DEVELOPMENT OF A STANDARDIZED REVIEW PROCESS FOR DRUG INVENTORY OPTIMIZATION

By

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Abstract

Purpose: This study will assess whether the implementation of a standardized review process for medication inventory optimization will reveal opportunities to optimize the current physical inventory at Texas Children's Hospital.

Methods: A standardized review process for medication inventory optimization was developed and applied to a subset of medications from the hospitals formulary. This was a retrospective application of the process to the current physical inventory at Texas Children's Hospital and utilized usage data between January 1 and December 31, 2019. Clinical characteristics, operational characteristics and inventory characteristics of each medication were collected to reveal the most appropriate combination of physical inventory for the medications reviewed. Change in carrying costs were assessed by comparing the physical inventory purchased and used in its current state to the recommended combination of physical inventory after applying the review process.

Results: A total of 46 assessments were performed on 37 individual medications. There were 36 (78%) assessments that revealed no opportunity to optimize and 10 (22%) showing some opportunity to optimize. Of the assessments with no opportunity to optimize, 22 (61%) were already optimized based on usage, 12 (33%) were only available in a single vial size, and 2 (6%) were emergency response medications. Of these 10 with an opportunity to optimize, 4 (40%) had a low opportunity, 2 (20%) had a medium opportunity and 4 (40%) had a high opportunity to optimize. Of the assessments with a low and medium opportunity to optimize, all 6 (100%) had the opportunity to optimize the combinations of vial size purchased. Those with high opportunity to optimize 2 (50%) required an optimized combination and 2 (50%) can be ordered on-demand.

Conclusions: The development of a standardized review process for medication inventory optimization can identify areas of improvement for an institution's medication inventory.

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Background

Medication inventory represents the most significant direct expense within a health-system pharmacy department.[1] Management of medication inventory poses a challenge for pharmacy departments across health-systems.[2] One challenge is ensuring the continuity of patient care services while maintaining a modest physical medication inventory.[2] Evaluating the organization's physical inventory to decrease carrying costs significantly impacts the operating expenses.[2] The practice of evaluating medication purchases to ensure the selection of the lowest-cost, yet therapeutically equivalent medications, is an effective way to reduce costs. Additionally, reducing the number of items within the physical inventory, can also be an effective way to reduce carrying costs.[2] Though financially beneficial, traditional inventory analysis techniques can be labor intensive and time consuming. Thus, physical inventory assessments may be deprioritized, leading to increased carrying costs.

Texas Children's Hospital (TCH) is a large quaternary care pediatric hospital located in Houston, Texas. TCH provides care in comprehensive specialties and subspecialties for infants, children, adolescents, and adults.[3] To care for this wide range of patients, the TCH formulary has evolved to a list of over 700 medications. Most formulary medications have multiple dosage forms and are available in a variety of package sizes.

Healthcare institutions and medical societies routinely pursue initiatives to address preventing patient harm and death from medications. Common strategies in healthcare include, but are not limited to, having accurate patient medication lists, implementing practices to identify high-alert and error prone medications, and simplifying preparation practices.[9] *Standardize 4 Safety* is an initiative led by the American Society of Health-System Pharmacists (ASHP) that focuses on standardizing medication concentrations in order to reduce errors.[5] This initiative recommended limiting formulary concentrations of intravenous (IV) medications to one or two concentrations that serve the needs of most patients. Its implementation has demonstrated a reduction in calculation errors when preparing doses.[5,6].

Standard formulary concentrations for many IV medications are not commercially available, particularly for institutions that treat a broad population of patients. Institutions that treat both pediatric and adult patients are especially susceptible to this vulnerability. Furthermore, a variety of dispensing areas within a health-system pharmacy complicates physical inventory accountability. Pharmacy leaders must decide which package size to purchase to ensure that patient care needs are met. To accommodate the dynamic range of patient ages and weights served at institutions with a broad patient population, purchasing multiple vial sizes of formulary items with standard IV concentrations can seem appropriate.

