tablet.

- The value of psychotropic drugs issued during 2022-2023 by using the **purchase price** from the main stock of Ndera Neuropsychiatric Teaching Hospital to Dispensing Pharmacy Ndera, Caraes Butare and Centre Icyizere reached **1,565,755,191.5 FRw**.
- The value of psychotropic drugs received during the year 2022-2023 was **1,328,767,650.8 FRw**
- The Value of stock on hand the 01<sup>st</sup> July 2022 was **578,961,139 FRw**
- The value of psychotropic drugs in pharmacy stock as of 30<sup>th</sup> of June 2023 was **341,973,598.3 FRw**.

#### **2.3.7.4. Challenges**

- The main problem got in 2022-2023 was the lack of some psychotropic drugs from our suppliers, there was also delay in delivering a lot of psychotropic drugs, they even removed some psychotropic drugs on the list we used to make a purchase order (Formuralium), the hospital didn't find also psychotropic drugs in RMS LTD, BUFMAR and MEDIASOL, except very few products.
- Another problem was that, when the hospital tried to search for local suppliers through tender market, they do not give their offers on psychotropic drugs or give high prices for some products, and as solution, the hospital always seeks psychotropic drugs in foreign countries.

#### **2.3.7.5. Somatic drugs, Lab reagents, consumables, and medical equipment**

In the year 2022-2023, the hospital and their two branches have used somatic drugs in considerable quantities, especially in Neurology service and Centre Icyizere.

The supply of somatic drugs was done by RMS/former MPPD CAMERWA, BUFMAR, and MEDIASOL and through internal tender committee of the hospital.

Laboratory reagents were available, and the hospital bought them from MEDISELL ltd, RMS Ltd, and the hospital got a donation of reagent from RMS LTD in HIV program in 2022-2023.

The following is summative presentation of somatic drugs, consumables, laboratory reagents and all stock pharmacy in general in 2022-2023.

- The value of somatic drugs stock, consumables and medical equipment on the 30<sup>th</sup> of June 2023 was **29,568,300 rwfs**
- The value of lab reagents stock on the 30<sup>th</sup> of June 2023 was **13,375,337.4rwfs**
- The value of stock in dispensing pharmacy is **27,861,536.78rwfs**
- The value of Pharmacy of inpatients (Pharmacie de Garde) is **4,028,331.9rwfs**

The total value of pharmacy at Ndera Neuropsychiatric Teaching Hospital on 30<sup>th</sup> June 2023 is **416,807,104.65 FRw.**

#### **2.3.7.6. Recommendations**

- To the Hospital, to avail enough budget for buying psychotropic drugs in sufficient quantities, because the consumption has been more increased than previous year.
- To the Central level, Rwanda Medical supply, Bufmar and Mediasol respectively to their scope to avail all products psychotropic drugs as other essential medicines, as our hospital has given them the procurement plan for all psychotropic drugs in their quantification.

#### **2.3.7.7. The Drug and Therapeutic Committee of Ndera Hospital**

The Drug and Therapeutics committee (DTC) is an essential component of a health care organization's medicine selection, use, and distribution program. This committee has many different functions that will contribute to the goal of improving medicine selection and rational use of medicines.

In 2022-2023, DTC has implemented some activities:

- Annual action plan has been done by the committee members
- Revising the list of somatic drugs to be used by Neuro psychiatric hospital CaraesNdera
- Revising the pharmaceutical products' prices twice this year
- Analyze and take intervention of the incident report regarding medication errors and adverse drug reaction received in reporting.

### **2.3.8. Environmental Health Service**

According to the World Health Organization (WHO), Hospital hygiene refers to the practices and procedures that are adopted in hospitals and other healthcare facilities to prevent the spread of infections and ensure a safe and clean environment for patients, healthcare workers and visitors. Its target activities are the management of health care waste, the decontamination and sterilization of clinical care equipment and linens, and behavior change practices in order to make the work environment healthier. The importance of sanitation in hospitals is evident in terms of health and safety; it also translates into cost savings. Preventing infections through effective sanitation practices reduces the length of patient stays and the need for additional treatments.

Healthcare waste management is one of the main activities whereby the hospital contracted companies for cleaning and professional and well equipped company for waste transportation to the designated and certified areas. These activities cost the hospital an annual value of more than eighty million Rwandan Francs (80,000,000 Frw).

Hospital staff and cleaning company's personnel are trained to safe handling of healthcare waste, linen and laundry management, and other infection prevention measures including the use of personal protective equipment and other safety measures including fire safety, where more than 70% of the staff have the required knowledge in these safety precautions. The management of the hospital ensures the availability of materials and equipment that are necessary in every activity (hygiene and safety) and these supplies cost the hospital at around seventy five million Rwandan Francs (75,000,000 Frw) annually.

Health education is a key element in behavioral change which is important in hospital hygiene and infection control practices. Health education to personnel as well as to clients has been enhanced especially to maintain a culture of personal hygiene and prevention of communicable diseases.

To maintain the cleanliness, safety of infrastructure and healthy environment, the painting activity were regularly done and renovations of buildings especially by making easy the access by disabled people were completed. Gardening and tree planting, are observed and this often, whereby hospital staff attend the organized monthly Umuganda.

In the hospital accreditation process, the development and implementation of policies and procedures was regularly followed-up and it will continue to achieve our goal in quality improvement process.

**Challenges:**

- As the hospital increases in size and activities, water becomes insufficient and we cannot have permanent running water and cover all needs as by the hospital standards and water;
- Water quality is another issue; we do not test our water regularly as required by hospital water quality standards;
- The hospital does not dispose in its own incinerator, this infrastructure is of great importance in proper waste management;
- The standards require having various methods of firefighting whereas we have fire extinguishers as the only method used in our hospital; we need other equipment like fire hose reels, etc.
- Sterilization machine which is not of updated standards of sterilization;
- Laundry needs an extension to allow all activities to be safely conducted.

**Future projects:**

- Water availability in quantity and quality
- Waste management facilities will be improved
- Fire safety and firefighting equipment will be increased
- Replace sterilization equipment to meet the standards
- Make Laundry space extended \

## **CHAPTER III: IMPLEMENTATION OF THE ANNUAL ACTION PLAN**

### **3.1. Introduction**

To carry out the mission of the Hospital which is to provide accessible and specialized healthcare, to facilitate teaching and training, research and mentorship in mental health and neurology with reference to the National Health Policy, the hospital set a strategic plan of five years as a corner stone to achieve its goals to provide quality care service to psychiatric and neurologic patients and to strengthen administrative and Support services for the hospital operations, as are stipulated in the following objectives of the strategic plan of the hospital:

1. Enhance health service delivery and customer experience
2. Essential pharmaceutical products, drugs access and medical equipment
3. Expand specialized services
4. Enhance financial performance and management
5. Enhance human resource management and capacity building
6. Promote research, performance management and quality improvement
7. Improve infrastructure, environment, safety and equipment
8. Strengthen health information system

Planning, as the one of the most important hospital management processes, helps to think and set activities required achieving desired objectives with some ease and promptness and avoidance of doing some random activities.

