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Improving Cost Efficiencies Related to the Discharge Policy: An Analysis of the Retail Pharmacy at Moffitt Cancer Center and Research Institute

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by

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I. Introduction

The purpose of this paper is to highlight some cost inefficiencies in Moffitt's current discharge policy. An analysis of the retail pharmacy, which plays a part in discharge policy and procedures, indicates several areas where cost efficiencies can be gained. Therefore, the primary goal of this thesis is to identify ways Moffitt Cancer Center and Research Institute can save money through making changes in its retail pharmacy policies and practices. Although Moffitt has made great strides in its short 25-year history it was still hit hard, like most businesses, by the 2007 recession. Any changes that help decrease costs should be helpful as Moffitt works to recover from the recession.

As a patient transporter at the cancer center for more than three years I have had countless hours of hands on experience with the discharge policy. Through experience and observation I realized there were several different areas of cost inefficiency in the discharge policy, especially in coordinating with the retail pharmacy. By approaching the Moffitt administration, I was able to study the efforts made by the Process Excellence Team as it worked to remedy cost inefficiencies I had observed. Over the course of my study I met several times with the Process Excellence Team, which is in charge of the policy and practice changes. During these meetings I discussed with the Team its processes, progress, proposed solutions and the implementation status of the proposed solutions. I conducted additional research to support why these new processes will benefit the retail pharmacy at Moffitt, improve efficiency, and reduce costs. Additionally, I have followed the results of the implementations made. Some of the proposed solutions have already been implemented,

some are currently in the process of being implemented, and some have been ruled out after additional analysis was conducted on the possible implementation.

This paper focuses on controlling costs. High operating costs contributed to the deficits seen in the Moffitt 2008 and 2009 financial reports. Suggestions on how to control costs help prevent future deficits from happening at the Moffitt Cancer Center and Research Institute.

The format for the paper is to first give some background information on the cancer center, then describe some observed contributing factors to the cost deficiencies and the proposed solutions, highlight the results seen thus far, and finally conclude with the current and future financial status of Moffitt Cancer Center and Research Institute.

A. History

H. Lee Moffitt Cancer Center and Research Institute, located on the campus of the University of South Florida in Tampa, Florida, is an oncology institution for research, surgery, and total cancer care. In 1986, H. Lee Moffitt, then Speaker of the Florida House of Representatives, opened the doors to the very first cancer center in Florida, which is named in his honor ("About Moffitt"). From the grand opening to today, the mission has always been the same: "to contribute to the prevention and cure of cancer" ("About Moffitt"). This mission statement is posted throughout the cancer center to constantly remind employees what they are contributing toward. It also allows patients to see that the Moffitt staff is constantly working to improve the quality of their overall stay, which includes their treatment and research participation (if the patient chooses to participate in particular studies).

B. Background Information

Moffitt Cancer Center and Research Institute is continually and tirelessly striving to be the world-leader in cancer care. In fact, it is what makes up the vision and core values of the Institute. The vision of Moffitt is "to be the leader in scientific discovery and translation into compassionate care, cures, and prevention of cancer for our community and the world" ("About Moffitt"). The core values are an acronym, SUCCESS, which stands for:

S – Scientific, educational, and patient care excellence

U – Unity in pursuit of our mission

C – Creativity

C – Compassion for our patients and their families

E – Employees, volunteers, and faculty are our most prized resources

S – Stewardship

S – Social responsibility and ethics of the highest standard. ("About Moffitt")

In order to be admitted to the hospital you must be, or have been in the past, diagnosed with cancer. This uniqueness of only treating cancer patients is what separates Moffitt from your typical hospital. It gives the patients a feeling of community and comfort in their time of pain and struggle. Once you are admitted, you will have a private room with an en suite bathroom. This level of comfort and care has made Moffitt the best cancer hospital in the state of Florida and #19 in the nation based on its patients' survival rates and physicians' reputations (U.S. News & World Report 2).

II. Recognizing and Solving the Problems

The economic recession during the last few years has hurt most industries, including healthcare. This recession has also reflected on Moffitt's financials. In 2007,

Moffitt had a deficit of revenues and gains over expenses and losses of $5,494,439 ("Moffitt 2008" 20). In 2008, this deficit increased to $20,715,503, and it peaked in 2009 at $21,472,740 ("Moffitt 2009" 17) [See Exhibit 1 for more detailed financials]. Anyone can understand from these figures that any business, including a hospital, will go bankrupt if its annual net revenues are not high enough to cover the costs each year. The annual report deficits led Moffitt management to review the current processes used in patient service areas to see what could be improved, and in turn, reduce costs where applicable. Whenever such situations arise Moffitt calls upon its Process Excellence Team to analyze the situation and provide suggestions for improvement.

The Process Excellence Team is a trained group of employees, including Ashley Mason, Jennifer Fulmer and Jay Wozniak, who are knowledgeable in workflow observation and improvement. Its sole purpose is to oversee the different policies throughout the hospital, and working with the necessary departments, try to improve policies to make them more beneficial for Moffitt. The Team may change policies to make them more cost effective, more revenue producing, easier for the employees to implement, more efficient, or any other way that will benefit the cancer center. It tries to work with and teach the employees of the department with the implemented changes how to work with the new policies to make the day-to-day operations, including patient care services, run smoothly and efficiently.

