

Week 14 | Assignment: Written presentation of the class project

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I attest that this exam response is my own independent, original work. I prepared this on my own without the assistance or participation of anyone else.

Revolutionizing Healthcare Revenue Management: A Strategic Leap towards Enhanced Accuracy and Financial Health

Introduction

I am Pallavi Vaswani, a proactive healthcare administrator at ProHealth Innovators Systems. We are a mid-sized organization committed to delivering high-quality healthcare services. My role is pivotal in overseeing our operations and financial management, ensuring our services are both effective and efficient.

I present to you a transformative proposal to revolutionize ProHealth Innovators Systems' revenue management—a strategic leap towards not only enhancing our financial health but ensuring our commitment to high-quality healthcare delivery remains uncompromised.

Funding Request Overview:

We seek an investment of \$720,000 to fundamentally transform our healthcare revenue cycle management. This investment is directed towards the implementation of advanced Computer-Assisted Coding (CAC) systems and a comprehensive Documentation Improvement Program, which are crucial for addressing our current operational challenges.

Need/Problem Analysis

- **Situation:**
At ProHealth Innovators Systems, our revenue cycle management is currently impeded by outdated technology, specifically in the areas of coding and documentation.
- **Problem:**
As a mid-sized healthcare provider, we face significant challenges with incorrect coding and incomplete documentation, leading to high insurance claim rejection rates. These inefficiencies result in approximately 15% of our claims being denied annually, translating to an estimated loss of \$1.2 million million per year. Without intervention, these issues could escalate, potentially doubling our financial losses in the next five years.
- **Implication:**
The broader implications of these challenges are substantial. Beyond the direct financial losses, they contribute to an increased administrative burden and compliance risks, threatening our operational integrity and our ability to provide quality healthcare.
- **Need-Payoff:**
Addressing these challenges is critical. Implementing a solution that effectively reduces coding errors and enhances documentation will not only prevent these financial losses but will also streamline our operations, significantly improving our service delivery and financial stability.

Proposed Solution

- **Solution Overview:**
Our proposed solution involves the deployment of Computer-Assisted Coding (CAC) systems, integrated with a Documentation Improvement Program. Utilizing advanced technologies like

machine learning and natural language processing, this solution targets the core issues that are currently undermining our revenue cycle efficiency.

- **Addressing the Need/Problem:**

By modernizing our coding and documentation processes, we expect to see a drastic reduction in claim rejections. This improvement is projected to recover an estimated \$200,000 million in the first year alone, with ongoing benefits in terms of reduced administrative costs and enhanced compliance.

- **Innovation and Technology:**

The implementation of these state-of-the-art technologies is supported by literature that demonstrates their effectiveness in improving clinical coding accuracy and quality (Campbell & Giadresco, 2019). It represents a significant advancement in our operational capabilities. This is not merely an upgrade; it's a strategic investment in the future of our healthcare services, ensuring we remain at the forefront of operational excellence and financial stability.

Methodology:

- **Claim Denial Rates:** Tracking the reduction in claim denials due to improved coding accuracy. The methodology aligns with industry studies, quantifying expected savings and adopting a conservative approach for Year 1.
- **Operational Efficiency Metrics:** Monitoring average time to process a claim and the number of claims processed per employee, with monthly reviews compared against the pre-implementation baseline.
- **Financial Metrics:** Focusing on net cash flow and cost savings, verifying projected figures against actual performance, and using a 7% discount rate for present value calculations.
- **Costs and ROI:** Analyzing costs including internal labor, technology licenses, infrastructure, and training. ROI is calculated by subtracting total costs from financial benefits, with an evolving net cash flow and rate of return over three years.

Benefits Statement:

1. Reduction in Claim Denials:

- Assumption: Implementing a CAC system would improve coding accuracy, thus reducing the rate of claim denials.

- Calculation: For a healthcare provider processing 100,000 claims annually with a 10% initial rejection rate, reducing this rate by 5% would result in savings. Calculation: $100,000 \text{ claims} \times 5\% \text{ reductions} \times \$118 \text{ cost per denial} = \$590,000$ in savings. Given the source, this aligns with industry data on claim denial costs (Change Healthcare, n.d.).

