national health authority

सत्यमेव जयते

Working Paper - 014

Trends in Cardiac Care utilisation under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY)

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Abstract

The present paper is an attempt to understand key trends in the utilization of cardiac care packages. Analysis shows cardiac claim accounts for 5% of total claim volume and 26% of total claim value. PTCA- Single stent (medicated, inclusive of diagnostic angiogram) package accounts for the highest utilization in terms of volume as well as value. Noticeably, males account for higher percentage (70%) contribution in cardiac care utilization. Among hospitals, private hospitals account for 79% utilization of total cardiac care. Among all States/UTs, Tamil Nadu has the highest number of hospitals empanelled with cardiac care and Gujarat corresponds to the highest utilization of cardiac packages. In terms of portability facility provided in PM-JAY, Madhya Pradesh is able to utilize higher number of cardiac care outside Madhya Pradesh. e.

Keywords: Cardiac Care, Cardiology, Cardiovascular diseases.

Introduction

Over the past decade, Cardiovascular diseases (CVD) have become the leading cause of global deaths, accounting for more than 18 million deaths per year or roughly one-third of the total deaths worldwide and contributing to 10% of the global disease burden (as measured by disability-adjusted life years (DALYs) in 2017 [1].

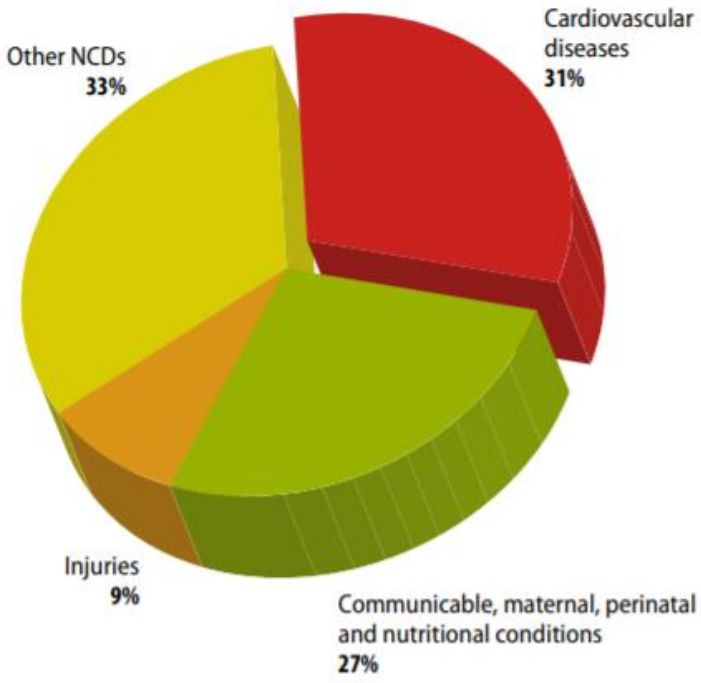


Figure 1 Mortality across the world due to CVD

Looking at the Indian experience, there has been a steady epidemiological transition from communicable diseases to non-communicable diseases. Between 1990 and 2017, non-communicable disease burden has increased by 62% from 166 million to 269 million cases and deaths due to cardiovascular diseases increased by 90% for the same period, with more than half of these deaths being premature i.e. in population less than 70 years of age [2]. In 2017, CVDs contributed to 26% of the total deaths and 14% of the total disease burden (DALYs) in India [2].

This is quite concerning, since CVDs not only have an impact on the health of the affected person but could potentially entrench the entire family below the poverty line due to various reasons, including:

- Loss of productivity due to illness and premature mortality
- Expenditure on health creating opportunity costs for other priorities such as education
- Effect of household poverty on the education of children

A great number of CVDs is preventable by warning the people about the behavioural risk factors such as heavy smoking, unhealthy food diet, excessive obesity, physical inactivity and consuming of alcohol [3]. In most developing countries, the burden of CVDs and prevalence of risk factors such as tobacco consumption is seen to be directly correlated, and since these factors are highest among poorest segments of the population, CVDs contribute to a significant percentage of catastrophic health expenditure worsening the poverty and debt situation of these households [4].

As per the Lancet Global Burden of Diseases report, published in 2018, the prevalence of cardiovascular diseases was highest in Kerala, Punjab, and Tamil Nadu followed by Andhra Pradesh, Himachal Pradesh, Maharashtra, Goa, and West Bengal in year 2016 as shown in the figure 2.

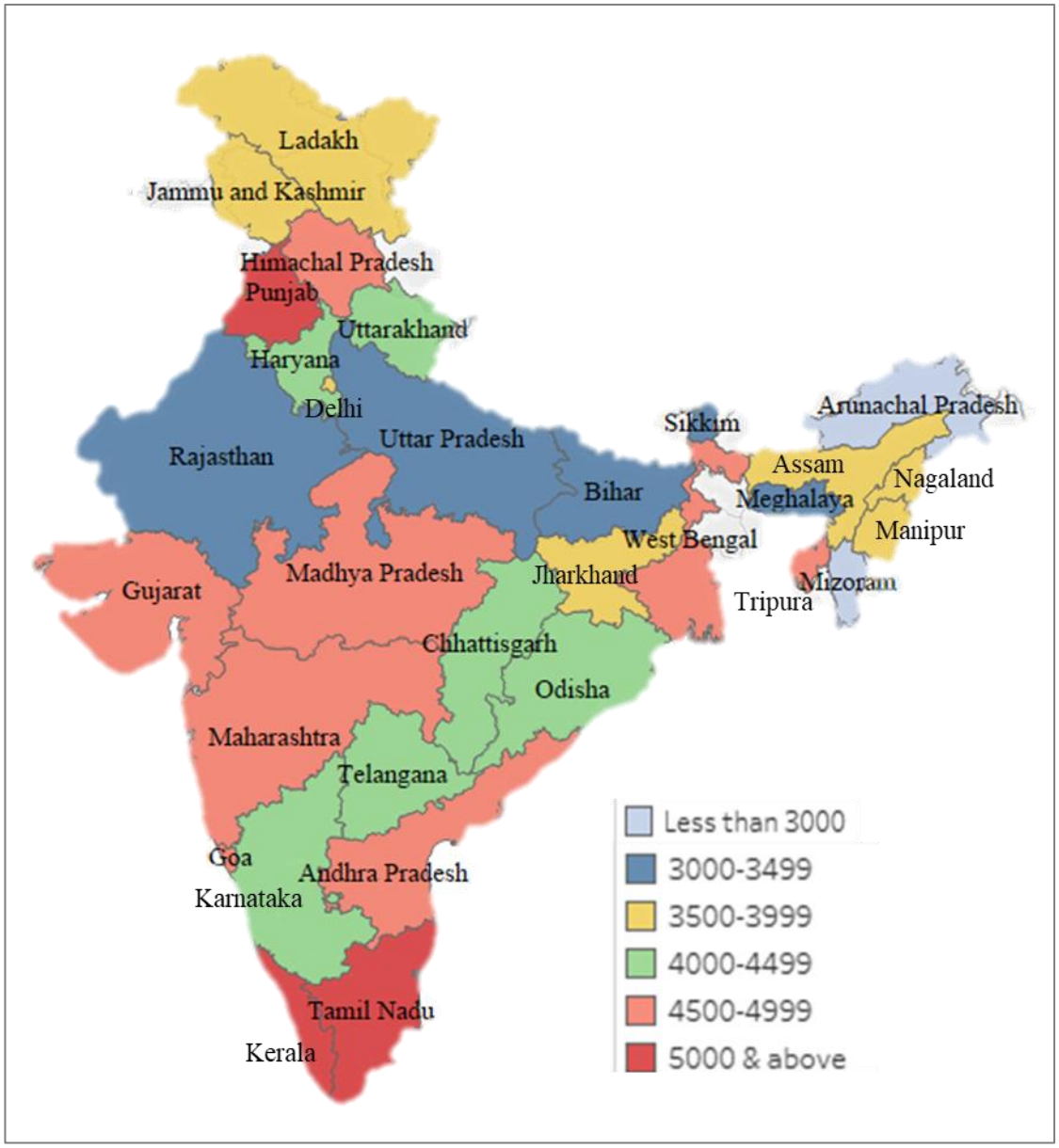


Figure 2: Crude prevalence of cardiovascular diseases in India (state-wise), 2016

National programme for Cardiovascular Diseases

The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) was launched in 2010, in order to prevent and control major non-communicable diseases (NCDs) such as Cancer, Diabetes and CVDs. The focus of the programme is on health promotion, early diagnosis, management and referral of cases, besides strengthening the infrastructure and capacity building. As a part of the programme, NCD clinics at district and CHC level, Cardiac Care Unit and Day Care Centres at district level have been established in all States/UTs [5].

However only 0.30% of cases were detected with cardiovascular disease and 10% diagnosed with stroke of the 65 million patients who attended NCD clinics, during year 2018 [6]. This indicates that only a small percentage of those at risk of cardiac disease were being detected.

Under PM-JAY, a total benefit coverage of INR 5,00,000 per year is provided to India's poorest and most vulnerable population covering hospitalization expenses for secondary and tertiary procedures at both public and private empanelled hospitals. The scheme is a significant enhancement over the erstwhile RSBY scheme which provided coverage of only Rs 30,000 to BPL families (and hence no tertiary care) and portability was limited.