A. The main advantages of planning in the hospital are as follows:

1. It increases the efficiency of the hospital.
2. It reduces the risks involved in activities.
3. It facilitates proper coordination within the hospital.
4. It facilitates proper utilization with maximum efficiency the available time and resources
5. It gives a right direction to the organization.
6. It is important to maintain good control.
7. It helps to achieve the objectives of the hospital.
8. It motivates the personnel of the hospital.

9. It encourages hospital managers' creativity and innovation.
10. It also helps in decision making.

To digitalize planning process, the hospital has adopted the Integrated Financial Management Information System (IFMIS) which is an integrated software that can support government to effectively planning, budgeting, accounting and reporting. The IFMIS played a highly considerable importance to produce many advantages to the hospital as:

- q Linkage between Planning and Budget to avoid deviation of budget which does not represent Strategic Plans
- q Strengthening fiscal planning and reporting
- q Enhancing the correlation of program to activities and outcomes.
- q Improving hospital's capacity for aggregate fiscal management
- q Enabling more efficient resource allocation mechanisms Improving information for decision making
- q Increasing the hospital accountability and transparency

In the ended financial year of 2022-2023 the hospital outlined many activities to deliver required outputs under two main programs namely:

1. Administrative and sporting staff
2. Specialized health service delivery

To ensure that the action plan is being implemented, the hospital planner conduct monitoring and evaluation to monitor the implementation progress of action plan through regular reports conducted on Quarterly and annual basis.

### **3.2. Performance of action plan 2022-2023**

This report presents a detailed narrative on the implementation of the Ndera Neuropsychiatric Teaching Hospital annual action plan of the financial year of 2022-2023 (from 1<sup>st</sup> July 2022 to 30<sup>th</sup> June 2023) and present the progress for all output indicators in the action plan which are supported by statistics table on settled annual targets, bar charts and photos are provided are provided to present the implementation level of each planned output.

In this report we are going to present the performance of outputs indicators evaluated through the implementation of planned activities whereby the unity value of measures is split in quarterly and annually targets.

All activities planned to deliver expected results for the financial year are financed by the Government of Rwanda (Ordinary Budget) and Hospital internally generated revenues. The total budget allocated to the action plan of the fiscal year 2022-23 was **5,870,598,009 Frw**, the year end on the 30<sup>th</sup> June 2023 with the expenditures of **5,359,687,862 Frw** and the balance of **510,910,147 Frw**. The allocated budget was consumed on the percentage of **91%**.

The implementation of the 2022-23 action plan was challenged by a move from the old organization structure of 2016 to the new organization structure of 2022. The new organization structure knew many difficulties such late release of salary structure, job profile and placement which was negatively affect the budget allocated to the human resources expenditures.

### **3.2.1. Program I: Administrative and Support Services strengthened**

#### **Output 1: Human resources management is strengthened**

The Human Resource Service is considered as the most influential component of the hospital, as it spends the significant part of the hospital budget through employees salary payment, employees capacity building, employees motivation activities and other employees needed for development. Ndera Neuropsychiatric Teaching Hospital plays a big role in ensuring the hospital's human resource to provide the best effective, sufficient and accessible customer care service to meet its vision and mission. In order to attain the mission, vision, planned goals and objectives, Ndera hospital believes that all employees must be suitable with regards to the right quantity, quality and skills mix to perform entirely their assigned duties and responsibilities.

The human resource management as output has three indicators to manage the employees (Rate of staff rights are met as per Rwandan law, Number of staff to be recruited and employee turnover). Rate of staff rights are met as per Rwandan law, this indicator was assessed via a survey conducted by the internal accreditation team which used a questionnaire for staff satisfaction.

The Human resources budget expenditure known as compensation of employees is extended to the remuneration of salaries in cash to health staff, project staff remuneration and social contribution for health staff and project staff.

The output of human resources management is ensured didn't consume fully the budget allocated to human resources function due to the transition from the old organization structure with 215 under statutes employees to the new organization structure with 486 under statutes employees which did not take effect on its release as consequence of a delay provision of salary structure, job profile and placement which is persistent and negatively affecting the budget allocated to the human resources expenditures as follow; Human resource compensation allocated budget was **2,903,230,208 Frw**, consumed budget is **2,116,135,713 Frw** and the balance of **787,094,495 Frw** with a performance rate of **73%**.

Here down is statistical data of human resource management performed in the financial of 2022-2023.

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
<b>Human resources management is strengthened</b>	Monthly salary and incentives are paid on time (%)	<b>100%</b>	<b>100%</b>	<b>100%</b>
	Staffs rights are met as per Rwandan Law (%)	<b>80</b>	<b>90</b>	<b>94</b>

### **Output 2: Transport and maintenance of vehicles is ensured**

Transport service is very important for the proper functioning of the hospital. It provides various transport related to patients such as patient transfers to other hospitals, to sensitize the population on mental illness, home visits to monitor outpatients near their living environment and strengthen their reintegration in the community, transport of purchased or requisitioned drugs or medical equipment, transport of staff in different administrative activities, and etc.....

To ensure the transport and the proper vehicles maintenance the hospital has allocated the budget of **306,145,825Frw** and **330,523,220Frw** was consumed by buying a new vehicle, simple and

general maintenance, tiring, availing spare parts, vehicle washing services and providing assurance. The allocated budget for transport and maintenance of hospital vehicles was consumed on the percentage of **108%**.

Here down is statistical data of transport and maintenance of vehicles performed in the financial of 2022-2023.

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
<b>Transport and maintenance of vehicles is ensured</b>	Satisfaction of hospital supply (%)	<b>90%</b>	<b>95%</b>	<b>96%</b>



### **Output 3: Strong, reliable and efficient IT system improved**

A health information system (HIS) refers to a system designed to manage healthcare data. Information systems play an important role in the production, sharing, storage and transmission of information in various fields. Hospital information management systems used in the health service actively meet the needs of physicians, administrators, and patients in institutional processes for instance the Open Clinic. Ndera Neuropsychiatric Teaching Hospital information management ensures that data are collected in a correct, complete and interdependent manner. To improve IT system the hospital allocated the budget of **42,579,085Frw** and **43,177,937Frw** was consumed through web site management, provision of internet connection and security, Maintenance of IT equipment, software, materials and networks across the hospitals 3 centers (the headquarters and the two branches). The budget allocated to the ICT was consumed on the percentage of **101%**.

Here down is statistical data of strong, reliable and efficient IT system works implemented in the financial of 2022-2023

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
Strong, reliable and efficient IT system improved	IT system is available, functional and integrates the hospital and its branches (%)	<b>81%</b>	<b>92%</b>	<b>93%</b>

#### **Output 4: Other hospital's goods and services are ensured**

To deliver the specialized neuro-psychiatric health care services, the hospital has allocated the budget of **747,618,630Frw** and **736,617,667Frw** is spent to provide different goods and services such as: office and wards equipment, office stationeries, printed matters, water and electricity, Public relations, communication and correspondence fees, laundry machines and etc...., the budget allocated for the other hospital's use of goods and services was consumed at the percentage of **99%**.

To facilitate the effective implementation and achievement of its mission, the hospital's planned activities to deliver the output of other hospital's goods and services are implemented at the rate of 84% which is a good performance than 80% which was planned. The other Hospital's goods and services is realized as it is demonstrated in the table below.

