Revenue and Performance Analysis

Report Objectives

The report examines the current revenue position of the hospital group and methods to optimise revenue. The core objectives are:

- Understand the current revenue position and explore revenue streams, billing and payments to develop a revenue optimisation strategy.
- Identify revenue risks
- Identify risk mitigation strategies
- Explore revenue change opportunities

Analysis Strategy

Data set	Reason	Expectation
Total billing and payments	Understand how cash has moved through the business Identify average bill size to use as a benchmark	Show any gaps in billing and collections Create risk profiles based on bill size
Payment preferences	Understand how bills are being paid	Show payment preferences and if there is a relationship between payment method and bill status
Patient data	Identify high risk paying patients Understand any patient payment patterns	Clear picture of patient journey and payments
Doctor Data	Understand if there are specific doctors that have higher payment failure rates or cancellation rates	Clarify if there is a problem with a doctor or department billing processes
Treatment Data	Understand if there are specific treatments that have higher payment failure rates or cancellation rates	Clarify if there is a problem with a treatment billing processes
Bill journey	How bills move through the system and if the final outcome is managed and tracked	Clarify if there are bill tracking procedures in place until the bill is paid
Model the impact of payment rate increases	Understand the current payment rates for all bills,	Improve revenue collection

	patients and treatments and the impact of increasing these	
Identify any weaknesses in the billing process	Are there KPIs in place to manage the billing process and does the database need to change to do this	Improve patient data and billing processes

Output

Report with data and queries creating one slide with improvement measures

Current Revenue Metrics

The hospital offers multiple treatments over three sites with 10 doctors providing treatment for 48 patients. There are currently four registered insurance providers and patients either by cash, card or through the insurance providers.
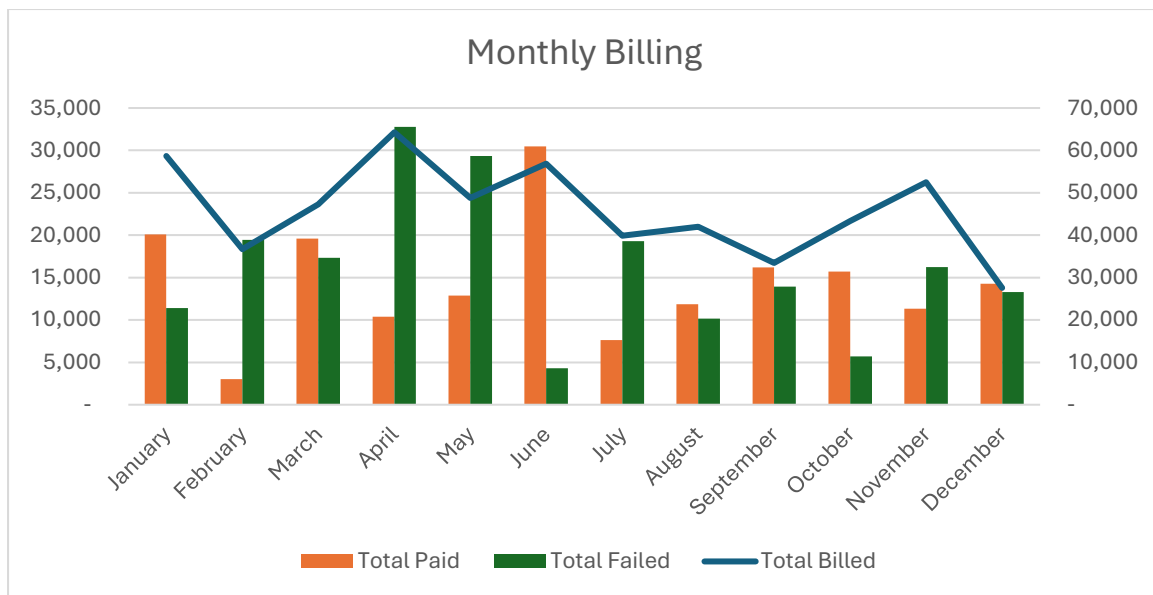
Revenue Analysis

Total Billing

The total revenue billed in 2023 was $551,250, however, only $173,424 was paid in the same year. This left a shortfall of $377,826 of which, $184,612 was marked as pending and $193,213 was marked as failed.

As we do not have the data for 2024 or any actively managed KPIs, we cannot confirm if the pending payments have gone through or if the failed payments have been chased and subsequently paid

The next table shows the potential % of revenue lost for pending and failed payments.

2023 Billing Status	$	% of Revenue
Billed	551,250	
Paid (payment rate)	173,424	31%
Pending	184,612	33%
Failed	193,213	35%
Shortfall	377,826	69%
Shortfall if pending payments were made	193,214	35%

During 2023, the monthly billing cycle shows the paid revenue by month and the value of failed payments.

