BUSINESS PROCESS AUTOMATION

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How You're Leaving Money on the Table and What to Do About It

ByteSizedSolutions

The administration that goes into running a hospital or health system involves a large amount of resources. Unfortunately, much of this administration is done without enough regard for the efficiency that can be achieved with technology. In some cases, administrative tasks may be determined to be overly burdensome and skipped altogether when an automated solution may allow this hidden value to be properly mined. There are a number of existing technologies and applications that can be applied to healthcare that alleviate the burden of administration and claims processing while exposing additional benefits.

BACKGROUND

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The U.S. is a world leader in the cost of healthcare administration. The New England Journal of Medicine estimated in a study that the embedded cost of administration in healthcare is 30%. The New York Times puts this into context for an average American family—they'll pay $19,000 for healthcare coverage every year, $5,700 of which goes to hospital administration. These are clearly significant numbers.

This isn't to equate all administration with bloated waste. There is certainly value in the work that is being done, and it won't be possible to automate it all away. But strategically automating labor-intensive business processes will allow for better management of an organization's revenue by reducing wasteful spending.

WHY AUTOMATE?

A large driver for automation comes down to the dollars and cents—finding how automation solutions can make each dollar go farther. But that isn't to say it's the only consideration; it also helps an organization put their people to work where they are really needed.

COST SAVINGS

The Council for Affordable Quality Healthcare (CAQH) estimates that U.S. Healthcare industry can **save an additional $11 billion annually** in automating business processes around claims and eligibility data. So much of the effort in claims processing involves repetitive tasks that are a perfect task for a computer. A typical hospital already spends 50-60% of its expenses on salaries and benefits, and three out of four CEOs say reducing costs and creating efficiencies are one of two top financial priorities. A smart and assertive automation plan can reduce the financial burden of administration in your business and allow employees to focus on value-add areas like delivering outstanding care and defining business strategy.

MAKE THE MOST OF YOUR RESOURCES

There are some things automation is not great at. Humans remain the best equipped for strategic planning and critical thinking: no one knows your business like you do. But people are also prone to make mistakes. Give the rote, high volume tasks to a computer and let employees focus on service, strategy, and most importantly, patient care.

Computers are best when it comes to this transactional kind of work. The more automation that is implemented on transactional work, the more data is available for analysis of your business—giving employees more tools to strategically move the business forward.

WHAT CAN BE AUTOMATED?

A broad question with a broad answer, in general terms anything involving the transmission, processing, reporting and analysis of data is ripe for automation, and any rote tasks or standard processes can be automated. When it comes to automating financial solutions for hospitals and healthcare organizations, there are a number of specific answers.

CLAIMS PROCESSING

One of the biggest areas of impact for automation is simply in **claims processing**. Payer websites allow for claims data on the payer's risk to be pulled and stored into your systems. This can be done manually, using multiple FTEs to navigate, pull, save, identify issues, and all the rest, or it can be done automatically, in some cases freeing up full teams of people to be utilized in more value-add roles. The CAQH estimates the use of online portals to manage the processing of transactions **increased 55%** in 2017. What's more, setting up a claims processing automation solution facilitates an improved ability to analyze the claims being processed.
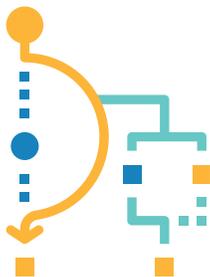
CLAIMS WORK DISTRIBUTION AND WORKFLOW MANAGEMENT

What about claims that your staff needs to approve or deny? This can present their own host of challenges. There can be efficiencies in having certain types of claims reviewed by a portion of the larger team. Many claims will be rejected and come back for review again, and for some of these there might be efficiencies in having the same person as before review them. Perhaps some people are specially qualified to review claims with higher dollar amounts. All of these considerations can help reduce errors, improve efficiency, and ultimately reduce interest payments by tightly managing turnaround times on the review of claims.