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
<b>Other Hospital's goods and services are ensured</b>	Rate of realized activities (%)	<b>70%</b>	<b>80%</b>	<b>84%</b>
	Satisfaction of hospital supply	<b>100%</b>	<b>100%</b>	<b>100%</b>

### **Output 5: Quality care management and Capacity building is ensured**

The hospital has invested in Capacity-building of employees to develop and strengthen their skills, abilities, processes and resources through continuous training to both health staff and supporting staff, that the hospital need to survive, adapt, and thrive in a fast- objective achievement. An essential ingredient in capacity-building is transformation that is generated and sustained over time from within; transformation of this kind goes beyond performing tasks to changing mindsets and attitudes. For the fiscal year ended on 30<sup>th</sup> June 2023 the hospital has allocated the budget of **83,187,572Frw** for the improvement of employee’s skills, and **93,609,082Frw** was spend on the training of staff. The budget allocated to the capacity building of employees is utilized on the level of **113%**.

Here down is statistical data of capacity building of employees implemented in the financial of 2022 -2023

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
Output 5: Quality care management and Capacity building is ensured	Clinical staff and supporting staff who received a training (%)	<b>87%</b>	<b>96%</b>	<b>93%</b>

### **Output 6: Infrastructures and maintenance works are improved**

The infrastructure, or physical and economic foundation of an institution, is what keeps the hospital operating smoothly. Infrastructure such as, buildings, roads, Water, power and energy, waste management and recreation facilities are just a few types of infrastructure that people need and use daily. Because of this, there is a demand for infrastructure projects to maintain the existing infrastructure and build new infrastructure.

There two main categories of infrastructure are hard and soft infrastructure. Soft infrastructures are the institutions that make up an economy, like healthcare systems, law enforcement, financial institutions and educational systems. Hard infrastructures are the physical systems that help run a region or nation such as roads, bridges and telecommunications.

The infrastructures and maintenance works are the basic physical and organizational structures and facilities (e.g. buildings, electric power, water... ) the hospital needs for the operation. To deliver the best quality of neuro-psychiatric health care service to in and out patients The hospital has allocated the the budget of **477,799,843Frw** to finalize two project at CARAES BUTARE (drill a water source and Construction of Ergotherapy), to finalize the two project at Caraes NDERA (Construction of Residential home for hospital partners and construction of Ndera rehabilitation home care) and avail construction materials for maintenance (electric, construction and plumbing). The **534,877,117Frw** of budget is consumed on the percentage of **112%**.

Here down is statistical data of infrastructures and maintenance works implemented in the financial of 2022-2023

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
<b>Infrastructure and maintenance works are improved</b>	Satisfaction of hospital supply	<b>73%</b>	<b>75%</b>	<b>76%</b>

**1. Construction of Residential home for hospital partners at Ndera**



The project of building the Residential home for hospital partners which was initiated by Ndera neuropsychiatric teaching hospital in May 2022, and MoD under the reserve force was the contractor to build the residential aiming to find a shelter for different partners of the hospital from abroad is finalized and took effective in December 2022. This residential home for hospital partners composed by nine (9) simple and contained rooms, one (1) suit and classic room, Laundry and its stock, changing room for laundry works and the fence wall, all these helped to find a best solution of challenges mentioned by hospital partners that there were no hotel near the hospital to host in when they are visiting the hospital, other challenge mentioned which the residential home for hospital partners we resolve is the transport to come to the hospital and go back to the hotel.

## ***2. Construction of the first partition of Ndera rehabilitation home care***





The project of building the first partition of Ndera rehabilitation home care was initiated by Ndera Neuropsychiatric teaching hospital in June 2022 under the contract signed by MoD/ Reserve force. The project is finalized in March 2023. The project was to find a solution for overclouded wards in hospitalization due to the increasing number of patients with chronic mental illness who are from unknown families and some of the following reasons are raised to be solved by the project:

1. Old building of the existing rehabilitation home care known as Home Saint Jules
2. A high way on the Kigali master plan which took almost a third of the existing building
3. Lack of offices (of the responsible, nurses and social works,...), lack of stores, kitchen, recreation room, Laundry.....
4. No ventilation in the whole building, Etc.....

The completed project have two dormitory each for 18 males and another for 18 females, one main hall which is at the beginning serving as recreation hall and as well as refectory, Office of the responsible, office of nurses and store room and a bungalow.

### ***3. Construction of Occupational Therapy service at Caraes Butare***



The project of building Occupation Therapy service at CARAES BUTARE came as one solution among many challenges raised by Caraes Butare managers like insufficient offices, lack of recreation hall, lack of a canteen, poor and old building which do not allow them to carry out the mission of the hospital in a smart environment.

The occupation therapy service is facilitating Caraes Butare to deliver the quality services in psychiatry and to solve the problems that interfere with a person's ability to do the things that are important to them every day, Being productive and useful to the community, and Leisure activities (sports, Sewing, knitting, drawing, social activities, music, etc....).

The hospital ensured that the occupational therapy service of Caraes Butare be an adequate infrastructure which will host many patients as possible who may receive occupational therapy services on medical prescription, exhibition hall, stores and office.

### ***4. Internal access road***

Roads are an essential part of modern living. Well-maintained and usable roads make critical contributions to the economic and social wellbeing of the institution. Having internal access roads facilitate the social and physical mobility, making sure that the hospital's roads are well-maintained and clear of hazards will improve the safety of road users and contribute to the hospital's environmental hygiene.

The hospital invested in construction and paving of the internal road at CARAES BUTARE, a road of almost 120m from the public road to Kamena stadium to ergo therapy hall is constructed. As it is presented down through photos, the former road was muddy in rain season and dusty in dry season which were considered as a limitation to smooth internal mobility of both staffs and patients, the hospital found a long term solution of the issue by constructing the road with paves.

*#~Road before construction~#*



*#~ Road after construction~#*



### ***5. Maintenance***

In this fiscal year of 2022-23, the hospital knew a transition from old organization structure to the new organization structure implicating the hospital to find offices and working places for the

new staff, from these challenge the hospital shifted Ituze center which was named VIP ward to the other place which was reserved for non-communicable diseases and communicable diseases.

The place was transformed to find offices where by its completion the department of administration (Office of Director of Administration and Finance, Accountants, Human resources, ICT, Procurement) and the department of Education, Research, CPD & Quality Improvement (Office of QI, Accreditation, Education, Research,...) moved in. Some photos are provided to give a sense.

*#~Outside of Department of Administration and Finance and Department of Education, Research, CPD & QI ~#*



*#~Inside of Department of Administration and Finance and Department of Education, Research, CPD & QI ~#*



The hospital was challenged again by wall dampness known as humidity, was attacked inside rooms and outside wall as is visible on the given photos. Its management and control seemed to be challenging but was done by fixing DUHANGE wall tiles on the outside belt of wall and ceramic floor tiles inside on the belt of wall as is presented here down.

*#~~~Outside walls after maintenance and dampness correction with Duhange wall tiles~~~#*



*#~~~Dampness (Humidity) before maintenance inside walls~~~#*



*#~~~Inside walls after maintenance and dampness correction with ceramic floor tiles~~~#*



## 5. Water

The constant supply of clean and filtered water to all people across the hospital is an important infrastructure to maintain, in this way that the hospital planted two stations of clean and filtered water (One at CARAES NDERA and another one at CARAES BUTARE). Two smart tanks of 1000L were planted to solve the problem of lacking clean and filtered water..



