



THE APHRS **WHITE BOOK** **2025**

Country/Region: Australia

1. Statistics

	2021	2022	2023	2024
Population (thousand)	25,760	26,304	26,955	27,976
Hospitals	697	695		1333
Beds	2.5 (64,400)	2.5 (65,760)		2.5 (65,100)
Physicians	108,501	111,908	116,610	142,569
Nurses	366,696	372,759		349,040
GDP (US\$, billions)	1,657.8	1,724.9	1,741.9	1,752.2
Total expenditure on health as % GDP	8.81%	9.23%		9.9%
Government expenditure on health (US\$ billion)	146.08	159.27		252.5
Insured citizens (%)				57.2%
SCD patients				
Heart failure patients		69,154		511,000
AF patients		72,281		544,000

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers		18,984		27,026
New implants				
Replacements				
Single-chamber				4,739
Dual-chamber				22,287
Leadless				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Branch Pacing				
Sick Sinus Syndrome				
AV Block				
Implanting Centers			240	
Implanting Physicians				
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs				
CRT-P				1,666
CRT-P new implants				
CRT-P replacements / upgrade				
CRT-D				2,874
CRT-D new implants				
CRT-D replacements / upgrade				
Ischemic				
Non-ischemic				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers				
Implanting Physicians				
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs		3,793		4,118
ICD new implants				
ICD replacements				
Single-chamber				1,488
Dual-chamber				2,630
Subcutaneous				
Primary prevention				
Secondary prevention				
Implanting Centers			240	
Implanting Physicians				
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	327	342	376	
Hospitals performed lead extraction	16	16	18	
Cardiologists performing lead extraction				
Surgeons performing lead extraction				
National Registry	Yes	Yes	Yes	

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures				
SVT ablation procedures				
AVNRT				
AVRT/WPW				
AFL (RA isthmus dependent)				
AT				
VT/VPC				
Idiopathic				
Structural				
AF ablation procedures				
Ablation centers				
AF ablation centers				
Structural VT ablation centers				
Ablation physicians				
AF ablation physicians				
Structural VT ablation physicians				
National Registry				

7. Management

National certification for physicians	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input checked="" type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

- PWC Annual Device Audit 2024 (Courtesy of Boston Scientific)

Country/Region: Bangladesh

1. Statistics

	2021	2022	2023	2024
Population (thousand)			172,954	173,998
Hospitals			5,816	5,816
Beds			0.790202 / 1000	0.790201 / 1000
Physicians			5.26 / 10,000	5.26 / 10,000
Nurses			73,043	73,043
GDP (US\$, billions)			460	450.1
Total expenditure on health as % GDP			2.36%	2.35%
Government expenditure on health (US\$)			35	35
Insured citizens (%)			2.5%	2.5%
SCD patients			Approx. 65,000	Approx. 65,000
Heart failure patients			Approx. 2,700,000	Approx. 2,700,000
AF patients			Approx. 2,594,314	Approx 4.1%

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers			1,474	1,490
New implants			944	951
Replacements			566	572
Single-chamber			416	423
Dual-chamber			1,057	1,117
Leadless			1	0
Conduction System Pacing			4	12
Left Bundle Branch Pacing			3	12
His Bundle Branch Pacing			1	1
Sick Sinus Syndrome			290	297
AV Block			1,184	1,113
Implanting Centers			15	25
Implanting Physicians			48	60
National Registry			No	No
SSS			290	292

AVN			1,184	1,189
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs			51	70
CRT-P			9	9
CRT-P new implants			7	7
CRT-P replacements / upgrade			2	2
CRT-D			42	42
CRT-D new implants			35	35
CRT-D replacements / upgrade			7	7
Ischemic			32	32
Non-ischemic			19	19
Conduction System Pacing			6	12
Left Bundle Branch Pacing			5	12
His Bundle Pacing			1	0
Implanting Centers			6	25
Implanting Physicians			7	60
National Registry			No	No

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs			59	60
ICD new implants			47	47
ICD replacements			12	13
Single-chamber			39	39
Dual-chamber			20	20
Subcutaneous			0	0
Primary prevention			10	18
Secondary prevention			49	60
Implanting Centers			8	25
Implanting Physicians			12	20
National Registry			No	No

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures			12	10
Hospitals performed lead extraction			4	4
Cardiologists performing lead extraction			5	5
Surgeons performing lead extraction			No	1
National Registry			No	No

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures			655	705
SVT ablation procedures			607	652
AVNRT			338	395
AVRT/WPW			230	330
AFL (RA isthmus dependent)			4	6
AT			10	15
VT/VPC			38	40
Idiopathic			38	38
Structural			0	0
AF ablation procedures			0	0
Ablation centers			5	6
AF ablation centers			3	3
Structural VT ablation centers			3	3
Ablation physicians			11	11
AF ablation physicians			3	7
Structural VT ablation physicians			3	4
National Registry			No	No

7. Management

National certification for physicians	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
National accreditation for centers	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
Guidelines followed	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input checked="" type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	20	20	20	25
Insurance	No	No	No	No
Public Insurance	No	No	No	No
Private Insurance	No	No	No	No
Individual	90% - 100% to pay	90% - 100% to pay	90% - 100% to pay	90% - 100% to pay

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

- Bangladesh National Survey Records Data
- World Health Organization Survey (WHO) Records Data
- St Jude Medical Pacemaker & Device Company Records Data
- Medtronic Medical Pacemaker & Device Company Records Data

Dr. S Mokaddas Hossain

Labaid Cardiac Hospital
Dhaka, Bangladesh

Country/Region: Brunei Darussalam

1. Statistics

	2021	2022	2023	2024
Population (thousand)			450	455
Hospitals			6	6
Beds				
Physicians				
Nurses				
GDP (US\$, billions)			15	15.8
Total expenditure on health as % GDP				
Government expenditure on health (US\$)				
Insured citizens (%)				
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	61	77	89	103
New implants	47	53	65	84
Replacements	14	24	24	19
Single-chamber	19	12	16	5
Dual-chamber	42	63	63	88
Leadless		2	10	10
Conduction System Pacing		8	19	22
Left Bundle Branch Pacing		8	19	22
His Bundle Branch Pacing				
Sick Sinus Syndrome	41	39	50	58
AV Block	14	28	34	43
Implanting Centers	2	2	2	2
Implanting Physicians	5	5	5	6
National Registry				
SSS	41	39	50	58
AVN	14	28	34	43
Bi Nosal	5	9	1	1
Others	1	1	4	1