A lack of standard process to ensure that medication purchasing practices are consistent and appropriate can lead to inconsistencies resulting in unnecessary medication purchases and increased medication inventory costs. For example, TCH has one concentration of IV ampicillin on formulary but carries give vial sizes within the physical inventory. An assessment of need for

this medication suggested there was an opportunity to reduce carrying costs by modifying the combination of vial sizes purchased.

Literature discussing the selection of physical medication inventory secondary to implementing standard IV medication concentrations within the medication formulary is lacking. A comprehensive method to assess physical medication inventory would consider cost differences between vial sizes, dispensing practices, and a clinical assessment. Ensuring that the physical medication inventory is regularly evaluated for appropriateness from a cost and waste perspective can be challenging because the assessments are often manual. However, these assessments can reveal opportunities to optimize the physical medication inventory. A similar assessment was completed for IV ampicillin at our institution. After reviewing cost differences between vial sizes, usage rates, and a clinical needs assessment for each vial size a recommendation was made to reduce the number of stocked vial sizes. The application of this recommendation results in a 14% cost savings while maintaining adequate stock to support the needs of the patients.

Although teams within health-system pharmacy departments regularly manage the medication inventory to ensure the needs of the hospital are being met, a standardized method to specifically identify opportunities to optimize the physical medication inventory could be beneficial. Implementing a standardized process to remediate this identified gap in physical medication inventory management may result in cost savings. Using a standard operating procedure (SOP) will ensure the repeatability of the evaluation without having to recreate methodology for each assessment.

A SOP that is clearly defined, provides direct and unambiguous steps, flows in a specific and simple path, and allows the user to reach a conclusion without recreating methodology leading to time savings.[7] Similar to standardized formulary addition processes, developing a set of directions to aid in physical inventory optimization should involve key clinical and operational characteristics such dose preparation, financial data, special storage requirements, patient outcomes within an institution, and ongoing discussions with clinicians.

At TCH, medications that are proposed for formulary addition must go through a rigorous clinical and operational assessment (*Figure 1)*. This process is divided into two phases. Phase I is the pre-Pharmacy &Therapeutics (P&T) committee proposal and Phase II is post-P&T committee proposal. Phase I, the pre-P&T committee phase incorporates clinical, operational, and financial considerations to reveal the appropriateness of formulary addition prior to the P&T Committee meeting. If approved by the committee, the post P&T committee process begins. In this phase, the electronic medical record (EMR) updates are finalized, additional financial considerations are assessed, and the medication is procured and ready to be ordered. The formulary addition process does not currently have a section that aids in the selection of physical medication inventory.

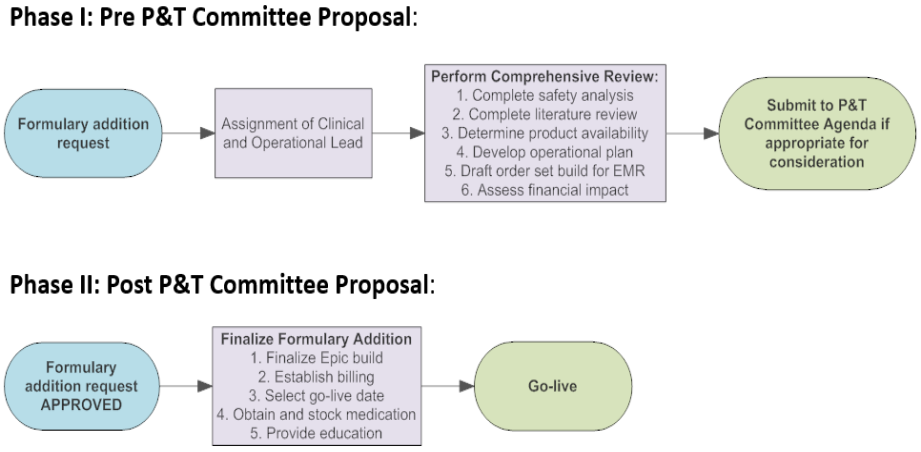

Figure 1*: Standardized formulary addition process at Texas Children's Hospital.*

