MAX Healthcare

It’s all about data

Structuring and application of data

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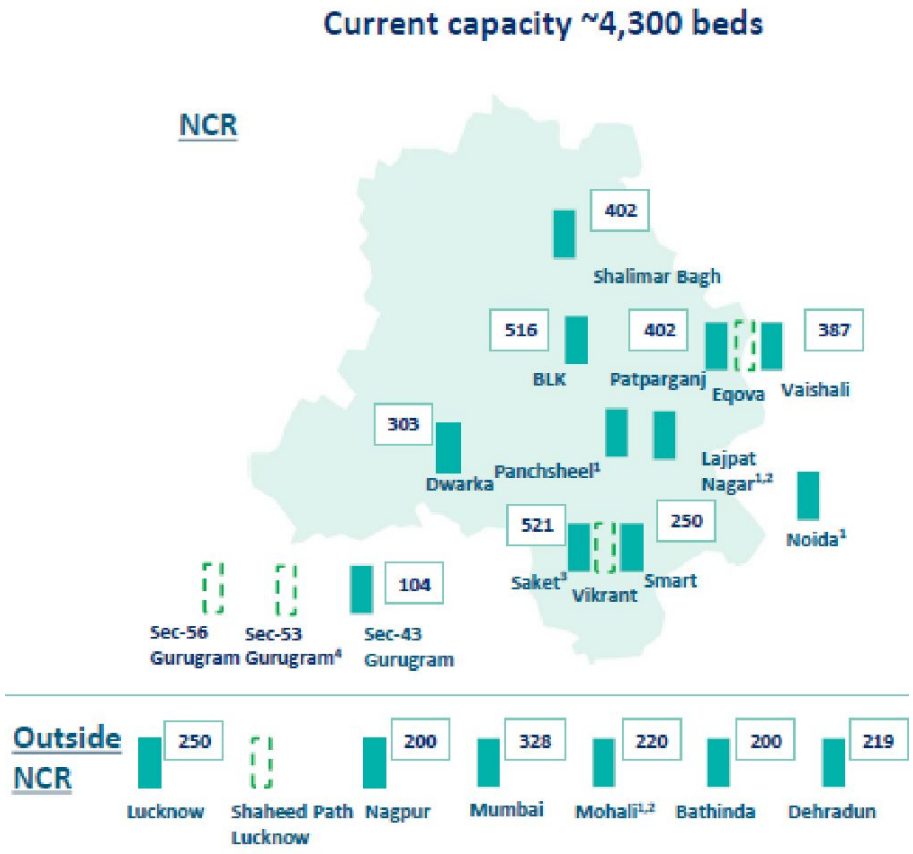
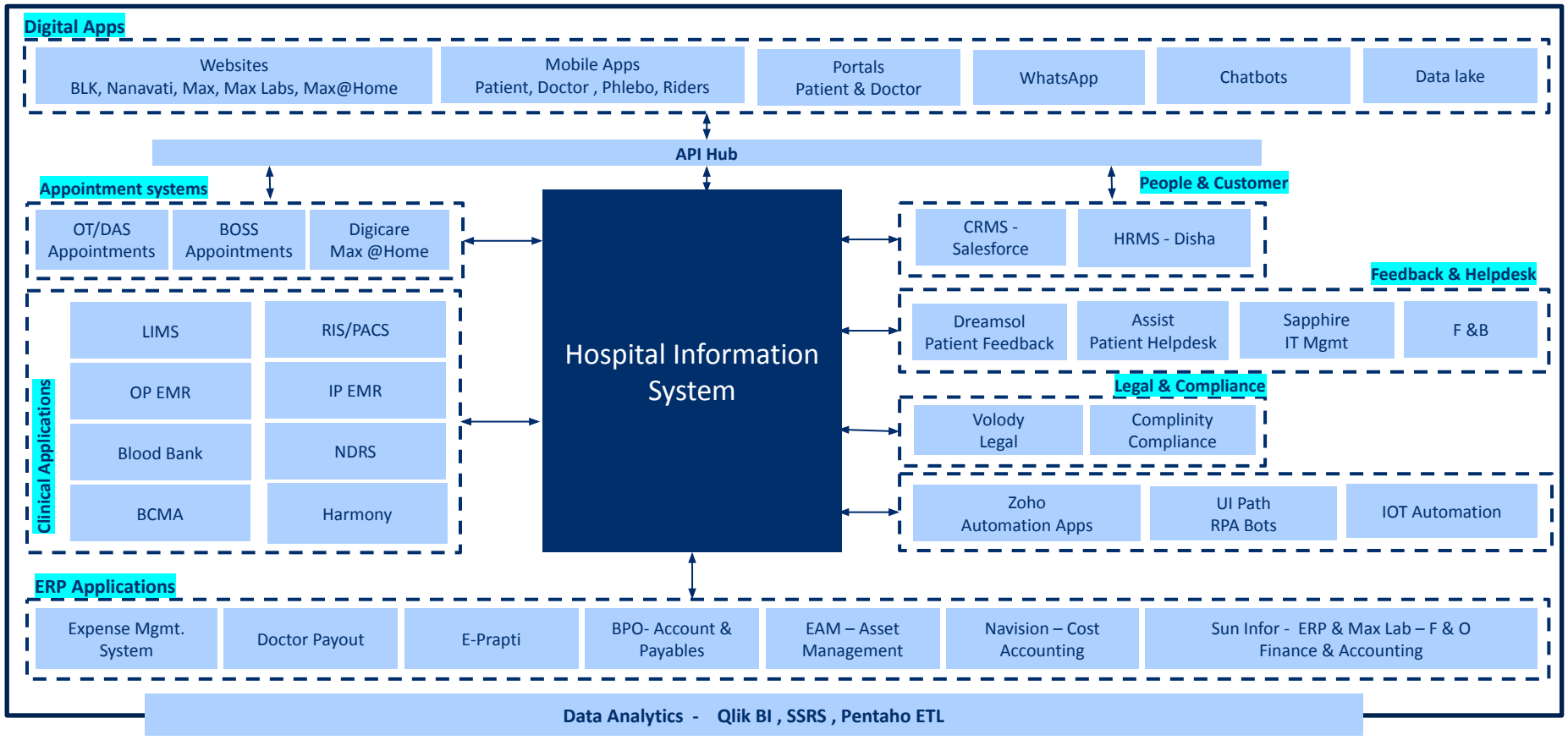
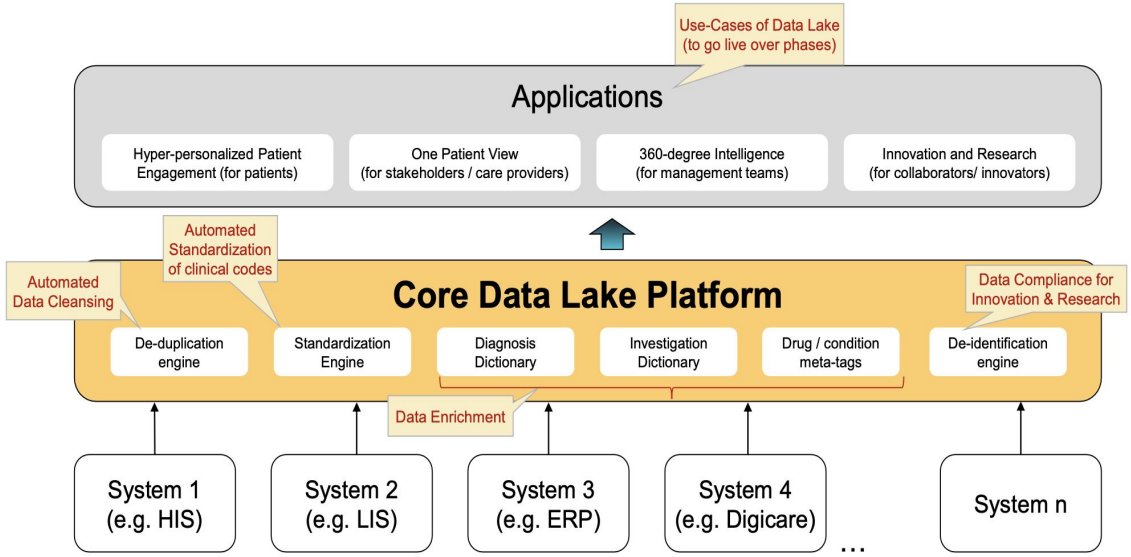


Max Healthcare System Architecture



Analytics & Data Lake



REPORTING

Deliverables:

- Utilization of data warehouse
- Enable Users to create reports

Tools opted: Qlik View, BI etc.

Benefits:

- Faster TAT for reporting
- Enable Users to create customized reporting as per requirement

ANALYTICS

Deliverables:

- Creation of data warehouse
- Moving towards predictive analytics

Tools opted: Qlik CDC Replicate

Benefits:

- Improved business intelligence & efficiency
- Faster decision making
- Better forecasting

Data Lake

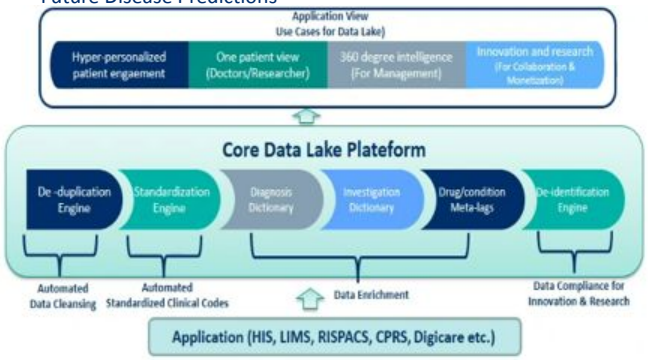
Project Overview & Benefits

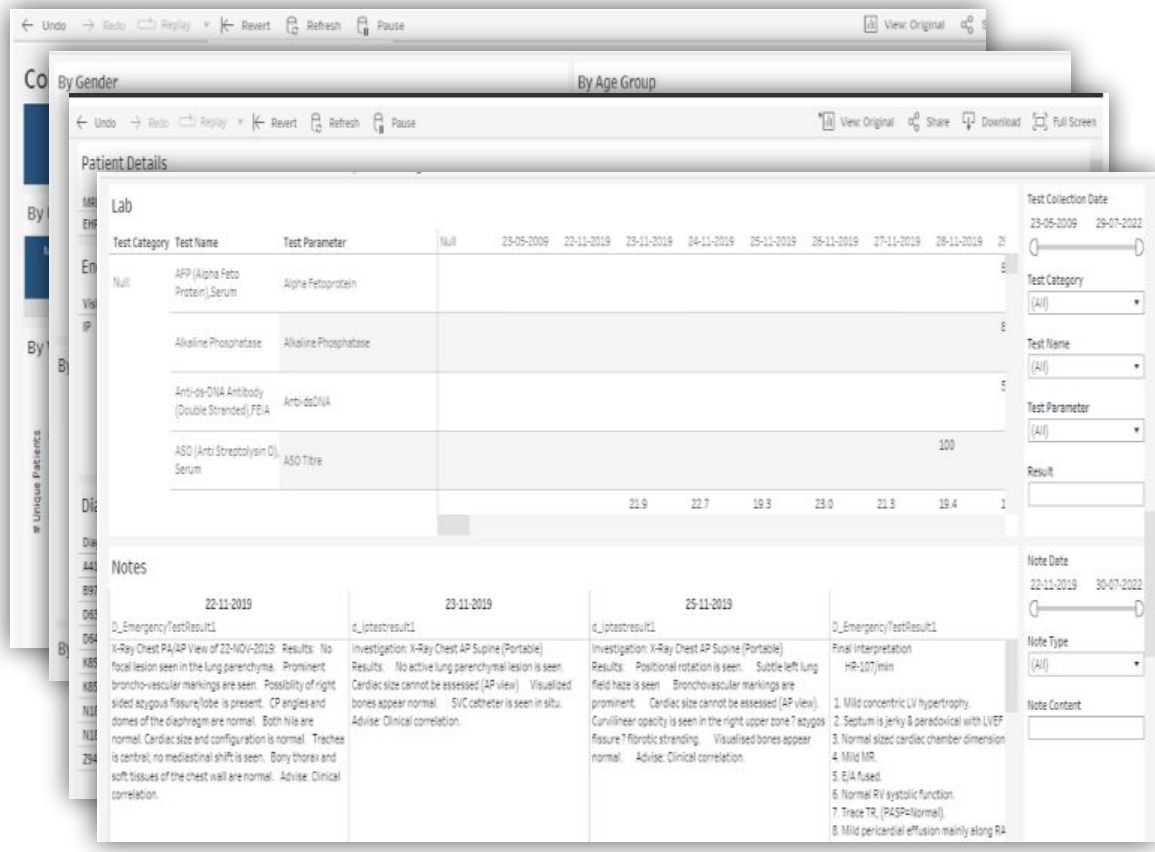
Project Objectives :

- Centralized Data Repository
- Enhanced Data Accessibility
- Enhance Data Quality & Governance
- Enhanced Collaboration & Data sharing

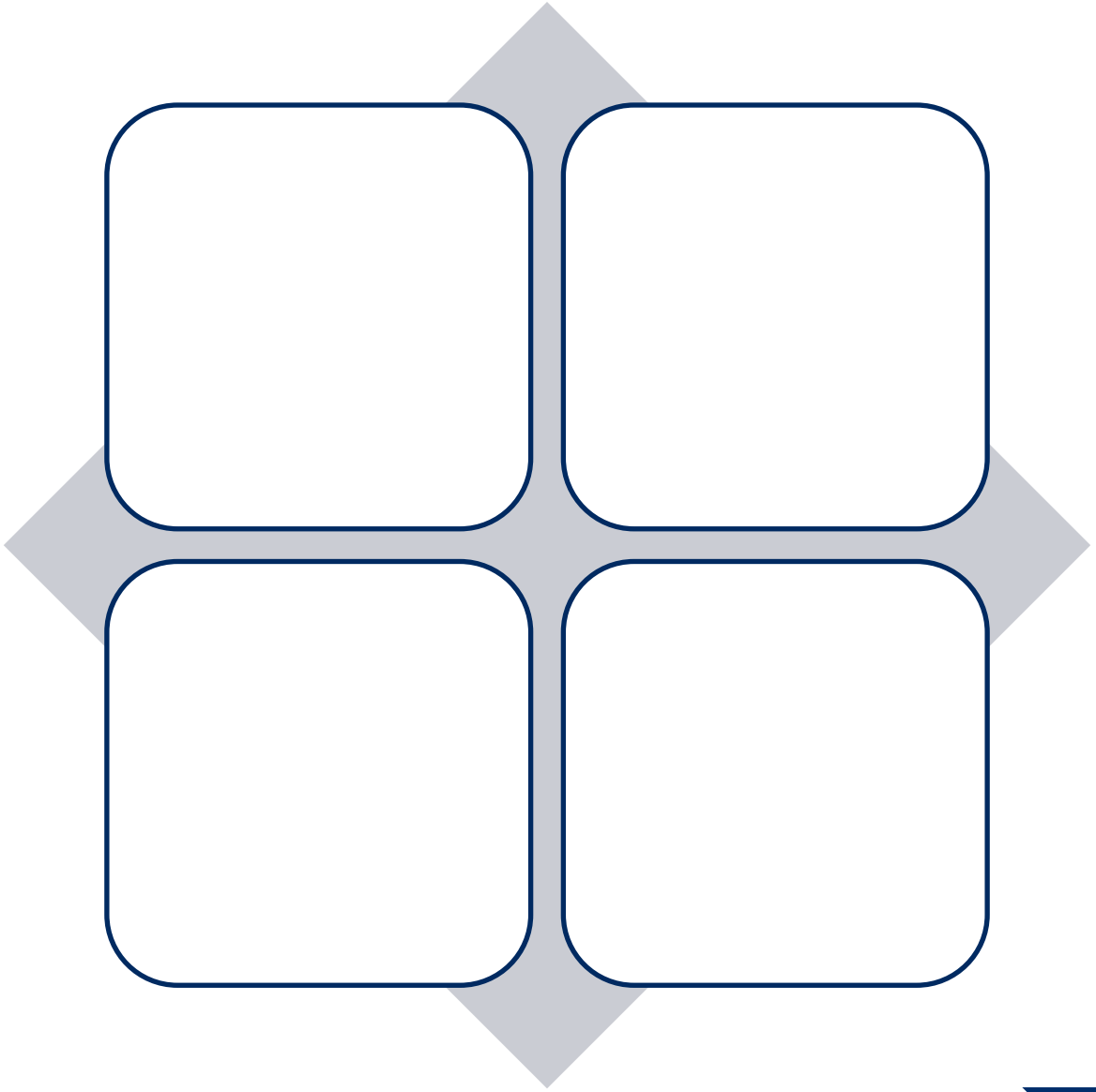
Benefits :