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	18	8	22	21
CRT-P	2	1	4	6
CRT-P new implants	1	1	3	1
CRT-P replacements / upgrade	1	0	1	5
CRT-D	16	7	18	15
CRT-D new implants	8	4	8	4
CRT-D replacements / upgrade	8	3	10	11
Ischemic	7	1	10	8
Non-ischemic	11	7	12	13
Conduction System Pacing		1	3	8
Left Bundle Branch Pacing		1	3	6
His Bundle Pacing				2
Implanting Centers	2	2	2	2
Implanting Physicians	1	1	1	1
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	27	29	29	29
ICD new implants	22	21	24	23
ICD replacements	5	8	5	6
Single-chamber	4	7	1	1
Dual-chamber	23	22	18	18
Subcutaneous			10	10
Primary prevention	17	16	20	22
Secondary prevention	10	13	9	7
Implanting Centers	2	2	2	2
Implanting Physicians				
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	3	4	12	6
Hospitals performed lead extraction	1	1	1	1
Cardiologists performing lead extraction	1	1	1	1
Surgeons performing lead extraction	0	0	0	0
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	102	84	99	128
SVT ablation procedures	37	37	49	46
AVNRT	17	19	12	15
AVRT/WPW	8	5	14	10
AFL (RA isthmus dependent)	7	10	17	16
AT	5	3	5	5
VT/VPC	22	19	15	28
Idiopathic	19	17	13	24
Structural	3	2	2	4
AF ablation procedures	43	288	35	54
Ablation centers				
AF ablation centers	1	1	1	1
Structural VT ablation centers	1	1	1	1
Ablation physicians				
AF ablation physicians	1	1	1	1
Structural VT ablation physicians	1	1	1	1
National Registry				

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	20	20	20	25
Insurance	No	No	No	No
Public Insurance	No	No	No	No
Private Insurance	No	No	No	No
Individual	90-100	90-100	90-100	90-100

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Cambodia

1. Statistics

	2021	2022	2023	2024
Population (thousand)		16767	17120	17638
Hospitals		148	575	1548
Beds		13500	24500	137576
Physicians (thousand)		1.4	1.9	3.5
Nurses (thousand)		9.5	10.1	125.2
GDP (US\$, billions)		28.54	29.5	46
Total expenditure on health as % GDP		7.5	7.5	6
Government expenditure on health (US\$)		490	490	490
Insured citizens (%)		-	-	
SCD patients		-	-	
Heart failure patients		-	-	
AF patients		-	-	

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	219	113	215	220
New implants	190	-	204	208
Replacements	29	-	11	12
Single-chamber	72	-	110	105
Dual-chamber	118	-	105	115
Leadless	-	-	2	3
Conduction System Pacing	-	-	-	7
Left Bundle Branch Pacing	-	-	-	7
His Bundle Branch Pacing	-	-	-	
Sick Sinus Syndrome	92	-	120	115
AV Block	98	-	95	105
Implanting Centers	5	6	7	9
Implanting Physicians	9	9	12	15
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	2			
CRT-P	2			
CRT-P new implants	2			
CRT-P replacements / upgrade	-			
CRT-D	0			1
CRT-D new implants	0			1
CRT-D replacements / upgrade				
Ischemic				1
Non-ischemic				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers				2
Implanting Physicians				7
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	2	1	2	3
ICD new implants	2	1	2	
ICD replacements				
Single-chamber	1	1	1	1
Dual-chamber	1		1	2
Subcutaneous				
Primary prevention				
Secondary prevention	2	1	2	3
Implanting Centers	2	5	3	4
Implanting Physicians	1	7	10	15
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	2			
Hospitals performed lead extraction	2			
Cardiologists performing lead extraction	2			
Surgeons performing lead extraction	-			
National Registry	-			

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	125	75	101	132
SVT ablation procedures				75
AVNRT	26		30	37
AVRT/WPW	18		23	25
AFL (RA isthmus dependent)	43		4	10
AT	10			3
VT/VPC	28		35	52
Idiopathic	28		35	52
Structural				
AF ablation procedures			9	5
Ablation centers		3	3	3
AF ablation centers			1	3
Structural VT ablation centers				
Ablation physicians		5	5	8
AF ablation physicians			1	3
Structural VT ablation physicians				
National Registry				

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	50%	0%	0%	50%
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

8. Source

Country/Region: PR. China

1. Statistics

	2021	2022	2023	2024
Population (thousand)	1,412,600	1,411,750	1,409,680	1,408,280
Hospitals	36,570	36,976	38,355	39,000
Beds (per 100,000 population)	669	691	723	800
Physicians (per 1,000 population)	3.03	3.15	3.20	3.61
Nurses (per 1,000 population)	3.55	3.71	4.00	4.17
GDP (US\$, billions)	178,200	180,600	183,600	189,400
Total expenditure on health as % GDP	6.6%	7.0%	7.0%	7.9%
Government expenditure on health as %	27.4%	28.2%	27.4%	26.7%
Insured citizens (%)	70%	70%	95%	95%
SCD patients	540,000	540,000	970,000	540,000
Heart failure patients	4.5million	4.5million	4.5million	12.1million
AF patients	8million	8million	20million	20million

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	98,306	98,619	122,942	147,748
New implants				
Replacements				
Single-chamber	25,415	27,455	31,389	25,390
Dual-chamber	72,891	71,164	91,553	122,358
Leadless				6,031
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Branch Pacing				
Sick Sinus Syndrome	52,135	52,958	46,772	76,578
AV Block	44,191	41,913	50,950	63,386
Implanting Centers		2,488	2,962	3,265
Implanting Physicians	3000			
National Registry	Yes			
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	5,333	5,398	6,480	7,182
CRT-P	1,825	1,967	1,516	2,556
CRT-P new implants				
CRT-P replacements / upgrade				
CRT-D	3,508	3,431	4,964	4,626
CRT-D new implants				
CRT-D replacements / upgrade				
Ischemic				
Non-ischemic				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers				
Implanting Physicians	3,000			
National Registry	Yes			

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	6,647	6,762	8,672	11,345
ICD new implants				
ICD replacements				
Single-chamber	3,771	3,477	4,394	6,060
Dual-chamber	2,876	3,282	4,278	4,800
Subcutaneous				485
Primary prevention	2,618	2,732	4,220	5,872
Secondary prevention	3,929	4,030	4,452	5,473
Implanting Centers				
Implanting Physicians	3000			
National Registry	Yes			

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures				
Hospitals performed lead extraction				
Cardiologists performing lead extraction				
Surgeons performing lead extraction				
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	210,609	203,984	288,230	385,000
SVT ablation procedures	76,971	63,535	89,000	119,000
AVNRT				
AVRT/WPW				
AFL (RA isthmus dependent)				
AT				
VT/VPC	-			63,000
Idiopathic	-			
Structural	-			
AF ablation procedures	87,994	82,763	125,120	203,000
Ablation centers		1,834	2,318	2,932
AF ablation centers				
Structural VT ablation centers				
Ablation physicians	2,000			
AF ablation physicians				
Structural VT ablation physicians				
National Registry	Yes			

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Hong Kong

1. Statistics

	2021	2022	2023	2024
Population (thousand)	7,401.5	7,333.2	7,503.1	7,496.7
Hospitals	56	56	56	56
Beds	31,887*	32,254	32,518	35,930
Physicians	15,546	15,815	16,180	16,533
Nurses	48,415	50,650	52,327	54,759
GDP (US\$, billions)	367.91	361.29	383.5	391.6
Total expenditure on health as % GDP	3.38%	4.06%	5.14%	8.0%
Government expenditure on health (US\$)	12,436mil	14,679mil	19,705mil	16,667mil
Insured citizens (%)				
SCD patients				
Heart failure patients				
AF patients				