The current formulary addition process was used to guide the development of a Medication Inventory Review Process (MIRP) (Appendix A). The MIRP is a step-by-step SOP aimed to support the user in making a recommendation for the ideal physical medication inventory. The MIRP guides the user through a series of clinical and operational sections to obtain pertinent information required for assessment of the physical inventory for a particular medication. The key sections include product identification, review of purchase options, assessment of the current physical inventory, evaluation of usage rates, and identification of opportunities to optimize inventory. The opportunity to optimize section was added to assess the potential for modification of the physical inventory when used retrospectively. Upon the completion of these sections, the user is able to make an evidence-based decision on the combination of vial sizes to procure to facilitate an optimized physical inventory for the medication being reviewed.

Basic pre-review information is collected for the medication being evaluated. A clinical review should also be performed. The information for the clinical review can typically be obtained from a health-systems review of the medication during the formulary addition process. Product identification information includes assessing the physical inventory during the time of the review for the particular package sizes on the shelf and preparation characteristics of the medication. The inventory lead can then assess the package sizes available for purchase, review the institution specific pricing, assess historical usage of the medication, and identify the opportunity to optimize the physical inventory using the information gathered. The MIRP was applied to assess the physical inventory of ampicillin at TCH. It provided a matching conclusion to the manual review performed revealing an opportunity to optimize the current physical inventory by reducing the number of vial sizes stocked. This assessment suggests that the MIRP is beneficial in assessing physical medication inventory for products with standard IV medication concentrations within the medication formulary.

One key consideration of the MIRP is how the user interprets the results. Regardless of an institution’s inventory management practices, the MIRP may reveal there is no opportunity to

optimize a particular medication. In this case, the user may be inclined to question the efficacy of the review process. However, this finding indicates that the physical inventory for the specific medication is already optimized. The intent of the MIRP is to provide a detailed review of the physical medication inventory for a specific medication and identify opportunities for optimization.

Objective

This study assesses whether the implementation of the proposed Medication Inventory Review Process (MIRP) for medication inventory will reveal opportunities to optimize the physical inventory at a quaternary care academic medical center health-system pharmacy.

Each inventory item reviewed will be categorized into one of four incidences of opportunity: no incidences of opportunity, low incidence of opportunity, medium incidence of opportunity and high incidence of opportunity based on the percent cost savings measured in Group Purchasing Organization (GPO) contracted dollars.

Methods

This study will apply the MIRP to all medications meeting the following criteria:

- Medications ordered between January 1, 2019 and December 31, 2019,
- Have an intravenous (IV) dosage form and are reconstituted to ≤ 4 standard concentrations.

The following were excluded:

- Medications with lot dependent potency
- Immunizations
- Brand name only products
- Chemotherapy products
- Controlled substances
- Items not carried in house and ordered on a case-by-case patient specific basis

All formulary items at TCH were reviewed in order to identify medications with up to four standard concentrations. Products with lot dependent potency are unable to be reconstituted to a consistent standard concentration, thus do not meet study criteria. Immunizations are typically packaged in unit of use dosage forms and do not necessitate inventory optimization either. Brand-name only products were excluded since there typically fewer package sizes available to choose from. Controlled substances were excluded due to the complicated electronic waste data available required to assess usage. Chemotherapy products were not included as they have additional layers of dispensing complexity preventing analysis within the scope of this project.

After application of the criteria above, a list of 37 unique medications were selected for review (Appendix B). Information about each medication assessed was divided into three categories: clinical characteristics, operational characteristics, and inventory characteristics.

Clinical characteristics

Standard concentrations, therapeutic category, general dose ranges, place in therapy related to emergency management, and minimum and maximum flat doses will be collected from the TCH formulary and drug information database. If a medication included in this evaluation is part of an emergency response kit or code tray, it will be considered an emergency response medication.