- Patient Longitudinal Journey Dashboard
- Support for Advanced Analytics & Research
- Facilitate Data availability for Publications
- Facilitate in Predictive Analytics
- Identification of Potential Patients who are fit for Clinical Trials.
- Structured Data Monetization
- Future Disease Predictions





Quality Measures for Patient centric care

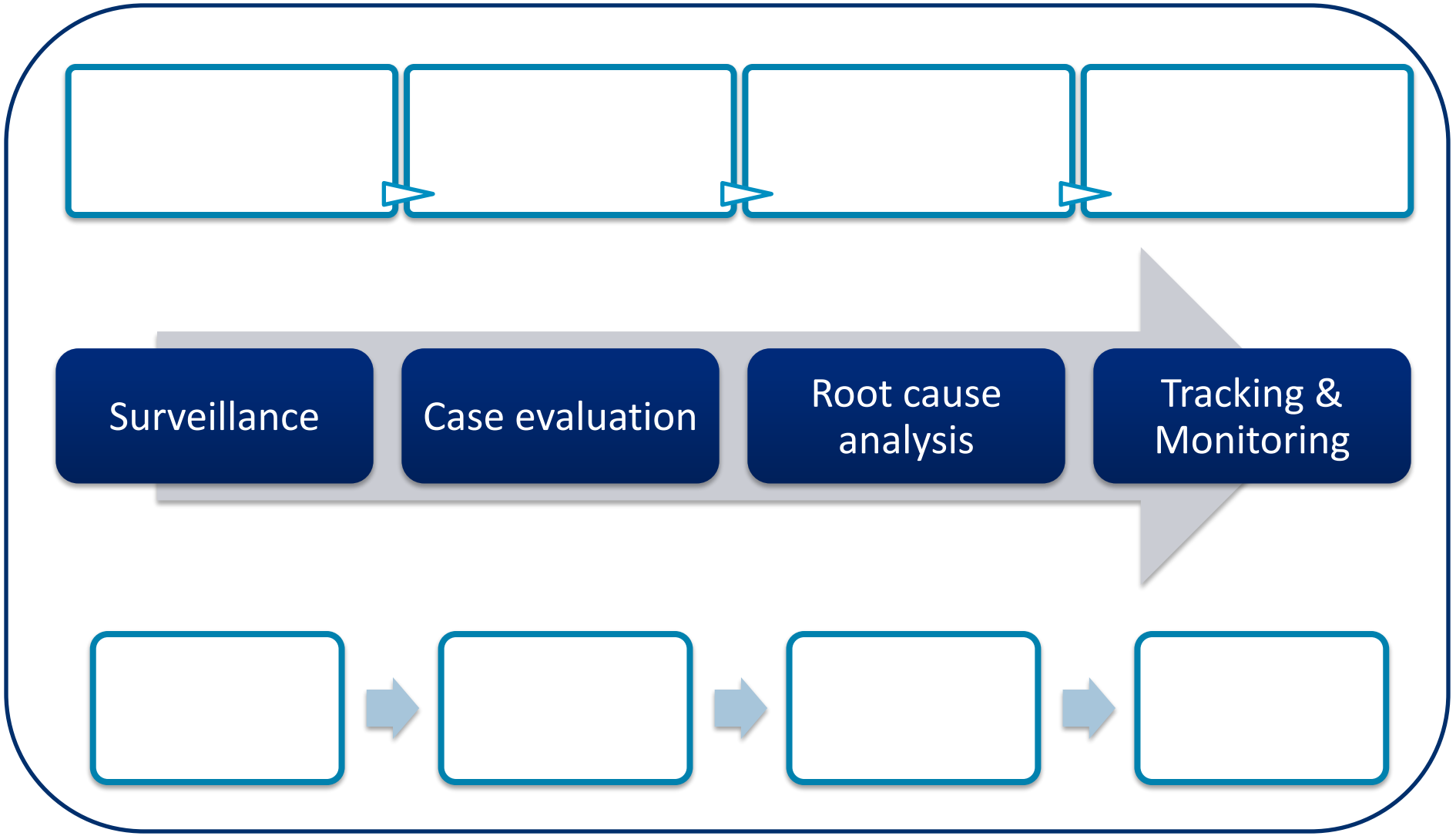


Keeping Patients Safe

Online HAI surveillance – CLABSI, VAP, CAUTI, SSI

Online Integrated hospital network HAI surveillance

Integration: Team-System-Process-Data



Online Tracking of HAIs viz. CLABSI, CAUTI, VAP and SSI

Automated pick up of HAIs trigger → Screening of suspected HAI → Dissemination of data → Desired Efficacy

MHCs incidences of CLABSI, CAUTI, VAP are at the lowest levels comparable to international benchmarks

Strong adherence to the bundle compliance

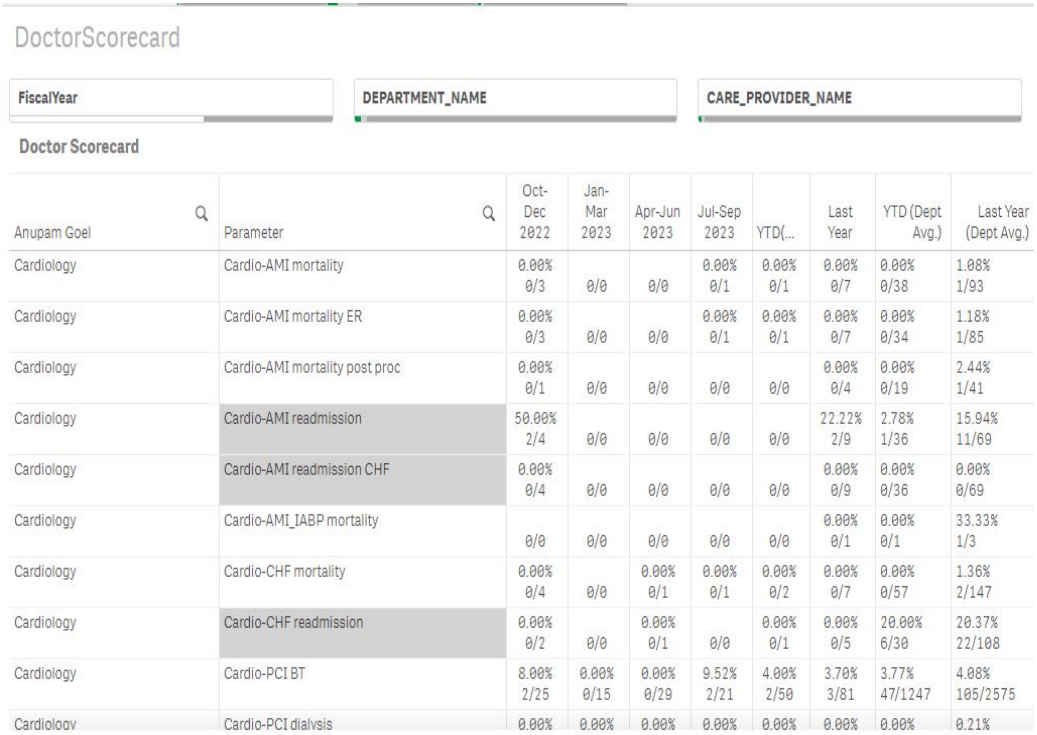
Ensures no harm to the patient

Lower is Better

	FY 2014-15	FY 2023-24
CLABSI Rate per 1000 Central Line days *(*0.90 by NHSN)*	1.75	0.83
CAUTI Rate per 1000 Catheter days *(*1.2 by NHSN)*	1.07	0.56
VAP Rate per 1000 Ventilator days *(*1.1 by NHSN)*	2.38	1.20
SSI Rate per 100 surgeries	0.22%	0.10%

Doctor Productivity Scorecard

- Doctor Productivity Measures
- QoQ Clinical Department Productivity
- 58 parameters measured per clinician
- Clinical performance scorecard



DoctorScorecard

FiscalYear | DEPARTMENT_NAME | CARE_PROVIDER_NAME

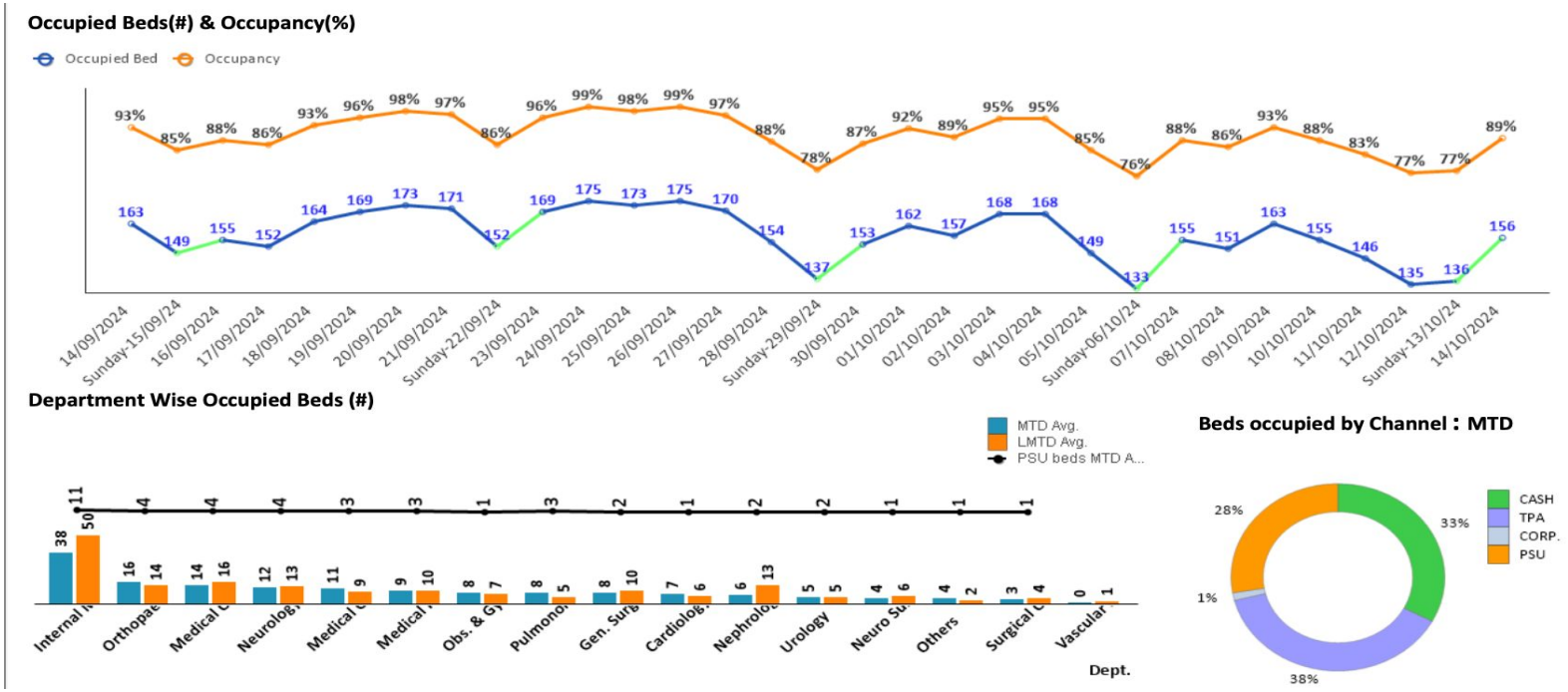
Doctor Scorecard

Anupam Goel	Parameter	Oct-Dec 2022	Jan-Mar 2023	Apr-Jun 2023	Jul-Sep 2023	YTD(...	Last Year	YTD (Dept Avg.)	Last Year (Dept Avg.)
Cardiology	Cardio-AMI mortality	0.00% 0/3	0/0	0/0	0.00% 0/1	0.00% 0/1	0.00% 0/7	0.00% 0/38	1.08% 1/93
Cardiology	Cardio-AMI mortality ER	0.00% 0/3	0/0	0/0	0.00% 0/1	0.00% 0/1	0.00% 0/7	0.00% 0/34	1.18% 1/85
Cardiology	Cardio-AMI mortality post proc	0.00% 0/1	0/0	0/0	0/0	0/0	0.00% 0/4	0.00% 0/19	2.44% 1/41
Cardiology	Cardio-AMI readmission	50.00% 2/4	0/0	0/0	0/0	0/0	22.22% 2/9	2.78% 1/36	15.94% 11/69
Cardiology	Cardio-AMI readmission CHF	0.00% 0/4	0/0	0/0	0/0	0/0	0.00% 0/9	0.00% 0/36	0.00% 0/69
Cardiology	Cardio-AMI_IABP mortality	0/0	0/0	0/0	0/0	0/0	0.00% 0/1	0.00% 0/1	33.33% 1/3
Cardiology	Cardio-CHF mortality	0.00% 0/4	0/0	0.00% 0/1	0.00% 0/1	0.00% 0/2	0.00% 0/7	0.00% 0/57	1.36% 2/147
Cardiology	Cardio-CHF readmission	0.00% 0/2	0/0	0.00% 0/1	0/0	0.00% 0/1	0.00% 0/5	20.00% 6/30	20.37% 22/108
Cardiology	Cardio-PCI BT	8.00% 2/25	0.00% 0/15	0.00% 0/29	9.52% 2/21	4.00% 2/50	3.70% 3/81	3.77% 47/1247	4.08% 105/2575
Cardiology	Cardio-PCI dialysis	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%

Operational Dashboards

	KPI	FTD							MTD						
		Saket	Max Smart	GGN	BLK	NSSH	PSH	Total	Saket	Max Smart	GGN	BLK	NSSH	PSH	Total
Revenue & Foofalls	Gross Revenue (Lac)	554	92	85	334	217	18	1,299	6,010	2,087	1,081	4,645	2,659	233	16,715
	Unbilled Revenue (Lac)	2,936	485	136	1,347	748	0	5,653	2,936	485	136	1,347	748	0	5,653
	Net Revenue (Lac)	541	82	84	315	187	17	1,225	5,851	1,915	1,067	4,407	2,506	230	15,976
	OPD consult count	1,417	1,208	554	1,406	574	385	5,544	13,150	10,970	5,687	13,437	5,641	3,690	52,575
	Video consults	58	25	11	14	0	20	128	518	192	153	67	12	187	1,129
Patients in system	Admitted patients	403	224	89	405	205	0	1,326	402	206	87	398	210	0	1,303
	Patients admitted in ICU	124	76	37	130	58	0	425	125	64	36	118	54	0	397
	Patients refused admission	5	1	0	0	0	0	6	78	25	42	20	1	0	166
	Patients in ER in last 24 hours	50	50	38	49	42	0	229	679	667	514	781	516	0	3,157
	Emergency patients admitted from ER	16	20	24	26	23	0	109	336	282	237	471	243	0	1,569
	Other admissions in the day	136	61	16	90	54	0	357	1,264	522	253	878	457	11	3,385
	% Occupancy	79%	90%	86%	78%	71%	-	79%	79%	82%	84%	77%	73%	-	78%
	Patients Admitted (IP+DC)	178	88	47	185	96	7	601	1,818	899	529	1,867	869	95	6,077
	Patients Discharged (IP+DC)	112	43	36	134	57	7	389	1,847	913	540	1,890	888	95	6,173
Procedure Volumes	Dialysis	131	56	47	85	46	0	365	1,753	847	544	1,038	517	0	4,699
	Chemotherapy	72	5	5	63	27	0	172	802	98	59	604	253	0	1,816
	Radiotherapy sessions	2	0	0	4	3	0	9	41	0	0	23	47	0	111
	MRI	33	23	7	47	27	0	137	364	354	110	437	310	1	1,576
	CT	46	29	11	33	31	0	150	483	283	147	322	319	4	1,558
	Angiography	4	1	2	4	1	0	12	95	43	21	80	10	0	249
	Angioplasty	3	1	2	2	0	0	8	56	17	11	39	5	0	128
	CABG	1	0	0	2	1	0	4	12	9	0	13	3	0	37
KPIs	ALOS (exec. EWS)	-	-	-	-	-	-	-	5.0	3.9	2.8	4.5	4.5	0.2	4.3
	ARPOB (Rs)	-	-	-	-	-	-	-	107,689	73,193	88,971	82,539	91,097	-	91,898
	OP to IP (exec. EWS)	5%	3%	6%	6%	7%	1%	5%	13%	9%	11%	13%	14%	1%	11%