Patient care services cover everything from outpatient appointments, inpatient admittance, surgery, radiation and chemotherapy treatments, and discharges, among other activities. Basically, anything patient related in the entire cancer center is considered a patient care service. Trying to assess the cancer center's patient care service as a whole

would be too costly and time-consuming, so Moffitt's management decided to assess operations by departments. Moffitt's management looked over the specific processes being used for each department to see where the cancer center might be losing money. It noticed that the retail pharmacy, which is used for both inpatients and outpatients, was consistently losing money each year. The cause of the loss was unknown since it could be related to lost prescriptions, slow refills, long waits, or other factors. Therefore, Moffitt's Process Excellence Team was asked to observe the retail pharmacy in action, conduct time and satisfaction studies, and see if anything could be done to improve the efficiency and profitability of the retail pharmacy. After observing for several months the Process Excellence Team noticed there was one major problem with the retail pharmacy, inpatient discharges. Unknown to those outside a hospital setting, there is much more to discharging patients than just transporting them to their vehicle, especially when prescriptions are involved. The Process Excellence Team recognized seven key flaws in retail pharmacy's process of coordinating with inpatients being discharged:

1. The inpatients were waiting too long for their prescriptions to be ready, which caused other departments, such as patient transport and environmental services to be idle.
2. There were miscommunications about the medications between the inpatient floors and the pharmacy.
3. Process Excellence recognized issues with batching of prescriptions.
4. There was no set system for filling prescriptions.
5. The pharmacists' and pharmacist technicians' roles and responsibilities were muddled and not clearly defined.

6. The physical layout of the retail pharmacy was not conducive to working efficiently and quickly.
7. Moffitt's patient population was annually growing, but the pharmacy was not changing its processes to accommodate the higher demands.

A. Long Wait Times

The baseline time for a prescription to be sent from the patient's floor to the pharmacy to the expected discharge of the patient was 1 hour 49 minutes. The average medication turnaround time (receiving the prescription to ready for pick-up) was 2 hours and 2 minutes (Process "Discharge" 13). These times alone are not unreasonable taking into account that the pharmacy must also provide services for all the inpatient beds and outpatient clinics. However, as you can see, there is a 13-minute window, on average, where the patient is ready to leave, but the prescription is not yet ready for pick up. Also, whenever one step in the process is delayed it causes other departments to slow down or stop working creating a ripple effect throughout the hospital. For instance, environmental services are notified whenever a patient is being discharged, so its workers can clean and turn the room over to make it ready for another patient to use. In September 2010, it took, on average, 39 minutes for environmental services to be notified, 20 minutes for environmental services to arrive, 37 more minutes for cleaning, for a grand total 96 minutes from patient leaving to having a clean room for a new patient (Process "Discharge"). As you can see, the process to simply clean the room takes a long time. Thus, if prescriptions are not ready, although the patient and unit are set to go, then environmental services cannot be called to come clean the room. An hour and a half to completely turn a room for a new patient turns into two, maybe even three hours. The last

thing the cancer center can afford is for a patient to be waiting in a room, instead of being discharged, because his/her prescriptions are not ready. “In any way, waiting is a waste” (Manos). Thus, it is vitally important to cut down any and all waiting associated with the process of filling prescriptions. Quick changeover (QCO) can be a measurement to test the ability to turnover a patient room efficiently. The better QCO the sooner a new patient can be moved into the room and the more treatment the cancer center can provide (Manos).

These long wait times not only affect the incurred costs of the cancer center, but also affect the patients’ attitudes. In the same month, September 2010, patients’ satisfaction scores with the “speed of discharge” were a mere 76.6 out of 100 (Process “Discharge” 14). For a top 20 cancer hospital that prides itself on patient care, the last thing it wants to see is dissatisfied patients during any part of their stay.

The best way to decrease the bed turnaround and patient wait times is to become more efficient as a workforce overall. This efficiency is done by continuous flow and standardized activities. For instance, oil refineries also use a continuous flow process because it allows a department to handle a very high volume with a very low variable cost (“Process Flow Structures”). The high volume of prescriptions, like the high volume of oil in the oil refineries, is seen on a daily basis in the retail pharmacy. Therefore, if the retail pharmacy can learn from the oil industry and improve its efficiency then it can cut down some of its costs.

Continuous flow is “a system of supplying the right product or service in the right amount in the right place at the right time” (Process “Continuous” 2). This continuous flow leads to virtually no wait times and reduces costs, but can only be achieved if departments completely work together (Process “Continuous” 2). Obstacles and constraints, such as

long waits in the pharmacy or a surplus of "to be filled" prescriptions, must be removed or minimized to allow for an "assembly-line"-like flow where transport picks the patient up at his/her room once the prescriptions are filled and ready for pickup, environmental services is called to clean the room, the patient is able to briefly stop by the pharmacy to receive and sign for the prescriptions, environmental services cleans the room, and a new patient arrives to the previously occupied room. All around the country hospitals are starting to use this continuous flow technique to "reduce patient waiting times" and "move patients through a hospital stay or doctor visit quickly, seamlessly and error free" (Wysocki Jr.).

