Building patient trust through accurate bill estimates

IHH Healthcare

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■ 1. PROBLEM Statement

Manual processes relying on static historical data often lead to inaccuracies, impacting patient trust and financial transparency. The labor-intensive nature of these methods results in delays and inefficiencies.

■ 2. BACKGROUND Information

Business Office staff face escalating challenges in bill estimation, spending excessive time due to manual processes and encountering inaccuracies inherent in traditional methods. Constraints like reliance on static data and limited adaptability, exacerbate inaccuracies, resulting in bill disputes and patient frustration.

■ 3. AIM Statement & TARGET

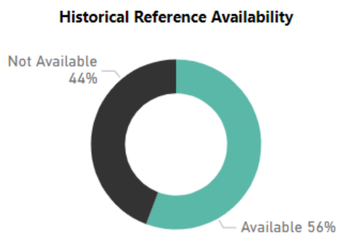
Achieve **90% accuracy** in medical bill estimations, minimizing errors, promoting transparency, and prioritizing patient satisfaction.

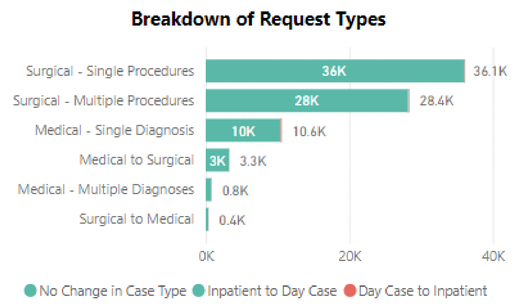
■ 4. MEASURE & INDICATOR

FeeAdvisor.ai's success is measured across;

- *Bill Estimate Accuracy*
- *Accuracy Error Rate*
- *Time saved for estimating bills*
- *Patient Satisfaction - Bill Disputes*

To aid in accuracy improvement, the team also reviewed historical bill references to determine if BO staff education needs to be improved, and changes in treatment.





■ 5. CHANGE STRATEGY

FeeAdvisor.ai's design and development exemplify a collaborative, multi-disciplinary approach involving Ops and clinical teams. This ensures alignment with real-world medical practices and operational workflows, enriching the tool for accurate inpatient bill estimation. Our strategy, summarised in seven steps, begins with;

1.	Close collaboration with Business Office (BO) team to identify key requirements	5.	Push for seamless integration with hospital systems
2.	Tailoring the machine learning model using a design thinking approach	6.	Simplify change management for enhanced workflow efficiency
3.	Establishing evaluation metrics aligned with business objectives	7.	Enable continuous learning through data refresh in collaboration with the IT team
4.	Conducting rigorous evaluations with regular stakeholder updates		

■ 6. RESULTS

Bill Estimate Accuracy improved from 23% to 87% post FeeAdvisor.ai implementation (Feb-2023 to Jan-2024).

Accuracy - Error Rate declined from 77% to 53% in error rate, showcasing the system's effectiveness in minimizing estimation errors.

Bill Disputes reduced by 50% reduction in complaints about low estimates, signifying improved accuracy and increased patient satisfaction.

Time saved for estimating bills reduced from 40 to 25 minutes, equivalent to approximately 1185.4 days of man-hours yearly.

Hospital	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24
Gleneagles Hospital	89%	93%	90%	95%	90%	91%	89%	90%	91%	88%	84%	84%	83%
Mount Elizabeth Novena	81%	85%	85%	93%	89%	89%	85%	86%	85%	80%	79%	77%	77%
Mount Elizabeth Orchard	82%	90%	89%	94%	94%	92%	90%	91%	91%	90%	80%	81%	79%
Parkway East Hospital	63%	85%	83%	86%	84%	84%	89%	89%	80%	81%	77%	75%	82%

0% to <75% | 75% to <90% | 90% to 100% | No Episodes Match

■ 7. LESSONS LEARNT

1. **Cases Complexity:** Cases without surgery and TOSP codes may miss surgical details, causing bill variations. Adjusting the model or adding features enhances accuracy for more precise estimates.
2. **Continuous System Refinement:** FeeAdvisor.ai evolves with hospital collaborations, addressing challenges like low estimates for new procedures. This emphasizes adaptability to meet evolving healthcare demands.
3. **Interdisciplinary Collaboration:** Success hinges on collaboration among data scientists, IT, and healthcare teams. Clear communication ensures overcoming challenges and refining the solution for the dynamic healthcare landscape.

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