Operational characteristics

Inventory stock locations and preparation type will be collected. When suggesting a change in physical inventory, this information will guide the user to ensure there are no practical barriers to the optimization of the physical inventory. Each medication concentration will then be

categorized based on preparation type, as a straight-draw, dilution, or sent as whole vial. A "straight-draw" is defined as an IV medication where the standard concentration is the same as the commercially available concentration. Commercially available IV product concentrations that are higher than the standard concentration require further dilution by pharmacy prior to dispensing.

Inventory characteristics

Inventory characteristics will include purchasing data and usage data. Purchasing data will be obtained from TCH's primary distributor's web portal. Usage data will be obtained from the EMR reporting function and from TCH's IV workflow management system. Purchasing data includes drug identification information such as item National Drug Code (NDC), vial size, package size. All vial sizes available for each particular medication will be assessed and compiled in the database. Institution specific group purchasing organization (GPO) pricing will be collected. Medications available from multiple manufacturers will be evaluated for best price. Inventory purchase history will be calculated for each package size of each medication reviewed and for the purposes of this study, variance in manufacturers will not be taken into account.

Data Sources

Two sources of information will be used when collecting medication usage data: IV workflow management system and EMR. The IV workflow management system provides data related to medication waste for medications that require dilution. The EMR provides data of whether products were either dispensed as a straight-draw or whole vial.

Application of the Medication Inventory Review Process

The MIRP will be applied to each medication based on the number of commercially available concentrations used. If there are multiple products commercially available for a single medication, multiple assessments will be completed. Each standard concentration will be reviewed to identify the optimal vial sizes that should be purchased. One assessment will be required for medications that are not straight draws. A second assessment will be required for medications dispensed as a straight-draw. Any medication concentration that is prepared as a straight draw or dispensed as a whole vial will require an assessment but not dilutions will require assessments.

Clinical, operational, and inventory characteristics will be imported into the form. These considerations will be used to make a recommendation to add, remove, or make no changes to the currently stocked vial sizes. It is important to recognize that optimization will not always correlate to a reduction in inventory. Clinical and operational characteristics of medication therapy can guide the user to suggest that an increase in the number of vial sizes is the most optimal strategy.

A total of 37 unique medications were included in the evaluation. There were 69 total standard concentrations between the 37 medications with a median (range) of 2 (1-4) standard concentrations per medication. Of the 69 standard concentrations, 44 (63.8%) were dilutions, 21 (30.4%) were straight-draw and 4 (5.8%) were dispensed as whole vials. A total of 46 assessments were performed to review the 37 unique medications with a median (range) of 1 (1-3) assessments performed per medication (*table 1*).

Medication characteristics	
Unique medications included	37
Emergency response medications; n (%)	15 (41)
Total concentrations	69
Median (range)	2 (1-4)
Dilutions; n (%)	44 (63.8)
Straight draw; n (%)	21 (30.4)
Sent as whole vial; n (%)	4 (5.8)
Total assessment performed	46
Median (range) per medication	1 (1-3)

Table 1*: Medication characteristics for the medications evaluated.*

Data Analysis

Data was collected in a spreadsheet and simple statistics were calculated to describe the outcomes of each assessment. Each assessment (n=46) was evaluated for the incidence of optimization. Purchasing cost of each vial size was calculated for the original state and then recalculated using the recommended combination of vials using GPO. Percent change was calculated between the two and an incidence of opportunity to optimize was assigned using *table 2* which includes: no, low, medium, or high opportunity to optimize. Each assessment was reviewed and five general reason statements were developed to describe the optimization (*table 3*). Each assessment was then assigned a reason statement describing the rationale for the result. Reason statements were further sub-categorized for each incidence of opportunity to optimize (no, low, medium, and high).