B. Miscommunication

Another problem recognized with the retail pharmacy coordinating with discharged patients was the miscommunication and confusion concerning medications. This was due to poor communication between the ordering doctor and the pharmacist. Orders were being properly input through the computer system and charted, but there was no easy way for the pharmacist to see "high priority" prescriptions. The pharmacists would simply fill prescriptions in the order they arrived or by whichever type of drug they had at the time. There was not good communication on the importance of filling inpatient prescriptions to get them discharged, so their room could be cleaned and made ready for a new patient. A simple solution for this communication problem, which was suggested by the Process Excellence Team, would be to implement a "card system" (Fulmer). Cards would be different colors depending on their importance. For instance, an inpatient ready to go home would be assigned a red card, or highest priority to fill the prescription, that way the turnaround process could be started as soon as possible. An outpatient who would be back

later in the week to pick up his/her prescriptions would be white, or of lowest priority. This color-coded system allows for better and more efficient communication between departments without the departments actually having to talk to each other. The information technology department was also brought in to help with this "card system." It reworked the computer system to allow electronic prescriptions to be color-coded as well. Consistent with the card system, inpatient discharges are the top priority for filling prescriptions, which made it easier for the pharmacists to see and interpret what needed to be done next (Fulmer).

C. Batching Issues

It was convenient for pharmacists to fill prescriptions through "batching" techniques. Batching is "a means of grouping items, services or products together prior to delivering them to the customer" (Process "Continuous" 4). Batching techniques are usually used to make things easier for the individual, but that does not mean batching is more efficient. What the Process Excellence Team witnessed was pharmacists filling future prescriptions that had yet to be submitted, but which the pharmacists anticipated would be needed (Fulmer). This technique works only if pharmacists correctly anticipate needed prescriptions 100% of the time. If not, pharmacists are wasting time filling unneeded prescriptions, rather than filling needed prescriptions. This technique could also be wasteful if the filled prescriptions were never needed or expired by the desired date.

Using batching techniques for high demand products, for instance the prescription needs at Moffitt, is actually less efficient and more time consuming than continuous flow techniques. When the pharmacy is waiting for the next batch work step, there is no flow and people are waiting for something to do (Manos). For instance, as a technician is

counting out the medication for several different prescriptions another technician may be idly waiting to label the medications, therefore costing the pharmacy time and money. An example from Toyota shows how continuous workflow can be more efficient than batching (see Exhibit 2 (JR)). As the exhibit shows, Toyota conducted time studies comparing the manufacturing of 10 cars using a batching system versus creating the same 10 cars using a continuous flow system. The 10 cars manufactured with continuous flow practices were finished quicker than the batching system because efficiency was improved with each step (JR). In the same way the retail pharmacy can improve its overall efficiency when filling prescriptions by improving each step involved; such as receiving the prescription, grabbing the medication, counting the pills, filling the bottle, labeling the bottle, and finally having the pharmacist check the final product. When each step of the process is improved and made more efficient then the overall time to finish the product (fill the prescription) will decrease allowing the retail pharmacy to move onto the next task.

As can be seen, it was extremely important for a different technique to be used for filling prescriptions. A more efficient technique, in this instance, is a continuous flow technique because it allows the pharmacy to handle the high demand of prescriptions while still keeping variable costs very low. The low variable costs are achieved by having the pharmacy team work together to quickly and efficiently finish the prescription from start to finish once it is received. When continuous flow is implemented in the pharmacy batching will naturally be removed.

D. No Set System

The main reason batching was started was because there was not a set system used to fill prescriptions. One pharmacist may work and fill prescriptions differently than

another. This lack of a united and uniform system was another problem observed by the Process Excellence Team. The benefits of standardized work are numerous and include: improves consistency between workers, maintains a level of quality and safety, reduces costs, improves productivity, reduces rework, eliminates waste, and increases teamwork (Process "Standard" 5).

The Process Team recognized the pharmacy system as a "push" system, which is usually associated with higher inventory and queues, and involves, in this case, filling prescriptions before the need arises (Process "Continuous" 7). It is key for any well functioning department to have a defined, standardized work system. A "push" system for retail pharmacy is not the most efficient or profitable for the cancer center because "push" systems are based on forecasts (Process "Continuous" 7). In a "push" system the products (medications) are moved on the basis of planning, not demand (Wanke). In a department dealing with such high cost inventory there is no leeway to perform tasks based on projections or patterns because the cancer center cannot afford to have medications go to waste as a result of inaccurate projections.

Thus, it should change to a "pull" system, which like continuous workflow, only addresses a problem as it arises, such as only filling prescriptions as needed (Process "Continuous" 7). A "pull" system moves its products based on demand, which is very important from an inventory viewpoint. As indicated previously, medications are very expensive, so ensuring the correct amount (not too little or too much) is vitally important to reducing costs (Wanke).

The "pull" system will demand the pharmacy work more efficiently and more accurately to ensure the patient's demands are met in a high-quality and timely manner.

This “pull” system will only work if there are standardized practices for each individual in the retail pharmacy. Individuals will be able to work more effectively as a team in pharmacy when each person knows his/her exact duty. A “pull” system also ensures each station during the prescription filling process is prepared for the next step.