Currently, PM-JAY covers approximately 130 treatment packages of cardiac care that include cardiology and cardiothoracic and vascular surgery (CTVS) speciality. It covers all expenses such as diagnostics, medicines, implants and follow-up consultation. It also covers 3 days of pre-hospitalization and 15 days of post-hospitalization expenses with no restrictions on family size, age or gender.

Methodology and Data

For the purpose of this study, all cardiac claims (cardiac refers to those covered under the cardiology and CTVS speciality) under PM-JAY from all implementing states/UTs have been considered from the period since the scheme was rolled out in the States/UTs till 1st March 2020. Due to phased launch across states, data for Karnataka is considered for 15 months, for Kerala 11 months, for Punjab 7 months and for other states data is considered for 17 months.

It is to be noted that independent coronary angiography (CAG) packages that exist in Gujarat, Uttar Pradesh and Kerala are not considered for the analysis. CAG is included in the PTCA package (Percutaneous transluminal coronary angioplasty) in other States/UTs hence considering it as a separate package will have an impact on the overall analysis.

Findings

The key trends from the analysis is given below and provides important insights for enhancing the implementation of the scheme.

1. Claim volume vs claim value across India

For the period analyzed, out of the total claims submitted, 5%are for cardiac care accounting for nearly 4.8 lakhs. However, this meager percentage of 5% volume translates into 26% of the total financial outgo of the scheme as shown in the figure 3. This is indicative of the high average cost of cardiac care, translating to approximately ₹ 69,000 per claim against national average of ₹ 11,000 per claim.

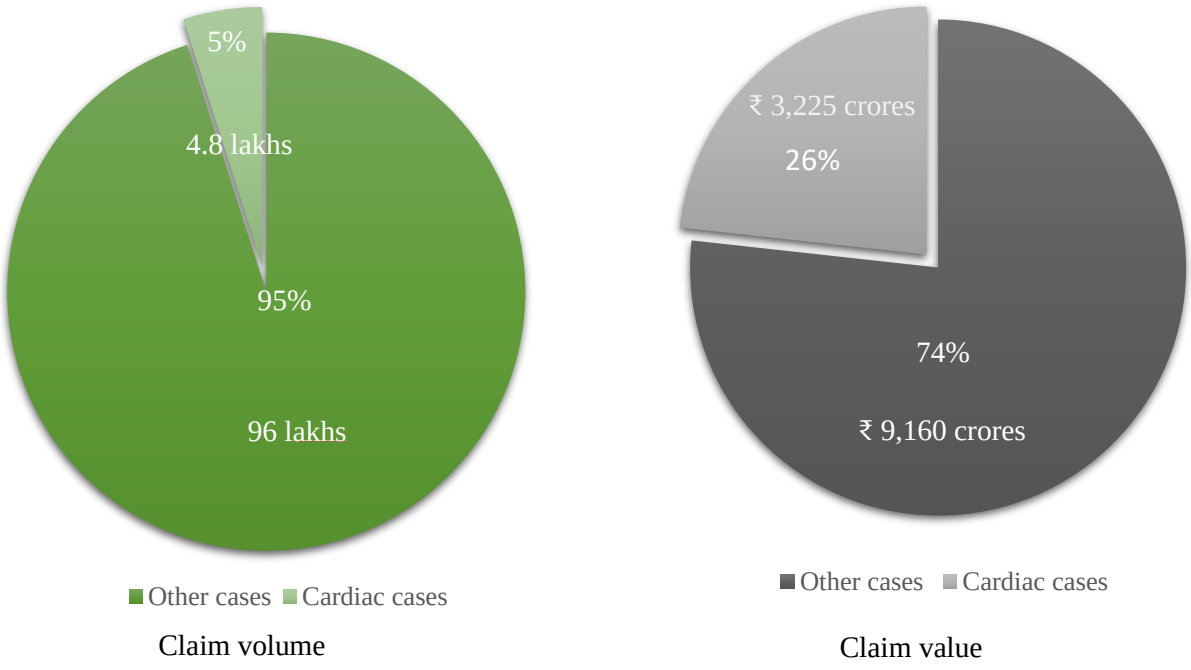


Figure 3: Claim volume vs claim value across India

It could be assumed that in the absence of PM-JAY in some states without pre-existing tertiary care state scheme, these expenses would be borne by the poor families themselves, given the limited coverage of RSBY, and translated to catastrophic expenditure for these families resulting in extreme financial hardship and difficulty. PM-JAY has helped to make high-end cardiac care attainable for the poor and vulnerable population of India.

2. Top Cardiac Packages under PM-JAY

Of the total 130 cardiac packages covered under PM-JAY, top 5 cardiac packages accounted for 70% of total utilisation of cardiac claims. Amongst the highest utilised cardiac packages, PTCA- Single stent (medicated, inclusive of diagnostic angiogram) accounted for the highest utilization followed by PTCA- Double stent. CAG (Coronary Angiography) which is an independent package in Gujarat, Kerala and Uttar Pradesh is not considered for analysis. Top cardiac packages along with their claim volume and value (in percentage) are shown in figure 4.

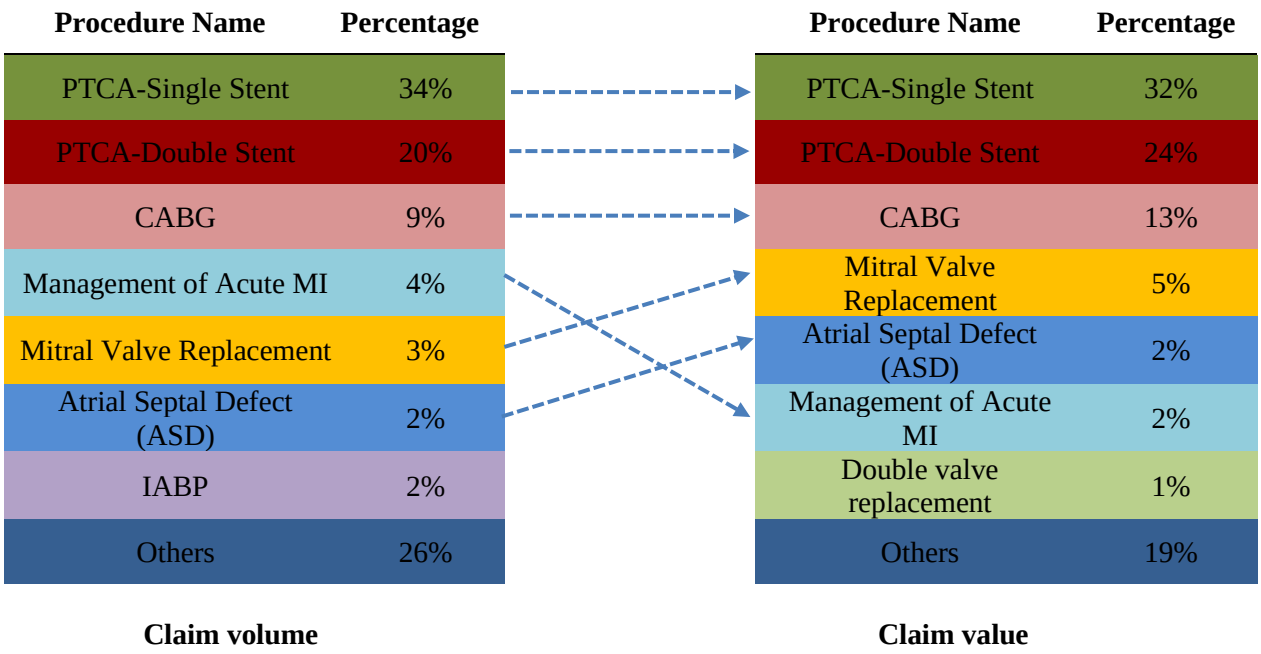


Figure 4: Top cardiac packages

Age-wise utilization of top cardiac packages is shown in the figure 5(a) and figure 5(b). It is observed that packages like PTCA-Single Stent, PTCA-Double Stent, and CABG are highly utilized among the age group above 30 years.