Monthly Billing

Each bill has one entry so there is no clear evidence of failed bills being chased up or the bill being re-issued. There is no pattern of failed payments, indicating it is an on-going problem and not a seasonal problem.

When we look at the payment methods, we can see that cash has the lowest payment rate with credit cards at a higher rate than insurance. This indicates that insurance is underutilised as a payment option.

Payment Method	Bill Count	Total Billed	Paid Amount	Payment Rate %
Credit Card	75	201,382	60,356	33.13
Insurance	64	182,160	52,691	31.42
Cash	61	167,707	60,377	29.98

If we drill further into the payment status of each payment method, we can see that pending payments across all three payment methods total $184,612 with failed payments at $193,213. We are unable to determine if pending and failed payments have subsequently been paid, which suggest a billing management issue.

Payment Method	Payment Status	Bill Count	Total amount
Cash	Failed	23	65,650
Cash	Paid	20	52,691
Cash	Pending	18	49,366
Credit Card	Failed	23	64,966
Credit Card	Paid	24	60,377

Credit Card	Pending	28	76,039
Insurance	Failed	21	62,597
Insurance	Paid	20	60,356
Insurance	Pending	23	59,206

Total Pending $184,612
Total Failed $193,213

Treatment Revenue

Payment performance varies significantly by treatment type, with consistently low payment rates across all treatment types. The treatments shown indicate that there is a revenue-cycle risk with no payment made verification process in place:

- Chemotherapy is the largest revenue driver and also the highest failed payment risk
- ECG and MRI have strong clinical demand but low payment rates
- Physiotherapy and X-Ray have moderate demand and consistent weak payment rates

2023 Treatment Payments	Total Bills	Total Bills Paid	Failed and Pending Payments $	Payment Rate %
Chemotherapy	49	13	96,248	25.31
ECG	38	9	78,701	18.21
MRI	36	14	73,034	37.09
Physiotherapy	36	11	67,167	32.44
X-Ray	41	17	62,675	43.36

Missed appointments and cancelled appointments are another cause of concern. There is no data column that records the reason for no shows or cancellations. This should be tracked and managed, possibly with penalty payments for missed appointments with no good cause. No shows are preventing appointments being released to other patients, which is another reason for poor revenue.

Treatment Type	Cancelled Appointments
Chemotherapy	14
X-Ray	12
ECG	10

Physiotherapy	8
MRI	7
Total	51

Treatment Type	No Show Appointments
X-Ray	15
MRI	11
Physiotherapy	10
ECG	8
Chemotherapy	8
Total	52

Total Missed Appointments   103

Looking at the appointment status, we can see that cancellations and no-show are extremely high, which could be causing revenue leakage as there were 103 appointments in 2023 where no consultation or treatment took place. However, the hospital has been billing for cancelled appointments

Status	Count
No-show	52
Cancelled	51
Scheduled	51
Completed	46

However, we can see that cancelled appointments and no shows are being billed. We do not have access to any policy regarding these appointments, so have no context on why they are being billed.

	Paid Bills	Paid Amount
Cancelled	17	50,279
No Shows	18	39,919
Total	**35**	**90,198**

In total, paid bills for cancelled and now show appointments is 52% of all paid revenue.

Doctor Revenue

Payments for the doctors vary widely with low payment rates a common theme. The main cluster of payment rates is between 24% and 38% with failed or pending payments at $377,825. This indicates issues with inconsistent front-end controls on how, when and if patients pay for their treatment.

2023 Doctor Payments	Total Bills	Total Bills Paid	Failed and Pending Payments $	Payment Rate %
D005	29	11	48,860	41
D001	25	8	48,013	28
D006	24	8	43,887	37
D003	22	7	35,531	33
D002	21	7	41,602	30
D010	19	7	30,501	38
D009	17	5	28,210	25
D008	16	5	40,508	24
D004	14	5	21,623	45
D007	13	1	39,092	3

Patient Revenue

The data shows that payments are split between card, cash and insurance provider, with greater stability with insurance payments whilst card payments are the preferred method. However, with no reconciliation process we cannot tell if patients or insurance companies are being chased for missed payments.