In order to realize an efficiency gain on a process like this, you'll want to consider how to successfully employ technology to manage the flow of claims. The most crucial part of functionality you'll want is the automated distribution of claims to Managed Care Coordinators (MCCs). A robust solution would also give managers the ability to manage the distribution by editing the members on a given distribution list, reassign claims for unexpected conflicts, and exclude members from receiving claims for certain periods (e.g. for PTO). Additionally, automating this workflow facilitates additional business intelligence on the process: you'll be able to more closely manage turnaround times, get insight into high or low volume periods, and see how efficiently your team members are reviewing claims. All of these things will help keep claims moving without having to rely on clunky Excel workbooks.

HEALTHCARE AND MACHINE LEARNING

Machine learning is a big buzzword that has followed in the tracks of the "big data" phenomenon. It is the discipline of using programmatic solutions to implement statistical models on data. These models seek to deliver information to an organization to help drive decision making. The solution "learns" the dataset and can provide information about how the data points tell a larger story, and how a population might change in the future.

Machine learning can be used in a number of applications in healthcare administration. On the smaller side, it can be used to perform heuristic checks on third party data. This means an organization can programmatically model the data it receives from a third party, and determine when the integrity of the data might be compromised. A statistical model can give a lot more insight early on as to when you might be looking at bad data and stop it before it flows downstream elsewhere in your systems.

A larger undertaking could be to set about creating a model to predict if a claim should be considered clean versus rejected and approved versus denied. As the model classifies claims, a prudent

organization will still employ a manual review, but maybe certain groups of claims are approved 96% of the time and not worth the effort to review each one manually. Using the model to group claims and determine where there is the biggest ROI for your time investment would be the end goal of such a solution.

AUDITING CLAIMS PRICING ERRORS

Pricing errors on claims are a common occurrence. Usually, they are for negligible differences when you consider the effort to having to manually review the claims, request a refund for overpayment, and follow up on the requests that get ignored. Maybe you have some of the domain knowledge you need to effectively review these claims, but the time spent can be cost prohibitive, even if it means leaving money on the table.

It doesn't have to be this way, though. The key is to formalize the domain knowledge into a structured process that can flag claims with potential errors for review. Spending the time to put together a good process can do 90% of the work for you, giving a much higher ROI on the resources utilized.
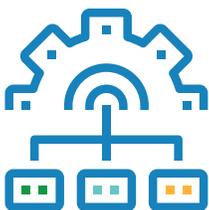
OTHER OPPORTUNITIES

There are a number of other opportunities to streamline processes with automation. Maybe you need to set up a process to attribute members to Primary Care Providers. Maybe you need a comprehensive solution to better manage your providers; maybe you need to take a look at waste and redundancies in the way you're exchanging data with third parties. These are all good questions to ask as you identify opportunities for improvement.

HOW TO GET STARTED

The first step is to figure out where your attention is best served. Maybe you've been thinking about some of these things already, or maybe they are beyond what you've considered before. In either case, it's a good exercise to take stock of where you're at today and where you would like to be.

There Are Some Helpful Questions That You Can Ask to Guide This Brainstorming:

1. Try a direct "What areas of low-hanging fruit are there to strategically improve our business?" See what things you think employees spend too much time doing where technology could help. Put these ideas together as an initial list.

2. Look at the flip side: "What kinds of activities should our employees be able to focus their time on?" Examples might be for providers to focus directly on patient care, and for administrative staff to focus on strategy. Get a sense of the areas where employees add real value. Then think about all of the things they do that fall outside of these areas. How many of these can be automated?

3. A different approach: "What domain knowledge can be harnessed into an automated solution?" It is too common for important domain knowledge to be in the hands of a few employees and not documented anywhere. Building an automated solution around a formalization of domain knowledge will help document this important information in addition to the potential for efficiency gain. Once there is a formal process, it will be easier to understand niche areas of the organization and identify potential for further improvement.