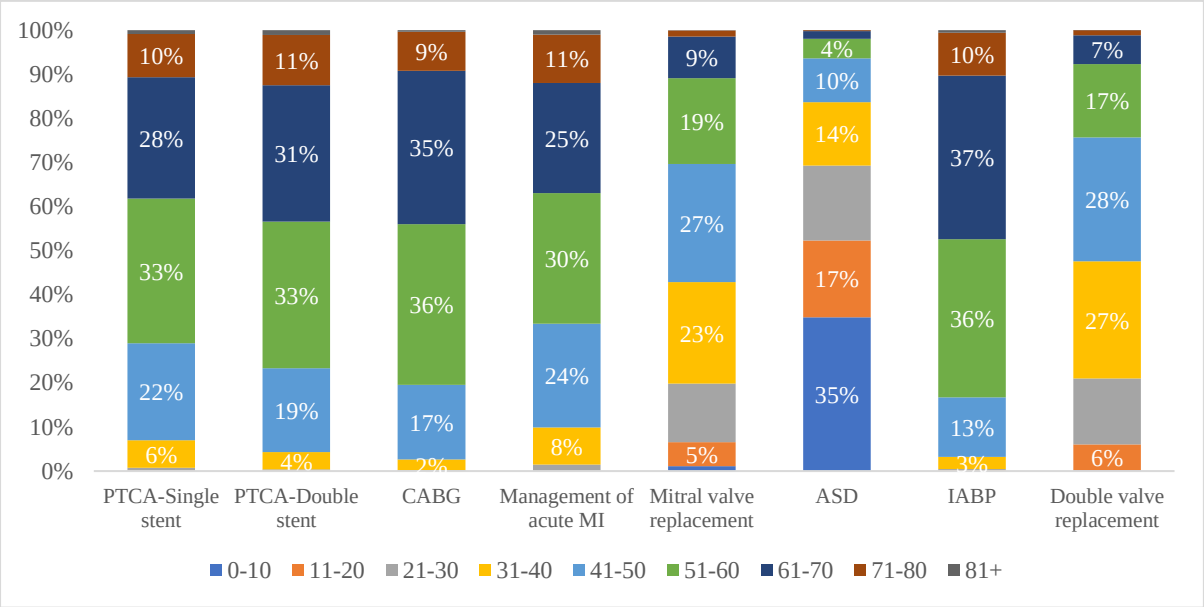


Figure 5: Age-wise utilization of top cardiac packages

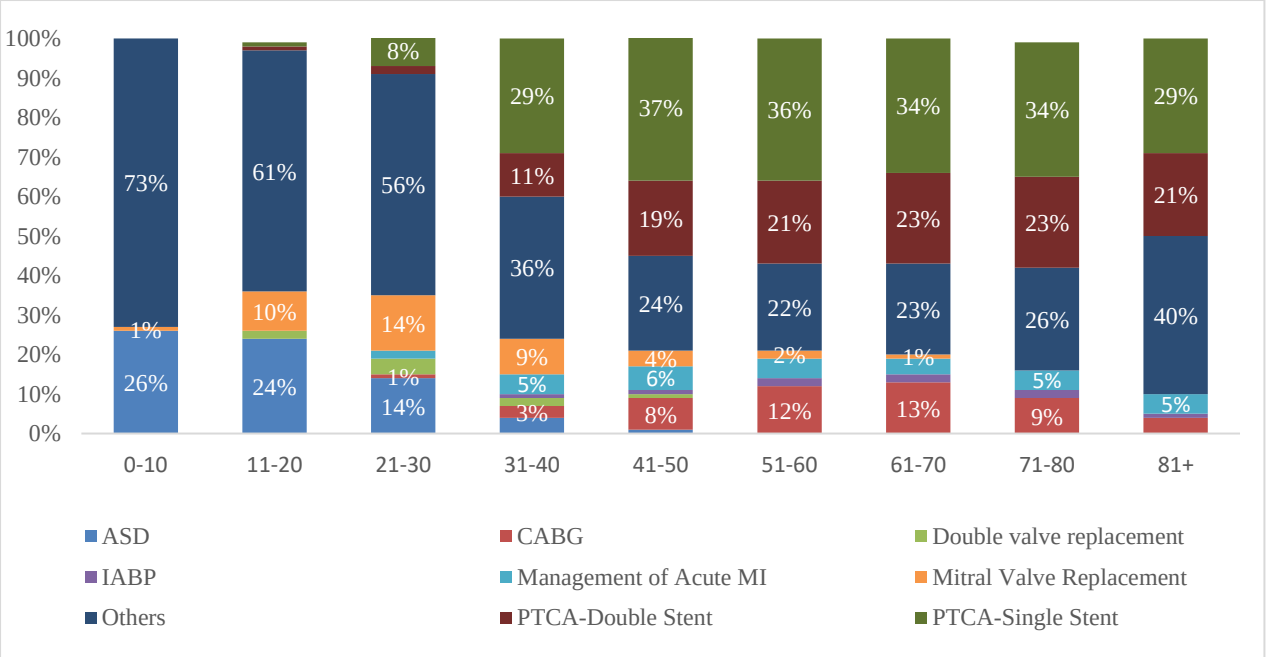


Figure 5(b): Age-wise utilization of top cardiac packages

3. State-Wise Utilisation

Looking at the utilization trend of cardiac care packages, it is observed that Gujarat has the highest utilization of cardiac packages in terms of claim volume as well as in claim value. Top 5 states in terms of monthly average cardiac volume are Gujarat (8,240), Maharashtra (6,295), Tamil Nadu (3,611), Andhra Pradesh (3,508) and Karnataka (3,459). The findings of the 2017 Global burden of disease data list out high cardiac disease prevalence in these states (over 15% disease burden in these states was accounted for by cardiac disease). Likely reasons for the high consumption of cardiac care could be the high awareness among beneficiaries regarding cardiac diseases and availability of empanelled high-quality cardiac care facilities due to pre-existing mature state health insurance schemes. More on-ground research is needed to substantiate the above.

We are computing the normalized monthly metrics (cardiac claim volume per 1 lakh beneficiaries per month) to get a better understanding of cardiac care utilization. It is interesting to observe that monthly average cardiac volume for states like Haryana, Himachal Pradesh and Uttarakhand is lesser than Uttar Pradesh and Madhya Pradesh while cardiac claim volume per 1 lakh beneficiaries per month for these states is higher than Uttar Pradesh and Madhya Pradesh.

S.NO	Patient State	Cardiac claim volume	Monthly average cardiac claim volume	Cardiac claim volume per 1 lakh beneficiaries	Cardiac claim volume per 1 lakh beneficiaries per month
1	Gujarat	1,40,088	8,240	400	23.5
2	Maharashtra	1,07,011	6,295	256	15.1
3	Karnataka	51,890	3,459	90	6.0
4	Kerala	13,499	1,227	66	6.0
5	Andhra Pradesh	59,638	3,508	85	5.0
6	Punjab	3,247	464	34	4.8
7	Tamil Nadu	61,394	3,611	78	4.6
8	Himachal Pradesh	1,827	107	70	4.1
9	Haryana	3,854	227	56	3.3
10	Uttarakhand	2,744	161	27	1.6
11	Madhya Pradesh	10,389	611	21	1.2
12	Jammu and Kashmir	603	40	18	1.2
13	Chhattisgarh	3,137	185	15	0.9
14	Sikkim	6	2	3	0.8
15	Uttar Pradesh	4,733	278	14	0.8
16	Dadra and Nagar Haveli	426	28	10	0.7
17	Manipur	152	9	9	0.6

18	Jharkhand	1,878	110	7	0.4
19	Puducherry	42	6	2	0.3
20	Assam	710	42	5	0.3
21	Chandigarh	89	6	4	0.3
22	Tripura	98	6	3	0.2
23	Arunachal Pradesh	10	1	2	0.2
24	Meghalaya	107	9	2	0.2
25	Bihar	1,433	84	3	0.2
26	Mizoram	40	3	1	0.1
27	Nagaland	27	3	1	0.1
28	Daman and Diu	209	14	1	0.04
	Grand Total	4,69,282			

Table 1: State-wise cardiac cases (in terms of volume)

In terms of claim value, Gujarat has the highest cardiac claim value (₹ 17.03 lakhs) per 1 lakh beneficiaries per month followed by Maharashtra (₹ 9.22 lakhs), Kerala (₹ 4.23 lakhs), Karnataka (₹ 4.23 lakhs) and Tamil Nadu (₹ 3.54 lakhs). It is observed that all north-eastern states of India show a very low cardiac claim value per 1 lakh beneficiaries per month as it ranges from ₹ 0.2 lakhs to ₹ 0.32 lakhs. State-wise cardiac claim value is shown in the table 2.

S.NO	Patient State	Cardiac claim value (in ₹ lakhs)	Monthly average cardiac claim value (in ₹ lakhs)	Cardiac claim value per 1 lakh beneficiaries (in ₹ lakhs)	Cardiac claim value per 1 lakh beneficiaries per month (in ₹ lakhs)
1	Gujarat	1,01,303	5,959.00	289.44	17.03
2	Maharashtra	65,539	3,855.24	156.78	9.22
3	Kerala	9,548	868.00	46.48	4.23
4	Karnataka	36,446	2,429.73	63.38	4.23
5	Tamil Nadu	47,292	2,781.88	60.24	3.54
6	Punjab	2,558	365.43	24.74	3.53
7	Andhra Pradesh	35,045	2,061.47	50.06	2.94
8	Haryana	2,514	147.88	37.00	2.18
9	Himachal Pradesh	857	50.41	30.54	1.80
10	Uttarakhand	1,915	112.65	19.10	1.12
11	Madhya Pradesh	8,888	522.82	17.94	1.06
12	Jammu and Kashmir	429	28.60	11.95	0.80
13	Chhattisgarh	2,451	144.18	11.78	0.69
14	Uttar Pradesh	3,482	204.82	10.24	0.60
15	Jharkhand	1,753	103.12	6.17	0.36

16	Manipur	92	5.41	5.38	0.32
17	Chandigarh	74	4.63	4.11	0.26
18	Goa	1	0.60	0.25	0.25
19	Sikkim	4	0.57	1.40	0.20
20	Puducherry	28	4.00	1.38	0.20
21	Assam	464	27.29	2.91	0.17
22	Tripura	75	4.69	2.71	0.17
23	Meghalaya	82	6.83	1.45	0.12
24	Bihar	1,138	66.94	2.02	0.12
25	Dadra And Nagar Haveli	383	25.53	1.36	0.09
26	Daman and Diu	180	12.00	0.51	0.03
27	Nagaland	13	1.30	0.25	0.03
28	Mizoram	29	1.93	0.36	0.02
29	Arunachal Pradesh	4	0.50	0.19	0.02
	Grand Total	**3,22,585**			

Table 2: State-wise cardiac claim value

Average cardiac claim value: Average claim value of ₹ 69,000 is observed for cardiac care against ₹ 11,000 for any other speciality claim per claim for any other specialty. It signifies high average cost of cardiac care. Significant disparities among top utilizing states can also be noted with respect to average cardiac claim value as it ranges from ₹ 41,597 to ₹ 94,529. One of the major reasons for states with low cardiac volume but high average cardiac claim value could be high utilization of high-end packages like PTCA (single stent), PTCA (double stent) and CABG. Jharkhand has the highest average cardiac claim value of ₹ 94,529.