### **Output 7: Improved research about mental health, neurology health and associated healthcare interventions**

Ndera Neuropsychiatric Teaching Hospital recognizes the importance of research as a scientific basis for clinical practice, to improve patient outcomes from planned activities such as conduct research in neurological field, conduct an assessment "to measure effect of outreach activities in

mental health". conduct feasibility of a large pragmatic clinical study to assess the value of Paliperidone Palmitate in Rwanda in collaboration with J&J To conduct a research in addiction and depression All research activities in the hospital must meet ethical and legal standards as well as Ndera Hospital requirements.

Here down is statistical data of research about mental health, neurology health and associated healthcare interventions activities done through the financial year ended on 30 June 2022.

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
<b>Improved research about mental health, neurology and associated healthcare interventions</b>	Realized activities (%)	<b>55%</b>	<b>60%</b>	<b>60%</b>

### **3.2.2. Program II: Specialized Health Services**

#### **Output 8: Neuro-psychiatric care is strengthened (in/out patients)**

Care provision to Neuro- psychiatric patients is the core service of the hospital, as it is said in the introduction that Ndera Neuro-psychiatric hospital is a leading institution and the unique referral and teaching hospital that is specialized in neurology and psychiatry in country wide. The big effort is deployed to achieve a maximum of standard of service care delivery.

The Hospital thrived to ensure that neuro-psychiatric care for in and outpatients is strengthened by Provision of quality care to neuro-psychiatric in/outpatients; provision of substitute medication to maintain abstinence and relapses prevention; organizing appointments for in and out patients; purchasing appropriate medical equipment and provision of psycho-social intervention to PTSD victims to increase the patients satisfaction rate and to reduce the relapse rate of patients with PTSD. It is in this regard Ndera Neuropsychiatric Teaching Hospital provides the following services:

1. Psychiatry (OPD & Hospitalization)
2. Neurology (OPD & Hospitalization)
3. Addiction service
4. General laboratory
5. Medical imagery (EEG, ENMG, ECG)
6. Physiotherapy

7. PIT care and treatment
8. Clinical psychology and
9. Occupational therapy

Neurology and psychiatric care for outpatients is a daily consultation provided through making a diagnosis of the neurology or psychiatry problem for recovering process to patients who are not hospitalized by dedicated and specialized doctors whereby in patients of hospitalized are those with severe problems which cannot be managed outside the hospital. Ndera neuropsychiatric Teaching Hospital has different hospitalized wards for different category for patients as here down is subdivided per their location:

**CARAES NDERA:**

1. Ward A (Men’s crisis ward)
2. Ward B (Men’s recovery ward)
3. Ward C (Women’s recovery ward)
4. Ward D (Women’s crisis ward)
5. Home Saint Jules (For chronic patient from unknown families)
6. Kundwa Center (For psychiatric children and adolescents)
7. Ituze Center (For other patients)
8. Neurology wards

**CARAES BUTARE:**

1. Men’s crisis ward
2. Men’s recovery ward
3. Women’s recovery ward
4. Women’s crisis ward

**ICYIZERE PSYCHOTHERAPEUTIC CENTER:**

1. Mental health ward
2. Toxicomany ward

<b>OUTPUT</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>	<b>Achieved</b>
<b>Neuro-psychiatric care is strengthened ( for in patients and out patients)</b>	Stock out avoidance (%)	<b>25%</b>	<b>23%</b>	<b>21%</b>

In the fiscal year 2022-23, the hospital sounded the emergency service by providing adequate equipment to smoothen the daily duty of emergency and Home Saint Jules which handled the new building and new equipment as it is presented in photos here down.

*\* Inside the transitional home care (Saint Jules)*



*\* Inside emergency service*



### 3.3. Finance

The management of the hospital's budget is entrusted mainly to the Director General of the Neuro Psychiatric Hospital, CARAES NDERA, in his capacity as Chief Budget Manager (CBM) assisted by the financial management committee of the hospital. This Budget is made up of operating subsidies granted by the Government of Rwanda, subsidies from the Brothers of Charity, Caraes Belgium/Fracarita, own revenues and other partners.

The table below shows the different sources of finance as well as the charges:

EXPENDITURES /CHARGES (In Rwfs)			INCOME/PRODUITS (In Rwfs)		
Charges d'exploitation	2022-2023	2021-2022	Produits d'exploitation	2022-2023	2021-2022
Cost of past inventory	1,005,074,290	1,199,795,958	Hospital income * Invoices - customers not paid	2,613,989,251 - <b>1,148,018,665</b>	2,168,289,150  <b>-869,276,845</b>
Materials and supplies Consumed	480,739,563	399,147,674	Other income	7,772,642	9,986,599
Transport consumed	56,729,521	9,078,759	Transfers from MoH-Based Financing Performance (PBF)	240,000,000	240,000,000
Other services consumed	1,577,101,861	1,146,742,822	Transfers from Treasury	2,948,038,423	1,637,754,837
Unforeseen expenditures and indirect expenses	55,029,848	124,878,881	Fracarita Grants Caraes Belgium	25,425,491	20,115,643
Compensation of employees	2,272,310,726	1,436,843,896	UCB Grants	18,834,037	95,638,240
			grants From CDC/MOH	116,290,774	114,535,091
Performance Based Financing	570,099,108	400,210,619	Grants From Johnson & Johnson Project	206,229,285	62,556,123

			Other Grants Gifts	11,449,664	5,407,301
<b>Result</b>	<b>170,944,650</b>	<b>- 362,415,625</b>			
<b>TOTAL</b>	<b>6,188,029,567</b>	<b>4,354,282,984</b>	<b>TOTAL</b>	<b>6,188,029,567</b>	<b>4,354,282,984</b>