*Figures include only hospital beds in Hospital Authority hospitals and private hospitals excluding accident and emergency observation beds, day beds and nursery beds, which follow the definition of the Organisation for Economic Co-operation and Development (OECD). On 1 January 2021, the Hospitals, Nursing Homes and Maternity Homes Registration Ordinance (Cap.165) was repealed when the Private Healthcare Facilities Ordinance (Cap. 633) was commenced. Hence, the number of hospital beds previously compiled under 'Cap. 165 Ordinance definition' is no longer applicable

#Estimated Mid-Year Population for 2024

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	2,073 (including 527 leadless pacemakers)	2,080 (including 519 leadless pacemakers)	2,248 (including 703 leadless pacemakers)	2,448 (including 816 leadless pacemakers)
New implants				
Replacements				
Single-chamber				
Dual-chamber				
Leadless				
Conduction System Pacing				
Left Bundle Branch Pacing				

His Bundle Branch Pacing				
Sick Sinus Syndrome				
AV Block				
Implanting Centers				
Implanting Physicians				
National Registry				
SSS				
AVN				
Bi Nodal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	184	200	156	198
CRT-P	36	43	1	50
CRT-P new implants				
CRT-P replacements / upgrade				
CRT-D	148	157	155	148
CRT-D new implants				
CRT-D replacements / upgrade				
Ischemic				
Non-ischemic				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers				
Implanting Physicians				
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	330	314	310	381
ICD new implants				
ICD replacements				
Single-chamber				
Dual-chamber				
Subcutaneous				
Primary prevention				
Secondary prevention				

Implanting Centers				
Implanting Physicians				
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures				30
Hospitals performed lead extraction				
Cardiologists performing lead extraction				
Surgeons performing lead extraction				
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	907	873	1,028	1294
SVT ablation procedures				
AVNRT				
AVRT/WPW				
AFL (RA isthmus dependent)				
AT				
VT/VPC				
Idiopathic				
Structural				
AF ablation procedures				
Ablation centers				
AF ablation centers				
Structural VT ablation centers				
Ablation physicians				
AF ablation physicians				
Structural VT ablation physicians				
National Registry				

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Indonesia

1. Statistics

	2021	2022	2023	2024
Population (thousand)	273,879	275,770	277,530	282,477
Hospitals	3,042	3,072	3,155	3,228
Beds	371,195	384,287	389,755	395,469
Physicians	223,254	206,346	262,679	263,076
Nurses	511,191	524,508	582,023	603,046
GDP (US\$, billions)	1,186	1,319	1,386	1,541
Total expenditure on health as % GDP	4	2.9	2.9	3
Government expenditure on health (US\$, billion)	11	15	17.2	16.5
Insured citizens (%)	87	91	95	98
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	1,342	1,473	2,321	2,893
New implants	1,194	1,326	2,113	2,623
Replacements	148	147	208	270
Single-chamber	877	996	1,811	2,287
Dual-chamber	465	477	516	582
Leadless		10	11	24
Conduction System Pacing		196	208	173
Left Bundle Branch Pacing		90	165	144
His Bundle Branch Pacing		106	43	29
Sick Sinus Syndrome	551	419	543	863
AV Block	791	1,002	1,313	2,030
Implanting Centers	67	95	126	151
Implanting Physicians	119	121	143	149
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	64	60	41	47
CRT-P	36	35	27	31
CRT-P new implants	30	26	19	19
CRT-P replacements / upgrade	6	9	8	12
CRT-D	28	25	14	14
CRT-D new implants	24	19	6	12
CRT-D replacements / upgrade	4	6	8	4
Ischemic	18	30	15	15
Non-ischemic	20	26	20	32
Conduction System Pacing				11
Left Bundle Branch Pacing				10
His Bundle Pacing				1
Implanting Centers	17	17	21	17
Implanting Physicians	24	31	33	29
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	66	84	73	87
ICD new implants	59	74	65	77
ICD replacements	7	10	8	10
Single-chamber	47	56	52	66
Dual-chamber	19	28	21	21
Subcutaneous		9	2	1
Primary prevention	23	33	35	38
Secondary prevention	40	43	34	49
Implanting Centers	21	23	27	33
Implanting Physicians	29	40	41	45
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	36	13	29	44
Hospitals performed lead extraction	12	11	20	18
Cardiologists performing lead extraction	19	19	27	23
Surgeons performing lead extraction	10	12	10	6
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	1,178	1,646	2,011	2719
SVT ablation procedures	612	816	1,030	1,324
AVNRT	330	409	463	664
AVRT/WPW	213	294	433	500
AFL (RA isthmus dependent)	34	54	80	95
AT	35	59	54	65
VT/VPC	472	621	781	1,182
Idiopathic	418	596	743	1,154
Structural	54	25	38	28
AF ablation procedures	84	141	200	213
Ablation centers	23	28	38	43
AF ablation centers	14	20	28	32
Structural VT ablation centers	17	13	27	21
Ablation physicians	29	41	50	56
AF ablation physicians	38	40	44	49
Structural VT ablation physicians	27	33	38	51
National Registry				

7. Management

National certification for physicians	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input checked="" type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

- Indonesian Heart Rhythm Society (InaHRS)

Country/Region: Japan

1. Statistics

	2021	2022	2023	2024
Population (thousand)	125,502	125,190	124,352	123,784
Hospitals				
Beds	1,580,892	1,573,451	1,559,539	1,486,669
Physicians				
Nurses				
GDP (US\$, billions)	4,937.42	4,912.15	4,286.19	4,186,669
Total expenditure on health as % GDP				
Government expenditure on health (US\$)				
Insured citizens (%)				
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	68,337	69,221	70,638	66,024
New implants	45,634	44,582	46,078	44,133
Replacements	22,703	24,639	24,560	21,891
Single-chamber	12,276	9,215	9,533	
Dual-chamber	56,061	60,006	61,105	
Leadless				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Branch Pacing				
Sick Sinus Syndrome				
AV Block				
Implanting Centers				
Implanting Physicians				
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	5,543	5,563	5,929	5,901
CRT-P	1,645	1,815	2,123	2,148
CRT-P new implants	1,244	1,343	1,569	1,521
CRT-P replacements / upgrade	401	472	554	627
CRT-D	3,898	3,748	3,806	3,753
CRT-D new implants	2,329	2,189	2,278	2,327
CRT-D replacements / upgrade	1,569	1,559	1,528	1,426
Ischemic				
Non-ischemic				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers				
Implanting Physicians				
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	6,092	6,440	7,338	7,281
ICD new implants	3,911	3,770	4,106	4,384
ICD replacements	2,181	2,670	3,232	2,897
Single-chamber	1,847	1,794	2,066	
Dual-chamber	4,245	4,646	5,272	
Subcutaneous				
Primary prevention				
Secondary prevention				
Implanting Centers				
Implanting Physicians				
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	984	1,031	989	1,119
Hospitals performed lead extraction	98	98	101	103
Cardiologists performing lead extraction	NA	NA	NA	NA
Surgeons performing lead extraction	NA	NA	NA	NA
National Registry	J-LEX	J-LEX	J-LEX	J-LEX