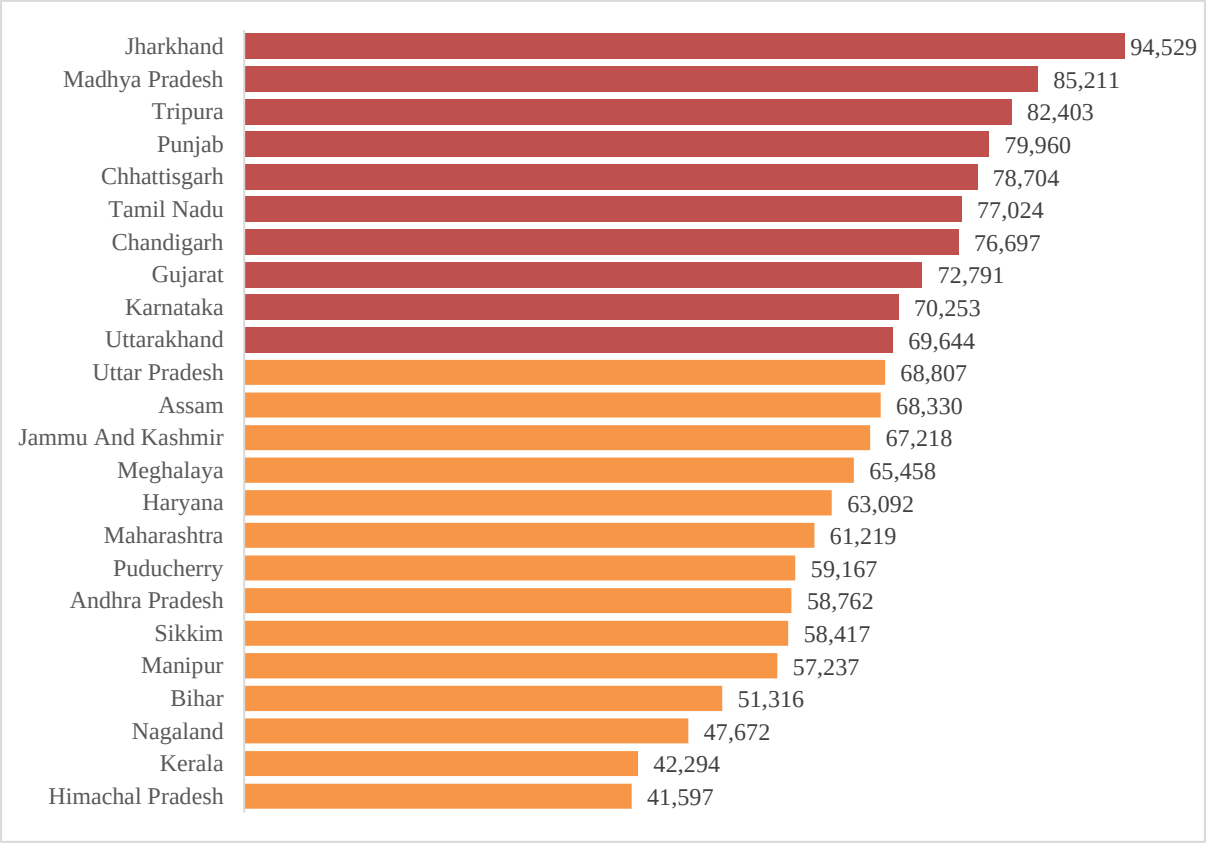


Figure 6: State-wise avarge cardiac claim value

Over-use of stents in cardiac care can be one of the factors attributing to high average claim value. It is observed that states with high average cardiac claim value have a significant utilization of stents related procedures. List of top 5 States with high average cardiac claim is shown in the table 3.

S. No	Hospital State	Average Claim Amount	Top Procedures (% share)
1	Jharkhand	₹ 94,529	PTCA (Single+ double stent) + CABG) (44%)
3	Madhya Pradesh	₹ 85,211	PTCA (Single + double stent) (43%)
2	Tripura	₹ 82,403	PTCA (Single + double stent) (47%)
3	Punjab	₹ 79,960	PTCA (Single + double stent) (73%)
4	Chhattisgarh	₹ 78,704	PTCA (Single + double stent (39%)
5	Tamil Nadu	₹ 77,204	PTCA (Single + double stent) (34%)

Table 3: Top procedure in states with high average cardiac claim

Other probable reason for variation in average cardiac claim value among states could be state-wise price variation in high-end packages. List of top utilization states with their percentage variation in PTCA packages from PMJAY price is shown in the table 4.

S. No	State	PTCA - single stent (medicated, inclusive of diagnostic angiogram)	Variation from PMJAY price	PTCA - double stent (medicated, inclusive of diagnostic angiogram)	Variation from PMJAY price
1	Chhattisgarh	75,000	15%	90,000	0%
2	Assam	72,540	12%	97,540	8%
3	Gujarat	72,000	11%	1,08,000	20%
4	Tripura	71,500	10%	99,000	10%
5	Andhra Pradesh	65,010	0%	65,010	-28%
6	Jharkhand	65,000	0%	90,000	0%
7	MP	65,000	0%	97,000	8%
8	Puducherry	65,000	0%	90,000	0%
9	Punjab	65,000	0%	90,000	0%
10	Karnataka	65,000	0%	90,000	0%
11	Uttarakhand	65,000	0%	90,000	0%
12	Haryana	65,000	0%	90,000	0%
13	Kerala	65,000	0%	96,750	8%
14	Bihar	65,000	0%	90,000	0%
15	Chandigarh	65,000	0%	90,000	0%
16	Jammu And Kashmir	65,000	0%	90,000	0%
17	Meghalaya	65,000	0%	90,000	0%
18	Tamil Nadu	63,000	-3%	90,000	0%
19	Maharashtra	60,000	-8%	90,000	0%

Table 4: State-wise price variation in PTCA procedures

4. Gender Wise Utilization of Cardiac Packages

Gender-wise profiling indicates a significant higher rate of cardiac utilization by males as compared to females.Cardiac care is gender neutral under PM-JAY, but the cardiac burden is found to be more skewed towards males than females under PM-JAY based on claims submitted pattern across States/UTs.

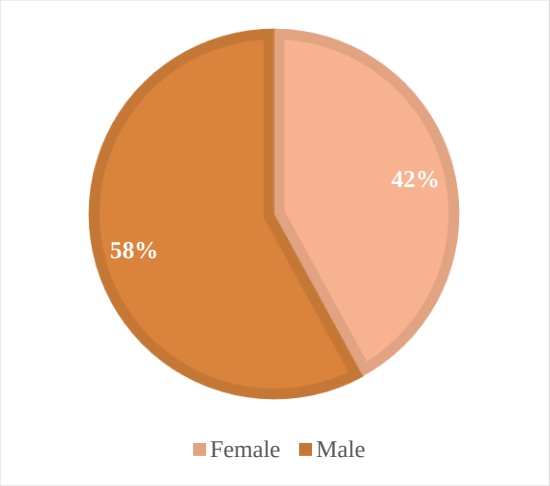


Figure 7: Gender profiling of all packages utilization (claim volume wise)

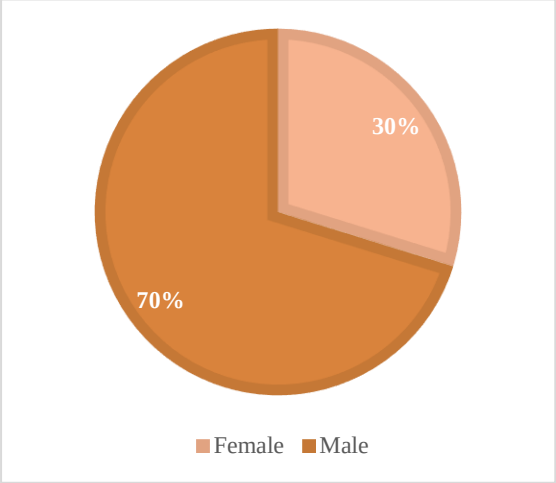


Figure 8: Gender profiling of cardiac care packages utilization (claim volume wise)

Among all package utilization, 58% of claims are from males whereas 42% of claims are from females. In contrast the share of males in cardiac care (70%) is significantly higher than that of females (30%) This is in line with earlier research which indicates that globally, cardiovascular disease develops 7 to 10 years later in women than in men [7]. The risk of heart disease in women at younger ages is somewhat lower than in men but tends to equalise post menopause as exposure to endogenous oestrogens during the fertile period of life delays the manifestation of atherosclerotic disease in women[8].