Occupancy Dashboards



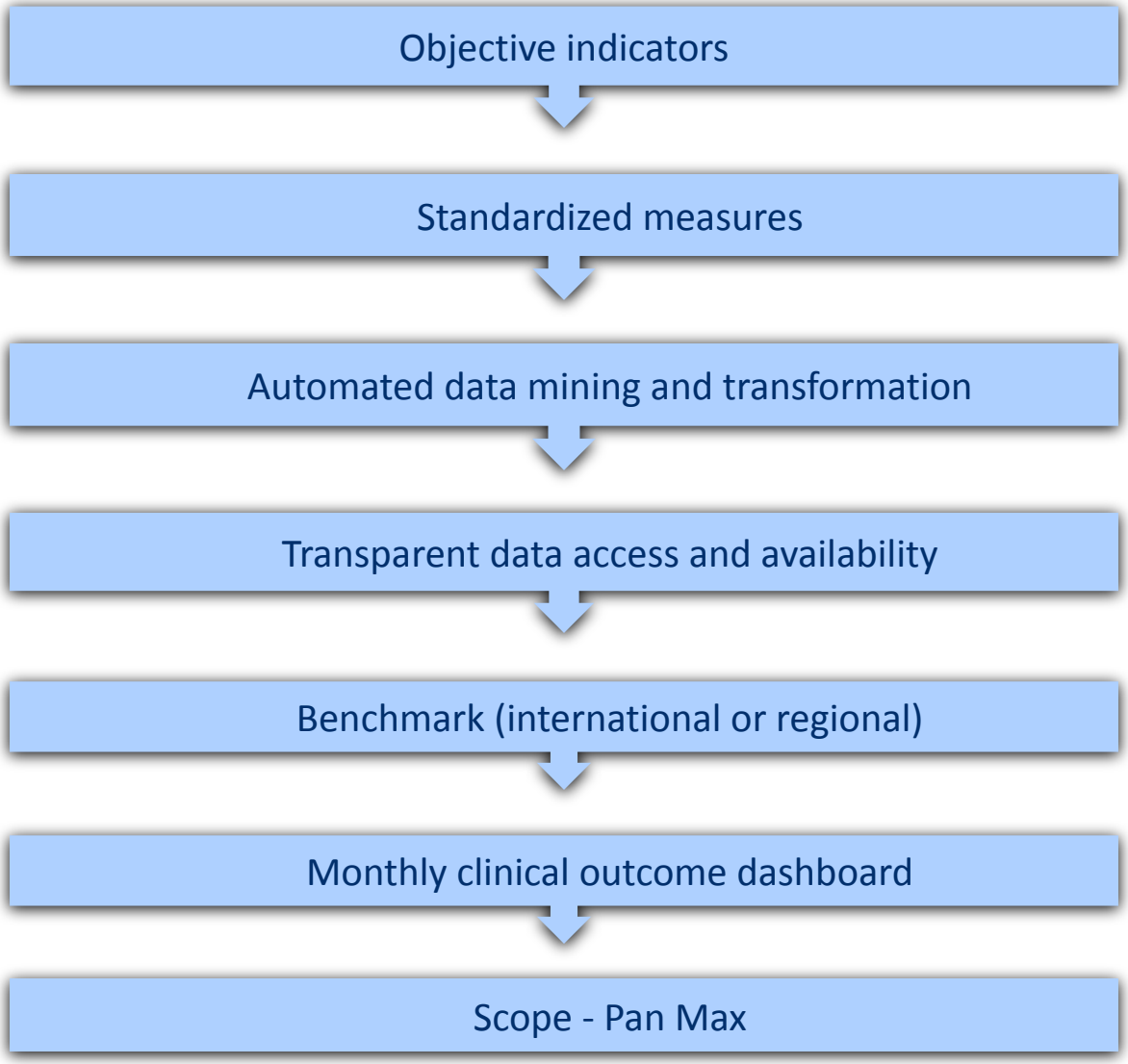
Need for Outcome Measures

- Monitoring of clinical outcomes through objective measures
- Regular measurement of clinical performance – Hospital, Department, Clinician
- Early identification of areas for clinical improvement
- Requirement from Accreditation bodies

Reference:

As per **JCI 6th Edition, SQE. 11**
"The hospital uses an ongoing standardized process to evaluate the quality and safety of the patient care provided by each medical staff member."

Guiding framework



Converting the *IDEA* into **REALITY**!

Selection of clinical measures	• Brain storming with Clinical HODs to identify relevant clinical outcomes • Identification of benchmarks and references to compare ourselves
Development of innovative in-house software	• Data extraction automatically from electronic medical records • Reduction in manual dependency and errors
Data analysis and validation	• Data can be sliced and filtered to give us insights at an organization level, hospital level, department level and individual doctor level
Results	• *In approx. 78% outcome measures, we are at or above the best in-class level globally*

Automation as enabler

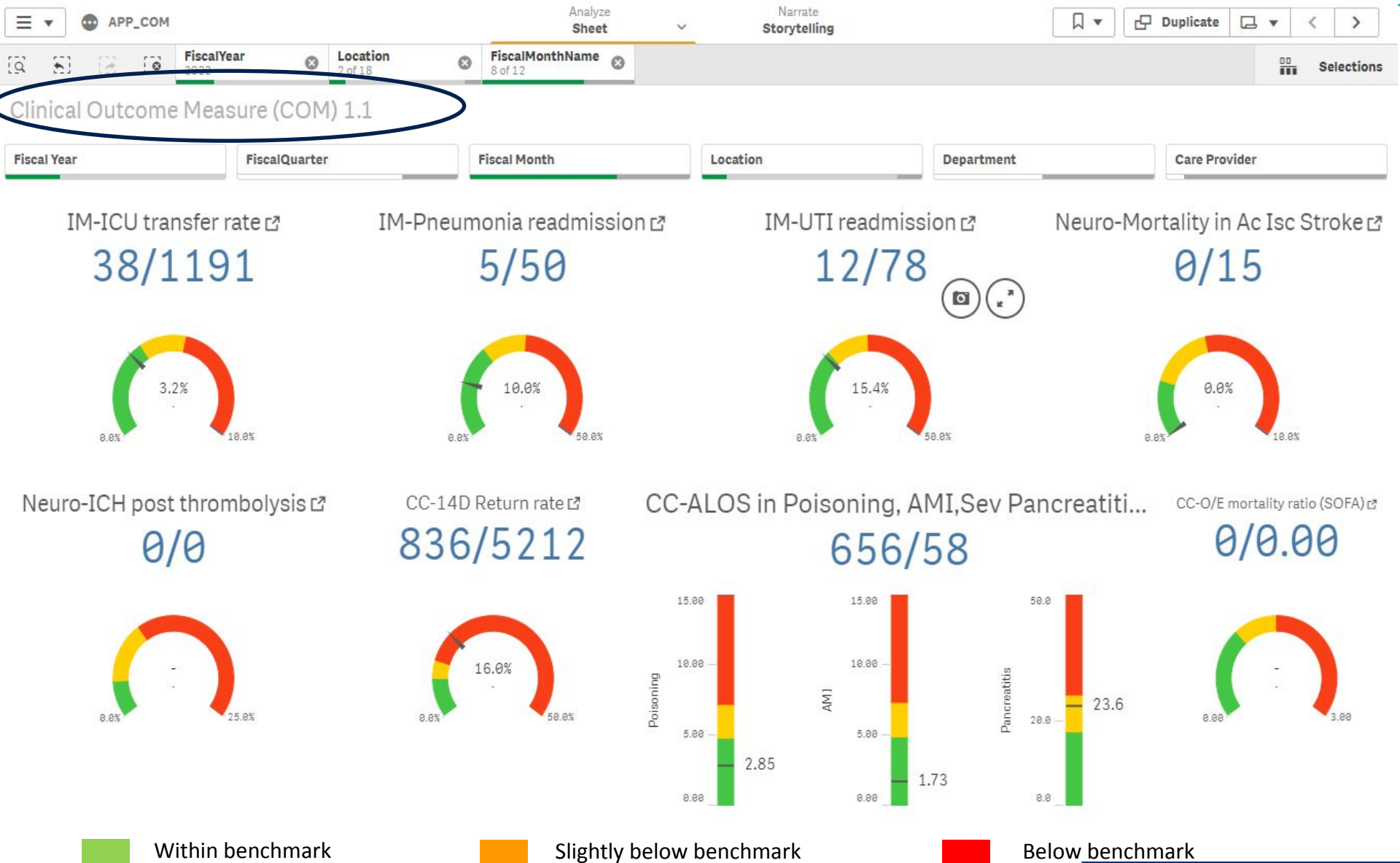
Earlier

- Limited tracking of outcomes- only 18 outcome measures were being tracked
- Manual collection of data
- High chances of errors
- Long man hours
- Difficult to audit and validate

Now

- **More than 50 outcome measures being tracked**
- **Real time live dashboard available to users**
- **Zero errors**
- **Considerable reduction in man hours**
- **Healthcare innovation- Developed in-house**
- **Setting the benchmark and role model**

Snapshot of the Dashboard : “Drishti”



Within benchmark

Slightly below benchmark

Below benchmark

Clinical Outcome Measures (COMs)