A “pull” system is extremely similar to continuous flow production, but the two differ in timing. The “pull” system you can think of as more like an economics supply versus demand problem where the right amount of supply needs to meet the desired demand (Wanke). The continuous flow process you can look at like a fast food restaurant where the order is placed, the food is prepared, the food is served, and the customer receives his/her food in a timely manner simply as a result of the team of employees conducting their tasks efficiently and in order.

E. Roles and Responsibilities

It is also important that the pharmacy revise the activities that are being performed by each individual. In order for a business to be successful it must try to increase its “value-added” activities, eliminate its “non-value-added” activities, and minimize its “business non-value-added” activities. Value-added activities are those that are essential to deliver service to the patients and those for which the patients are willing to pay. In this case, any activity dealing with prescriptions or providing customer service is considered value-added. Non-value-added activities are commonly referred to as waste or downtime. Non-value-added activities use up resources, but don’t convert any value from to the resources to the patient (Rizzo). Non-value-added costs are most commonly seen in inspecting and checking the prescriptions, so if that review time can be cut down then so can the costs affiliated with it. Business non-value-added activities are those that are essential for the

company (Moffitt), but not essential to the customer (patient) (Process "Retail - Waste" 4). The main difference between non-value-added and business non-value-added is that non-value-added activities are essential for neither the company nor the customer.

A great example to explain value-added and non-value-added activities was given by Stace England, a staff member of Southern Illinois Healthcare, in the *Southern Business Journal* (2010). England used the example of a patient getting blood work completed to show that the only true value-added activity was getting the blood work results because that is the only incentive for a patient to pay for the blood work. England explains all the other steps involved in getting blood work from checking in to having the blood drawn to waiting for the results are non-value-added. Therefore, using that example it is easy to see that non-value-added activities must be minimized and performed extremely efficiently to keep the overall discharge and prescription times and costs as low as possible. Additionally, even value-added activities should be examined for cost efficiencies. For example, Moffitt's management doesn't want to have unnecessary expenses from overstaffing or paying a pharmacist for doing a technician's duty even if it is a value-added activity.

While it would be nice if all non-value-added activities could be minimized, business non-value-added activities are necessary for Moffitt (Process "Retail - Waste" 4). For instance, the pharmacy must keep a close eye on its inventory at all times to ensure it has just enough medication to cover what it needs, and that waste is not being produced through pharmaceutical expirations. This checking of inventory is essential for Moffitt, but does not directly relate to the customers; therefore it is considered business non-value-added. Patients probably don't care if there is excess medication as long as they receive

what they need, but the pharmacy manager and Moffitt management definitely do not want to be wasting money on unused medications. Since patients do not want to pay the cost of a necessary, but to them unimportant activity, it is important that the business non-value-added activities also be performed with as much efficiency as possible.

To best examine whether activities were value or non-value added and how to increase efficiencies, it is important to have a set working system in place. Unfortunately, there was no set working system in place at the pharmacy. There were several individual responsibilities that were unclear. Just as some pharmacists worked differently than others, there were some pharmacists taking on more responsibilities than they needed or should have, and some pharmacists taking on fewer. It is very important for each individual to know their personal role within the department because "failing to define workplace roles and responsibilities can create tension, miscommunication and inefficiency" ("Defining").

For instance, there were some pharmacists filling individual prescriptions, instead of simply double-checking a prescription that could be filled by the pharmacy technician. It is simple math. If a pharmacist is doing work that can be done by a pharmacy technician than the cancer center is losing money because of the higher pay rate demanded by the pharmacist compared to a pharmacy technician. According to the United States Department of Labor website, the average hourly wage for a pharmacy technician and a pharmacist in 2009 were $13.92 and $51.27, respectively (United States). A difference of $37.35 an hour is an obvious reason to staff the pharmacy properly.

As with standard work practices, pharmacist and pharmacy technician roles and responsibilities must be clearly defined, so each pharmacist/technician does the same

things in the same way to improve overall efficiency, and inevitably, profitability. The pharmacists' main duties should be to supervise the workflow and move people around to meet needs, supervise the preparation of medications, schedule staff, double-check prescriptions, report financials and inventory, provide advice and instructions to patients, interpret and fill (during high volume times) prescriptions, provide medicinal consultation for patients and/or faculty, and contact physicians when necessary (Process "Retail Pharmacy Rapid Improvement Event" 6). The Process Excellence Team developed a list of different responsibilities that need to be done in the pharmacy, and clearly defined whose responsibility it is to perform the duty, as seen in Exhibit 3.

In the article, "Defining Roles and Responsibilities," the author suggests prominently posting the chart of position roles within the department to ensure everyone knows what he/she should or should not be doing in the workplace. It is extremely important that the pharmacy manager oversee the due diligence of each pharmacist and ensure proper staffing, because staffing too many pharmacists who end up performing technician roles costs Moffitt substantially more in wage expenses.