Accessibility to high quality cardiac care near the place of residence is also an important factor given that women may not be able to travel long distances for care as compared to men. Identifying and addressing barriers for women to access necessary cardiac care will be important to effectively increase their percent share in utilization of cardiac care and improve women's health. The utilization pattern of cardiac packages among males and females was similar across all the states that had a considerable utilization of cardiac care packages as shown in figure 9.

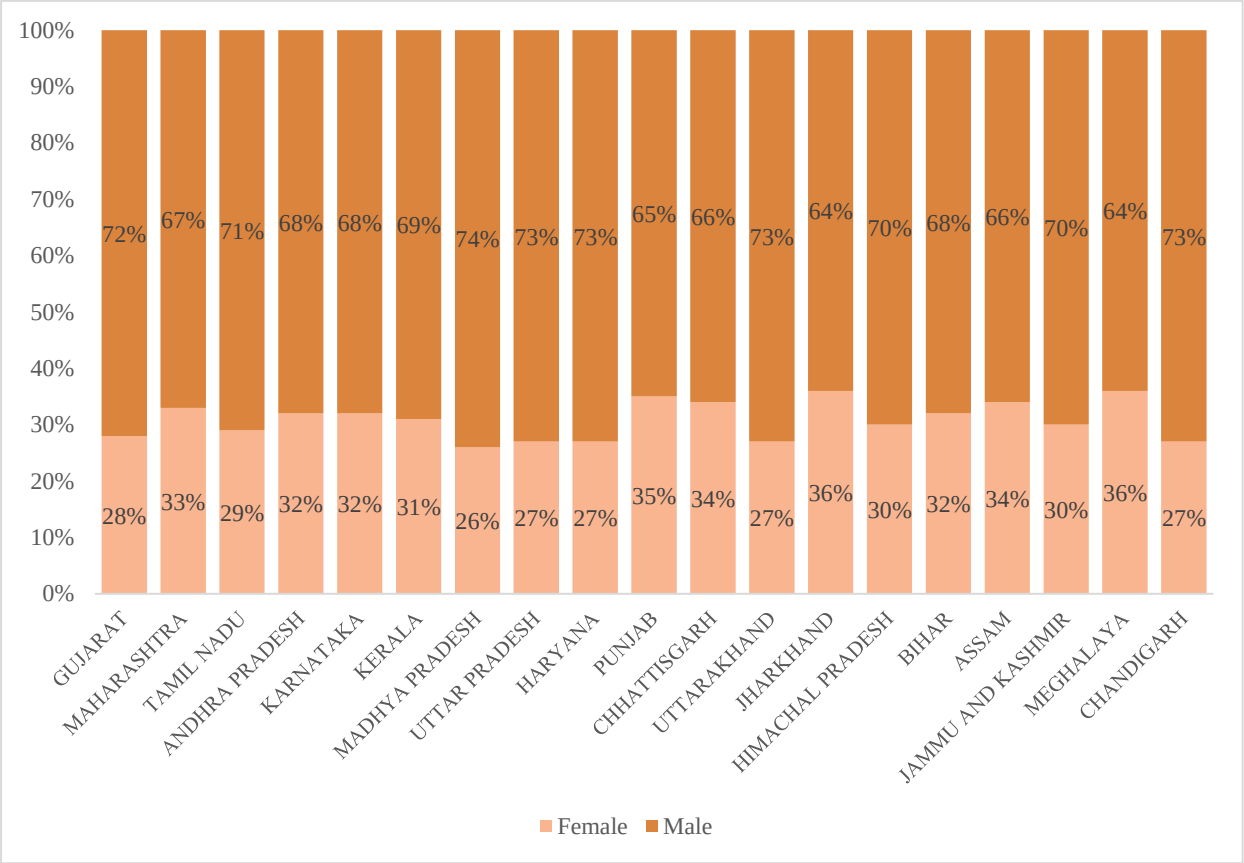


Figure 9: State-wise utilization of cardiac packages (volume wise) among males and females

The utilization of all packages among males and females is not as skewed as what is observed in the utilization of cardiac care packages. Gender differentials are more pronounced in cardiac care as compared to overall care.

5. Age-wise utilization of cardiac packages

Male-female ratio for all claims indicate male predominance in all the age group except for age-group 21-30 as shown in figure 10. The variation between genders is more skewed in cardiac claims as shown in the figure 11. Approximately 75% of the cardiac claim volume is contributed by those aged between 41-70 years and 30% from those aged between 51-60 years.

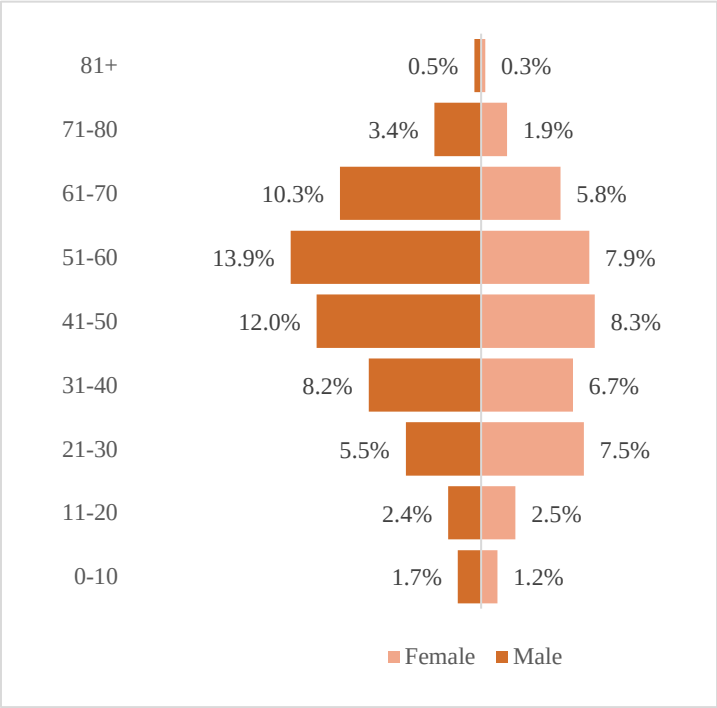


Figure 10: Age wise gender profiling of all claim volume

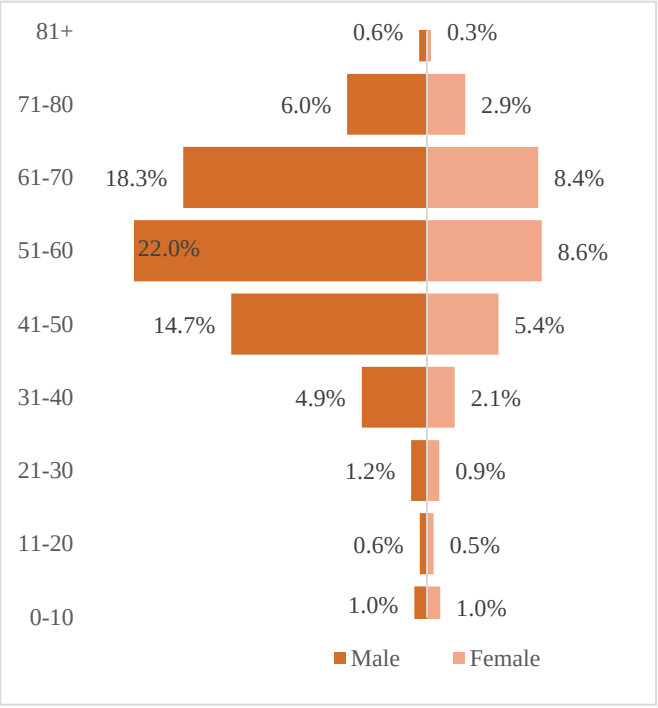


Figure 11: Age wise gender profiling of cardiac claim volume

Triangulating the gender and age-wise profiling of cardiac claims, it is observed that cardiac care utilisation is equal across both genders in younger age groups. However, as age increases and utilization of cardiac care packages increases, the share of females seeking cardiac care reduces. It is to be noted that the most productive age group is involved and hence it is a critical condition to intervene and provide care as it can otherwise lead to collateral economic damage to the country.

6. Supply side of cardiac care

Looking at all facilities, patient availed treatment across 12,044 empanelled hospitals for the period considered for the analysis (from inception of the scheme till 1st March 2020). This number may vary with the current number of total empanelled hospitals. Out of these total hospitals only 1,562 hospitals (13%) provides cardiac care.