x	Department	COM Parameter	Bhatinda	BLK	Dehradun	Gurgaon	Mohali	Patparganj	Saket (DDF)	Saket (MSSH)	Saket Smart-SSH	Shalimar Bagh	Vaishali	Nanavati	Reference Levels		
			Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Jun-22	Green (<=)	Amber (<= & >green)	Red(>)
1	CTVS	CTVS-O/E mortality ratio (Euroscore)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	<=1	<=1.5	>1.5
2	CTVS	CTVS-ALOS in CABG	0 (0/0)	10.15 (132/13)	15.75 (63/4)	0 (0/0)	7.08 (85/12)	7.86 (55/7)	9.54 (248/26)	0 (0/0)	8.76 (149/17)	7 (21/3)	8.5 (51/6)	11.5 (23/2)	10.93	16.40	16.40
3	CTVS	CTVS-Critical care ALOS in CABG	0 (0/0)	6.99 (182/26)	13.58 (54/4)	0 (0/0)	6.83 (82/12)	5.29 (58/11)	6.08 (164/27)	0 (0/0)	5.33 (80/15)	5.63 (23/4)	7.12 (43/6)	5.8 (17/3)	2.17	3.26	3.26
4	Neurosurgery	NS-6 mth Post VP shunt meningitis	0.00% (0/2)	0.00% (0/0)	0.00% (0/1)	0.00% (0/1)	0.00% (0/1)	0.00% (0/1)	0.00% (0/0)	0.00% (0/2)	0.00% (0/0)	0.00% (0/2)	0.00% (0/0)	0.00% (0/2)	3.20%	4.80%	4.80%
5	Neurosurgery	NS-ALOS Lumbar discectomy	4.0 (16/4)	6.0 (6/1)	2.78 (25/9)	0 (0/0)	4.5 (9/2)	4.67 (28/6)	0 (0/0)	2.67 (8/3)	0 (0/0)	3.0 (3/1)	4.2 (21/5)	0 (0/0)	6.1	9.15	9.15
6	Neurosurgery	NS-ALOS Cervical discectomy	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	1.98	2.97	2.97
7	Internal Medicine	IM-ICU transfer rate	0.00% (0/7)	3.97% (5/126)	7.50% (3/40)	2.04% (1/49)	1.43% (1/70)	4.46% (9/202)	7.92% (8/101)	0.00% (0/0)	6.84% (8/117)	6.11% (11/180)	11.36% (10/88)	4.95% (5/101)	3.70%	5.55%	5.55%
8	Internal Medicine	IM-Pneumonia readmission	0.00% (0/0)	0.00% (0/0)	25.00% (1/4)	0.00% (0/6)	0.00% (0/1)	7.69% (1/13)	20.00% (1/5)	0.00% (0/0)	0.00% (0/4)	25.00% (1/4)	8.33% (1/12)	0.00% (0/0)	17.30%	25.95%	25.95%
9	Internal Medicine	IM-UTI readmission	0.00% (0/1)	0.00% (0/0)	9.09% (1/11)	50.00% (1/2)	0.00% (0/1)	11.11% (2/18)	8.33% (1/12)	0.00% (0/0)	12.50% (1/8)	0.00% (0/4)	11.76% (2/17)	0.00% (0/0)	16.40%	24.60%	24.60%
10	Oncosurgery	Onco-Avg duration of mechanical ventilation	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	4 (8/2)	0 (0/0)	0 (0/0)	0 (0/0)	1 (1/1)	0 (0/0)	4.37	6.56	6.56
11	Oncosurgery	Onco-Critical care ALOS	4.71 (9/2)	3 (180/60)	1.72 (7/4)	0.42 (1/2)	2.05 (37/18)	4.8 (106/22)	4.7 (254/54)	0 (0/0)	4.47 (54/12)	8.35 (317/38)	2.84 (145/51)	2.9 (128/44)	8.43	12.65	12.65
12	Oncosurgery	Onco-Avg blood unit transfusion	2.8 (14/5)	0 (0/0)	1.83 (22/12)	1 (1/1)	2.33 (142/61)	2.86 (226/79)	4.05 (534/132)	0 (0/0)	6.39 (115/18)	4.49 (265/59)	2.58 (385/149)	4.33 (273/63)	1.40	2.10	2.10
13	Neurology	Neuro-Mortality in Ac Isc Stroke	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/1)	0.00% (0/4)	0.00% (0/28)	0.00% (0/0)	0.00% (0/1)	0.00% (0/17)	0.00% (0/4)	0.00% (0/11)	0.00% (0/0)	3.00%	4.50%	4.50%
14	Neurology	Neuro-ICH post thrombolysis	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/1)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/3)	0.00% (0/0)	6.00%	9.00%	9.00%
15	Critical care	CC-Return rate	57.14% (20/35)	24.32% (18/74)	50.00% (26/52)	21.74% (5/23)	43.18% (19/44)	47.62% (30/63)	47.06% (16/34)	9.26% (5/54)	33.33% (12/36)	40.85% (29/71)	32.39% (23/71)	59.38% (19/32)	7.00%	10.50%	10.50%
16	Critical care	CC-ALOS in Poisoning	0.79 (1/1)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0.71 (1/1)	0 (0/0)	0 (0/0)	4.80	7.20	7.20
17	Critical care	CC-ALOS in AMI	0 (0/0)	0 (0/0)	3.11 (62/20)	1.14 (8/7)	0 (0/0)	2.75 (6/2)	2.08 (2/1)	0 (0/0)	0 (0/0)	2.12 (34/16)	2.96 (47/16)	0 (0/0)	4.90	7.35	7.35
18	Critical care	CC-ALOS in Sev Pancreatitis	1.61 (5/3)	0 (0/0)	14.99 (45/3)	4.67 (5/1)	9.88 (30/3)	4.9 (15/3)	1.13 (1/1)	4.13 (8/2)	0 (0/0)	2.71 (3/1)	5.9 (29/5)	0 (0/0)	17.50	26.25	26.25
19	Critical care	CC-O/E mortality ratio (SOFA)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	<=1	>1, <=1.5	>1.5
20	Cardiology	Cardio-AMI mortality	0.00% (0/1)	0.00% (0/0)	0.00% (0/22)	0.00% (0/7)	0.00% (0/4)	0.00% (0/13)	0.00% (0/4)	0.00% (0/0)	0.00% (0/5)	0.00% (0/33)	0.00% (0/15)	0.00% (0/0)	7.50%	11.25%	11.25%
21	Cardiology	Cardio-AMI mortality ER	0.00% (0/1)	0.00% (0/0)	0.00% (0/18)	0.00% (0/5)	0.00% (0/2)	0.00% (0/12)	0.00% (0/4)	0.00% (0/0)	0.00% (0/5)	0.00% (0/32)	0.00% (0/15)	0.00% (0/0)	7.50%	11.25%	11.25%
22	Cardiology	Cardio-AMI mortality post proc	0.00% (0/0)	0.00% (0/0)	0.00% (0/21)	0.00% (0/1)	0.00% (0/4)	0.00% (0/6)	0.00% (0/2)	0.00% (0/0)	0.00% (0/4)	0.00% (0/23)	0.00% (0/9)	0.00% (0/0)	7.50%	11.25%	11.25%
23	Cardiology	Cardio-AMI_IABP mortality	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	20.00%	30.00%	30.00%
24	Cardiology	Cardio-AMI readmission	0.00% (0/0)	0.00% (0/0)	26.67% (12/45)	0.00% (0/11)	0.00% (0/6)	18.18% (4/22)	22.22% (2/9)	0.00% (0/0)	0.00% (0/2)	14.29% (4/28)	11.76% (2/17)	0.00% (0/0)	12.00%	18.00%	18.00%
25	Cardiology	Cardio-AMI readmission CHF	0.00% (0/0)	0.00% (0/0)	0.00% (0/45)	0.00% (0/11)	0.00% (0/6)	0.00% (0/22)	0.00% (0/9)	0.00% (0/0)	0.00% (0/2)	3.57% (1/28)	0.00% (0/17)	0.00% (0/0)	2.25%	3.38%	3.38%
26	Cardiology	Cardio-PCI dialysis	0.00% (0/38)	0.00% (0/58)	0.00% (0/94)	0.00% (0/9)	0.00% (0/43)	0.00% (0/28)	0.00% (0/78)	0.00% (0/0)	0.00% (0/56)	0.00% (0/77)	0.00% (0/28)	0.00% (0/8)	0.30%	0.45%	0.45%
27	Cardiology	Cardio-PCI BT	5.26% (2/38)	0.00% (0/58)	2.13% (2/94)	0.00% (0/9)	0.00% (0/43)	0.00% (0/28)	5.13% (4/78)	0.00% (0/0)	0.00% (0/56)	3.90% (3/77)	0.00% (0/28)	0.00% (0/8)	2.30%	3.45%	3.45%
28	Cardiology	Cardio-CHF mortality	0.00% (0/0)	0.00% (0/0)	0.00% (0/11)	0.00% (0/4)	0.00% (0/5)	0.00% (0/8)	0.00% (0/9)	0.00% (0/0)	0.00% (0/4)	0.00% (0/11)	0.00% (0/8)	0.00% (0/0)	2.90%	4.35%	4.35%
29	Cardiology	Cardio-CHF readmission	0.00% (0/0)	0.00% (0/0)	10.71% (3/28)	50.00% (1/2)	0.00% (0/4)	36.36% (4/11)	27.27% (3/11)	0.00% (0/0)	15.38% (2/13)	0.00% (0/9)	8.33% (1/12)	0.00% (0/0)	19.00%	28.50%	28.50%
30	Ortho	Ortho-PE	0.00% (0/39)	0.00% (0/0)	0.00% (0/31)	0.00% (0/66)	0.00% (0/20)	0.00% (0/183)	0.00% (0/0)	0.00% (0/0)	0.00% (0/209)	0.00% (0/81)	0.00% (0/78)	0.00% (0/0)	3.10%	4.65%	4.65%
31	Ortho	Ortho-THR readmission	0.00% (0/3)	0.00% (0/4)	0.00% (0/2)	0.00% (0/3)	21.43% (3/14)	0.00% (0/8)	0.00% (0/0)	0.00% (0/0)	14.29% (2/14)	40.00% (2/5)	0.00% (0/3)	0.00% (0/6)	3.65%	5.48%	5.48%
32	MAMBS	ALOS Lap Chole	1.5 (15/10)	2 (2/1)	1.5 (36/24)	1.37 (52/38)	0 (0/0)	2.76 (127/46)	2.06 (74/36)	3.75 (15/4)	0 (0/0)	1.89 (51/27)	1.74 (157/90)	2.83 (84/12)	1.09	1.64	1.64
33	MAMBS	MAMBS-Hernia readmission	0.00% (0/1)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/11)	0.00% (0/0)	0.00% (0/4)	0.00% (0/1)	0.00% (0/1)	0.00% (0/0)	2.90%	4.35%	4.35%
34	Nephrology	Nephro-HBV seroconv	0.00% (0/13)	0.00% (0/91)	0.00% (0/49)	0.00% (0/11)	0.00% (0/60)	0.00% (0/44)	0.00% (0/49)	0.00% (0/74)	0.00% (0/42)	0.00% (0/42)	0.00% (0/89)	0.00% (0/21)	4.66%	6.99%	6.99%
35	Nephrology	Nephro-HCV seroconv	0.00% (0/13)	0.00% (0/91)	2.04% (1/49)	0.00% (0/11)	1.67% (1/60)	2.27% (1/44)	0.00% (0/49)	0.00% (0/74)	0.00% (0/42)	0.00% (0/42)	0.00% (0/89)	0.00% (0/21)	6.00%	9.00%	9.00%
36	Nephrology	Nephro-BT Dialysis	18.75% (6/32)	7.97% (20/251)	8.33% (14/168)	9.33% (7/75)	13.79% (20/145)	5.35% (10/187)	4.43% (20/451)	21.54% (14/65)	8.13% (13/160)	6.70% (15/224)	7.33% (30/409)	3.77% (4/106)	3.40%	5.10%	5.10%
37	Liver and Biliary Sciences	LBS-Recipient mortality	0.00% (0/0)	0.00% (0/5)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/13)	0.00% (0/0)	0.00% (0/0)	0.00% (0/1)	0.00% (0/0)	6.30%	9.45%	9.45%
38	Liver and Biliary Sciences	LBS-Donor mortality	0 (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/4)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.20%	0.30%	0.30%
39	General Surgery	GS-7d OT return	0.00% (0/44)	0.00% (0/0)	0.00% (0/71)	0.00% (0/77)	0.00% (0/70)	0.00% (0/136)	0.00% (0/69)	0.00% (0/0)	0.00% (0/6)	1.79% (2/112)	0.00% (0/127)	0.00% (0/0)	3.50%	5.25%	5.25%
40	General Surgery	GS-Critical care ALOS	2.08 (200/4)	0 (0/0)	1.62 (584/15)	1.3 (187/6)	4.76 (1372/12)	3.63 (785/9)	1.38 (33/1)	0 (0/0)	2.13 (51/1)	1.18 (226/8)	3.58 (429/5)	0 (0/0)	3.60	5.40	5.40
41	General Surgery	ALOS Lap Chole	0 (0/0)	0 (0/0)	0 (0/0)	1 (5/5)	0 (0/0)	2.35 (122/52)	1.6 (235/147)	4.3 (43/10)	0 (0/0)	1.5 (3/2)	1.5 (21/14)	2.5 (5/2)	1.09	1.64	1.64
42	Reconstructive Surgery	Recon-Free flap 7d OT return	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	11.11% (1/9)	0.00% (0/0)	0.00% (0/0)	0.00% (0/1)	0.00% (0/0)	0.00% (0/0)	8.80%	13.20%	13.20%
43	Reconstructive Surgery	Recon-Free flap ALOS	0 (0.00/0)	0 (0.00/0)	0 (0.00/0)	0 (0.00/0)	0 (0.00/0)	0 (0.00/0)	8.42 (25.25/3)	0 (0.00/0)	0 (0.00/0)	0 (0.00/0)	0 (0.00/0)	0 (0.00/0)	13.00	19.50	19.50
44	Respiratory Medicine	Resp-COPD readmission	0 (0/0)	0 (0/0)	17.65% (3/17)	0 (0/0)	0.00% (0/4)	23.08% (3/13)	40.00% (2/5)	0.00% (0/5)	0.00% (0/11)	33.33% (1/3)	9.09% (2/22)	0.00% (0/0)	20.20%	30.30%	30.30%
45	Respiratory Medicine	Resp-Asthma readmission	0.00% (0/0)	0.00% (0/0)	50.00% (2/4)	50.00% (1/2)	0.00% (0/3)	0.00% (0/5)	0.00% (0/0)	0.00% (0/2)	0.00% (0/0)	0.00% (0/0)	42.86% (3/7)	0.00% (0/0)	14.20%	21.30%	21.30%
46	Respiratory Medicine	CC-O/E mortality ratio (SOFA)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	0 (0/0)	<=1	>1, <=1.5	>1.5
47	Urology	Uro-KT recipient mortality	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/13)	0.00% (0/1)	0.00% (0/0)	0.00% (0/8)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/2)	0.74%	1.11%	1.11%
48	Urology	Uro-Nephrectomy mortality	0.00% (0/0)	0.00% (0/4)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/4)	0.00% (0/0)	0.00% (0/6)	0.00% (0/0)	0.00% (0/4)	0.00% (0/2)	0.00% (0/1)	0.80%	1.20%	1.20%
49	Obs & Gyne	OBG-Hysterectomy readmission	0.00 % (0/2)	0.00 % (0/20)	10.00 % (2/20)	0.00 % (0/13)	16.67 % (1/6)	5.00 % (1/20)	0.00 % (0/0)	0.00 % (0/0)	2.50 % (1/40)	0.00 % (0/25)	0.00 % (0/12)	0.00 % (0/3)	5.00%	7.50%	7.50%
50	Obs & Gyne	OBG-NICU adm	16.67 % (1/6)	14.49 % (10/69)	35.29 % (12/34)	31.03 % (9/29)	32.00 % (8/25)	0.00 % (0/55)	0.00 % (0/0)	0.00 % (0/0)	29.17 % (21/72)	20.75 % (11/53)	67.80 % (40/59)	0.00 % (0/12)	5.60%	8.40%	8.40%
51	Obs & Gyne	OBG-LSCS 7d OT return	0.00 % (0/3)	0.00% (0/0)	5.00 % (1/20)	0.00 % (0/29)	0.00 % (0/25)	0.00 % (0/54)	0.00% (0/0)	0.00% (0/0)	0.00 % (0/62)	0.00 % (0/36)	0.00 % (0/48)	0.00% (0/0)	0.20%	0.30%	0.30%
52	GI surgery	GI-Pancreatectomy mortality	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	5.90%	8.85%	8.85%
53	GI surgery	GI-Pancreatectomy readmission	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	21.50%	32.25%	32.25%
54	GI surgery	GI-Colorectal mortality	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	4.51%	6.77%	6.77%
55	GI surgery	GI-Colorectal readmission	0.00% (0/0)	0.00% (0/1)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	0.00% (0/0)	11.40%	17.10%	17.10%
56	Neonatology	NICU-return	0.00% (0/0)	0.00% (0/17)	14.29% (2/14)	0.00% (0/7)	3.23% (1/31)	8.33% (1/12)	0.00% (0/0)	0.00% (0/0)	4.00% (1/25)	0.00% (0/16)	0.00% (0/18)	0.00% (0/0)	7.00%	10.50%	10.50%
57	Neonatology	NICU-Blood culture	0.00% (0/1)	16.67% (2/12)	0.00% (0/7)	0.00% (0/4)	0.00% (0/7)	7.14% (1/14)	0.00% (0/0)	0.00% (0/0)	0.00% (0/8)	20.00% (1/5)	0.00% (0/18)	0.00% (0/0)	9.40%	14.10%	14.10%
58	Neonatology	ICU-Ventilation	0.00% (0/1)	29.41% (5/17)	6.67% (1/15)	0.00% (0/6)	38.46% (10/26)	20.00% (2/10)	0.00% (0/0)	0.00% (0/0)	4.35% (1/23)	44.44% (4/9)	14.29% (3/21)	0.00% (0/0)	33.53%	50.30%	50.30%
			Aggregate score														

What has been achieved?

- MHC has made a **pioneering effort** in the area of clinical outcome measures
- We are able to **evaluate complex clinical procedures, diagnosis** across clinical specialties.
- **Results**: 78% of our results are at or above benchmark levels.
- **Innovation**: software, clinical measures all developed in house by team of Clinicians, Quality, IT and Data analytics
- **Totally integrated and automated with Electronic Health records**: data picked up from there
- Can **scale** across 15 centers and more as we grow
- Can **compare results** within and outside network
- Ability to **benchmark** and improve
- **Reliable**
- **Efficient**

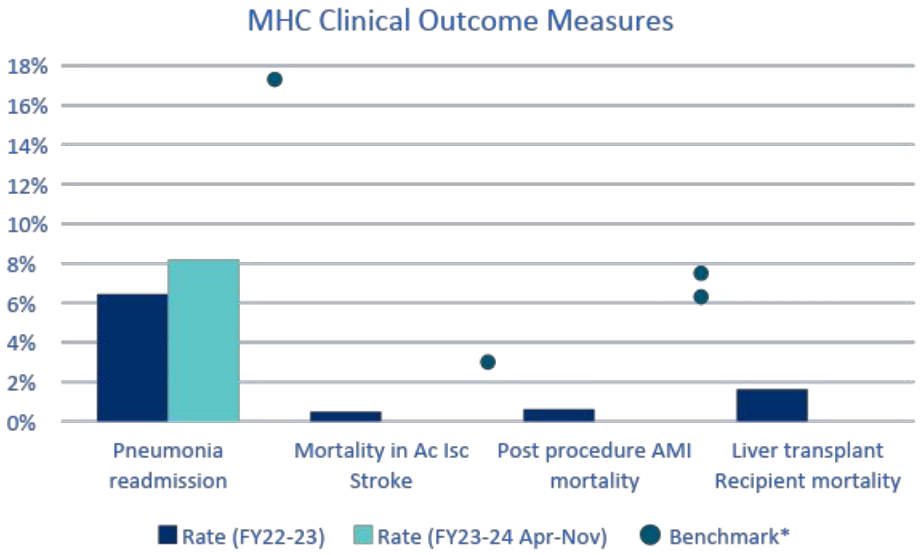
Outcome measures for Critical care (Earlier)

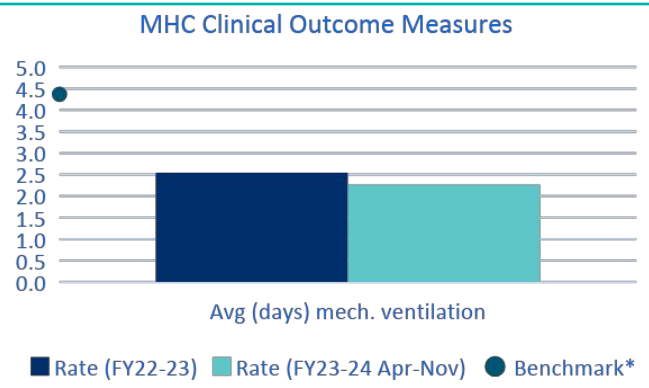
S. No.	PARAMETERS	Source	Unit of Measure	Formula
Volumes				
1	Admission	MRD	Number	
2	ALOS	MRD/ finance	Number	
Medical Quality & Safety				
1	Central Line Associated Blood Stream Infection (CLABSI)	Infection Control Officer	Number	Total number of reported CLABSIs
2	Catheter Associated Urinary Tract Infections (CAUTI)	Infection Control Officer	Number	Number of reported CAUTIs
3	Ventilator Associated Pneumonia (VAP)	Infection Control Officer	Number	Total number of reported VAPs
4	Rate of compliance to VTE Documentation	Register	Rate	Total 'VTE Risk Stratified patients of the doctor / Total VTE Eligible Patients of the doctor * 100
5	Rate of VTE Prophylaxis Documented in Moderate & High risk categories	Register	Rate	Total Number of cases where 'Order' entries are present of the doctor / Total Number of Moderate & High risk stratified patients of the doctor * 100
6	Return to ICU within 48 Hours	Quality Flash	Number	Number of returns to ICU within 48 hours / Number of discharges/transfers in the ICU *100
7	Number of Sentinel Events	Incident Reporting	Number	Sum of all reported sentinel events under same clinician

Outcome measures for Critical care (Now)

S. No.	PARAMETER	Source	Unit of Measure	Formula
		Volumes		
1	Admission	MRD	Number	
2	ALOS	MRD/ finance	Number	
		Medical Quality & Safety		
1	Central Line Associated Blood Stream Infection (CLABSI)	*System report / Infection Control Officer*	Number	Total number of reported CLABSIs
2	Catheter Associated Urinary Tract Infections (CAUTI)	*System report / Infection Control Officer*	Number	Number of reported CAUTIs
3	Ventilator Associated Pneumonia (VAP)	*System report / Infection Control Officer*	Number	Total number of reported VAPs
4	Rate of compliance to VTE Documentation	*System report*	Rate	Total 'VTE Risk Stratified patients of the doctor / Total VTE Eligible Patients of the doctor * 100
5	Rate of VTE Prophylaxis Documented in Moderate & High risk categories	*System report*	Rate	Total Number of cases where 'Order' entries are present of the doctor / Total Number of Moderate & High risk stratified patients of the doctor * 100
6	*All cause 14 day Critical care return rate*	*COM dashboard*	*Percentage*	*Proportion of all cause patient return to critical care within 14 days of transfer out or discharge*
7	*ALOS in critical care for pts with index admission of Poisoning*	*COM dashboard*	*Days*	*ALOS in critical care of patients admitted (to ICU's) with Poisoning*
8	*ALOS in critical care for pts with index admission of AMI*	*COM dashboard*	*Days*	*ALOS in critical care of patients admitted (to ICU's) with AMI*
9	*ALOS in critical care for pts with index admission of severe Pancreatitis*	*COM dashboard*	*Days*	*ALOS in critical care of patients admitted (to ICU's) with severe Pancreatitis*
10	*Observed to Expected in-hospital mortality ratio in critical patients based on SOFA scores*	*COM dashboard*	*Ratio*	*Ratio of Observed to Expected in-hospital Mortality based on SOFA score in critical care*