GETTING THE RIGHT TEAM TOGETHER

Depending on your comfort level with thinking through these topics, it may be helpful to enlist some assistance from experts. Less technically-minded people often miss identifying big opportunities for efficiency improvements as it is outside of their skillset. You may have technically-savvy subject matter experts in your organization that can help answer these questions and work through the implementation. Unfortunately, your best resources for the job usually have their plates full.

A helpful option to consider is engaging a consulting team to guide you through the process. When done right, a consulting partnership can make the most of the domain knowledge in your organization and leverage that in creating comprehensive automation solutions. This allows your current resources to continue to focus on their core responsibilities while allowing specialists to manage the process of streamlining.
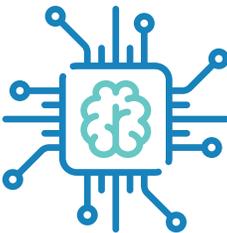
FINDING THE RIGHT PARTNER

It is important to find the right partner. Each organization will have its own criteria for who they work well with, but there are some things in common. Chiefly important is to find a partner at the right intersection of industry and technical knowledge. You don't want to have to explain to your partner what an 837 file is or what it means to adjudicate a claim. Likewise, having a subject matter expert that isn't an expert in database design, application development, or hasn't kept up with the latest trends in technology isn't going to set you up for success. Insist on a proven track record in implementing automation solutions in the area of interest.

Find the other things that are important to your organization:

Q: What is the timeline to implement changes?

Q: How agile should a partner be to adapt to your changing needs?

Q: At what price point do you need to be able to work through the project?

Put Together a Comprehensive List and See What is Really Important To You

ADDITIONAL CONSIDERATIONS FOR MACHINE LEARNING PROJECTS

Machine learning can be a powerful tool in your tool belt, but it's important to use it properly, and to understand its limitations. Today, it's a relatively simple task to put together some kind of machine learning model, which is what makes it dangerous. It is easy to build a model that looks like it is effective on a sample of data, but can prove useless or even detrimental when an organization relies upon it.

Successful Machine Learning Projects Will Carefully Navigate a Few Things:

1 They need to bring together three disciplines: **statistics**, for developing the right model; **programming**, for correctly implementing the model; and **domain knowledge**, for understanding the context, important pieces, and limitations throughout the project. Of these, the programming portion is generally the least prone to error; with the others, a bad model is more easily disguised.

2 The collection of data to build the model off of is going to be the most labor-intensive part of the process. It's important to understand: 1) What data would ideally be available for the model, 2) What it will cost to get data from disparate sources into the model, and 3) How to pragmatically choose data sources balancing the data quality and the cost to collect the data in order to build a responsible model.

3 A machine learning solution is iterative; it is not something to "set and forget". While the model does the legwork, a robust, careful solution will continue to tweak and consider alternative models to see what best serves the business over time.

WHERE TO GO FROM HERE?

If you think it's time to take a closer look at how automation can streamline your business, it's a good idea to begin working through your options and what a comprehensive solution might look like. Our company of 30 brilliant and agile developers is here to help you every step of the way. With a proven track record of implementing solutions and a deep knowledge of the healthcare industry, let us guide you on the path to streamlining your business and making each dollar go further.

This document provided a high-level outline of steps necessary for success. Contact Andrew if you are interested in a more technical discussion or scoping of your automation project.

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REFERENCES

The New York Times

HIT Consultant

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ABOUT BYTE SIZED SOLUTIONS

Founded in 2006 by Steve Buttitta, Byte Sized Solutions is a healthcare technology company that develops software and supporting services to connect systems, empower patients and amplify health care efficiency. Our connected applications deliver the right data in the right place at the right time to enable healthcare organizations to improve their financial and clinical performance. Byte Sized Solutions deliverables include clinical and financial solutions, development services and interoperability. Whether an existing application or a custom program is required, we have a proven track record of exceeding client expectations.

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