F. Pharmacy's Physical Layout

This next problem is something that was somewhat out of the control of the pharmacy department, the physical layout of the pharmacy itself. The layout of the pharmacy, from the walls to the computer stations to the filling stations to the medication shelves had people doubling-back and tripping over each other to simply fill orders. How can management expect a department to be efficient when its physical work area makes it nearly impossible to get things done quickly? The old layout separated the pharmacy into two work areas. One half was for the pharmacists, and the other half was for the

technicians. However, where the computers, delivery cart, counters, and other equipment were located made the layout extremely inefficient and this poor physical layout was reflected in the observations made by the Process Excellence Team. As a result of the Team's observations, the Facilities department at Moffitt Cancer Center came in and reconstructed the physical layout of the pharmacy based on assembly-line layouts. The goal was to make the pharmacy flow in the most efficient and advantageous manner to decrease filling times, decrease costs, and reduce clutter. There were no drastic changes made; however, workers did rearrange the layout to make it flow better. They redesigned the layout to give it a more circular rotation around the center where all of the prescription requests were received, as seen in the before and after drawing in Exhibit 4. The technician can now receive the request, go to the medication stacks located nearby, take the medications to the counter, fill the prescriptions, and pass them on to the next step. The medication would work its way around the central station until it finally ended up right next to the patient pickup area. This new design allows for free-flowing work without backtracking or bumping into coworkers, which greatly improves efficiency. Also, with each individual having a clearly defined workflow and role it allows for better translation from request to pickup.

G. Moffitt's Growing Patient Population

The final problem identified is the growing number of inpatients and the higher demand for prescriptions. Moffitt has recognized a growing inpatient population over the last several years, which has actually led the cancer center to add two additional wings to provide more inpatient beds. Some of the growth is reflected in the following statistics. For example, during the week of October 27th, 2010 there were 102 discharged patients with

prescribed medication. During the next week the number of patients increased by 15 to 117 patients (Process "Discharge" 6). During the 2010 fiscal year Moffitt saw an 18% increase in transplants, 11% increase in admissions, 14% increase in clinic visits, 8% increase in surgical procedures and 7% decrease in average length of stay ("Supplement").

It is important for the pharmacy to change its processes to accommodate these higher demands. The only way to meet higher demand is to either expand the pharmacy or to improve the processes. The Process Excellence Team suggested ways to fix each of the key flaws it noticed through the months of observation and time studies. If the pharmacy employees truly embrace these changes and follow the instructions provided to them then they will see their efficiency greatly improve, and they will be able to meet the growing, annual demands.

III. Results

Implementation of many of the Process Excellence Team's recommendations for solving the pharmacy problems began as early as August 2010, and was supposed to be in place by December 2010. It is evident that the changes put into place are helping with the overall efficiency of the discharge policy and the total room turnaround time. For instance, environmental services turn time, which is response and cleaning time, improved from 63 to 49 minutes (Process "Discharge" 9). With a quicker turnaround, Moffitt is able to fill the empty bed more quickly, which brings in more revenue in a shorter period of time. This turnaround time starts with pharmacy, and although pharmacy does not directly affect environmental services the quicker the prescription can get filled, the sooner the patient can leave his/her room, and allow for the room to be cleaned and filled by a new patient.

The turnaround time was not the only observed change. The largest and most difficult change, the lack of a set system in place for filling prescriptions, made tremendous strides in its first few months. When the pharmacy switched to a standardized, continuous flow system it was able to minimize its non-value-added activities, like filling unneeded prescriptions, greatly increasing its efficiency by allowing the pharmacy employees to focus on their real duties and improve customer service (Process "Retail - Waste" 7).

The Process Excellence Team conducted time studies in August, September, and October 2010 to create a baseline to measure performance of implemented changes. With the continuous flow process in place in late 2010, the pharmacy saw some improvements in its overall time to fill prescriptions as seen below (Wozniak):

Metric & Desired Growth (from baseline)	Baseline	Jan (avg.)	Feb (avg.)	% Changed
Avg. Script Arrival Lead Time (Tube Time to Expected Discharge Time)	2:02	1:50	2:04	2%
% of Scripts Lead Time < 2 Hours (Tube Time to Expected Discharge Time)	64%	67%	54%	16%
Avg. Discharge Medication TAT (Script Delivery to Ready for Pick-Up)	2:02	1:35	1:45	14%
% of Scripts Ready Before Discharge Time	63%	63%	71%	13%

As can be seen in the above table, there is still plenty of room for improvement. The implemented changes started in either November or December 2010. While some improvement is already seen it is expected it will take a 6-12 month period for the changes to truly take effect. As the pharmacy staff adapts to the new changes the efficiency will increase, causing costs to decline, while improving the patients' discharge experiences.

It is still unclear as to whether the other recommendations, such as eliminating batch and the color-coded card system, have truly impacted the total discharge time. The Process Excellence Team is still overseeing the implemented changes in pharmacy and will monitor the discharge times to look for improvement.

IV. Conclusion

It is important to understand that the previous techniques and processes in place at the retail pharmacy were not beneficial to Moffitt Cancer Center and Research Institute either financially or patient care wise. However, there was no one person or one department at fault. The goals of the Process Excellence Team, and the reason for implementing the new strategies and systems, are inevitably to constantly improve Moffitt as a whole. The overall goals through these implementations are to reduce turnaround and prescription request times, increase manageable capacity, and improve workflow/decrease costs (Process "Retail Pharmacy Rapid Improvement Event" 10).