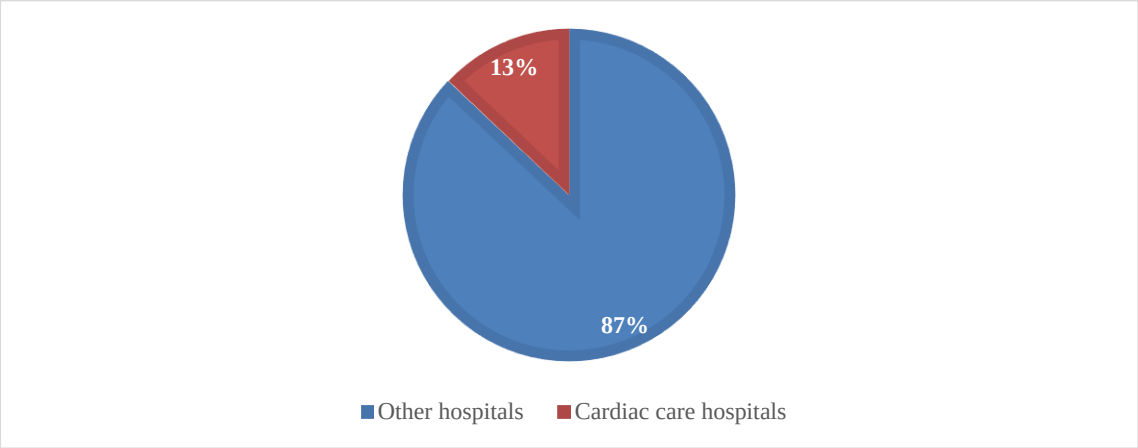


Figure 12: Active empanelled hospitals Under PMJAY

Looking closely at cardiac care facilities across India, Tamil Nadu has the highest number of hospitals (527) empanelled with cardiac care that corresponds to 34% of all PM-JAY hospitals providing cardiac care in India. Tamil Nadu is closely followed by Maharashtra with 210 hospitals. Huge disparity in the distribution of cardiac care can be observed across states as half of the hospitals (50%) empanelled with cardiac care are concentrated in four South-Indian states. These states are Tamil Nadu (34%), Andhra Pradesh (7.5%), Karnataka (5%), and Kerala (3%). While one-fourth of cardiac care hospitals (~24%) are in two western states of India (Maharashtra and Gujarat). It is to be noted that Telangana, Odisha, Delhi and West Bengal were not part of the scheme during the analysis period.

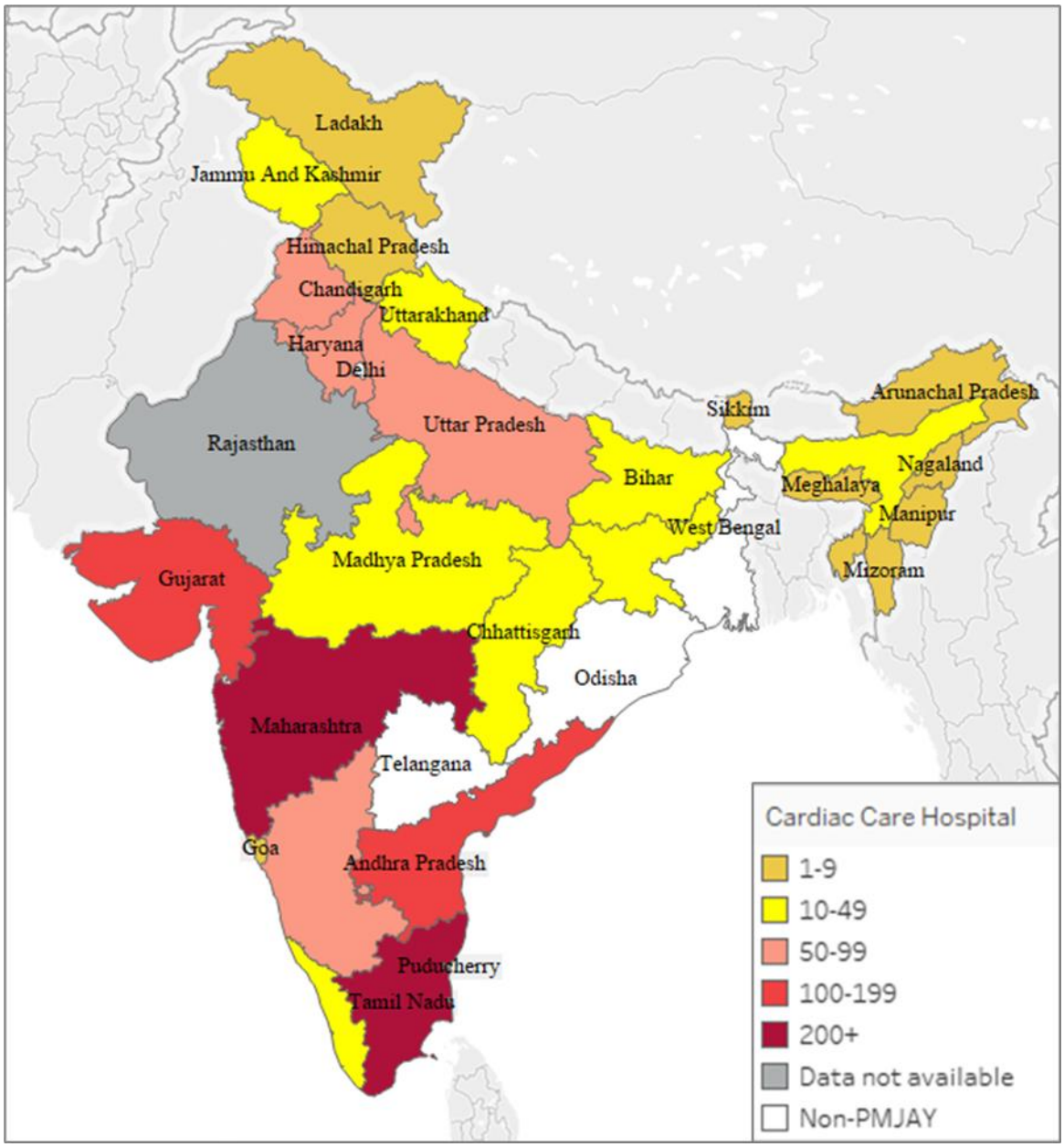


Figure 13: State-wise number of hospitals empaneled with cardiac care

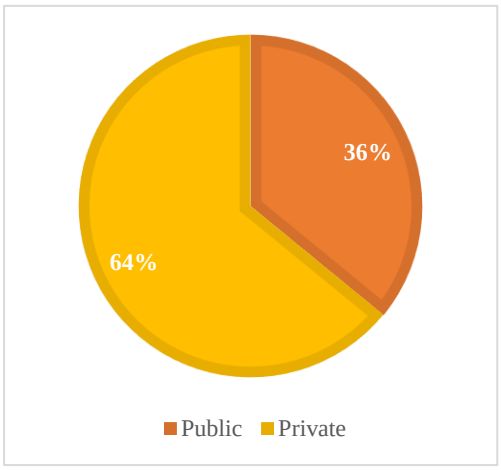
As 13% total empanelled hospitals provide cardiac care, the number and the proportion of cardiac care being provided in the empanelled hospitals varies significantly across each State/UT. In Maharashtra ~40% of empanelled hospitals provide cardiac care whereas in Bihar only 2% of empanelled facilities deliver cardiac care. State wise number of hospitals empanelled with cardiac care along with their percentage proportion is shown in the table 5.

S. No	State	Hospitals with cardiac care	Percentage proportion of hospitals with cardiac care (within State)
1	Tamil Nadu	527	30%
2	Maharashtra	210	39%
3	Gujarat	166	14%
4	Andhra Pradesh	115	19%
5	Uttar Pradesh	88	5%
6	Karnataka	80	7%
7	Punjab	58	10%
8	Haryana	58	15%
9	Madhya Pradesh	49	19%
10	Chhattisgarh	48	4%
11	Kerala	40	12%
12	Assam	21	10%
13	Jammu and Kashmir	19	15%
14	Jharkhand	17	3%
15	Bihar	14	2%

Table 5: State-wise cardiac care hospitals along with their percentage contribution

7. Utilization of cardiac care across public and private hospitals

Data reveals significant disparities in the utilization of packages in public and private hospitals. Out of total claim volume, 64% is from private hospitals and the remaining 36% is from public hospitals. Share of private hospitals (by volume) is higher in case of cardiac care as compared to all packages, as they account for 79% of all claims This seems to indicate better access to quality cardiac facilities, specialists, medical personnel in private hospitals closer to the home of the beneficiary, as compared to public hospitals.