MHC Clinical Outcome Measures



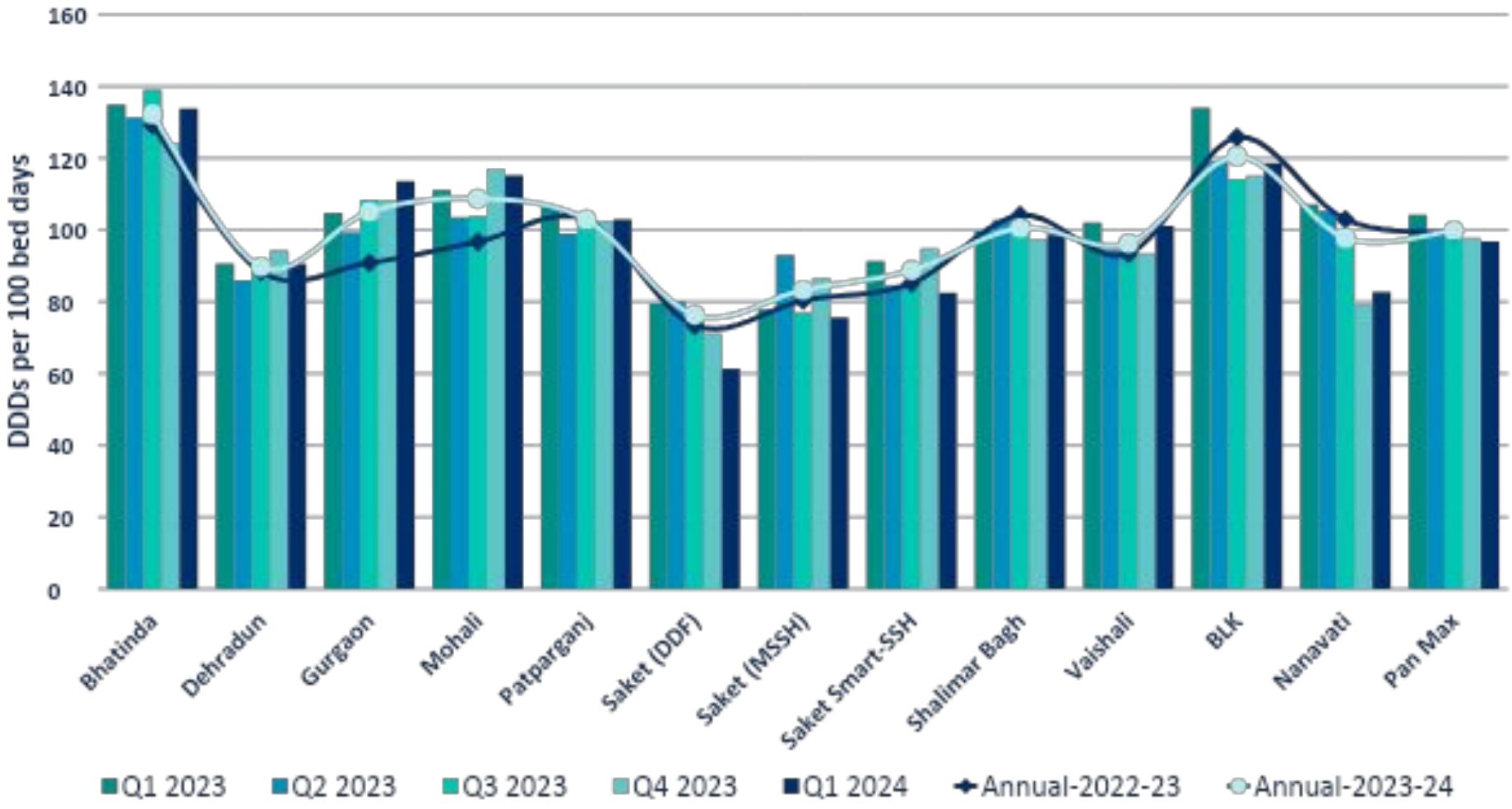


COM Parameter	# cases (FY22-23)	# cases (FY23-24 Apr-Nov)
Pneumonia readmission	682	537
Mortality in Ac. Isc Stroke	599	469
Post procedure AMI mortality	980	792
Liver transplant Recipient mortality	244	347
Avg. (days) mech. Ventilation	75	99

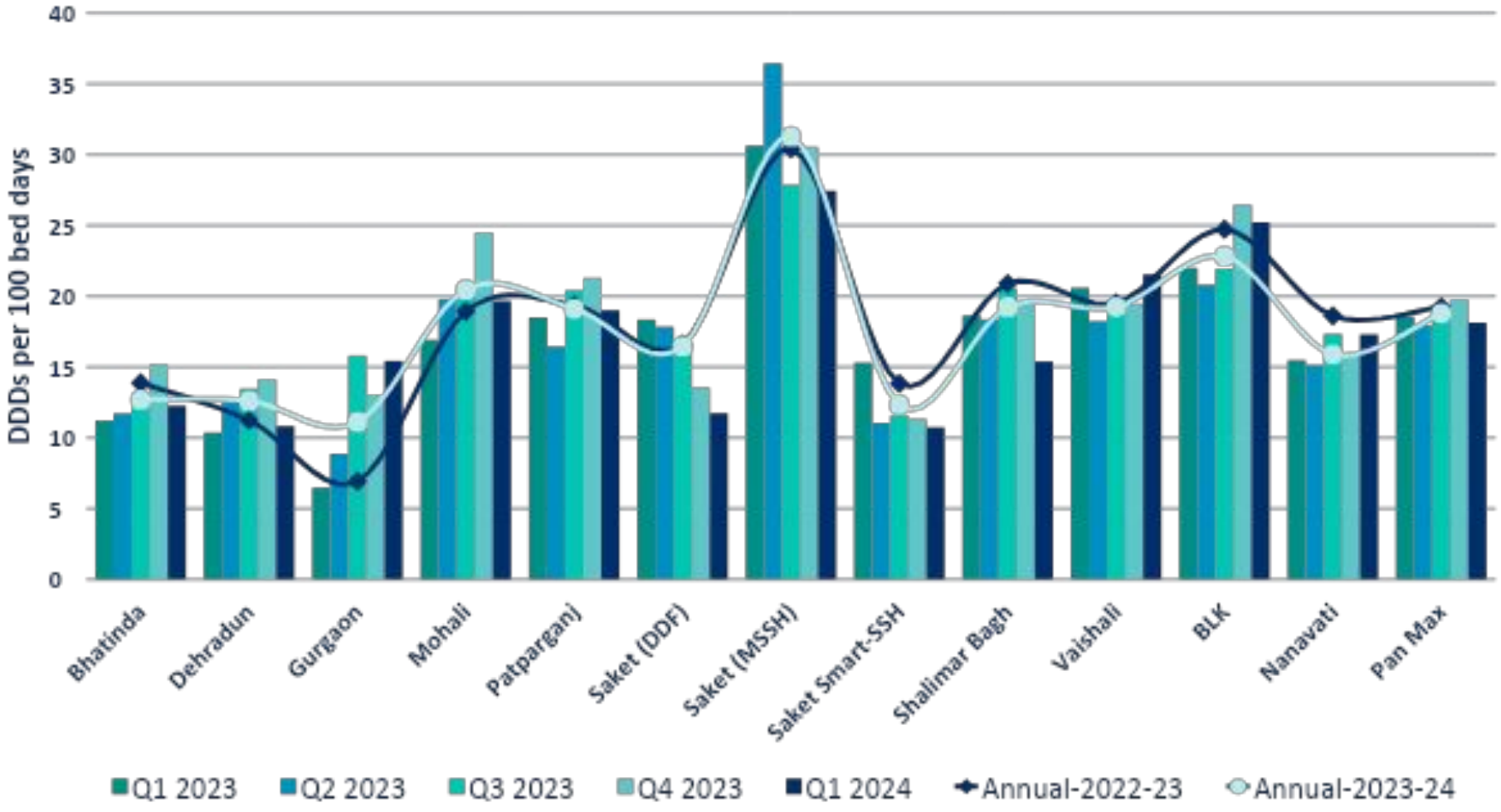
Internal Medicine	30 day all cause Readmission rate in Pneumonia	All cause Readmission within 30 days of discharge after index admission with Pneumonia	17.30%
Neurology	In-hospital mortality in Acute Ischemic Stroke	Proportion of in-hospital death among patients with index admission for acute ischemic stroke	3%
Cardiology	Post procedure in-hospital AMI mortality	Proportion of post procedure in-hospital mortality of Acute Myocardial Infarction patients	7.50%
Liver and Biliary Sciences	Liver Transplant Recipient mortality rate	Proportion of all cause in-hospital recipient patient mortality post Liver Transplant	6.30%
Oncosurgery	Avg. (days) mech. Ventilation	Average duration of mechanical ventilation in head & neck, Thoracic, GI oncosurgery patients	4.37 days

*Based on published International Medical literature

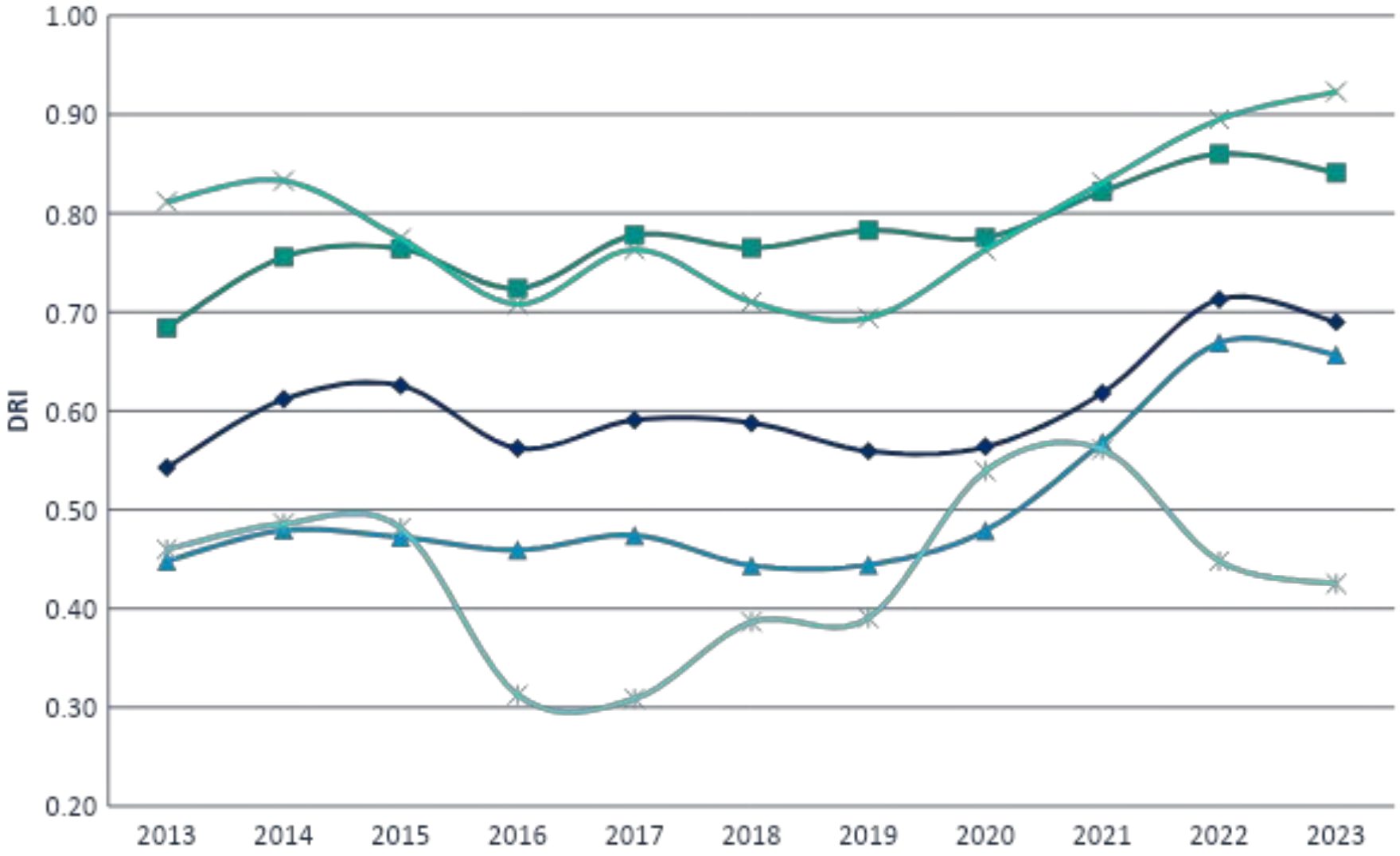
Antibiotic consumption - DDD's per 100 BD : Annual 2022-23 , Q1-Q4 2023, Annual 2023-24, Q1 2024



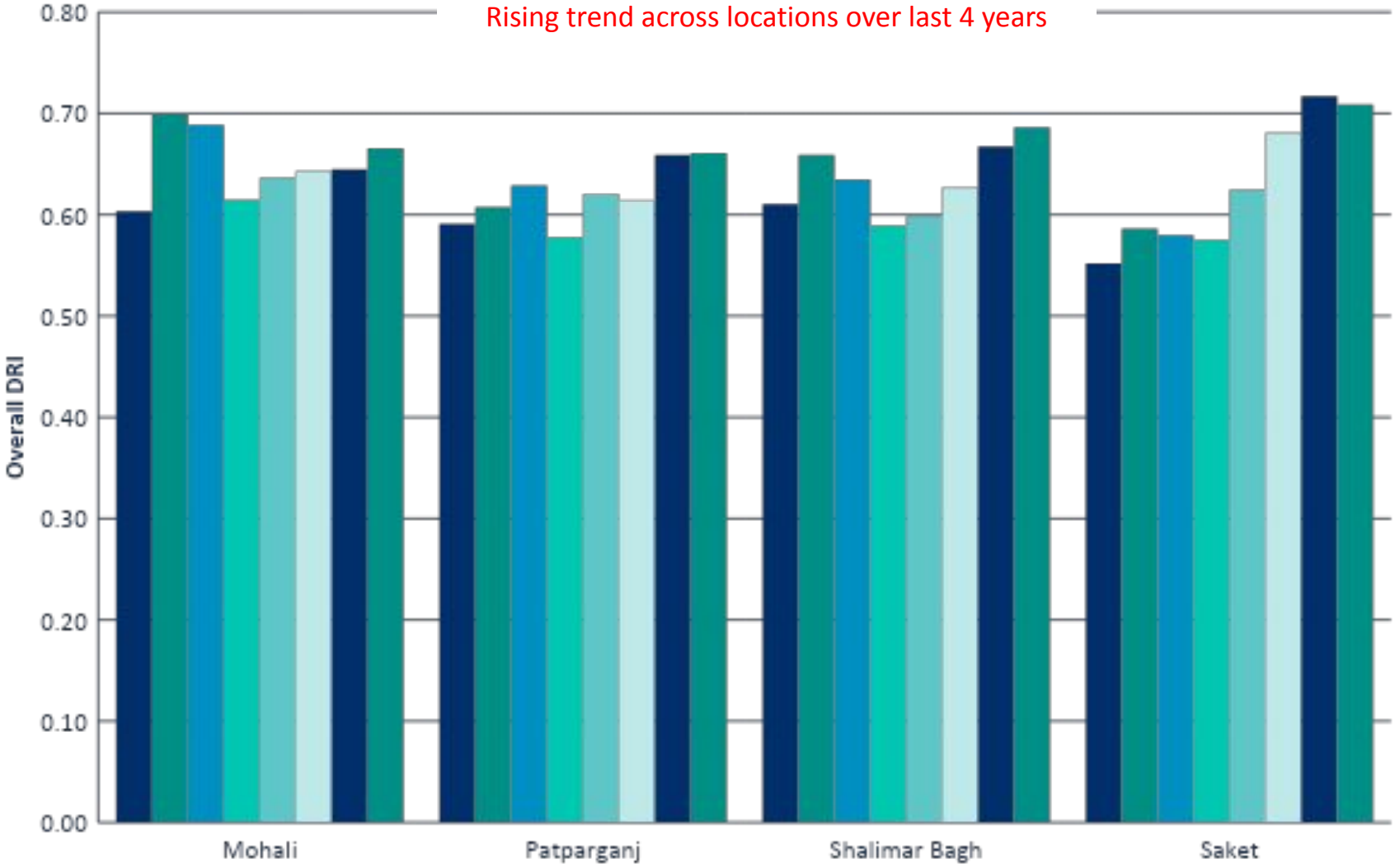
Restricted Antibiotic consumption - DDD's per 100 BD : Annual 2022-23, Q1-Q4 2023, Annual 2023-24, Q1 2024



DRI : Saket - 2013 to 2023



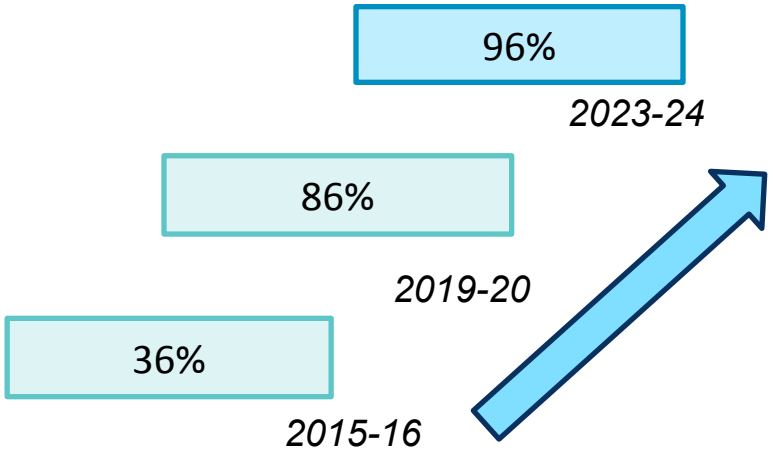
Hospital DRI : 2016 to 2023



Max DVT prevention protocol

- MHC has taken up an ambitious goal to ensure that all patients at risk for VTE are assessed and given the correct prophylaxis.
- With close follow up with clinical teams, and indigenously developed software that analyses clinical data, we are able to track improvements efficiently, and use the data for planning interventions in identified areas that need improvement.
- Clinical alerts are sent to all Clinicians, for patients at risk. In a very short time, the compliance has shown significant improvement.