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	102,781	109,008	103,954	102,584
SVT ablation procedures	11,000	11,200	10,078	10,235
AVNRT	7,400	7,859	7,148	7,254
AVRT/WPW	3,300	3,341	2,930	2,981
AFL (RA isthmus dependent)	12,000	11,847	15,737(A FL+AT)	15,798 (AFL+AT)
AT	4,800	6,869	15,737(A FL+AT)	15,798 (AFL+AT)
VT/VPC	7,200	7,633	7,639	6,802
Idiopathic		6,191	NA	NA
Structural		1,442	NA	NA
AF ablation procedures	76,674	81,750	77,451	78,196
Ablation centers	750	503	551	631
AF ablation centers	550	490	NA	NA
Structural VT ablation centers		NA	NA	NA
Ablation physicians	2,500	NA	NA	NA
AF ablation physicians	2,000	NA	NA	NA
Structural VT ablation physicians		NA	NA	NA
National Registry	Yes	Yes	Yes	J-AB

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input checked="" type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP



Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Mongolia

1. Statistics

	2021	2022	2023	2024
Population (thousand)	3.409.9	3.457,5	3.504.7	3.544.83
Hospitals	57	57	57	59
Beds	35,310	35,310	35,310	28,260
Physicians	12,970	12,970	13,983	15,973
Nurses	13,473	13,473	13,947	14,494
GDP (US\$, billions)	15.10	16.81	4.71	23.59
Total expenditure on health as % GDP	3.6%	4%	4%	2
Government expenditure on health (US\$)	543,600		453,918	
Insured citizens (%)			92.4%	92,5%
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	276	365	475	459
New implants	258			
Replacements	18			
Single-chamber				
Dual-chamber			474	459
Leadless				
Conduction System Pacing		12	56	50
Left Bundle Branch Pacing				
His Bundle Branch Pacing				
Sick Sinus Syndrome				
AV Block				
Implanting Centers	3		4	5
Implanting Physicians	7	8	8	15
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	6	12	10	8
CRT-P	6	12	10	8
CRT-P new implants	6	12	10	
CRT-P replacements / upgrade				
CRT-D				
CRT-D new implants				
CRT-D replacements / upgrade				
Ischemic				
Non-ischemic	6	12	12	8
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers	1	1	1	1
Implanting Physicians	3	4	4	4
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	4	0	10	12
ICD new implants	4		10	12
ICD replacements				
Single-chamber				7
Dual-chamber	4			5
Subcutaneous				
Primary prevention				
Secondary prevention	4			
Implanting Centers	1		1	1
Implanting Physicians	3		4	4
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	1	0	0	0
Hospitals performed lead extraction	1		1	1
Cardiologists performing lead extraction	3		3	3
Surgeons performing lead extraction				
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	113	180	237	212
SVT ablation procedures	111	165	200	254
AVNRT	75			
AVRT/WPW	33			
AFL (RA isthmus dependent)	4			
AT				
VT/VPC	2	10	4	24
Idiopathic	2	10	4	
Structural				
AF ablation procedures		5	13	10
Ablation centers	1	2	3	3
AF ablation centers	1	2	2	2
Structural VT ablation centers	1	1	1	1
Ablation physicians	3	3	5	10
AF ablation physicians	1	1	3	3
Structural VT ablation physicians	1	1	1	1
National Registry				

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	90%-100%	90%-100%	90%-100%	90%-100%
Insurance				
Public Insurance	90%-100%	90%-100%	90%-100%	90%-100%
Private Insurance				
Individual	Up to 10%	Up to 10%	Up to 10%	Up to 10%

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Myanmar

1. Statistics

	2021	2022	2023	2024
Population (thousand)	54,000	54,000	54,000	54,000
Hospitals	12	12	12	12
Beds	-	-	-	
Physicians	-	-	-	
Nurses	-	-	-	
GDP (US\$, billions)	-	-	-	
Total expenditure on health as % GDP	-	-	-	
Government expenditure on health (US\$)	-	-	-	
Insured citizens (%)	-	-	-	
SCD patients	-	-	-	
Heart failure patients	-	-	-	
AF patients	-	-	-	

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	483	927	974	1156
New implants	431	848	869	988
Replacements	52	79	105	168
Single-chamber	422	815	846	1014
Dual-chamber	61	112	128	130
Leadless	-	-	-	-
Conduction System Pacing	-	-	5	12
Left Bundle Branch Pacing	-	-	5	11
His Bundle Branch Pacing	-	-	-	1
Sick Sinus Syndrome	264	525	571	621
AV Block	219	402	403	535
Implanting Centers	12	12	12	12
Implanting Physicians	21	21	21	21
National Registry	-	-	-	-
SSS	-	-	-	621
AVN	-	-	-	535
Bi Nodal	-	-	-	-
Others	-	-	-	-

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	1	3	2	5
CRT-P	-	1	-	-
CRT-P new implants	-	-	-	-
CRT-P replacements / upgrade	-	1	-	-
CRT-D	1	2	2	-
CRT-D new implants	-	-	-	-
CRT-D replacements / upgrade	1	2	2	-
Ischemic	-	2	-	-
Non-ischemic	1	1	2	-
Conduction System Pacing	-	-	-	5
Left Bundle Branch Pacing	-	-	-	4
His Bundle Pacing	-	-	-	1
Implanting Centers	4	4	4	4
Implanting Physicians	15	15	15	15
National Registry	-	-	-	-

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	15	30	38	33
ICD new implants	12	25	30	30
ICD replacements	3	5	8	3
Single-chamber	15	27	37	32
Dual-chamber	-	3	1	1
Subcutaneous	-	-	-	-
Primary prevention	9	21	18	14
Secondary prevention	6	9	20	19
Implanting Centers	6	6	6	6
Implanting Physicians	15	15	15	15
National Registry	-	-	-	-

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	-	1	-	-
Hospitals performed lead extraction	-	1	-	-
Cardiologists performing lead extraction	-	2	-	-
Surgeons performing lead extraction	-	-	-	-
National Registry	-	-	-	-

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	296	823	1,005	1079
SVT ablation procedures	257	747	983	966
AVNRT	149	400	542	504
AVRT/WPW	100	327	410	429
AFL (RA isthmus dependent)	-	15	11	12
AT	8	5	20	21
VT/VPC	39	76	22	113
Idiopathic	37	74	-	113
Structural	2	2	-	-
AF ablation procedures	-	-	-	-
Ablation centers	6	6	6	6
AF ablation centers	1	1	1	1
Structural VT ablation centers	1	1	1	1
Ablation physicians	13	13	13	14
AF ablation physicians	1	1	1	1
Structural VT ablation physicians	1	1	1	1
National Registry	-	-	-	-

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input checked="" type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	80	-	-	100
Insurance	-	-	-	-
Public Insurance	-	-	-	-
Private Insurance	-	-	-	-
Individual	20	100	100	-

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

- Yangon General Hospital, North Okkalapa General Hospital, Mandalay General Hospital, Naypyitaw 1000 Bedded Hospital, No 1 and 2 Defence Services General Hospitals and private hospitals.