Will these changes alone improve Moffitt's overall deficit? The simple answer is no. But these changes will definitely help drive down the costs affiliated with the pharmacy, which in turn will help Moffitt see a surplus, rather than a deficit of revenues and gains over expenses and losses. These changes may already be helping make a difference in Moffitt's 2010 annual report. As stated in the beginning, Moffitt had a deficiency of revenues and gains over expenses and losses of $21,472,740 in 2009, but this number skyrocketed to a surplus of revenues and gains over expenses and losses of $19,592,470 in 2010 ("Moffitt 2010" 40). The improved performance is primarily due to the growth in patient care revenues, which includes inpatient bed care (turnaround times) and

medications (pharmacy). However, increasing cost efficiencies allows more of the increase in revenues to reach Moffitt's bottom line.

As the financials show Moffitt Cancer Center and Research Institute had a financially sound 2010 fiscal year. This undoubtedly was due to a combination of factors that could include the economic recession slowly improving and improved systems put in place to increase efficiency and decrease costs. As long as Moffitt management is always keeping a close eye on its current processes and finances, and always trying to improve, then Moffitt Cancer Center will remain a top cancer center in the United States for a very long time.

Exhibit 1

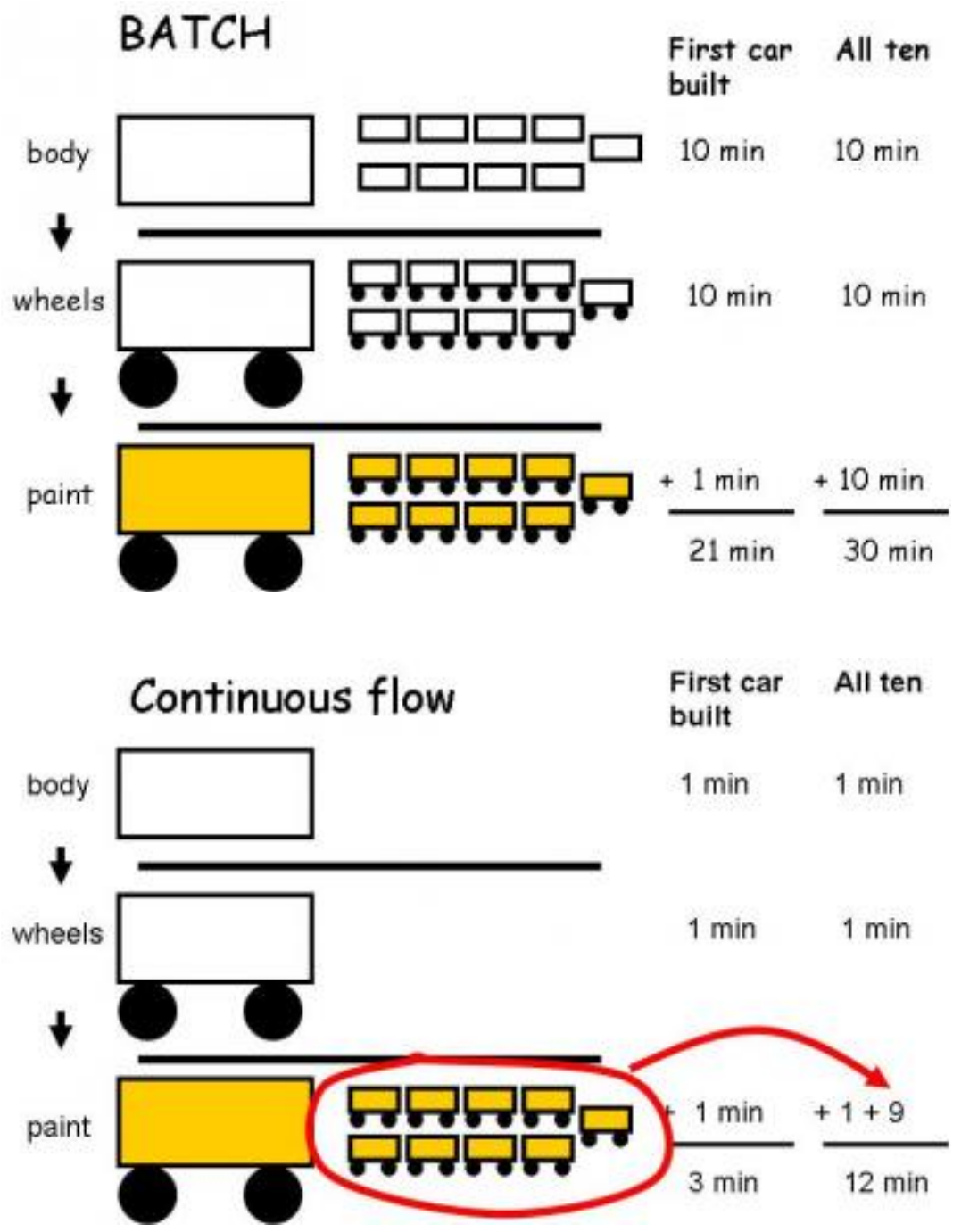
CONSOLIDATED STATEMENT OF REVENUE AND EXPENSES

	June 30, 2009	*June 30, 2008*
REVENUE		
Net Patient Service Revenues	$484,528,611	$406,311,045
Other Revenues	77,111,308	73,370,620
Net Assets Released from Restrictions and Used for Operating Expenses	38,257,243	30,005,916
Total Unrestricted Revenue and Other Support	$599,897,162	$509,687,581
EXPENSES		
Operating Expenses	$570,863,859	$488,804,976
Depreciation and Amortization	37,217,051	34,499,509
Interest	6,770,696	4,897,066
Provision for Bad Debts	5,299,524	6,861,028
Total Expenses	$620,151,130	$535,062,579
(Loss) from Operations	$(20,253,968)	$(25,374,998)
Non-operating (Losses) Gains, Net	(1,218,772)	4,659,495
(Deficiency) of Revenues and Gains over Expenses and Losses	$(21,472,740)	$(20,715,503)

("Moffitt 2009" 17)

Exhibit 2

A Comparison of Manufacturing Techniques at Toyota Motor Co.



(JR)

Exhibit 3

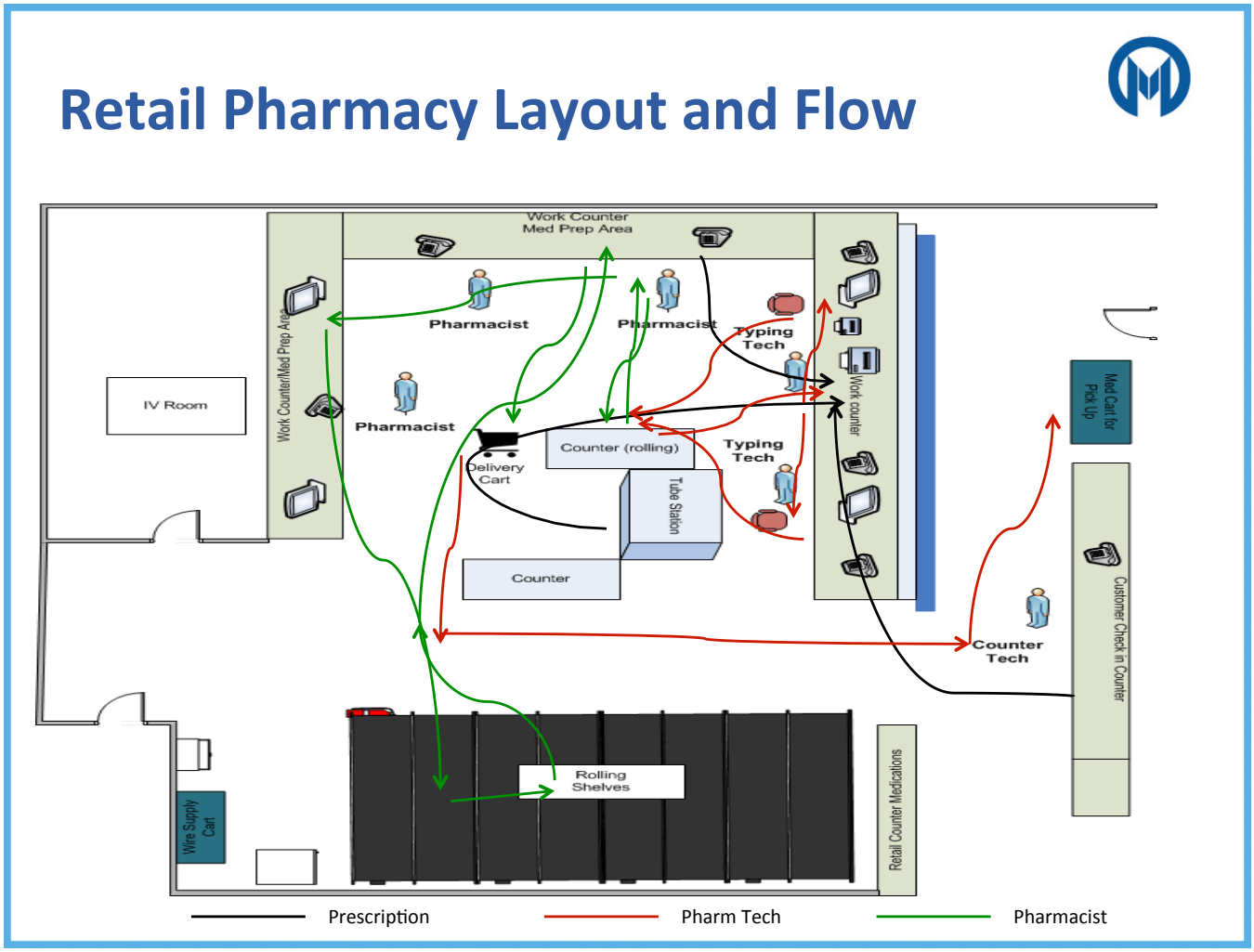
Roles and Responsibilities of Pharmacists and Technicians