The average bill in 2023 was $2,756 which has been used in this report as the benchmark to assess payment rates, risk profiles and payment rate thresholds.
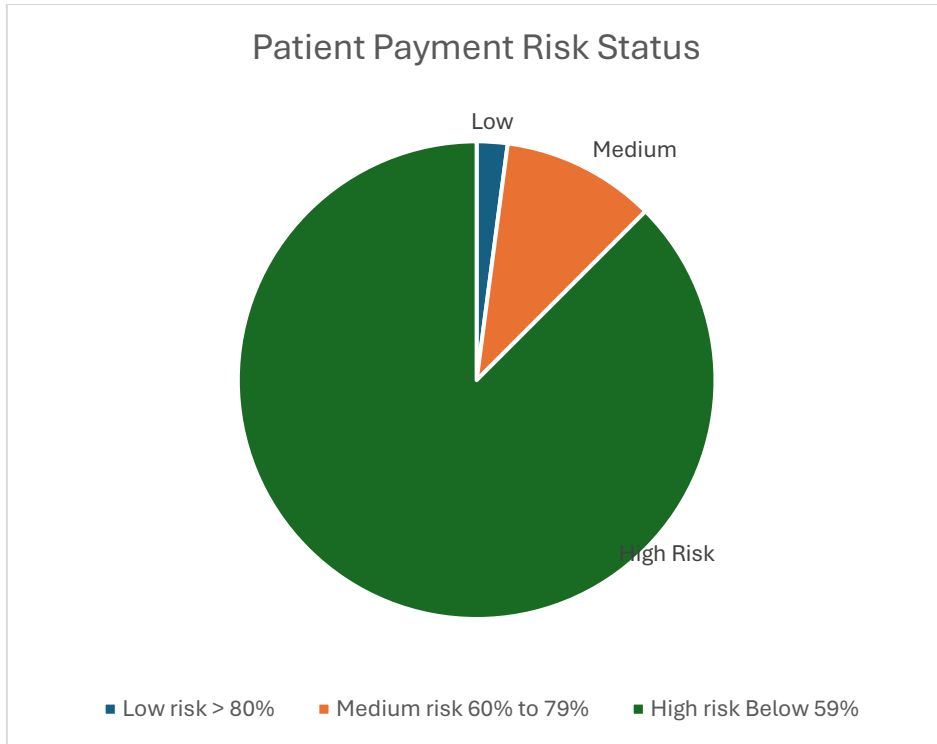
The hospital only has a 30% payment rate across all doctors, patients and treatments. This indicates that the patients are struggling to pay for their treatment which has created a high financial risk for the hospital. Currently, there are two patients of concern that are creating a disproportionate share of revenue risk, either by bill size or payment rate:

- Patient 11 has the highest billed amount of $30,053 with a payment rate of 52%
- Patient 25 has the lowest billed amount and a payment rate of 0%

The bill size is the driver of the payment risk rather than the number of patients or number of hospital visits. Once bills exceed the average, the likelihood of payment reduces significantly with a high level of failed and pending balances. This has created:

- Volatile cashflow
- Increasing aged receivables
- Heightened financial exposure as there is an absence of insurance-backed payments

The next diagram shows the number of patients in each risk category by payment rate.

Patient Payment Risk Status

Low risk > 80%   Medium risk 60% to 79%   High risk Below 59%

The full patient data and payment rates and risk value is shown in the next table.

ID	Total Bills	Total Bills Paid	Total Billed $	Total Paid $	Failed and Pending Payments $	Payment Rate %	Payment Risk Category
1	4	1	7,719	2,960	4,759	38	High Risk
2	3	1	5,969	616	5,353	10	High Risk
3	2	1	7,937	4,705	3,232	59	High Risk
4	2		5,363	-	5,363	-	High Risk
5	8	2	18,610	4,945	13,665	27	High Risk
6	4	3	10,734	8,637	2,097	80	Low Risk
7	2	1	3,637	1,734	1,903	48	High Risk
8	4	1	10,557	4,201	6,355	40	High Risk
9	6	3	15,929	10,099	5,830	63	Medium Risk
10	2		7,729	-	7,729	-	High Risk
11	10	6	30,053	15,630	14,423	52	High Risk

12	4	2	9,308	4,915	4,393	53	High Risk
13	3		13,236	-	13,236	-	High Risk
14	7	3	22,968	8,342	14,626	36	High Risk
15	4	1	14,850	1,472	13,378	10	High Risk
16	2	1	5,088	2,057	3,030	40	High Risk
17	5	2	10,409	2,189	8,220	21	High Risk
18	2		6,237	-	6,237	-	High Risk
19	3	1	9,375	981	8,394	10	High Risk
20	4		13,143	-	13,143	-	High Risk
21	6	2	13,238	2,407	10,831	18	High Risk
22	4	2	10,477	7,507	2,970	72	Medium Risk
23	5		19,513	-	19,513	-	High Risk
24	6	1	10,488	885	9,602	8	High Risk
25	2		1,737	-	1,737	-	High Risk
26	3	1	6,227	2,407	3,821	39	High Risk
27	7	2	13,325	5,948	7,377	45	High Risk
28	3		5,589	-	5,589	-	High Risk
29	4	2	13,732	7,178	6,554	52	High Risk
30	5	3	13,657	8,699	4,958	64	Medium Risk
31	4		12,235	-	12,235	-	High Risk
32	3		9,104	-	9,104	-	High Risk
33	7	3	18,407	10,424	7,983	57	High Risk
34	7	1	21,584	2,930	18,654	14	High Risk
35	6	1	13,887	1,999	11,888	14	High Risk
36	2	1	7,538	4,846	2,692	64	Medium Risk