Country/Region: New Zealand

1. Statistics

	2021	2022	2023	2024
Population (thousand)	5,000	5,000	5,200	5,300
Hospitals				
Beds				
Physicians				
Nurses				
GDP (US\$, billions)				
Total expenditure on health as % GDP				
Government expenditure on health (US\$)				
Insured citizens (%)				
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	2505	1624	2946	3137
New implants	1710	1318	986	2587
Replacements	423	284	235	537
Single-chamber	495	237	219	651
Dual-chamber	1471	769	675	2272
Leadless	-	10	6	35
Conduction System Pacing	-	40	166	572
Left Bundle Branch Pacing	-	35	165	566
His Bundle Branch Pacing	-	2	1	6
Sick Sinus Syndrome	83	167	129	896
AV Block	84	336	169	1835
Implanting Centers	14	6	15	18
Implanting Physicians	48	21	55	36
National Registry			Y	Y
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	339	167	468	435
CRT-P	171	127	76	221
CRT-P new implants	81	93	62	133
CRT-P replacements / upgrade	52	34	26	88
CRT-D	139	65	76	214
CRT-D new implants	48	49	46	113
CRT-D replacements / upgrade	47	41	48	101
Ischemic	31	26	10	61
Non-ischemic	33	89	31	197
Conduction System Pacing	-	1	6	21
Left Bundle Branch Pacing	-	1	5	21
His Bundle Pacing	-	-	1	0
Implanting Centers	9	9	1	12
Implanting Physicians	27	25	20	25
National Registry	-	-	Y	Y

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	585	358	627	606
ICD new implants	421	281	158	443
ICD replacements	164	67	48	163
Single-chamber	-	64	77	316
Dual-chamber	-	54	48	214
Subcutaneous	-	17	12	49
Primary prevention	-	95	5	232
Secondary prevention	-	54	23	264
Implanting Centers	9	1	14	14
Implanting Physicians	27	11	30	30
National Registry	-	-	Y	Y

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	40	53	59	56
Hospitals performed lead extraction	1	1	1	1
Cardiologists performing lead extraction	2	2	2	2
Surgeons performing lead extraction	-	-	Support	Support
National Registry	-	-	Y	Y

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	1383	1327	2663	2382
SVT ablation procedures	722	704	365	1222
AVNRT	208	166	92	405
AVRT/WPW	117	115	45	149
AFL (RA isthmus dependent)	318	336	179	508
AT	44	50	32	102
VT/VPC	64	93	51	112
Idiopathic	22	30	9	49
Structural	44	32	-	34
AF ablation procedures	429	544	429	1060
Ablation centers		5	10	10
AF ablation centers	8	5	8	9
Structural VT ablation centers	7	5	8	4
Ablation physicians				
AF ablation physicians	21	15	18	18
Structural VT ablation physicians	21	15	18	18
National Registry	N	Incomp	N	N

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source



Country/Region: Pakistan

1. Statistics

	2021	2022	2023	2024
Population (thousand)	230,190	235,844	241,499	247,154
Hospitals	1,276	1,284	1,696	1,934
Beds	146,053	151,661	167,947	173,971
Physicians	266,430	282,383	299,113	319,572
Nurses	121,245	127,855	134,708	138,391
GDP (US\$, billions)	349	376	337	372
Total expenditure on health as % GDP	3.0	2.91		
Government expenditure on health (US\$)				
Insured citizens (%)				
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers				5,694
New implants				2,717
Replacements				294
Single-chamber				739
Dual-chamber				1,271
Leadless				
Conduction System Pacing				
Left Bundle Branch Pacing				70
His Bundle Branch Pacing				7
Sick Sinus Syndrome				334
AV Block				1,438
Implanting Centers				12
Implanting Physicians				25
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs				117
CRT-P				86
CRT-P new implants				80
CRT-P replacements / upgrade				9
CRT-D				44
CRT-D new implants				34
CRT-D replacements / upgrade				13
Ischemic				
Non-ischemic				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers				
Implanting Physicians				
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs				180
ICD new implants				105
ICD replacements				42
Single-chamber				90
Dual-chamber				26
Subcutaneous				
Primary prevention				10
Secondary prevention				170
Implanting Centers				
Implanting Physicians				
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures				
Hospitals performed lead extraction				
Cardiologists performing lead extraction				
Surgeons performing lead extraction				
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures				1,112
SVT ablation procedures				1,440
AVNRT				349
AVRT/WPW				279
AFL (RA isthmus dependent)				29
AT				16
VT/VPC				21
Idiopathic				16
Structural				4
AF ablation procedures				50
Ablation centers				
AF ablation centers				6
Structural VT ablation centers				6
Ablation physicians				
AF ablation physicians				8
Structural VT ablation physicians				8
National Registry				

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Philippines

1. Statistics

	2021	2022	2023	2024
Population (thousand)	112,321	115,559	117,337	115,843
Hospitals	1,800	1,792	3,952	3,952
Beds (per 100,000 population)	150	53.1	98	98
Physicians (per 1,000 population)	1.16		0.8	0.8
Nurses (per 1,000 population)	24	0.8	4.8	4.8
GDP (US\$, billions)	394.09	404.28	404.3	462
Total expenditure on health as % GDP	4.6%	6%	5.5%	2.93
Government expenditure on health as %	33%	17.3%		
Insured citizens (%)	93%	69.7%	52%	83%
SCD patients				
Heart failure patients				
AF patients	0.40%			

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	520	1281	1060	1989
New implants	410	1092	910	1759
Replacements	119	189	225	230
Single-chamber	120	211	236	448
Dual-chamber	281	734	550	1154
Leadless		24	49	49
Conduction System Pacing				
Left Bundle Branch Pacing		30	83	82
His Bundle Branch Pacing				
Sick Sinus Syndrome	212			
AV Block	189			
Implanting Centers	69			70
Implanting Physicians	65			65
National Registry	No			None
SSS				
AVN				
Bi Nodal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	14	33	24	47
CRT-P	2		3	
CRT-P new implants	1	7	2	6
CRT-P replacements / upgrade	1	3		
CRT-D	12		9	
CRT-D new implants	6	27	11	35
CRT-D replacements / upgrade	6	10	1	6
Ischemic	8			
Non-ischemic	4			
Conduction System Pacing				
Left Bundle Branch Pacing			13	
His Bundle Pacing				
Implanting Centers	11		11	11
Implanting Physicians	20			
National Registry	No			None

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	42	78	85	213
ICD new implants	36	60	32	192
ICD replacements	6	18	20	21
Single-chamber	26	50	22	88
Dual-chamber	16	28	33	125
Subcutaneous				
Primary prevention	24			
Secondary prevention	18			
Implanting Centers	15		16	16
Implanting Physicians	23			
National Registry	No			None