2. Financial Benefits Calculation:

- Assumption: The average cost of a claim denial is around \$118.

- Year 1 Savings Calculation: The initial part of the calculation multiplies three factors: the number of claims processed annually (100,000), the expected reduction in denial rate (5%), and the average cost per denied claim (\$118).

The calculation is as follows:

$100,000 \text{ claims} \times 5\% \text{ reduction} \times \$118 \text{ per claim} = \$590,000$.

This figure (\$590,000) represents the potential savings from reduced claim denials due to the implementation of the CAC system.

Conservative Estimate for Year 1:

Despite the calculated potential savings of \$590,000, the model conservatively estimates the Year 1 savings at \$200,000.

This conservative approach is adopted because it is common for new systems not to achieve full efficiency in their first year of operation. There might be initial challenges, such as staff adapting to the new technology, refining the integration with existing systems, and ironing out any initial operational issues.

3. Labor Cost Savings:

- Assumption: The CAC system increases efficiency in processing claims, reducing required labor hours.
- Calculation: Based on the number of claims a biller handles annually (6,700 claims) and an average salary, savings in labor costs are anticipated (Physicians Practice, n.d.).

Estimate Initial and Ongoing Costs

1. Internal Labor Cost

- Six months (\$120,000):
- Reasoning: This cost accounts for the increased workload and the need for additional staffing or overtime during the transition to the new system. Implementing a new technology often requires more hands-on deck to manage the learning curve and any initial challenges.
- Source: U.S. Bureau of Labor Statistics provides salary benchmarks which help estimate the cost based on an average salary of \$73,380, translating to about \$35 per hour.
- Year 1-3 (Reducing from \$200,000 to \$180,000):

- Reasoning: The costs are expected to decrease as the system becomes more integrated into daily operations, and staff become more efficient with its use. Initially higher due to the learning phase, costs reduce as the need for extra hours or personnel diminishes.

2. Technology Licenses and New Infrastructure

- Six months (\$300,000 for licenses, \$200,000 for infrastructure)

- Reasoning: The high upfront cost is due to the purchase of software licenses and the required hardware and infrastructure adjustments. Initial setup costs are generally higher as they involve purchasing new technology, setting up systems, and integrating them into existing networks.

- Year 1-3 (\$50,000 annually for licenses, \$15,000 for infrastructure)

- Reasoning: These ongoing costs cover software maintenance, updates, and the upkeep of the new infrastructure. The annual cost is significantly lower than the initial investment, reflecting the typical shift from a setup phase to a maintenance phase.

3. Training and Development

- Six months (\$100,000)

- Reasoning: This initial cost covers comprehensive training sessions for staff to familiarize them with the new CAC system. Training is crucial to ensure a smooth transition and high adoption rates, and thus initially requires a significant investment.

- Year 1-3 (Reducing from \$30,000 to \$20,000)

- Reasoning: As staff become proficient with the system, the need for extensive training decreases. Therefore, costs are expected to be reduced over time. This reduction reflects the transition from intensive initial training to ongoing, less frequent training sessions or updates.

4. Evaluate Calculations of Value Net Cash Flow and ROI:

- Calculation: Net cash flow is determined by subtracting total costs from financial benefits for each year. ROI is then calculated considering the initial investment.

- Net Cash Flow: -\$95,000 in Year 1, improving to \$235,000 in Year 3.

- Rate of Return: -19% in Year 1, increasing to 47% in Year 3.

- Value Measures: Net Cash Flow and ROI are crucial. They illustrate the timeline for recovering the initial investment and the project's profitability over time.

Present Value Calculation:

- Assumption: Future cash flows are discounted at a 7% rate
- Calculation: Present value for each year is determined using this rate.