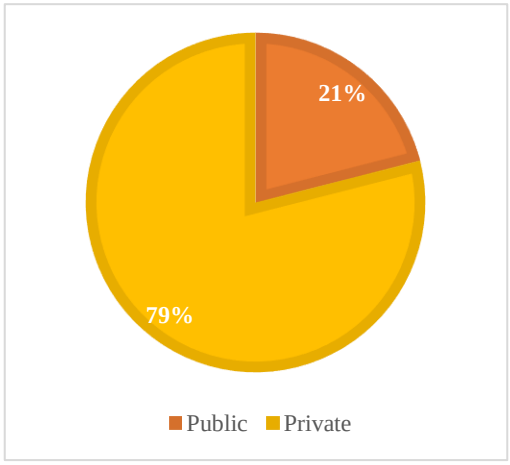


Figure 14: Public-private distribution of all claims (volume wise) *Figure 15: Public-private distribution of cardiac claims (volume wise)*

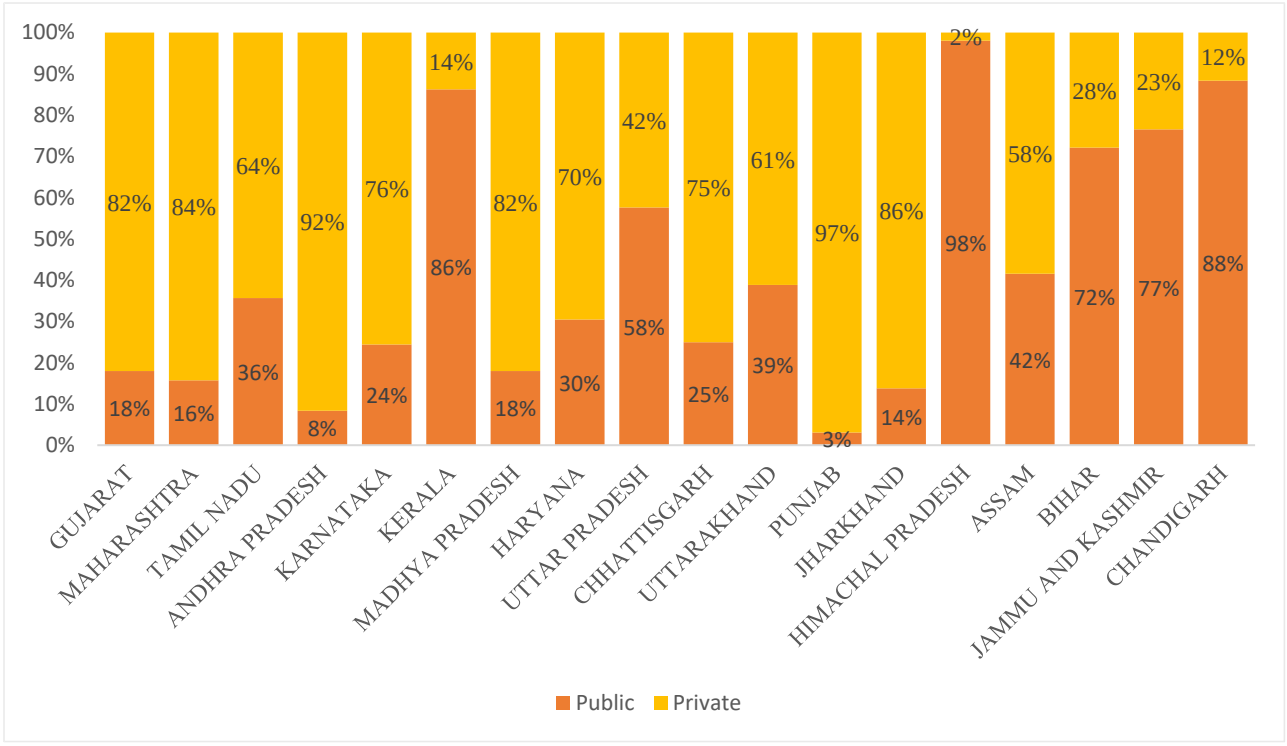


Figure 16: Public-private distribution across states (claim volume wise)

This trend of higher utilisation in private hospitals as compared to public is also seen across all states except for Himachal Pradesh, Kerala, Jammu & Kashmir, Bihar and Chandigarh where the trend is reversed, and cardiac claim volume is high in public hospitals. Preliminary on-ground research has confirmed that public hospitals in Kerala have adequate infrastructure and specialists even at the district and taluk level. While more

on ground research is required to substantiate the same for other mentioned states. High utilization states like Gujarat, Maharashtra and Andhra Pradesh show significantly high cardiac claim volume by private hospitals.

Among top 10 private hospitals in terms of cardiac volume, four are from Gujarat, three are from Andhra Pradesh, two are from Karnataka and one from Maharashtra. Shri B. D Mehta Mahavir Heart Institute, Gujarat had the highest number of cardiac claims among all private hospitals followed by SJICR, Mysore.

S.No	Hospital Name	Hospital State	Volume	Contribution in private cardiac claim volume (%)	Top procedure
1	Shri B D Mehta Mahavir Heart Institute	Gujarat	8,470	2.3%	PTCA-Single stent and PTCA-double stent
2	SJICR Mysore	Karnataka	4,887	1.4%	PTCA-Single stent and PTCA-double stent
3	SJICR Kalaburagi	Karnataka	4,696	1.3%	PTCA-Double stent
4	Shri Saibaba Hospital Shirdi	Maharashtra	4,620	1.3%	PTCA-Single stent
5	Christ Hospital	Gujarat	4,436	1.2%	PTCA-Single stent
6	Sterling Hospital	Gujarat	3,885	1.1%	PTCA-Single stent
7	Narayana Hrudayalaya Pvt.Ltd	Gujarat	3,539	1.0%	PTCA-Single stent
8	Lalitha Super Speciality Hospital P Ltd	Andhra Pradesh	3,276	0.9%	PTCA-Single stent
9	Saveera Hospital Pvt Ltd	Andhra Pradesh	3,170	0.9%	PTCA-Single stent
10	KIMS (Krishna Institute of Medical Sciences Ltd) Rajahmundry	Andhra Pradesh	3,151	0.9%	PTCA-Single stent

Table 6: Top 10 private hospitals providing cardiac care

Top 10 public hospitals providing cardiac care corresponds to 48% of overall claim volume by public hospitals. U. N. Mehta Institute of Cardiology & Research Centre, Gujarat exceptionally had the highest number of cardiac claims (22,748). Analysing the top 10 public hospitals, we observe four are from Maharashtra, two are from Kerala and one each from Gujarat, Karnataka, Andhra Pradesh and Tamil Nadu as shown in the table 7.

S. No	Hospital Name	Hospital State	Volume	Contribution in public cardiac claim volume (%)	Top procedure
1	U. N. Mehta Institute of Cardiology & Research Centre	Gujarat	22,748	22%	PTCA-Single stent and PTCA-double stent
2	SJICR	Karnataka	8,877	9%	PTCA-Single stent

S. No	Hospital Name	Hospital State	Volume	Contribution in public cardiac claim volume (%)	Top procedure
3	Grant Medical College and JJ Group of Hospitals	Maharashtra	3,630	3%	PTCA-Double stent
4	Medical College Thiruvanthapuram	Kerala	2,610	3%	PTCA-Single stent
5	Sri Venkateswara Institute of Medical Sciences	Andhra Pradesh	2,189	2%	PTCA-Single stent
6	B Y L Nair Hospital	Maharashtra	2,103	2%	PTCA-Double stent
7	LTMG College and Hospital	Maharashtra	1,983	2%	PTCA-Single stent
8	Kem Hospital, Parel	Maharashtra	1,982	2%	PTCA-Single stent
9	Medical College Kozhikode	Kerala	1,962	2%	PTCA-Single stent and PTCA-double stent
10	Govt. of Villupuram Medical College and Hospital, Villupuram	Tamil Nadu	1,898	2%	PTCA-Single stent

Table 7: Top 10 public hospitals providing cardiac care

8. Contribution of National Health Care Providers (NHCP) in Cardiac care

National Health Care Providers (NHCPs) are the hospitals from the State/UTs that have not implemented PM-JAY yet. These hospitals are empanelled directly under PM-JAY to serve beneficiaries of the scheme. There are total 28 (11 public and 17 private) NHCPs that cater to healthcare needs of the beneficiaries. Out of all NHCPs, 15 (8 Public and 7 Private) cater to the cardiac care.

It is to be noted that among all NHCPs' claims 16% are cardiac which is much higher than national average cardiac claim volume of 4% and their claim value is 45% in terms of cardiac claim.

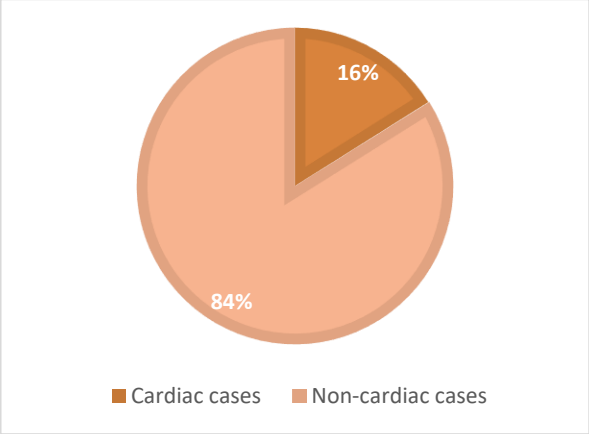


Figure 17: Claim volume in NHCPs

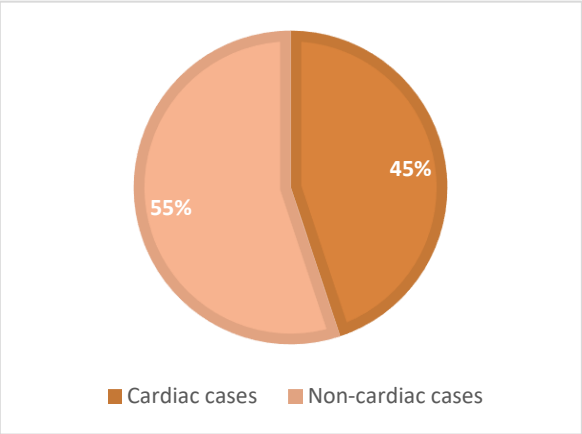


Figure 18: Claim value across NHCPs

NHCPs including PGIMER Chandigarh, All India Institute of Medical Sciences, New Delhi, Dr Ram Manohar Lohia and Safdarjung hospital are top 4 NHCPs catering to cardiac care. Table 8 provides the utilization of cardiac care in top 10 NHCPs.