Responsibility	Pharmacist	Technician
Open pharmacy	x	
Posting payments (checks)		x
Inventory		x
POS Reconciliation of cash/money		x
Enter scripts		x
Retrieve labels and place in bin		x
Initial review of scripts		x
Obtain meds		x
Fill scripts (count)		x
Review/double check filled scripts	x	
Package scripts	x	
Move scripts to front cart		x
Managing printer (load labels, etc)		x
Tube station/fax pick up		x
Take new phone scripts	x	
Take refill phone scripts		x
Take live (over the phone) scripts	x	
Phone call triage		x
Counter service		x
Audit responses		x
Order inventory		x
Closing procedures	x	
Prep med-rack		x
Move med-rack to central		x
Transfers	x	
Consults with patient or faculty	x	
Filing scripts		x
Take refrigerator temp logs		x
C2 perpetual inventory		x
Outdates		x
Computer upgrades (weekly)	x	
Interdepartmental billing (monthly)	x	
Employee health billing (monthly)	x	
Spreadsheet of expenses/revenue	x	
C2 ordering		x
Filing auth forms		x
PAP program/medicare B requests		x
Contracts (PBM) renewals	x	
Call on communication form	x	
Signature log faxing		x
Staff schedules		x
Rotating schedules		x

(Process - "Retail Pharmacy Rapid Improvement Event" 3)

Exhibit 4

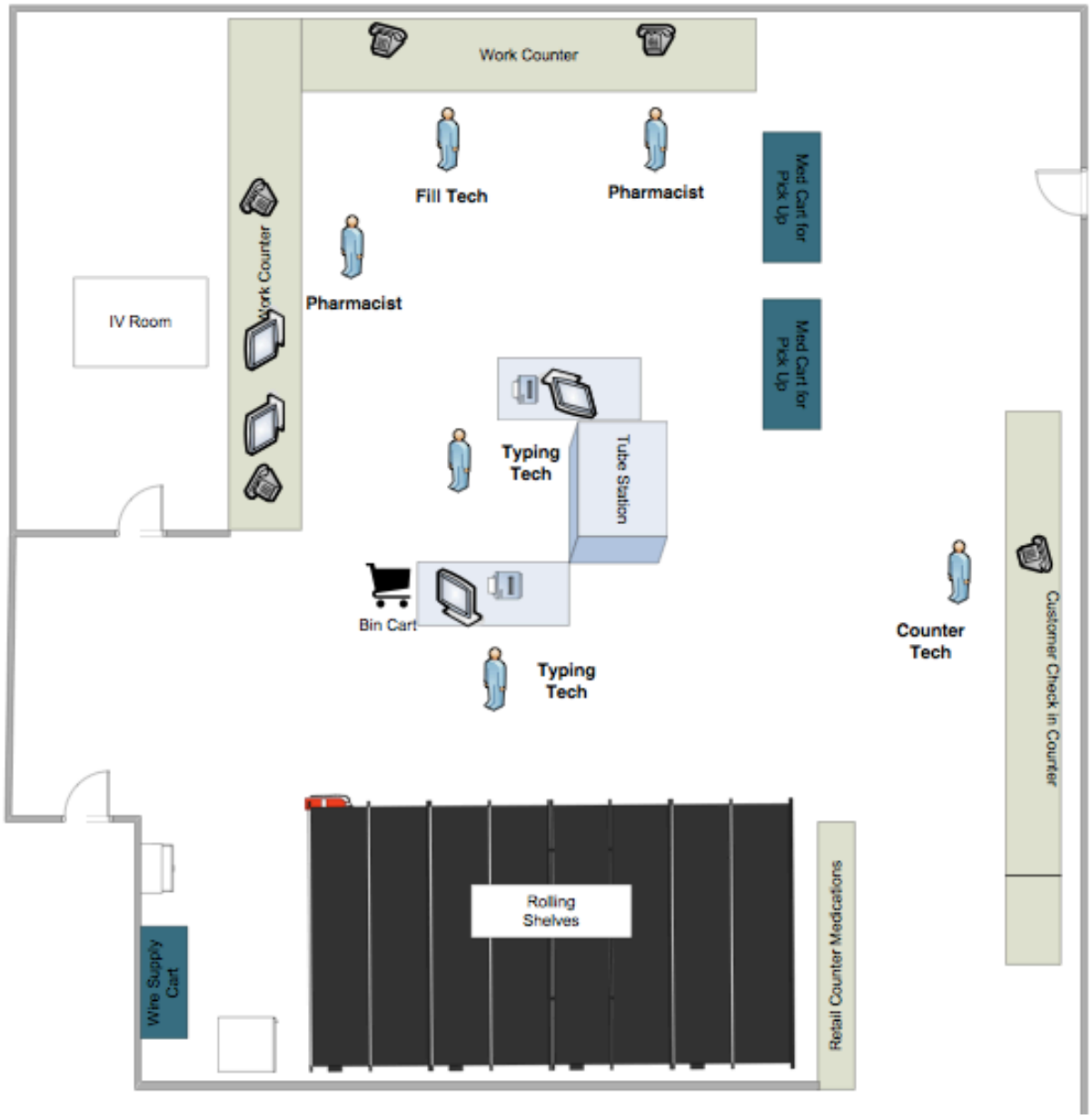
Before:



(Process - "Continuous Flow" 13)

Exhibit 4 (continued)

After:



(Wozniak)

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