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures				7
Hospitals performed lead extraction				3
Cardiologists performing lead extraction				5
Surgeons performing lead extraction				2
National Registry				None

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	114	141		325
SVT ablation procedures	93	91	101	219
AVNRT	36	82		109
AVRT/WPW	45	48		81
AFL (RA isthmus dependent)	2	6		22
AT	10	5		7
VT/VPC	11	22		62
Idiopathic	11	20	23	60
Structural	0	2	4	2
AF ablation procedures	10	28	47	44
Ablation centers	4		5	
AF ablation centers	4	4		8
Structural VT ablation centers	4	3		3
Ablation physicians	6			
AF ablation physicians	6	12		11
Structural VT ablation physicians	6	6		8
National Registry	No	No		None

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	11.9%	5.0%	0%	5.4%
Insurance				
Public Insurance	11.9%	5.0%	0%	5.4%
Private Insurance				
Individual	88.1%	95.0%	100%	94.6%

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

8. Source

- <https://www.worldometers.info/world-population/philippines-population/>
- <https://www.bworldonline.com/features/2019/12/18/270194/working-together-for-a-healthy-country/#:~:text=According%20to%20DoH%2C%20there%20are,units%20and%20other%20national%20government.>
- <https://www.statista.com/statistics/1122326/philippines-number-of-hospital-beds-by-region/#:~:text=As%20of%20April%202020%2C%20there,MIMAROPA%20region%20or%20Region%204B.>
- <https://www.reportlinker.com/dataset/39ed8ec91487fbb7307645c6c057ff3af3f20a7e>
- https://www.philhealth.gov.ph/about_us/statsncharts/SNC2024_1stSem_0830.pdf
- https://www.philhealth.gov.ph/circulars/2015/annexes/circ012_2015/Annex2_ListofProcedureCaseRatesRevision2.pdf

Country/Region: Singapore

1. Statistics

	2021	2022	2023	2024
Population (thousand)	5,453.6	5,637.0	5,917.6	6,036.9
Hospitals	29	29	30	31
Beds	32,928	34,395	35,689	37,167
Physicians	15,423	16,009	16,753	17,582
Nurses	43,005	43,772	46,344	50,389
GDP (US\$, billions)				
Total expenditure on health as % GDP	18.4%	18.8%	16.8%	16.8%
Government expenditure on health as %	2.8%	2.4%	2.5%	2.4%
Insured citizens (%)				
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	957	1,071	1,012	1,034
New implants	616	657	624	765
Replacements	169	223	209	269
Single-chamber	147	132	133	150
Dual-chamber	641	759	735	839
Leadless				45
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Branch Pacing				
Sick Sinus Syndrome	361	430	401	398
AV Block	287	293	312	286
Implanting Centers	6	6	6	7
Implanting Physicians	Approx. 25	Approx. 26	Approx. 31	Approx. 30
National Registry	Yes	Yes	Yes	Yes
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	172	191	166	142
CRT-P	39	34	29	19
CRT-P new implants	9	10	8	9
CRT-P replacements / upgrade	28	22	19	10
CRT-D	133	157	137	123
CRT-D new implants	65	78	54	60
CRT-D replacements / upgrade	59	69	71	63
Ischemic	63	98	100	82
Non-ischemic	70	56	51	35
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers	6	6	6	7
Implanting Physicians	Approx. 22	Approx. 24	Approx. 23	Approx. 27
National Registry	Yes	Yes	Yes	Yes

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	363	365	304	335
ICD new implants	225	210	189	224
ICD replacements	100	105	72	111
Single-chamber	276	261	222	243
Dual-chamber	63	71	56	72
Subcutaneous				20
Primary prevention	229	224	184	204
Secondary prevention	132	141	119	131
Implanting Centers	6	6	6	7
Implanting Physicians	Approx. 24	Approx. 22	Approx. 27	Approx. 28
National Registry	Yes	Yes	Yes	Yes

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	49	67	74	75
Hospitals performed lead extraction	Approx. 5	Approx. 4	Approx. 5	Approx. 3
Cardiologists performing lead extraction	Approx. 17	Approx. 15	Approx. 17	Approx. 15
Surgeons performing lead extraction	Approx. 2	Approx. 2	Approx. 2	Approx. 2
National Registry	Yes	Yes	Yes	Yes

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	877	874	785	1064
SVT ablation procedures				
AVNRT	205	209	166	N/A
AVRT/WPW	129	100	92	N/A
AFL (RA isthmus dependent)	183	192	161	N/A
AT	47	51	33	N/A
VT/VPC	108	95	89	N/A
Idiopathic				
Structural				
AF ablation procedures	182	201	226	N/A
Ablation centers	3	3	3	3
AF ablation centers	2	2	2	2
Structural VT ablation centers	2	2	2	2
Ablation physicians	Approx. 20	Approx. 19	Approx. 19	Approx. 19
AF ablation physicians				
Structural VT ablation physicians				
National Registry	Yes	Yes	Yes	Yes

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

The source of information is contributed by the public hospitals i.e. Changi General Hospital, Khoo Teck Puat Hospital, National Heart Centre Singapore, Ng Teng Fong General Hospital, National University Heart Centre Singapore, Tan Tock Seng Hospital and Woodlands Health.

Country/Region: South Korea

1. Statistics

	2021	2022	2023	2024
Population (thousand)	51680	51565	51542	51681
Hospitals	40862	41906	42587	1790
Beds (per 100,000 population)	1398	1400	1410	-
Physicians (per 1,000 population)	2.1	2.1	2.1	2.6
Nurses (per 1,000 population)	4.7	5.0	4.9	5.52
GDP (US\$, billions)	2080.1	2161.7	2236.3	1869.7
Total expenditure on health as % GDP	9.3%	9.7%	8.5%	8.4%
Government expenditure on health as %	5.9%	6.1%	5.12%	5.01%
Insured citizens (%)	100	100	100	100
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	5153	8165	9116	8410
New implants	3805	6367	7097	6589
Replacements	951	1798	2019	1821
Single-chamber	834	1012	1291	730
Dual-chamber	3500	5355	5806	5375
Leadless				484
Conduction System Pacing				1975
Left Bundle Branch Pacing				1961
His Bundle Branch Pacing				14
Sick Sinus Syndrome	2040	3415	3502	3101
AV Block	2519	4510	4401	3488
Implanting Centers	60			
Implanting Physicians	114		273	
National Registry	Yes	Yes	Yes	
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	409	502	568	448
CRT-P	61	74	76	70
CRT-P new implants	31	37	39	39
CRT-P replacements / upgrade	31	37	37	31
CRT-D	290	428	492	378
CRT-D new implants	211	291	294	235
CRT-D replacements / upgrade	81	137	198	143
Ischemic	76	130	129	57
Non-ischemic	261	372	439	217
Conduction System Pacing				96
Left Bundle Branch Pacing				95
His Bundle Pacing				1
Implanting Centers	51			
Implanting Physicians	90		98	
National Registry	Yes	Yes	Yes	