Table 24: Sources of finance as well as the charges

*The expenditures by Diagram and by percentage*

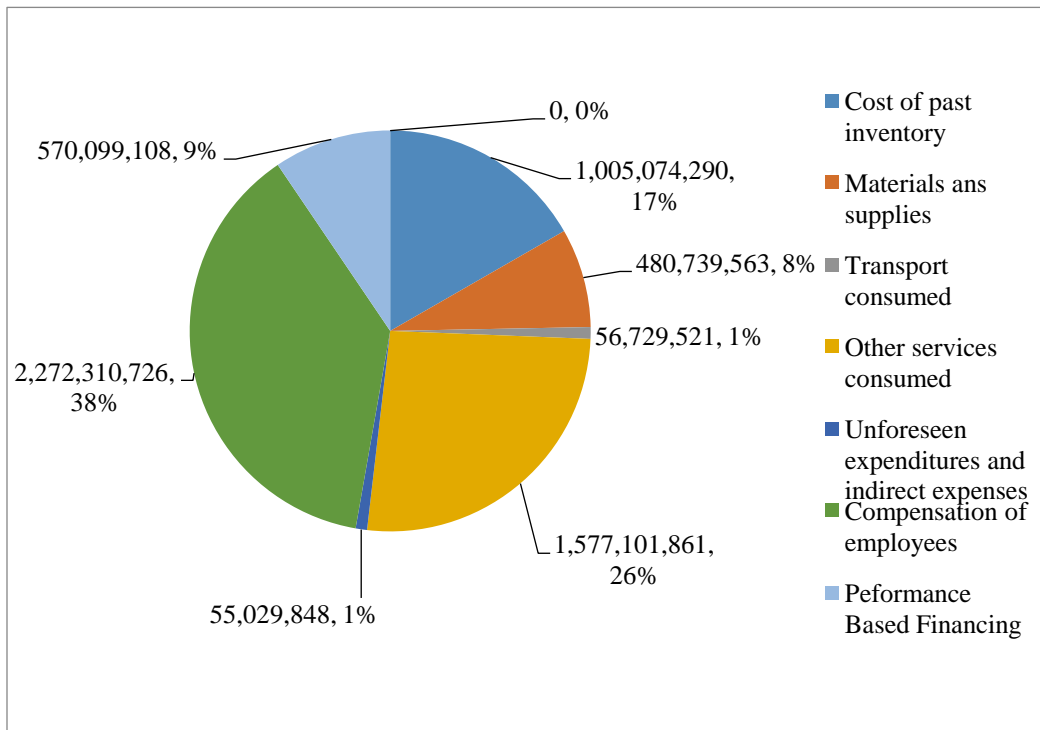


Figure 15: The expenditures by Diagram and by percentage

## Incomes by diagram and by percentage

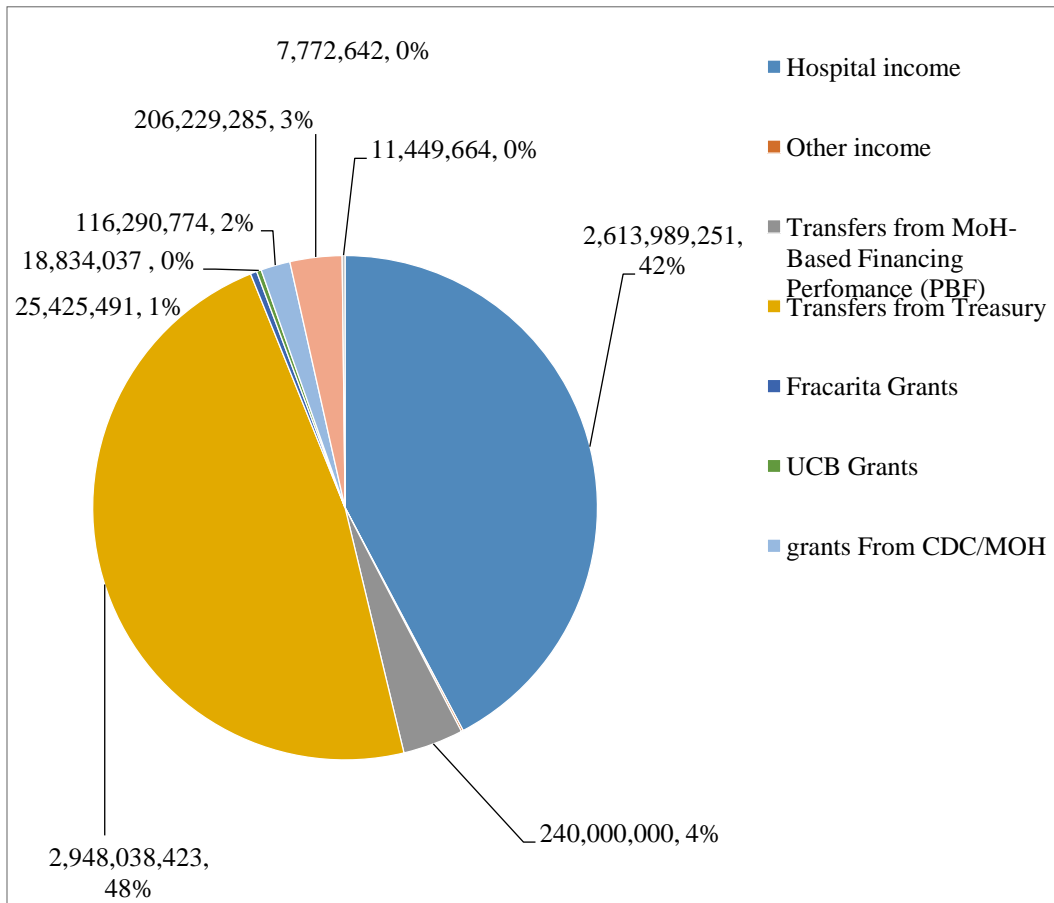


Figure 16: Incomes by diagram and by percentage

### 3.3.1. Challenge

The majority of districts owe a huge amount of money to the Hospital, which affects the hospital's action plan implementation and smooth running of hospital activities. Currently, the districts owe 640,318,464 FRw to the hospital. The following table shows a list of the districts and the outstanding debt.

<b>DISTRICTS</b>	<b>AMOUNT (Frw)</b>		
KICUKIRO	195,769,983.00		2,966,300.00
NYARUGENGE	126,113,691.00	KAYONZA	5,796,189.00
GASABO	250,644,985.00	RWAMAGANA	455,898.00
CITY OF KIGALI/ MVK	2,051,709.00	BUGESERA	4,992,709.00
<b>S/TOTAL</b>	<b>574,580,368.00</b>	KIREHE	2,074,367.00
MUSANZE	25,134,548.00	NGOMA	43,041.00
GICUMBI	2,012,633.00	<b>S/TOTAL</b>	<b>19,414,936.00</b>
<b>S/TOTAL</b>	<b>27,147,181.00</b>	NGORORERO	547,225.00
KAMONYI	2,365,690.00	NYAMASHEKE	7,476,356.00
RUHANGO	2,993,239.00	RUSIZI	5,357,674.00
<b>S/TOTAL</b>	<b>5,358,929.00</b>	RUTSIRO	435,795.00
NYAGATARE	3,086,432.00	<b>S/TOTAL</b>	<b>13,817,050.00</b>
GATSIBO		<b>GRAND TOTAL</b>	<b>640,318,464</b>

Table 25: Debt of districts in the year 2022-2023

### 3.4. Conclusion

Despite of many challenges that arose in this year caused by the shift from the old organization structure to the new organization structure, the hospital stood firm and operated well on what it could. The new organization structure affected the effective implementation of the action plan of the fiscal year of 2022-2023, mainly on the output of the human resource management where by the budget planned to pay salaries, incentives and fringe benefits in cash was planned based on number of staff to be paid according to the new salary structure. The challenge was a delayed salary structure and job profiles, which consequences are persisting even today.

## **CHAPTER IV: OTHER OUTSTANDING ACHIEVEMENTS IN LINE WITH THE HOSPITAL MANDATE**

### **4.1. Department of Education, Research, CPD and Quality Improvement**

#### **4.1.0. Introduction**

The Department of Education, Research, CPD and Quality Improvement has a mission that aimed to empower hospital staff and to provide quality care services to its customers. Being exceptional, its service preserves to offer required skills and competences to staff through education in health care delivery, continuous professional training and research for a better evidence based practice.

#### **4.1.1. Education**

##### **i. Academic and professional clerkship**

Ndera Neuropsychiatric Teaching Hospital is not the island; through its collaboration with academic and clinical institutions, it offers a high level of practice to students, interns, volunteers and its staff, and facilitates a conducive learning environment in the neuropsychiatric domain.