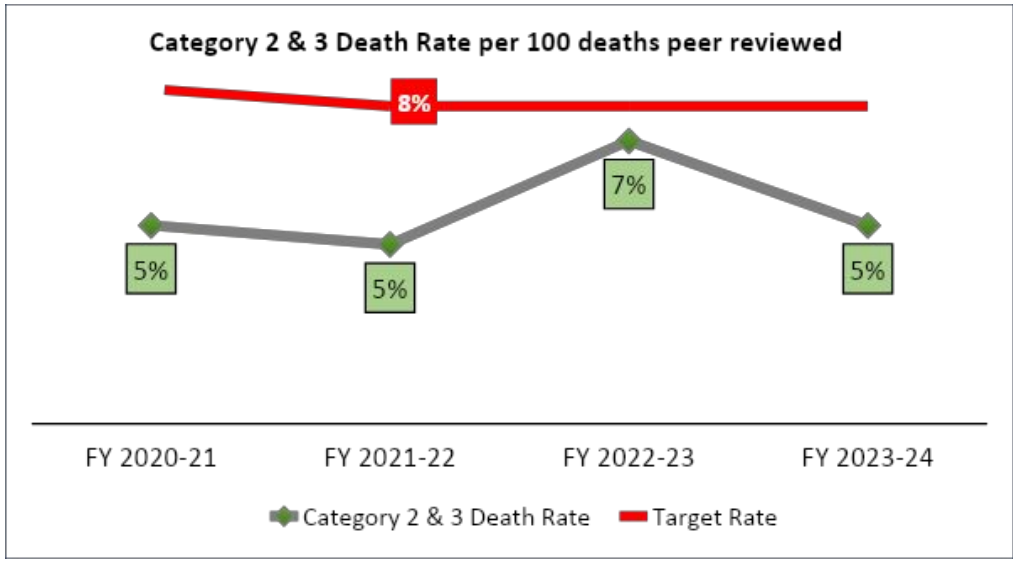
DVT Compliance Rates : Journey



- ✔ In more than 90% of cases there is excellent compliance with VTE assessment of patients.
- ✔ There is over 95% compliance with VTE prophylaxis treatment for those patients that require it, keeping patients safe, preventing harm.

Mortality Audit

- MHC has instituted a robust mechanism for peer review of every in-patient mortality.
- These audits have helped improve the accountability of mortality data thus helping in increasing professional learning as it is conducted with engagement of all stakeholders. The review is done by Peers of the same specialty, as well as multidisciplinary teams where required.
- The process yields deaths in Category 1, 2 or 3. providing opportunities to understand if there are any gaps while delivering care to the patient, which may have led to his death.



- Every IPD death is followed by rigorous audit by peers.

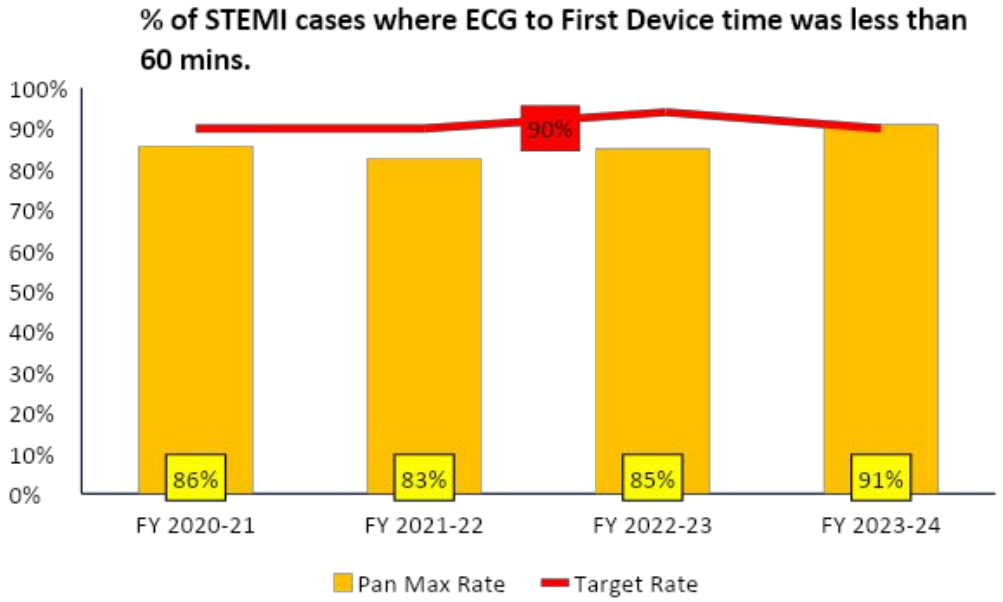
STEMI Protocol in Emergency

Standardized STEMI Clinical Protocol exist for each of the 14 units

Rigorous monitoring of every parameter of the flow process

Time stamps for Door to ECG, ER Holding Time, Door to Balloon Time is measured etc. and reported every month

Cases where benchmark time is not met is taken up for investigation and ATR submitted



Patient-Reported Outcome Measures (PROMS)

- There has been an increasing focus on the development of patient-reported outcomes (PROs).

- PROs are based on a patient's perception of a disease and its treatment.
- Patient-reported outcome measures (PROMs) are the tools used to measure and collect data on PROs.
- Patient-reported outcomes are important because they provide a patient perspective on a disease/treatment.
- This might not be captured by a clinical measurement but may be as important to the patient and the adherence to the treatment as a clinical measurement.

- NABH 5th edition has recommended PROM as standards of Excellence (PSQ3)

PROM at Max

S No	Speciality	Outcome Measure	Owner Department	Status
1	Neurology (Stroke)	Modified Rankin Scale (MRS)	Physiotherapy department & Clinical department	IPD patient by physiotherapy
2	Cardiac Sciences (CABG)	Modified Borg Dyspnoea Scale	Physiotherapy	IPD patient by physiotherapy
3	Oncology (Carcinoma breast)	ECOG Performance Status	Physiotherapy /Parent department	Pilot being done at PPG
4	Pain Clinic (Backache)	Oswestry Disability Index	Physiotherapy	Done in OPD patient
5	Pain Clinic (Neck pain)	Neck Disability Index	Physiotherapy department	Done in OPD patient
6	Ophthalmology (Cataract)	CatQuest (Cataract)	Ophthalmology	Pilot at GGN
7	Joint Replacement (TKR)	KOOS JR	Orthopaedics & physiotherapy department	Pilot at SHBG

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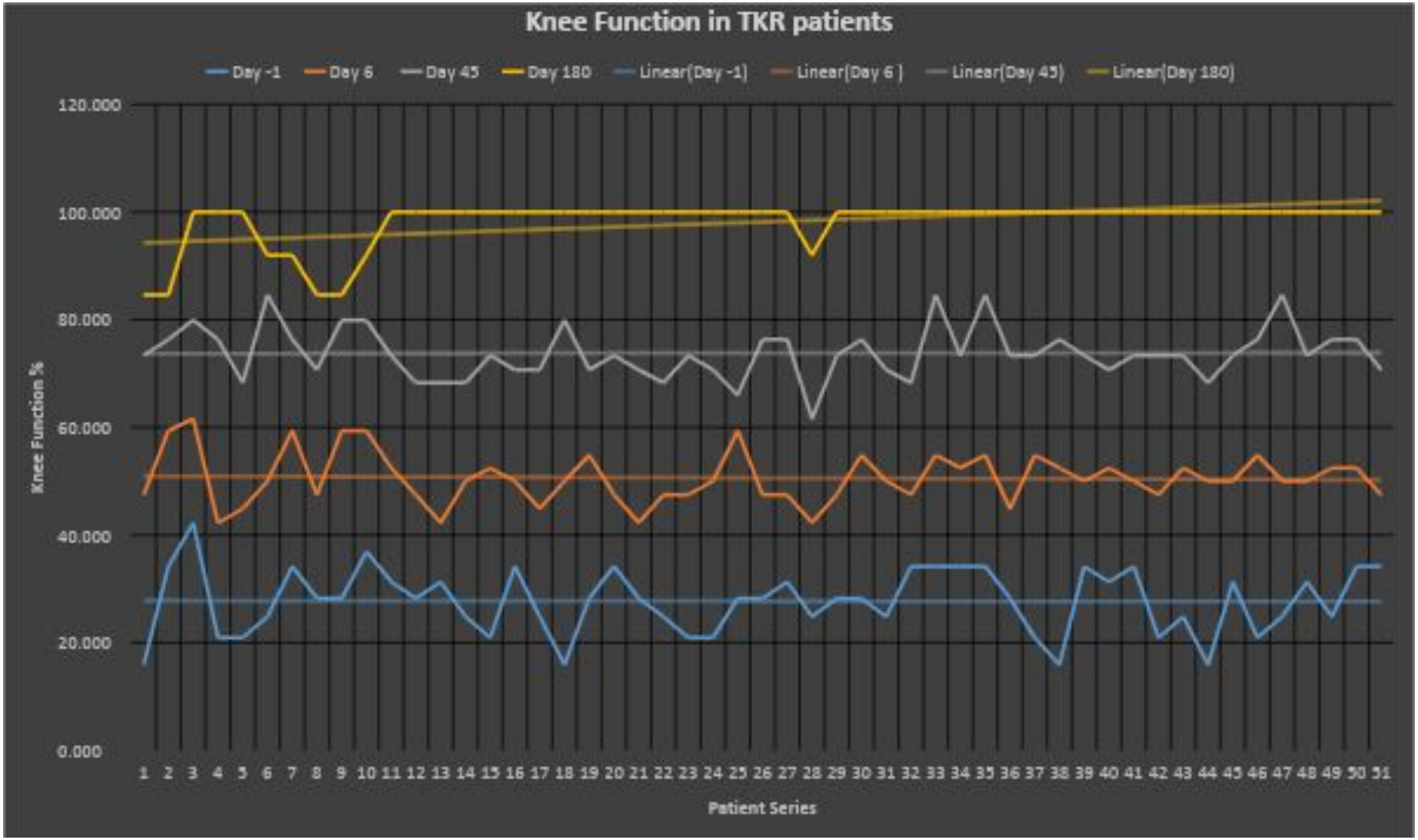
TKR Patient Reported Outcome Measure



PROM Analytics

For Hospital:

- Provide trends over the course of illness/follow-up in a series of patients
- Benchmarking (internal as well external)

For Clinician:

- Comparator between patients for a clinician
- Identify triggers for poor outcome and clinical course correction – feedback to the clinician
- Comparator between units: Best Practice Share – Policy& Protocols

For Patient :

- Comparator of health improvement over course of treatment
- Comparator of personal score versus average population

Advantages of a Robust and Unified Data Infrastructure For Research Advancement

Easier data access for research

- A unified data infrastructure allows for Large Language Models (LLM) and Specialised Language Models (SLM).
- This allows researchers to easily query data requirements without the need for manual processing.

Promotes in-house investigator-initiated studies (IIS)

- Access to comprehensive, cross-system data systems allows researchers to drive internal studies.

Enhanced feasibility for clinical trials

- Facilitates rapid eligibility determination of individual volunteers and their data, allowing for better compatibility with drug and device trials.

Linking to Bio-Repository for Advanced Research

- A unified infrastructure will connect data with bio-repositories
- This will promote genetic research, personalized medicine, and large-scale biomedical studies

MAX Healthcare

Quality Longitudinal Data is Our Foundation

Consultation Data

Data from Electronic Medical Records (EMR), covering demographics and related information.

Diagnostics Data

Samples such as blood, tissue, or other biospecimens and reports sourced from the Biobank, and the Laboratory Information Management System (LIMS).

Patient Management

Treatment data through inpatient (IPD) and outpatient (OPD) notes, as well as discharge summaries from the Electronic Medical Records (EMR) system.

Revisits or End of Treatment

Therapy titration details captured on the EMR, or therapy conclusion documented during discharge.

Types of Data From a Patient Journey at Max

Clinical Data

Demographics

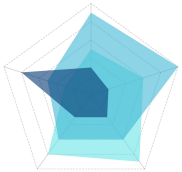
Diagnosis

Medical History

Surgical History

Tests and Reports

Doctors' notes/vitals



Imaging Data

PET-CT

CT

MRI

Ultrasound

Echo

ECG

Biobank

Tissue Blocks

Blood, Plasma etc

Genomics Data

Whole Genome Sequencing

Exome Genome Sequencing

RNA Assay

DNA Assay

Proteomics

How Max Healthcare Utilizes Its Data

Clinical Trials

Multimodal data aids drug discovery, target identification, novel biomarker discovery and target validation while enabling patient stratification and rare disease research.

Investigator-initiated Studies

In-house data empowers researchers to conduct data-driven studies, accelerating discovery and validation of novel therapies.

Data Research

RWD leads to actionable insights on diagnoses, treatments, outcomes, safety, cost efficiency, and comparative analyses. It informs decision-making, policies, and understanding of population health.

Publications

Data enables us to produce key research output in the shape of publications that generate and share knowledge in critical therapeutic areas.

Attract Grants and Collaborations

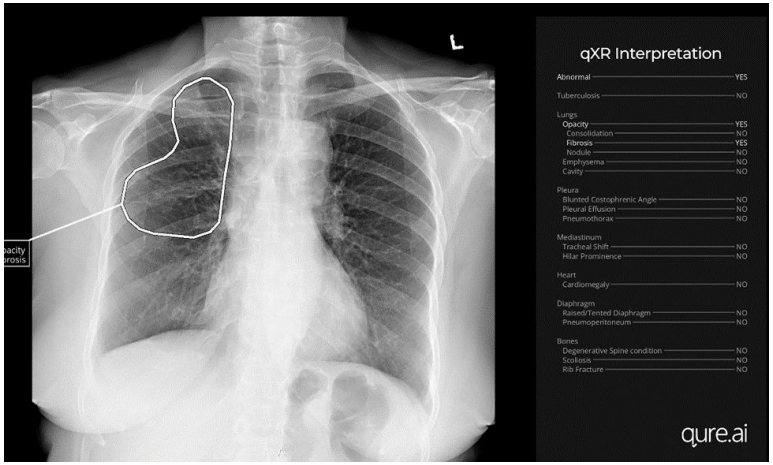
A robust data infrastructure boosts biomedical research credibility, attracting grants and fostering impactful collaborations.