S. No	Hospital Name	Hosp Type Major	Cardiac cases	Cardiac cases (%)
1	PGIMER Chandigarh	Public	1,227	13%
2	All India Institute of Medical Sciences, New Delhi	Public	740	16%
3	Dr. Ram Manohar Lohia Hospital	Public	364	46%
4	Safdarjung Hospital	Public	220	26%
5	Bhopal Memorial Hospital and Research Centre Bhopal	Public	74	31%
6	AIIMS Bhopal	Public	41	28%
7	JIPMER	Public	27	24%
8	Sir Ganga Ram Hospital	Private	20	7%
9	Metro Hospital & Heart Institute	Private	11	92%
10	RLKC Hospital Metro Heart Institute	Private	9	45%

Table 8: NHCPs providing cardiac care

9. Portability Analysis

For the period considered, there were approximately 18,000 portability claims registered at an overall level translating to 1.4% of overall claims. However, the portability rate for cardiac claims is 2.2%, implying that a higher percentage of people need to travel to get quality cardiac care as compared to other treatments. A total 7,020 cardiac portability cases are observed.

Looking at the patient origination states about 75% of overall cardiac portability is contributed by only 4 states: Madhya Pradesh (40%), UP (15%)) and Bihar (13%) and Punjab (8%). This could be attributed to the lack of cardiac care in these states, migrant workers who may be living in other states or presence of medical tourists. More on ground research is needed to confirm this.

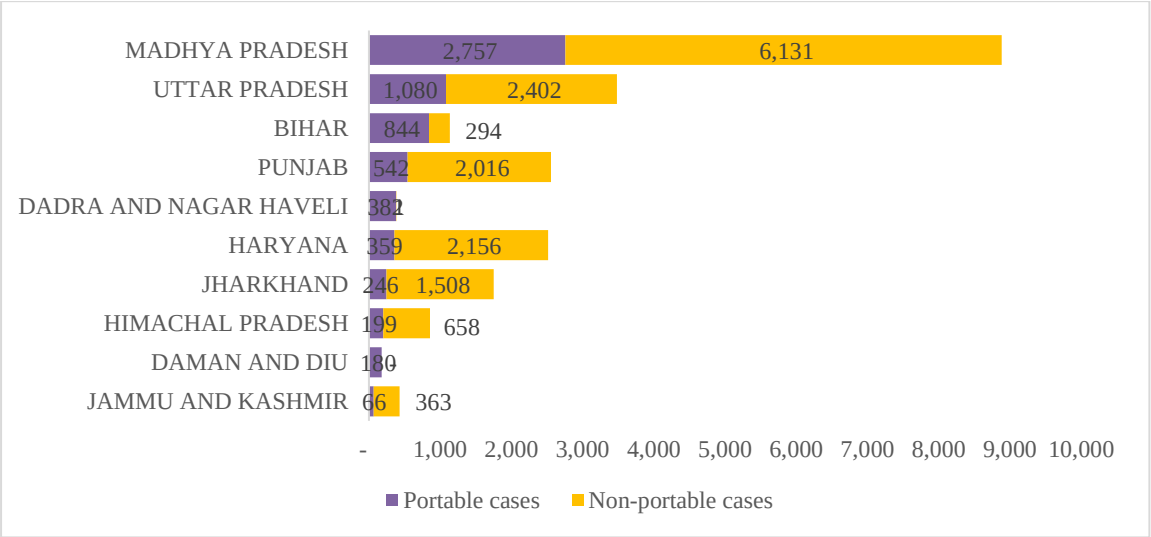


Figure 19: States with high cardiac portable cases

Of the patients seeking cardiac care outside their home state, majority travel to Gujarat followed by Maharashtra as shown in the table below.

S No	Patient state	Portable cases	Portable cases (%)	Patient districts with high portable cases	State catering to portable cases
1	Madhya Pradesh	2,757	31%	Ratlam, Mandsaur, Ujjain, Dhar	Gujarat and Maharashtra
2	Uttar Pradesh	1,080	31%	Ratlam, Mandsaur, Ujjain, Dhar	NHCP and Gujarat
3	Bihar	844	74%	Ratlam, Mandsaur, Ujjain, Dhar	NHCP and Gujarat
4	Punjab	542	21%	Rupnagar, Patiala	NHCP and Chandigarh
5	Dadra And Nagar Haveli	382	100%	Dadra and Nagar Haveli	Gujarat
6	Haryana	359	14%	Yamunanagar, Karnal	NHCP and Chandigarh
7	Jharkhand	246	14%	Giridih, Dhanbad	NHCP and Chhattisgarh
8	Himachal Pradesh	199	23%	Sirmaur, Mandi	NHCP and Chandigarh
9	Daman and Diu	180	100%	Daman, Diu	Gujarat
10	Jammu and Kashmir	66	15%	Jammu, Poonch,	NHCP

Table 9: Cardiac portable cases

Study limitations

1. Data from Rajasthan and non-PMJAY implementing states are not considered for analysis.
2. Analysis is based on claims with limited information on the underlying disease burden and clinical history of the patients.
3. Data related to quality of care for cardiac packages is not analysed. Analysis pertaining to quality issues like over-use of stenting is not carried out.
4. Outcome of the care in terms of survival or improvement in health is not analysed.

Conclusions

Since the launch of PM-JAY, there has been a steady increase in the utilisation of cardiac packages across all States. Several areas of focus emerge from the study:

1. Females have a significantly lower share in cardiac claims. Even allowing for biological protection in early ages, the utilisation does not equalise even at later ages. This might be indicative that females may have more difficulty in accessing care due to sociocultural factors and may not be getting screened and diagnosed as compared to men.
2. If eligible hospitals are available for empanelment then these hospitals should be encouraged to be empanelled for cardiac care particularly in green field states like Jharkhand, Uttar Pradesh, Madhya Pradesh, Punjab and Chhattisgarh.
3. The high rate of portability of patients from Madhya Pradesh to Gujarat may be indicative of the limited availability of quality care facilities across the State or connection between Gujarat hospitals and neighbouring MP districts who send patients over the border.
4. Few states have high package rates related to stents which may be linked to possible abuse of such packages that needs to be further analysed.
5. Capacity of public hospitals to provide cardiac care needs to be improved in most states. Capacity would refer to both the infrastructure, medical equipment as well as super specialists and other medical personnel required to perform high end cardiac surgeries
6. NHCPs are providing quality cardiac care to a large proportion of needy population with a major proportion of their claims being contributed by cardiac care.

Way forward

Addressing CVDs require concrete and sustained action in three areas which represent the key components of any global or national strategy, surveillance and monitoring, prevention and reduction of risk factors, and improved management and health care through early detection and timely treatment. The following measures would help in:

1. Reliable and cause-specific mortality data related to cardiac claims need to be captured in order to aggregate the burden of mortality and to come with public health intervention. As it should be made mandatory for all hospitals to fill mortality column before claiming the treatment amount.
2. There is a need to strengthen the national level screening programs through developing linkages with Health and Wellness Centres (HWCs) and NCD Cells. Seeking cooperation of empanelled hospitals would be an important step in this as well. States such as Maharashtra and Karnataka have experimented with private empanelled hospitals support to conduct camps for screening of cardiac cases at Taluk and District Level public facilities.
3. Access to quality healthcare services is also critical, especially in states and in interior areas as most heart institutes are concentrated in Tier 1 and Tier 2 cities.
4. Greater awareness amongst women about heart diseases and special focus on women during diagnosis will enable early detection and treatment. One way to enable this could be to incentivise ASHA workers (this has been piloted in Karnataka) in identifying potential high-risk cases especially women and those from SC/ST populations and taking them to the nearest HWC for screening.
5. It is also important to step up efforts and work towards convergence of PM-JAY and Rashtriya Bal Swasthya Karyakram (RBSK) for improving screening of congenital heart disease and ensuring identified cases are treated in a timely manner.
6. Follow-up care is much more important in case of cardiac procedures as opposed to others given the complexity of the treatment, and thus enabling decentralised care for chronic management through HWCs and taluk/district hospitals for identifying any complications arising due to surgery would be critical. Necessary drugs should be ensured through the National Free drug Service through HWCs/Taluk /District hospitals.
7. Coverage for Maintenance medicines like anti-platelet drugs should also be provided through PM-JAY to control out of pocket expenditure post-surgery, as this medication is required mostly for the remainder part of the patient's life. Currently support is provided only for 15 days post-discharge only.
8. Stents being large part of expenses and need to closely monitor the potential abuse related to its utilization.
9. Need to find ways to reduce cost of stents while collective bargaining could be one of them.

Early trends indicate PM-JAY has enabled the poorest 40% of India's population to get access to cardiac care at empanelled public and private healthcare facilities since the inception of the scheme. By ensuring that the needy households' families are able to reduce their out of

pocket spending and are saved from catastrophic medical expenditure which could have forced them below poverty line, PM-JAY has proved to be a big boon for these families.

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