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	1135	1685	1841	1692
ICD new implants	868	1422	1563	1387
ICD replacements	122	263	278	305
Single-chamber	426	821	702	614
Dual-chamber	450	601	868	635
Subcutaneous				138
Primary prevention	475	705	722	552
Secondary prevention	499	932	950	835
Implanting Centers	59			
Implanting Physicians	110		124	
National Registry	Yes	Yes	Yes	

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	135	150	155	160
Hospitals performed lead extraction	24			
Cardiologists performing lead extraction	74			
Surgeons performing lead extraction	32			
National Registry			Yes	

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	11554	10453	13548	14422
SVT ablation procedures	5124	4162	4856	4732
AVNRT	1915	1909	2002	1973
AVRT/WPW	1171	1124	1235	1129
AFL (RA isthmus dependent)	1233	882	1212	1132
AT	386	259	407	498
VT/VPC	615	533	784	563
Idiopathic	420	400	643	453
Structural	115	133	141	110
AF ablation procedures	5796	6991	7908	9127
Ablation centers				
AF ablation centers	53	45	58	68
Structural VT ablation centers	18	15	19	47
Ablation physicians				
AF ablation physicians	98	87	117	130
Structural VT ablation physicians	85	78	89	106
National Registry	Yes	Yes	Yes	Yes

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input checked="" type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	95	95	95	95
Insurance				
Public Insurance				
Private Insurance				
Individual	5	5	5	5

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

8. Source

- Ministry of Health and Welfare <https://www.mohw.go.kr/>
- Statistics Korea <https://kostat.go.kr/>
- Korean Statistical Information Service <https://kosis.kr/>
- Organization for Economic Co-operation and Development <https://www.oecd.org/>

Country/Region: Sri Lanka

1. Statistics

	2021	2022	2023	2024
Population (thousand)	21967	21919	21919	22120
Hospitals	696	696	696	696
Beds		87280	87280	87280
Physicians	19900	21100	22600	23450
Nurses		45300	48200	49500
GDP (US\$, billions)	285	75.3	84.4	98.9
Total expenditure on health as % GDP		5.63%	4.07%	4.36%
Government expenditure on health (US\$)			1.34 billion	1.338 billion
Insured citizens (%)			1%	13%
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	1954	1501	2047	1917
New implants	1657	1205	1711	1751
Replacements	297	296	295	166
Single-chamber	996	872	1159	1377
Dual-chamber	561	840	584	540
Leadless		0	0	0
Conduction System Pacing		0	3	0
Left Bundle Branch Pacing		0	0	0
His Bundle Branch Pacing		0	3	0
Sick Sinus Syndrome	980	541	739	963
AV Block	974	960	1270	654
Implanting Centers	14	15	12	18
Implanting Physicians	11	10	10	12
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	35	71	27	49
CRT-P	25	57	24	40
CRT-P new implants	22	50	20	34
CRT-P replacements / upgrade	3	7	4	6
CRT-D	10	14	7	6
CRT-D new implants	9	10	5	5
CRT-D replacements / upgrade	1	4	2	4
Ischemic	13			
Non-ischemic	22			
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing			3	
Implanting Centers	7	9	9	7
Implanting Physicians	9	9	8	8
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	285	169	185	214
ICD new implants	260	146	166	188
ICD replacements	25	23	17	26
Single-chamber	270	93	153	182
Dual-chamber	15	53	32	32
Subcutaneous				
Primary prevention	143			
Secondary prevention	142			
Implanting Centers	9	9	9	7
Implanting Physicians	9	9	8	8
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	6	5	6	11
Hospitals performed lead extraction	3	3	2	7
Cardiologists performing lead extraction				
Surgeons performing lead extraction	6	8	6	4
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	478	681	650	501
SVT ablation procedures	349	360	381	287
AVNRT	226	251	307	178
AVRT/WPW	123	109	63	98
AFL (RA isthmus dependent)		2	11	5
AT	3	3	0	6
VT/VPC		315	269	214
Idiopathic	129	315	269	203
Structural				11
AF ablation procedures				
Ablation centers	5	5	5	5
AF ablation centers				
Structural VT ablation centers				
Ablation physicians	9	8	8	8
AF ablation physicians				
Structural VT ablation physicians				
National Registry				

7. Management

National certification for physicians	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
National accreditation for centers	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input checked="" type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	91	16	55	54
Insurance				
Public Insurance				20
Private Insurance				18
Individual	9		45	8

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Taiwan

1. Statistics

	2021	2022	2023	2024
Population (thousand)	23,195	23,265	23,413	23,328
Hospitals	473	475	471	463
Beds	138,442	139,441	171,717	170,659
Physicians	52,175	53,063	54,016	55,230
Nurses	183,253	185,778	187,725	192,146
GDP (US\$, billions)	668,321	653,836	641,377	686,938
Total expenditure on health as % GDP				
Government expenditure on health (US\$)				
Insured citizens (%)	99	99	99	99
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	7038	7283	7510	7971
New implants	5711	5785	5844	6249
Replacements	1327	1498	1664	1719
Single-chamber	1401	1272	1350	1272
Dual-chamber	5637	6011	4813	6699
Leadless	147	202	316	359
Conduction System Pacing		495	1387	2282
Left Bundle Branch Pacing		493	1837	2275
His Bundle Branch Pacing		2	2	7
Sick Sinus Syndrome	3518	4378	4088	4384
AV Block	2980	2905	3143	3587
Implanting Centers	292	228	223	255
Implanting Physicians	946	643	655	712
National Registry	Y	Y	Y	Y
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	321	335	353	314
CRT-P	240	240	252	218
CRT-P new implants	122	112	120	97
CRT-P replacements / upgrade	118	128	132	121
CRT-D	81	95	102	79
CRT-D new implants	34	44	39	39
CRT-D replacements / upgrade	47	51	63	40
Ischemic	140	109	112	110
Non-ischemic	181	201	229	203
Conduction System Pacing	-	2	63	1
Left Bundle Branch Pacing	-	2	60	1
His Bundle Pacing	-	-	1	0
Implanting Centers	98	84	63	70
Implanting Physicians	178	200	105	131
National Registry	Y	Y	Y	Y

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	812	861	839	870
ICD new implants	592	682	690	663
ICD replacements	220	179	149	207
Single-chamber	277	327	259	277
Dual-chamber	535	534	580	592
Subcutaneous			-	1
Primary prevention	13	7	9	8
Secondary prevention	799	854	788	862
Implanting Centers	190	121	112	121
Implanting Physicians	294	262	244	299
National Registry	Y	Y	Y	Y

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	35	33	27	32
Hospitals performed lead extraction	12	9	8	8
Cardiologists performing lead extraction	26	19	12	13
Surgeons performing lead extraction	9	9	6	2
National Registry	Y	Y	Y	Y