37	5	3	14,357	6,854	7,504	48	High Risk
38	3		5,603	-	5,603	-	High Risk
39	3		7,506	-	7,506	-	High Risk
40	2	1	4,507	2,213	2,294	49	High Risk
41	3		4,947	-	4,947	-	High Risk
42	2		9,324	-	9,324	-	High Risk
43	5	2	13,121	4,983	8,138	38	High Risk
44	3	1	10,032	2,361	7,671	24	High Risk
45	3	1	10,423	2,286	8,137	22	High Risk
46	5	3	17,082	11,711	5,371	69	Medium Risk
47	7	4	23,554	12,150	11,404	52	High Risk
48	4	1	11,206	2,154	9,052	19	High Risk

Revenue Risks

The analysis identifies key revenue risks across:

- Billing
- Patients
- Treatments
- Providers
- Cancellations/No shows

The hospital struggles with payment collection and financial reconciliation processes across all treatments. There is doubt that failed or pending payments are managed as there is no further action for each bill ID. This creates a financial risk for the hospital as monies due are not being managed.

- **Bill Payment Controls** – the full billing cycle is unclear, only the date issued, value and status are shown without any clear chasing for failed payments or payments stuck in pending status
- **Insurance Billing Underutilisation** – all patients have insurance providers but only 64 bills out of 200 were assigned to insurance providers

- **High-Value Treatments Drive Revenue Risk** – chemotherapy has a high payment failure rate
- **Larger Bills have a High-Risk** – bills above the benchmark have a low payment rate
- **Appointment attrition** - Track the reason for cancelled appointments and missed appointments and consider putting in controls and a clear policy for patient cancellations and hospital cancellations

Revenue Options

The current payment rate is not sustainable and the hospital needs to set a new payment rate for future treatments and appointments.

If we increase the payment rate by 10% on 2023 bills, the hospital would see an extra $39,604 in revenue. If we increase this further to 20%, the hospital would then see an extra $79,208 in revenue. Although this would still leave outstanding revenue of $298,618. This would go someway in improving revenue, but it is not high enough to make a significant impact. The next table shows the impact for bills generated after appointments, this excludes cancelled or no-show appointments.

	Actual	10% uplift	20% uplift
Total Billed	396,037	396,037	396,037
Total Paid	120,233	159,837	199,441
Payment Rate	30	40	50

High-risk treatments have been identified as chemotherapy, due to the cost of treatment with a payment rate of 25%. The impact of a controlled billing process can be seen in the next table.

	Actual	10% uplift	20% uplift
Total Billed	225,080	225,080	225,080
Total Paid	50,130	72,638	95,146
Payment Rate	22	32	42

Assuming all pending payments clear, then the hospital would have an above average payment rate of 65% giving revenue of $358,312. Although this payment rate is above the average in the US, by bringing direct insurance payments, the hospital could see a major improvement.

	Actual	65% uplift
Total Billed	396,037	396,037
Total Paid	120,233	358,312
Payment Rate	30	65

Recommendations

There are five actions the hospital needs to take to stabilise revenue and improve financial health:

- Offer payment plans to all patients to pay for past treatment
- Offer payment plans to all above average bill amount and high-risk financial treatment pathways that are self-paying
- Meet with all insurance providers to develop a pre-authorisation process to increase payments
- Develop KPIs to manage and monitor the billing cycle
- Train staff to manage the bill payment process to track payments in-line with the new KPIs

The objectives are:

- Improve payment rates by 20% by year for debtors and reclaim $80,000 on 2023 bills
- Track the full billing cycle to chase failed payments and ensure that pending payments clear – pending payments completing would improve the payment rate to 65%
- Target 60% insurance payments with pre-authorisation to approve bill estimates in advance
- Develop KPI billing controls and make amendments to the database to add new fields and run constant queries that output into a dashboard:
  - Add in who cancelled appointments and the reason for missed appointments
  - Track the bill ID until paid
  - Trend analysis on patients, doctors, treatments and payments