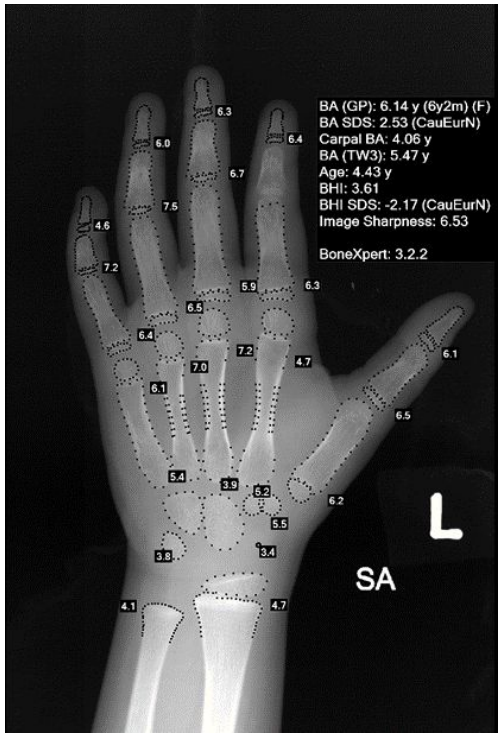
Digital Health

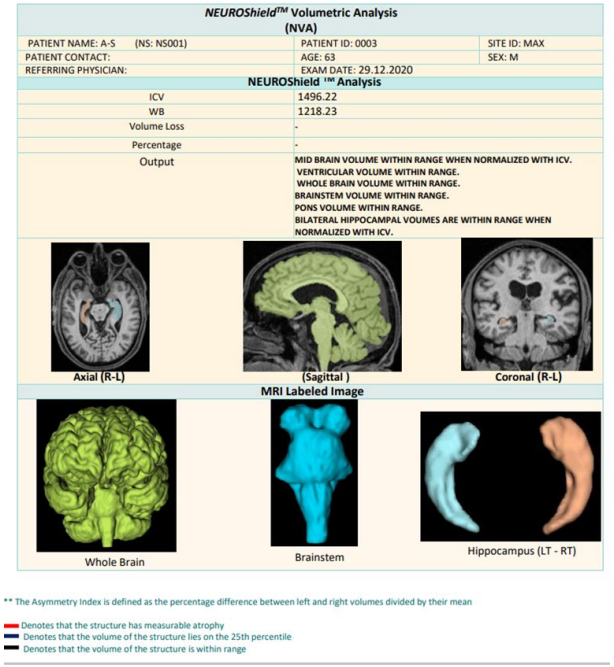
We leverage predictive analysis to personalize treatment plans, integrate AI and ML, develop tools that aid early diagnosis, streamline processes, reduce costs, and improve patient flow.

AI in Radiology: Current Use cases

- Qure.AI for chest X-ray
- Bone Expert for bone age estimation
- Neuroshield for Brain Volumetry

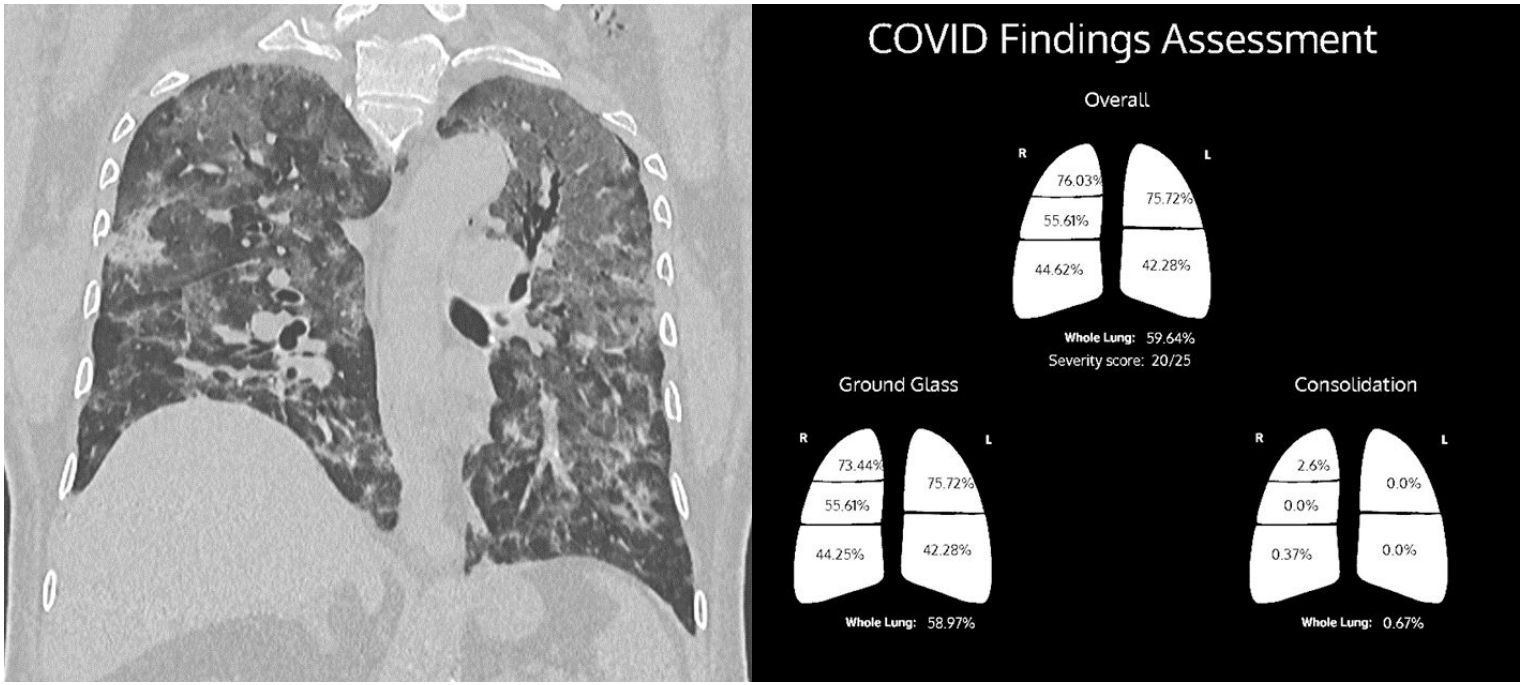






AI in Radiology: Used in the past during COVID-19

- Predible: during Covid for diagnosing and scoring COVID cases

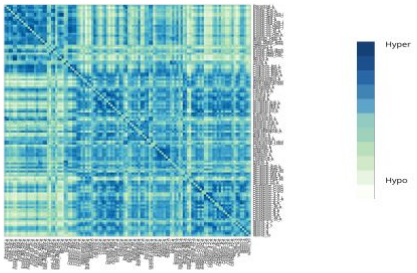


AI in Radiology: Under Installation

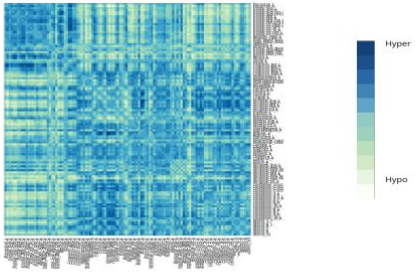
Brainsight for Neuro-navigation using resting state functional MR and DTI for tumor surgical planning

Functional Connectivity (FC) Maps

Individual FC Map

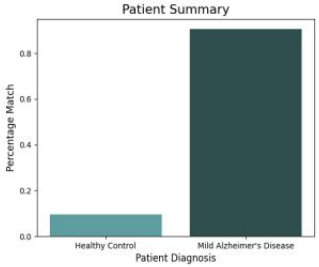


Differential FC Map b/w patient & HC



Prediction by Machine Learning algorithm - Mild AD

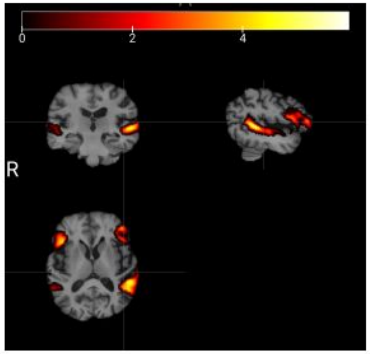
The individual matches with the Mild Alzheimer's features by - 91%



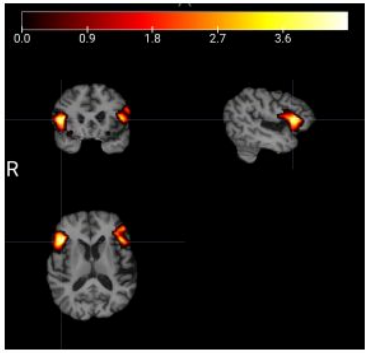
***Predictions using Machine Learning do not establish a diagnosis. Findings to be correlated with further investigation and clinical pictures.*

Network Mapping*

Whole language Netowrk

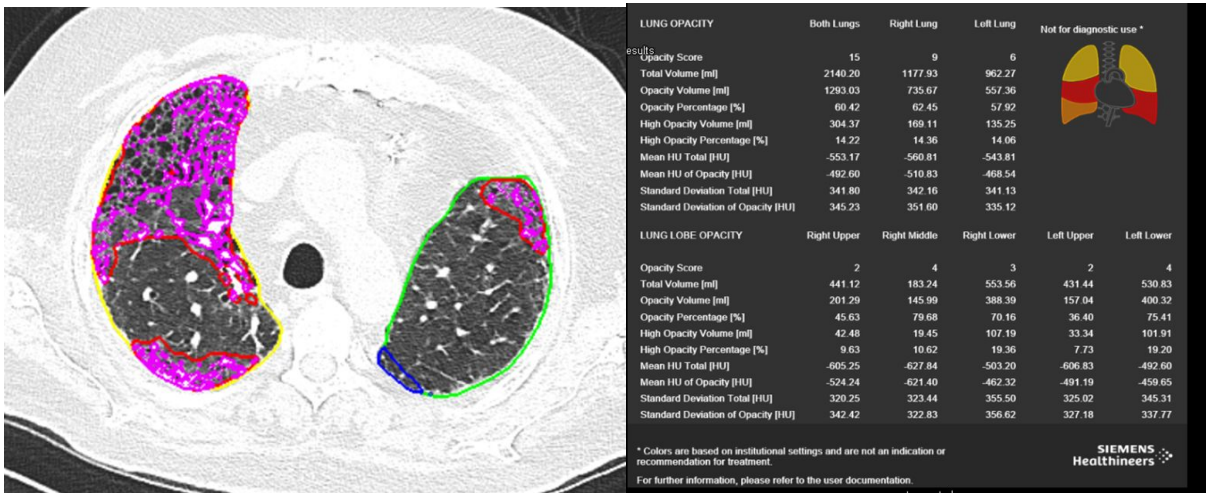


Broca's Network



AI in Radiology: Under evaluation

- Siemens
  - Prostate – PIRADS scoring
  - ILD quantification
- Annalise
  - CT Head for triage
- AZ Med
  - For fracture detection



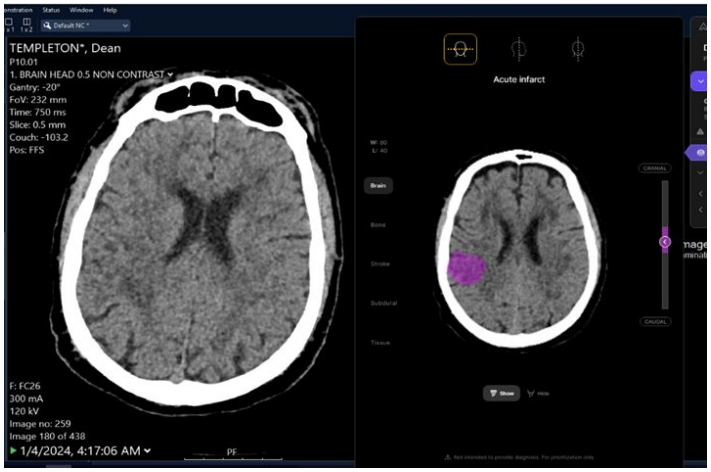
LUNG OPACITY	Both Lungs	Right Lung	Left Lung
Opacity Score	15	9	6
Total Volume [ml]	2140.20	1177.93	962.27
Opacity Volume [ml]	1293.03	735.67	557.36
Opacity Percentage [%]	60.42	62.45	57.92
High Opacity Volume [ml]	304.37	169.11	135.25
High Opacity Percentage [%]	14.22	14.36	14.06
Mean HU Total [HU]	-553.17	-560.81	-543.81
Mean HU of Opacity [HU]	-492.60	-510.83	-468.54
Standard Deviation Total [HU]	341.80	342.16	341.13
Standard Deviation of Opacity [HU]	345.23	351.60	335.12

LUNG LOBE OPACITY	Right Upper	Right Middle	Right Lower	Left Upper	Left Lower
Opacity Score	2	4	3	2	4
Total Volume [ml]	441.12	183.24	553.56	431.44	530.83
Opacity Volume [ml]	201.29	145.99	388.39	157.04	400.32
Opacity Percentage [%]	45.63	79.68	70.16	36.40	75.41
High Opacity Volume [ml]	42.48	19.45	107.19	33.34	101.91
High Opacity Percentage [%]	9.63	10.62	19.36	7.73	19.20
Mean HU Total [HU]	-605.25	-627.84	-503.20	-606.83	-492.60
Mean HU of Opacity [HU]	-524.24	-621.40	-462.32	-491.19	-459.65
Standard Deviation Total [HU]	320.25	323.44	355.50	325.02	345.31
Standard Deviation of Opacity [HU]	342.42	322.83	356.62	327.18	337.77

Not for diagnostic use *

* Colors are based on institutional settings and are not an indication or recommendation for treatment.
For further information, please refer to the user documentation.

SIEMENS Healthineers

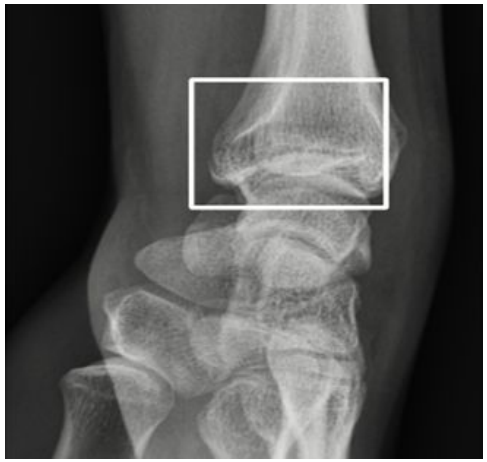


Total number of Lesions 6
Sum of Max. 2D Ø [mm] ---

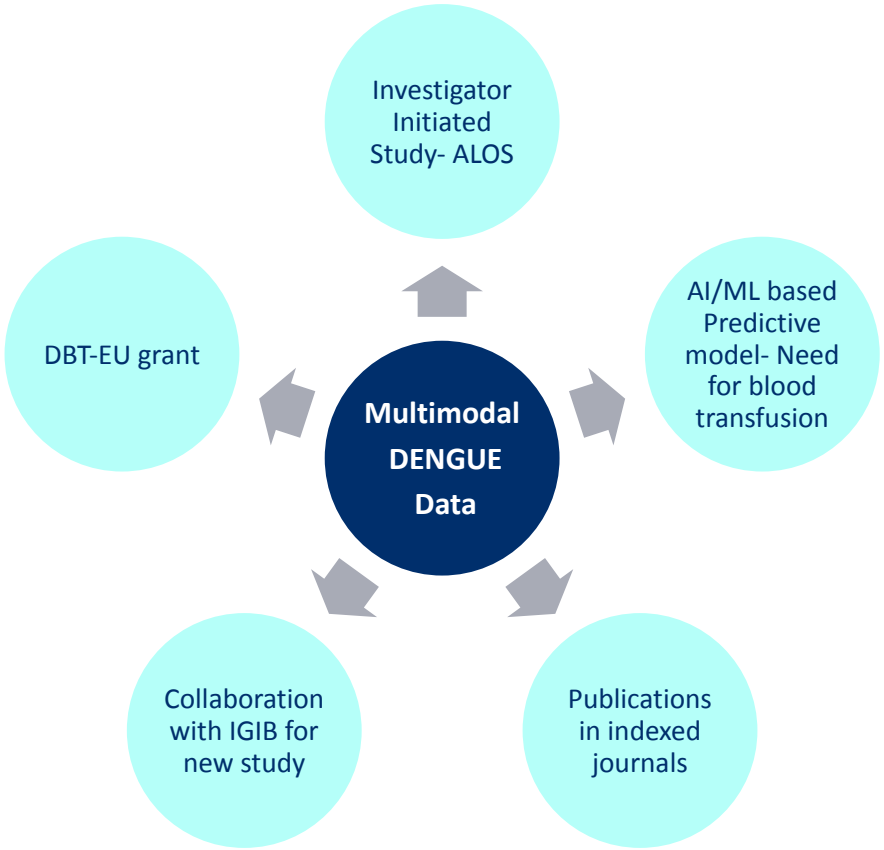
Not for diagnostic use *

Smaller lung lesions may be filtered out depending on your current settings.