It is a high prestige that Ndera Neuropsychiatric Teaching Hospital is now mandated to train all health professionals in the domain of neuropsychiatry. The knowledge and skills transferring are provided through supervision, mentorship, coaching, colloquium, and intervision, among others.

#### **1.2. Partner Institutions in domain of Education (Public, private & international):**

- University of Rwanda (UR)
- Adventist University of central Africa (AUCA)
- Kibogora Polytechnics (KP)
- Catholic university (CUR)
- Mount Kenya University (MKU)
- Foreign institutions

**Table of different domains attendant and their respective institutions**

		UR	KP	MKU	AUC A	CUR	FOREIGN	IPRC	HIGH SCHOO L	Total	%
1	Nurses_Masters	6								6	0.01
2	Nurses - Underg	76	81	246	10		2			415	57.56
3	Mental health- Underg.	52								52	7.21
4	Psychologists	27		1			1			29	4.02
5	Medical	157					1			158	21.91
6	Social worker	1				12	1			14	1.94
7	Public health	1		1						2	0.28
8	Occ.Therapy	12					2			14	1.94
9	Residency_Neuro	6								6	0.83
10	Residency_Psychiatry	13								13	1.80
11	Technique(Plumbing, electricity, culinary)	2						2	2	6	0.83
12	IT	0		1						1	0.14
13	Management, Finance, accountant, statistic	2			2					4	0.55
14	Professional						1			1	0.14
Total		355	81	249	12	12	8	2	2	721	100.00
		49.24%	11.23%	34.54%	1.66%	1.66%	1.11%	0.28%	0.28%	100.00%	

**Table 26: different domains attendant and their respective institutions**

The university of Rwanda is the 1<sup>st</sup> institution with 49.24% (355) to send many students for clinical practice, Mount Kenya University comes second with 34.54% (246), followed by Kibogora Polytechnics with 11.23% (84) and the 4<sup>th</sup> is AUCA with 1.66% (12), CUR at 1.66% (12), foreign institutions are 1.11% (8), while IPRC & high schools have with 0.28% (2).

Their requested services have been offered in good collaboration between publics, privates and international high learning institutions during students 'clerkships.

The field of nursing has been the first with 57.57%, the medical students were 21.91% and mental health nurses were 7.21%, the rest were below 5%.

#### **4.1.2. Continuing Professional Development**

##### **1. CPD: Continuing Professional Development**

The activities that consist of transferring skills and knowledge which serve to maintain, develop, or increase professional performance and good relationships with customers. The content of CPD is that the body of knowledge and skills generally recognized and accepted by the profession as within the basic medical sciences, the discipline of clinical medicine, and the provision of health care to the public. The hospital has a general plan of training, which is supported through its budget, as well, the internal regular training and clinical supervisions help to increase hospital staff credibility in different domains; medical, allied health sciences and nursing:

- Clinical supervisions every Wednesday,
- Different formations
- Accreditation activities
- External formations.....

##### **2. External trainings**

The hospital has long term agreement with the Fondation de Nant; a foreign institution that provides a continuous training in psychiatry. This year, they have provided many topics on psychopharmacology (virtual based training);

Date	Topics	Facilitators
14/09/2022	Schizophrénie résistant	Professor Chin Bin Eap
12/10/2022	Pharmacothérapie des troubles du sommeil	Madame Carole Grand Jean/ Pharm
25/01/2023	Médication psychotrope chez les enfants et les adolescents	Dr Dino Carnevale
28/02/2023	Psychopharmacologies des addictions	Dr Mohamed Hachaichi
03/05/2023	Médication psychotrope et trouble bipolaire	Prof. Jean-Michel Aubry

### **3. Coaching of Nurses and its benefits**

Coaching is the skill of providing ongoing and specific accompaniment in a supportive manner for employee learning, development and improvement. The aim of coaching is to strengthen the caregivers to act in a more appropriate, independent, safe, professional and ethical in different circumstances. It is a transition of knowledge and practice, coaching improves the caregiver's knowledge, skills and attitude and eradicates the bad attitudes.

Every semester, through 10 competences of professional monitoring tool, we evaluate each nurse on knowledge, skills and attitudes. Every nurse has been assessed and followed to achieve the maximum of autonomy in functioning (Branches included).

Coaching activities were focused on:

- J Coaching visit
- J Long term coaching
- J Coaching advises
- J Technical support
- J Provisional of trainings
- J Others: support services, advocacy...

#### **3.1 Coaching outcomes**

- J Improved professional communication
- J Increased openness to personal learning and development
- J Much more Accountability & responsibility
- J Developing self-awareness
- J Increases morale

#### **4.1.3. Research Activities**

Ndera Neuropsychiatric Teaching Hospital is the only referral hospital in the country specialized in mental and neurological diseases. To achieve its vision and mission, the researches should be increased to improve and adopt the updated therapeutic tools, techniques and means.

##### **(i) PhD Research Project: Epilepsy and depression as co-morbidity**

The study is part of the PhD research programme of Dr Fidèle Sebera with Prof Dr Paul Boon and Prof Dr Leon Mutesa as promoter and co-promoter, respectively. The recruitment of 572 persons living

with epilepsy (PwE), aged 15 years and older, in Ndera and the 424 PwE in Musanze was completed. The manuscript of the Ndera data has been published; whereas the statistical analysis of the Musanze data is underway. The doctoral thesis has been accepted and final defense was done in May 10, 2023.

**(ii) Ongoing researches**

**a. Framework for an international collaboration adapted to the COVID-19 pandemic for cross-cultural translation of questionnaires on Quality of Life, disability, stigma, self-esteem, and wealth into Kinyarwanda using a mixed multi-step approach with early patient involvement**

Dr Peter Dedeken (UZ Ghent and PhD candidate) is conducting research studies to translate different scales related to disability, (HR-) QoL, self-esteem and wealth into Kinyarwanda. He uses a mixed multi-step approach to ensure face validity (comparability) and content validity (similarity), which will be used in health settings.

The approval from Ndera Neuropsychiatric Teaching Hospital Ethics Committee was obtained, translation teams (both forward and back translation teams) were identified and virtual preparatory meetings were organized. During Peter's visit to Rwanda in August 2021, the forward translation of scales and the comparability assessment were completed. The second part which was back translation and the comparability assessment was done virtually. The pretest has to be done among three groups, it means: five patients living with epilepsy, five healthy volunteers and five health care professionals.

The part of patients with epilepsy and healthy volunteers were performed by the help of research assistants with interviews and self-administered questionnaires for health care professional.

The step included a validation of the questionnaires with the first cohort of 75 patients with epilepsy and 50 healthy volunteers, it has been successfully completed and preliminary report was done, and after the report, the reformulation of questions and validation of different changes in a questionnaire was done by the same time and it has to be re-administrated to 50 healthy volunteers (Done already) and 75 patients with epilepsy (completed).

**b. ~~u-term health care attendance~~ " c p f " v t g c v o g p v " c f j g t g p e g " k p " w t d c p " c p f " t w t c n " T y**

Dr Ieme Garrez (UZ Ghent and PhD candidate) conducted a research to determine risk factors and etiologies of epilepsy in Rwanda. It included exposure to parasitic infections.

The door to door screening of the rural population in Gikonko (South province) were performed with a multidisciplinary team composed of investigators, by using Limoge questionnaire under supervision of a research assistant, a neurologist and EEG technician for diagnosis confirmation together with a nurse responsible for blood samples to be collected and transported to King Faisal Hospital where tests and analysis will be performed.