Return on Investment (ROI):

- For 6 months: -13.19%
- For Year 1: -13.19%
- For Year 2: 3.47%
- For Year 3: 32.64%

Company Valuation Based on a Revenue Multiplier of 6.4:

- For 6 months: \$1,600,000
- For Year 1: \$3,200,000
- For Year 2: \$3,200,000
- For Year 3: \$3,200,000

Company Valuation Based on EBITDA (Net Income) Multiplier of 20.0:

- For 6 months: \$600,000
- For Year 1: \$1,200,000
- For Year 2: \$1,200,000
- For Year 3: \$1,200,000

Revenue Model					
Financial Benefits	Year0	Year1	Year2	Year3	
Estimated financial benefits (Assumed)	Startup	200,000	300,000	500,000	
Estimated costs (Assumed)					
Internal Labor Cost	\$120,000	\$200,000	\$190,000	\$180,000	
Technology Licenses	\$300,000	\$50,000	\$50,000	\$50,000	
New Infrastructure	\$200,000	15,000	\$15,000	\$15,000	
Training and Development	\$100,000	\$30,000	\$20,000	\$20,000	
Total Costs	\$720,000	\$295,000	\$275,000	\$265,000	
Net Cash Flow					
Net Cash Flow	Startup	\$ 95,000.00	\$ (25,000.00)	\$ (235,000.00)	
Rate of Return		-19%	8%	47%	
Present Value (PV)					
Present Value (PV)	Startup	\$ 88,785.05	\$ (23,364.49)	\$ (191,830.00)	
Total NPV of Estimated Future Benefits					
Total NPV of Estimated Future Benefits	\$ (126,409.44)				
ROI	-13.19%	-13.19%	3.47%	32.64%	
Value Based on Revenue Multiplier (6.4)	\$1,600,000	\$3,200,000	\$3,200,000	\$3,200,000	
Value Based on EBITDA Multiplier (20.0)	\$600,000	\$1,200,000	\$1,200,000	\$1,200,000	

Assumptions and Reasons:

1. ROI Calculations: The ROI for the 6-month period was prorated based on Year 1's ROI. This is because typically, the impact of new system implementations is not fully realized immediately. Thus, a linear interpolation for the 6-month period is a common approach.
2. Revenue for Multiplier Calculations: Year 3 financial benefits were used as the annual revenue for the valuation purposes, under the assumption that the implementation of the CAC system and documentation improvements would lead to this stabilized revenue by Year 3.
3. EBITDA Margin: A 12% EBITDA margin was assumed for the calculations. This margin is within a typical range for healthcare organizations and was applied uniformly across all years for the sake of these estimations.
4. Revenue and EBITDA for 6 Months and Year 1-2: For these periods, the revenue and EBITDA were extrapolated from Year 3 data, assuming that the full benefits would be realized by Year 3. For the 6-month period, it was assumed that these figures would be half of Year 1's, as the system may not be fully operational during the initial months.
5. Multiplier-Based Valuations: Industry-standard multipliers were applied to the estimated revenue and EBITDA to gauge the potential valuation of the organization. These multipliers provide a high-level estimation and would need to be refined based on actual market conditions and the company's financial performance.

Risks Associated with Revenue Growth Assumptions:

Risk Explanation:

The revenue growth assumptions are based on the CAC and Documentation Improvement Program will consistently improve coding accuracy and documentation completeness. However, there are risks that external factors, such as changes in healthcare regulations or shifts in patient volume could impact the projected revenue growth.

Justification: It's crucial to acknowledge the potential risks that could affect the assumptions.

Regular monitoring and adjustment of the project's progress and assumptions are essential to mitigate these risks.

Anticipated Objections: You may be concerned about the upfront costs and the adoption curve of such technology. It is a valid concern, one that we have strategically mitigated through meticulous planning, budgeting for training, and phased implementation. The expenditure is not merely a cost but an investment in efficiency and compliance, safeguarding us against the greater expense of inaction.

The Future We Envision: Envision with me a ProHealth Innovators Systems that not only recovers lost revenue but also leads the healthcare sector in operational excellence. Imagine a future where we're not only reacting to coding errors and documentation gaps but preempting them, where our administrative burden is lessened, and our focus can fully return to patient care.

The Ask: We seek your approval for the investment of \$720,000, a decision that is not just financially sound but ethically imperative. This is an investment in our future, a commitment to our patients, and a testament to our resolve to lead in healthcare innovation.

Your support will not only endorse a financial turnaround but also reinforce our dedication to providing exceptional healthcare services. Let us make a decision that we, and future generations of ProHealth Innovators Systems, will look back on with pride.

References:

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