Lesions	Lobe	Max. 2D Ø [mm]	Mean 2D Ø [mm]	Volume[mm³]
L1	RL	26.8	24.7	6195.1
L2	RU	8.3	6.3	47.3
L3	RU	3.1	2.5	7.2
L4	RU	2.4	2.4	3.6
L5	RM	---	---	---
L6	RU	---	---	---



Case study Dengue



Original Research: Dengue Machine learning models

ABHH Associação Brasileira de Hematologia, Hemoterapia e Terapia Celular

HEMATOLOGY, TRANSFUSION AND CELL THERAPY

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HTCT Journal

Original article

Machine-learning prediction models for any blood component transfusion in hospitalized dengue patients

Md. Shahid Ansari [a], *Dinesh Jain* [a,*], *Sandeep Budhiraja* [b]

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ABSTRACT

Background: Blood component transfusion
practice during the epidemics of dengue. T
developed severe dengue fever or thrombo
fore investigated the risk factors, perfo
machine-learning algorithms to predict blo

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https://doi.org/10.1007/s10729-021-09571-3

Identification of predictors and model for predicting prolonged length of stay in dengue patients

Md. Shahid Ansari[1] · Dinesh Jain[1] · Haripriya Harikumar[2,3] · Santu Rana[2] · Sunil Gupta[2] · Sandeep Budhiraja[4] · Svetha Venkatesh[2]

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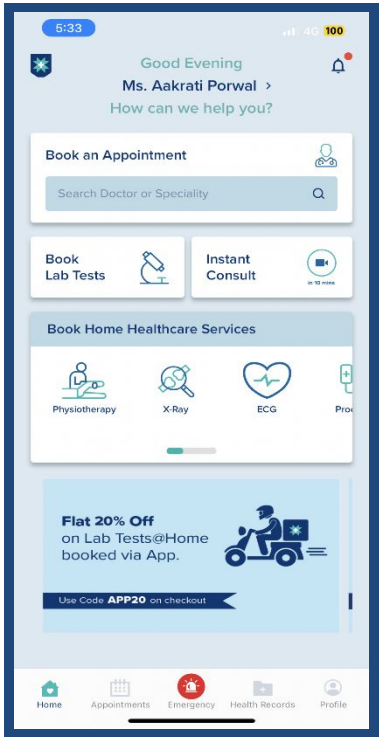
Abstract

Purpose: Our objective is to identify the predictive factors and predict hospital length of stay (LOS) in dengue patients, for efficient utilization of hospital resources. Methods: We collected 1360 medical patient records of confirmed dengue infection from 2012 to 2017 at Max group of hospitals in India. We applied two different data mining algorithms, logistic regression (LR) with elastic-net, and random forest to extract predictive factors and predict the LOS. We used an area under the curve (AUC), sensitivity, and specificity to evaluate the performance of the classifiers. Results: The classifiers performed well, with logistic regression (LR) with elastic-net providing an AUC score of 0.75 and random forest providing a score of 0.72. Out of 1148 patients, 364 (32%) patients had prolonged length of stay (LOS) (>5 days) and overall hospitalization mean was 4.03 ± 2.44 days (median ± IQR). The highest number of dengue cases belonged to the age group of 10-20 years (21.1%) with a male predominance. Moreover, the study showed that blood transfusion, emergency admission, assisted ventilation, low haemoglobin, high total leucocyte count (TLC), low or high haematocrit, and low lymphocytes have a significant correlation with prolonged LOS. Conclusion: Our findings demonstrated that the logistic regression with elastic-net was the best fit with an AUC of 0.75 and there is a significant association between LOS greater than five days and identified patient-specific variables. This method can identify the patients at highest risks and help focus time and resources.

- Data driven machine learning prediction models developed in-house for Dengue patients

Max MyHealth – Proprietary digital platform enabling best-in-class omnichannel healthcare experience

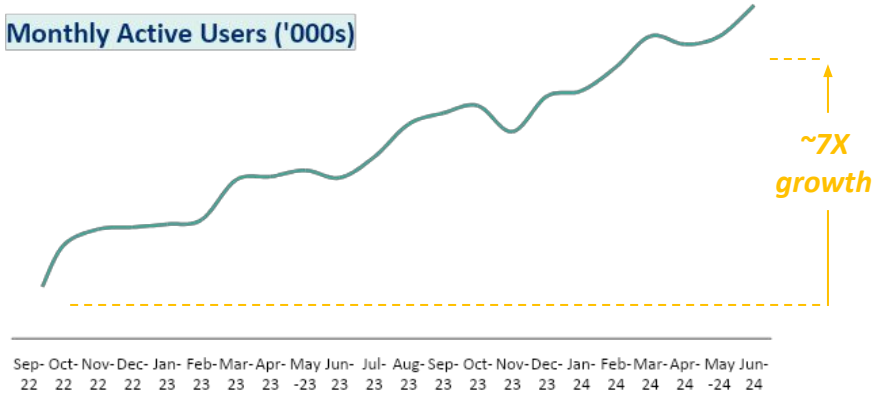
'Max MyHealth' offering new age experience for patients and doctors



~6.7 lac
Patient registrations till date

~85,000
Monthly Active Users

Launched OPD Command Centre
home-grown module to track OPD metrics in real-time and enhance patient experience



Instant Consults with GP within **10 mins** of booking an appointment

Track in-patient admission progress, make payments, link and view family members, book appointments and **view health records**

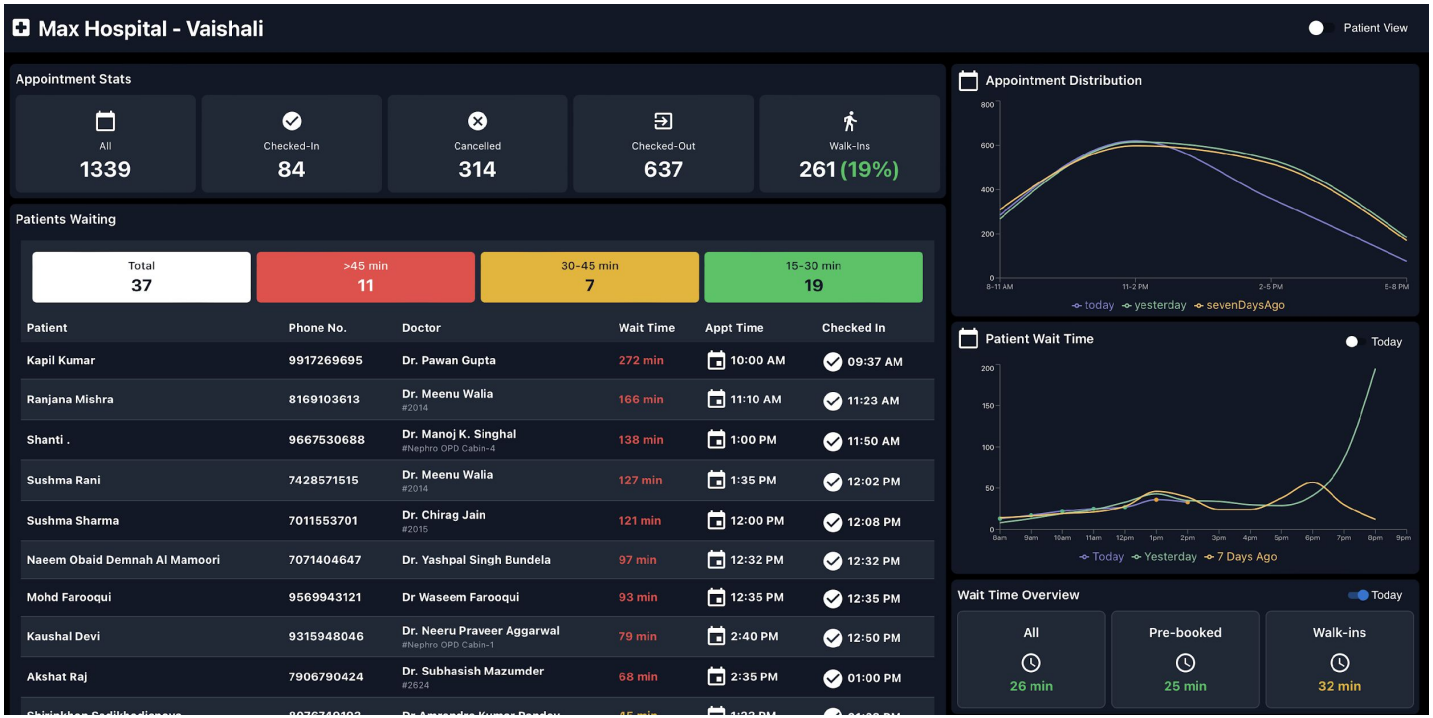
Enhanced patient experience through intelligent lead management and **patient engagement platform (PEP)**

Digital revenue *through online marketing activities and web-based appointments accounted for* ***~22% of overall revenue in Q1 FY25***

Leveraging our strong brand, customer base, clinical expertise, doctor network and data to provide existing and new customers with a seamless and best-in-class omnichannel healthcare experience

OPD Command Centre module 1 - Real-Time OPD Efficiency (Patient view)

This view enables us to access detailed patient-level information, providing all necessary data for effective intervention and patient support in a readily accessible format.

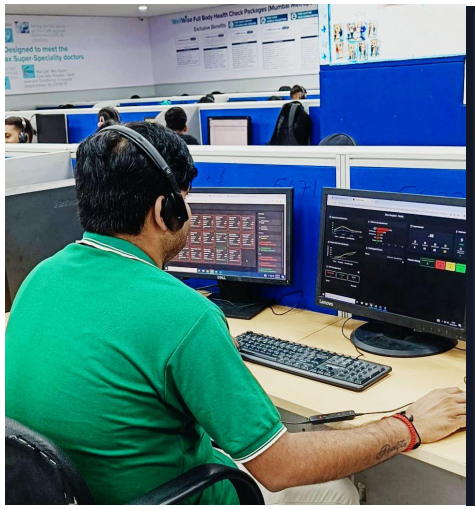


Focus area to improve patient experience:

- Bring down wait time across appointment types to less than 45 mins.
- Reach out to patients who are delayed and address their concerns before they reach out to us.

OPD Command Centre module 1 - Command Contact Centre

A dedicated team oversees operations, monitors performance, and drives on-the-ground improvements. Each tile is assigned a dedicated staff member for continuous monitoring



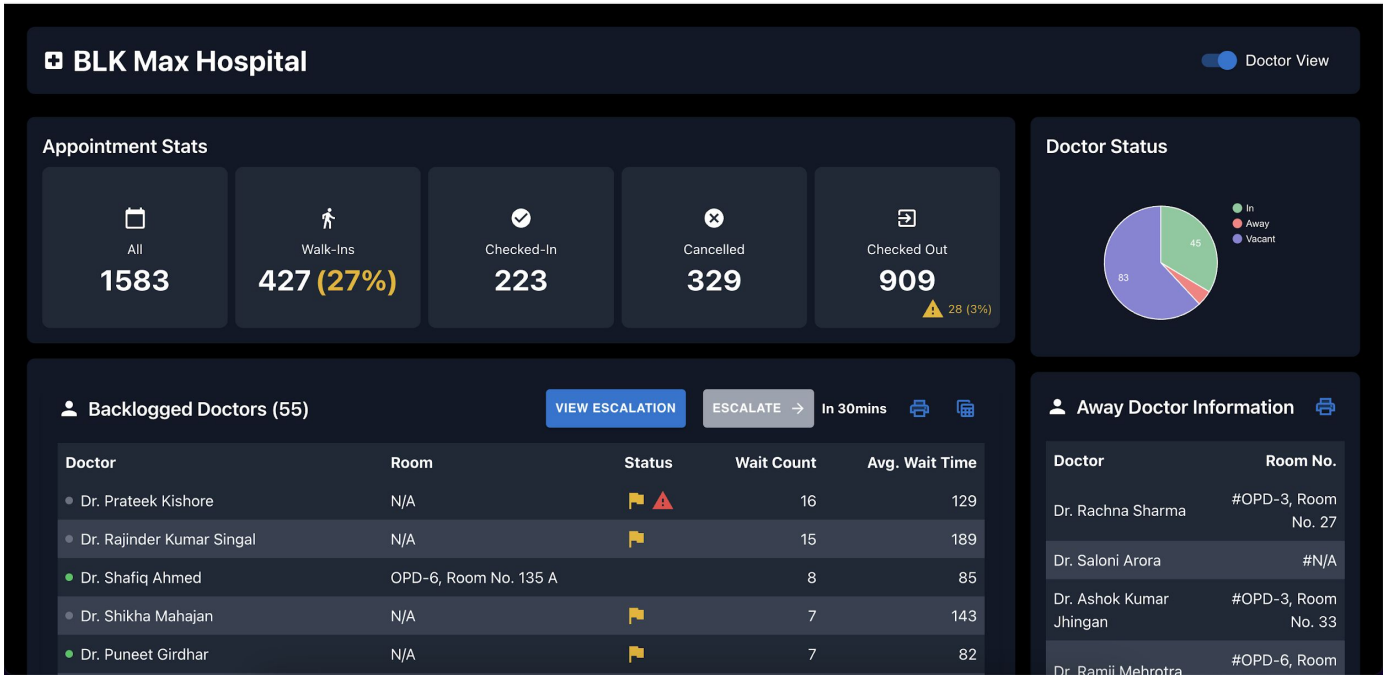
Hourly View

Unit	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	G	A	R
BLK Max Hospital												0%	17%	83%
Lajpat Nagar-MICC												100%	0%	0%
Max Medcentre - Lajpat Nagar												80%	0%	20%
Max Medcentre - Mohali												0%	17%	83%
Max Hospital - Bathinda												83%	0%	17%
Max Hospital - Dehradun												100%	0%	0%
Max Hospital - Dwarka												100%	0%	0%
Max Hospital - Gurgaon												17%	17%	67%
Max Hospital - Lucknow												83%	17%	0%
Max Hospital - Mohali												33%	50%	17%
Max Hospital - Nagpur												83%	17%	0%
Max Hospital - Noida												80%	0%	20%
Max Hospital - Panchsheel Park												67%	17%	17%
Max Hospital - Patparganj												0%	17%	83%
Max Hospital - Saket East												17%	50%	33%
Max Hospital - Saket Smart												0%	33%	67%
Max Hospital - Saket West												33%	17%	50%
Max Hospital - Shalimar Bagh												17%	17%	67%
Max Hospital - Vaishali												67%	33%	0%
Nanavati Max Hospital												33%	17%	50%

1. Team positioned at our central call centre
2. Operates from 8a to 8p daily
3. SOPs have been defined to report an issue and escalation metrics defined

OPD Command Centre module 1 - Closed loop

Our platform now flags, escalates, and routes information to the right stakeholder, while also capturing user feedback and intelligently managing re-escalations.



1. Currently being tested at Dwarka location.
2. Network wide rollout post testing and training folks on the ground.

What Clinicians and Healthcare Administrators Can Do to Improve Data Quality

- **Adopt digital Hospital Information Systems (HIS)**: Healthcare organisations should begin with transitioning to a comprehensively digital information system that is robust and unified
- **Compliance with security and privacy guidelines**: To ensure smooth facilitation, hospitals should ensure compliance with concerning policies, namely the National Digital Health Mission's Health IDs, Data Sharing, Security, Privacy, Strategic Control Policies.
- **Promote a data oriented culture**: Education and training programs that promote standardised processes regarding data logging, structuring, processing, and analysis will ensure continued success in using a digital HIS.
- **Use advanced data processing techniques**: IT teams at hospitals can use Natural Language Processing (NLP) to extract meaningful data to support clinical decision making.
- **Support enhanced clinical practices**: Encouraging doctors to consistently use digital records and information systems improves trackability and enables practitioners act on complete data, eliminating any missteps in care delivery.

MAX Healthcare

Thank You !