The remaining population was seen and diagnosed and those who are positive have already started medications at the Gikonko Health center and referred to King Faisal Hospital for the phase of MRI, and there are remaining MRIs underway. In March there was a comparability between patients and control patients based on age and gender, and the remaining population were supposed to be seen in August , 2023

**c. Sociodemographic and disease related characteristics in people with epilepsy presenting at Ndera Neuropsychiatric Teaching Hospital in Rwanda, a comparison between patients attending in-person and those represented by their caregivers.**

Dr Valerie Deprez, Neurology Resident at University of Antwerp (Belgium) conducted a research on socio-demographic and disease related characteristics in people with epilepsy presenting at a Neuropsychiatric Teaching Hospital in Rwanda.

The National Ethics Committee approval was granted as that from Ndera Neuropsychiatric Teaching Hospital Ethics Committee and the preparatory meetings were done in a presence of neurologists, neurology residents and research assistants at the hospital.

Data collection was initiated and done by residents in Neurology and research assistants who helped in administrative aspect where questionnaires for 26 patients represented by caregivers and 21self-represented PwE were completed. The master thesis was completed for defense.

**d. PwE and patients representatives at the Ndera Neuropsychiatric teaching hospital**

Dr Sylvestre Mutungirehe initiated a study to evaluate the knowledge of caregivers on epilepsy, its managements and clinical evolution of patients with epilepsy they represent, month of October 2022. Approval was obtained from Ndera neuropsychiatric Teaching Hospital ethics committee.

Data collection was done by research assistants using a well-structured Excel sheet where 114 caregivers were questioned with 145 patients they represented.

It was recommended to repeat the data collection as the number of caregivers was low comparing to the number of PwE. Study will be initiated soon.

**e. Master in Public Health**

Mr. Michel Nshimiyimana is registered at the University of Rwanda for a Master in Public Health and has presented his master thesis project.

**f. Master in Public Health**

Ms. Josiane Umwiringirwa is registered at the Mount Kenya University for a Master in Public Health. The review process of the study protocol by the University Library and the promoters was very slow. The protocol defence was done. As soon as the approvals are granted the study of the '*epilepsy knowledge; attitude and practices survey in traditional healers having received an education in epilepsy*' can be initiated.

**g. Master in Neurology**

Dr Delphine Kajeneza graduated from the Cheikh Anta Diop University, Faculty of Medicine, Pharmacy and Odontostomatology, Neurology Department of the University Hospital Centre FANN de Dakar (Senegal). She has been integrated at the CHU-K. She will continue her support for the Rwanda National Neurology *curriculum*.

**h. Support to other epilepsy initiatives:** Rwandan Organization Against Epilepsy

The research team assisted the Rwandan Organization Against Epilepsy in the data collection of their epilepsy outreach activities in the villages of Buyoga and Kisaro in the Rulindo district. The use of the Limoges questionnaire was presented to the community health workers (CHWs). A total of 183 CHWs visited 7,462 households (out of 7572) with a total of 32,431 family members. Further investigations are underway to understand the differences and the reasons behind these differences in number of PwE coming forward. A field visit is planned in the near future.

#### 4.1.4. Accreditation

Accreditation is regarded as one of the key benchmarks for measuring the quality of an organization and the hospital standards are organized in a framework of 5 risk areas: (1) leadership process and accountability, (2) competent and capable workforce, (3) safe environment for staff and patients, (4) clinical care of patients and (5) quality improvement.

The used criteria to determine Level I, II and III Recognitions:

Level I Recognition	Level II Recognition	Level III Recognition
Overall average score of 85% at Level I	Level I recognition must be achieved and maintained Overall average score of 75% at Level II	Level I & II recognition must be achieved and maintained overall average score of 70% at Level III
Average score of 75% for each risk area at Level I	Average score of 70% for each risk area at Level II	Average score of 60% for each risk area at Level III
Overall average score of critical standards of 80% at Level I	Level I critical standards are met at 100% Overall average score of critical standards of 80% at Level II*	Overall average score of critical standards of 100% at Level III

### Progressive assessment

Performance trends by risk area for FY 2016/2017 and for FY 2020/2021 progressive accreditation surveys:

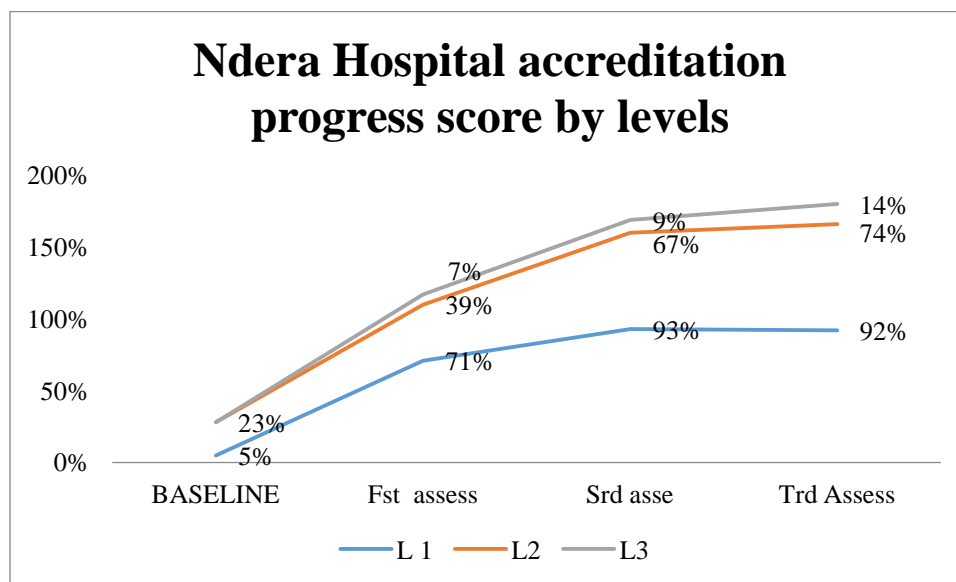
RISK AREAS	Baseline assessment 2016/2017			Fist progress assessment 2020/2021			Performance for FY 2021/2022			Performance for FY 2022/2023		
	LI Score	LII Score	LIII Score	LI Score	LII Score	LIII Score	LI Score	L II Score	LIII Score	LI Score	L II Score	LIII Score
Risk Area 1. Leadership Process and Accountability	2%	21%	0%	47%	18%	2%	87%	49%	4%	80%	44%	4%
Risk Area 2. Competent and Capable Workforce	0%	0%	0%	82%	27%	18%	100%	97%	9%	100%	100%	10%
Risk Area 3. Safe Environment for Staff and Patients	2%	31%	0%	58%	16%	2%	87%	53%	2%	86%	65%	12%
Risk Area 4. Clinical Care of Patients	13%	26%	0%	89%	84%	11%	100%	72%	14%	100%	88%	32%
Risk Area 5. Improvement of Quality and Safety	4%	33%	0%	81%	30%	0%	93%	70%	19%	100%	89%	0%

<i>Grand Total</i>	5%	23%	0%	71%	39%	7%	93%	67%	9%	92%	74%	14%
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Table 27: Progressive assessment

As showed in table above the hospital has a good performance in all three respective years from the baseline up to the current evaluation conducted in June,2023( Third) The average were 5%,71%,93% and 92% for Level one and 23%,39%,67% and 74% for level 2 respectively)

Current assessment, the Hospital has made an average good performance in quality related requirements of Risk Areas 2, 4, and 5 even if the hospital did not achieve the target. The hospital had scored 74% out of 75%.