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures	5254	6274	6611	7,029
SVT ablation procedures	2473	3263	3088	3,465
AVNRT	1401	1558	1693	1,742
AVRT/WPW	593	679	689	635
AFL (RA isthmus dependent)	691	758	760	870
AT	226	224	200	222
VT/VPC	1013	1048	1232	1,022
Idiopathic	755	532	652	765
Structural	119	90	134	222
AF ablation procedures	1282	1659	2107	2,528
Ablation centers	18	38	39	40
AF ablation centers	16	31	36	35
Structural VT ablation centers	7	15	36	23
Ablation physicians	60	109	132	126
AF ablation physicians	69	100	120	114
Structural VT ablation physicians	60	54	110	91
National Registry				

7. Management

National certification for physicians	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input type="checkbox"/> National	<input type="checkbox"/> U.S.	<input type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

- Taiwan Heart Rhythm Society

Country/Region: Thailand

1. Statistics

	2021	2022	2023	2024
Population (thousand)	65213	66090	71801	
Hospitals	1344	1367		
Beds (per 100,000 population)	229	229		
Physicians	1:1680	1:1680		
Nurses	1:353	1:353		
GDP (US\$, billions)	505	495		
Total expenditure on health as % GDP				
Government expenditure on health (US\$)				
Insured citizens (%)	99.3	99.87	99	
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers	3954	5192	2687	3984
New implants	2923	3963	2106	2978
Replacements	1031	1216	874	944
Single-chamber	1637	1137	559	620
Dual-chamber	2139	3886	2128	3128
Leadless	21 MICRA	30	19	
Conduction System Pacing		561	471	
Left Bundle Branch Pacing				1334
His Bundle Branch Pacing				1238
Sick Sinus Syndrome				1532
AV Block				
Implanting Centers	26	27	28	
Implanting Physicians			87	
National Registry				
SSS				
AVN				
Bi Nosal				
Others				

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs	399	539	433	608
CRT-P			75	102
CRT-P new implants	50	50	26	
CRT-P replacements / upgrade	36	52	49	
CRT-D			358	387
CRT-D new implants	233	321	214	352
CRT-D replacements / upgrade	80	110	144	
Ischemic				
Non-ischemic				
Conduction System Pacing		6		
Left Bundle Branch Pacing				111
His Bundle Pacing				
Implanting Centers	26	27		
Implanting Physicians				
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs	890	1313	744	1014
ICD new implants	752	1120	633	835
ICD replacements	138	193	111	179
Single-chamber	669	405	549	625
Dual-chamber	205	151	183	266
Subcutaneous	7	9	12	4
Primary prevention				358
Secondary prevention				431
Implanting Centers		26	27	
Implanting Physicians				
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures	68	62	62	39
Hospitals performed lead extraction	13	13		
Cardiologists performing lead extraction	68	62		
Surgeons performing lead extraction		0		
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures				4703
SVT ablation procedures				2866
AVNRT	897	1173	1173	1528
AVRT/WPW	476	554	505	703
AFL (RA isthmus dependent)	188	256		410
AT	148	125		216
VT/VPC			607	1065
Idiopathic	435	591	544	1046
Structural	26	53	63	
AF ablation procedures	187RF + 16Cryo	264 RF 31 Cryo	295	711
Ablation centers		27 (government)		
AF ablation centers	12	15		
Structural VT ablation centers	12	12		
Ablation physicians				
AF ablation physicians				
Structural VT ablation physicians				
National Registry				

7. Management

National certification for physicians	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
National accreditation for centers	<input type="checkbox"/> PM	<input type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input type="checkbox"/> Ablation
Guidelines followed	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input checked="" type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government	100% except MICRA (20%)	100% Except sICD (20%)	100%	100% except Cryo (30%)
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

Country/Region: Vietnam

1. Statistics

	2021	2022	2023	2024
Population (thousand)			98858	101113
Hospitals			NA	1665
Beds			NA	343.800
Physicians			NA	126,400
Nurses			NA	NA
GDP (US\$, billions)			433.3	476.4
Total expenditure on health as % GDP			5.1	4.59
Government expenditure on health (US\$)			NA	8.21 (billion)
Insured citizens (%)			93.3	94.2
SCD patients				
Heart failure patients				
AF patients				

2. Pacemaker

	2021	2022	2023	2024
Total Pacemakers			4105	5285
New implants				
Replacements				
Single-chamber			1059	1210
Dual-chamber			3046	4075
Leadless				
Conduction System Pacing			353	340
Left Bundle Branch Pacing				340
His Bundle Branch Pacing				0
Sick Sinus Syndrome				
AV Block				
Implanting Centers			50	55
Implanting Physicians			140	150
National Registry				
SSS				
AVN				
Bi Nosal				

Others				
--------	--	--	--	--

3. Cardiac Resynchronization Therapy

	2021	2022	2023	2024
Total CRTs			110	141
CRT-P			64	69
CRT-P new implants				
CRT-P replacements / upgrade				
CRT-D			46	72
CRT-D new implants				
CRT-D replacements / upgrade				
Ischemic				
Non-ischemic				
Conduction System Pacing				
Left Bundle Branch Pacing				
His Bundle Pacing				
Implanting Centers			15	15
Implanting Physicians			32	32
National Registry				

4. Implantable Cardioverter Defibrillator

	2021	2022	2023	2024
Total ICDs			250	381
ICD new implants				
ICD replacements				
Single-chamber			225	339
Dual-chamber			25	42
Subcutaneous				
Primary prevention				
Secondary prevention				
Implanting Centers			19	20
Implanting Physicians			41	42
National Registry				

5. Lead Extraction

	2021	2022	2023	2024
Total lead extraction procedures			3	5
Hospitals performed lead extraction			2	2
Cardiologists performing lead extraction			2	2
Surgeons performing lead extraction			1	2
National Registry				

6. Interventional Electrophysiology

	2021	2022	2023	2024
Ablation Procedures			5211	6509
SVT ablation procedures				3555
AVNRT			1646	1984
AVRT/WPW			947	1114
AFL (RA isthmus dependent)			103	211
AT			195	246
VT/VPC			2103	2459
Idiopathic				2450
Structural				9
AF ablation procedures			217	495
Ablation centers			23	23
AF ablation centers			8	8
Structural VT ablation centers			5	5
Ablation physicians			50	55
AF ablation physicians			18	20
Structural VT ablation physicians			10	12
National Registry				

7. Management

National certification for physicians	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
National accreditation for centers	<input checked="" type="checkbox"/> PM	<input checked="" type="checkbox"/> CRT	<input checked="" type="checkbox"/> ICD	<input checked="" type="checkbox"/> Ablation
Guidelines followed	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> U.S.	<input checked="" type="checkbox"/> Europe	<input type="checkbox"/> AP

Payment (%)	PM	ICD	CRT	Ablation
Government				
Insurance				
Public Insurance				
Private Insurance				
Individual				

Obstacles to guideline implementation (1 = no obstacle, 5 = great obstacle)

	1	2	3	4	5
Lack of centers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of reimbursement, limited financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lack of referral	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of trained personnel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low awareness of guidelines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of operators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Source

- Linh Pham Tran MD, Long Vien Hoang MD, Minh Ton That MD