The graph shows the good performance only the level one for the current year has a slight reduction from 93% to 92%

### 1. Challenges of Education, Research, CPD and Quality improvement Department

- J The accreditation tool used which is not adapted to the specialties of the hospital;
- J The surveyors who are not familiar with hospital activities;
- J The ignorance to memorize policies even if there were disseminated;
- J Dialogues are ongoing with local and international universities in the MoU's preparation;
- J Academic supervision of interns have been few;

- J Misconduct of some interns (lateness and absconding during working hours)

## **2. Recommendations**

- J Advocate for adapted tool kit to Ndera Neuropsychiatric Teaching hospital;
- J Ongoing dissemination of policies and procedures;
- J Improve collaboration with new universities (MoU, Supervision, materials....);
- J Strengthening researches in the neurology and psychiatry fields;
- J Collaborate with twins institutions to increase staff skills;
- J Strength on job training program.

### **4.1.5. Quality improvement**

The Hospital sustains quality of services delivery through different implementation of Quality Improvement activities. The main quality improvement activities implemented during this year 2022/2023 include quarterly Hospital self-assessment, trainings to the staff in quality improvement, patient and staff satisfaction surveys, patient voice program implementation and management of patient complaints and suggestions.

During this fiscal year 2022/2023, based on findings from Hospital self-assessment, the overall performance of Hospital activities, both administrative and clinical, was **91.3%**, there was an increase of 4% compared to the previous year.

In this year, the Hospital also measured a patient satisfaction to ensure continuous quality improvement relaying on findings, recommendations or patient opinions. The average score of patient satisfaction obtained was 90%, there was an increase of 4.6%, compared to the previous year. Also, by implementing the recommendations and patients' opinions from last year's survey, the hospital achieved the target of 90% as expected.

In addition, the Hospital has conducted staff satisfaction survey with the purpose of promoting evidence based staff working conditions and the work environment. The average score of staff satisfaction in this year was 81%, there was an increase of 1% compared to the previous year. By addressing raised issues, and opinions the hospital expects to achieve at least 90% next year.

In relation with patient centered care and their involvement in service delivery process, the Hospital ensured regular collection of patients' complaints and suggestions from suggestion boxes placed in all Hospital services. This process of availing suggestion boxes in Hospital services, collecting complaints/suggestions, analyzing them, developing an action plan for improvement, and awareness activities via different approaches such as media, outreach in community, in schools, IEC,...on different health topics are part of "Ijwi ry'Umurwayi" program, or Patient's Voice program, aimed at improvement of Healthcare service delivery and mental health awareness.

The table below shows the schools visit for providing mental health education:

No	Schools	Date	Participants
1	King David Academy	23/10/2022	715
2	Nyandungu Great Lakes	21/10/2022	232
3	International Technical School of Kigali/Gasogi	27/10/2022	15
4	College Doctrina Vitae	26/10/2022	48
5	G.S APRED Ndera	20/10/2022	289
6	G.S Kamashashi	21/10/2022	296
7	KABUTARE TSS	26/10/2022	771
8	Goupe scolaire Gatagara	26/10/2022	407
9	Groupe Scolaire des Parents	28/10/2022	537
10	G.S.O Butare Indatwa n'Inkesha	26/10/2022	1000
11	Groupe Scolaire EAR Butare	27/10/2022	210
12	GS Catholique de Butare	31/10/2022	1073
13	Mgr MUBILIGI Catholic TVT School	26/10/2022	253
14	Ecole Primaire Saint Josph	27/10/2022	269
15	Groupe Scolaire Gatenga	13/10/2022	606
16	College George for KAGARAMA (two sessions: S1,2,3& S4,5,6)	21/10/2022	523
<b>Total</b>			7244

Table 28: Schools visited for mental health education

According to the table above, the sixteen secondary schools (16) were visited, the total number of sensitized students was 7285,. A big number of participants (1073) was observed at Groupe Scolaire catholique de Butare.

### **Continuing Professional Development**

The Continuing Professional Development (CPD) increases the knowledge, skills, and professional performance. Therefore, during this fiscal year 2022/2023, the hospital organized and conducted face-to-face and online trainings for staff members to ensure capable workforce and improvement of services delivery.

The table below displays main trainings completed at Ndera Neuropsychiatric Teaching Hospital:

<b>No</b>	<b>Title of the training</b>	<b>Participants categories</b>	<b>Trained staff</b>
1	Mental health and HIV integration	Nurses from Districts hospitals and Health centers.	60
2	Refresher on neuropsychiatric emergency triage	Clinical staff	50
3	Training on Quality and Accreditation	Doctors, nurses, allied and administration	290
4	Basic Life Support	Clinical, administrative and supportive staff	130
5	Refresher on Electronic medical software “Open clinic” (in two sessions)	Open clinic users	150
6	IPC (Hand Hygiene, PPEs use and waste management, including disposal of medical infectious waste	Hospital staff + Cleaners	290
7	One day training and Conference on mental health (International mental health day preparedness )	Medical doctors, Nurses, Journalists	30
8	Forensic in psychiatry (Medical expertise, Rational use of psychotropics, agitation and violence management.)	Doctors, nurses and allied	33
9	Hospital risk management processes and principles training	Clinical and administrative staff and Management Risk Committee	106
10	Fire safety and disaster management	Hospital staff	277
11	Medical & Nursing Management of CD and protocol (TB and screening )	Clinical staff	65

12	Financial management skills, Inventories and assets management,	Head of services, logistics, Accountants, store keepers, Head of departments	25
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**Table 29: Main training completed**

Based on the training plan for the Fiscal Year 2022/2023, its implementation was achieved at 95% as shown in the table above.

## **CONCLUSION**

The level of achievement of Ndera Neuropsychiatric Teaching Hospital in the year 2022-2023 was remarkable. As the country kept growing post COVID-19, we are glad to declare that the Hospital activities were implemented as planned. As the Hospital kept working on the necessary process for the new organizational structure, we look forward to starting its implementation in the coming year 2023-2024, and greater achievements thanks to the opportunities and responsibilities brought by the structure.

We kept working on quality improvement of our services because the patients' satisfaction is our priority. Therefore, to improve the quality, we built up employee capacity building in order to equip them with needed skills to perform their duties more effectively. As a teaching hospital, we are also delighted to have given practice opportunities to students from diverse universities and higher learning institutions in Rwanda and abroad; which does not only contribute to their career development, but also creates more actors in mental healthcare and neurology in Rwanda.

We thank the Government of Rwanda, the Brothers of Charity and other partners who made a huge contribution to the development of the hospital. We value everyone's role in the realization of the 2022/2023 action plan; the Ministry of Health, Rwanda Biomedical Center (RBC) and other partners, and last but not least, the hospital's staff. The hospital targets to increase the level of achievement of the coming year's action plan.

Done at Ndera, on 2<sup>nd</sup> October 2023.

Brother Charles NKUBILI  
Director General