Incidence of Opportunity to Optimize (% cost savings by GPO)			
No	**Low**	**Medium**	**High**
≤ 0	0 to ≤ 10	> 10 to ≤ 20	> 20

Table 2*: Categories of incidence of opportunities that a medication can fall into. Percent change calculated using the medication's GPO price.*

Opportunity to optimize	Reason statements
No	Optimized based on usage Single vial size available for purchase Emergency response medication
Yes	Optimize combination Order on-demand

Table 3*: Reason statements assigned to each evaluation based on their opportunity to optimize.*

Results

A total of 46 assessments were performed on 37 individual medications. There were 36 (78%) assessments that revealed no opportunity to optimize and (22%) showing some opportunity to optimize. Of the assessments with no opportunity to optimize, 22 (61%) were already optimized based on usage, 12 (33%) were only available in a single vial size, and 2 (6%) were emergency response medications. Of the 10 with an opportunity to optimize, 4 (40%) had a low opportunity, 2 (20%) had a medium opportunity and 4 (40%) had a high opportunity to optimize. Those with a low and medium opportunity to optimize, all 6 (100%) had the opportunity to optimize the combinations of vial size purchased. Those with high opportunity to optimize, 2 (50%) required an optimized combination and 2 (50%) can be ordered on-demand (table 4).

Opportunity to Optimize	
Total assessments performed	46 (100)
Opportunity to optimize – No; n (%)	36 (78)
Optimized based on usage; n (%)	22 (61)
Single vial size available for purchase; n (%)	12 (33)
Emergency response medication; n (%)	2 (6)
Opportunity to optimize – Yes; n (%)	10 (22)
Low; n (%)	4 (40)
Optimize combination; n (%)	4 (100)
Medium; n (%)	2 (20)
Optimize combination; n (%)	2 (100)
High; n (%)	4 (40)
Optimize combination; n (%)	2 (50)
Order on demand; n (%)	2 (50)

***Table 4**: Opportunity to optimize among the assessments performed.*

Discussion

Standardizing concentrations is a best practice that requires key inventory considerations that can often be overlooked. Standardizing concentration promotes safety for the patient but can also make it challenging to decide the best physical inventory to keep in stock. This concept was seen often during the course of the study. Medications were observed to have multiple vial sizes even when an alternative combination of vial sizes would be equally effective for patient care, reduce carrying costs, and improve safety. By evaluating the doses required for adequate patient care and analyzing the doses delivered from any given vial, a decision can be made to modify the vial size. In certain cases, eliminating an intermediate vial size and sending multiple smaller vial sizes or using one larger vial size can be effective in reducing the complexity of the physical inventory. Some circumstances such as updates to medication indications and expanding patient populations may warrant increasing vial sizes to select the most appropriate physical inventory.

In some cases, completely removing a medication from the physical inventory and ordering on-demand can reduce carrying costs and free up space. On-demand ordering can be controversial because it implies that a medication will not be stocked. On-demand ordering should not be applied to emergency medications and should be assessed on a case-by-case basis when performing the inventory assessment using the MIRP. For example, last-line medications which are considered after multiple failures with the standard of care can be considered for on-demand ordering. Patient care providers and the operational team should be engaged to assess the availability of therapeutic alternatives, the urgency with which the medication may be needed after initial treatment failure, ability to predict the need for its use and the turnaround time to obtain the medication from the distributor. A low use medication for a patient who is seen in an outpatient clinic can be a candidate for on-demand ordering. Clinical pharmacists can communicate with the inventory team to ensure the on-demand medication will be available in the inpatient setting prior to admission.

Conversely, it may not be appropriate to apply on-demand ordering for medications that are regularly on the ASHP backorder list, shorted by the distributor or ordered in a manner where expedited or next day delivery is not available. For example, certain medications can take 48 to 72 hours to arrive when ordered from the manufacturer and may be unable to be ordered over the weekend. These items should not be considered for on-demand ordering because they can delay patient care for those admitted over the weekend. Ultimately, the clinical and operational comprehensive review can allow an institution to identify which medications may or may not be candidates for on demand ordering and patient care should *always* be the central focus when making such decisions.

The development and use of a standardized review form for medication inventory optimization revealed areas for improvement within the current physical inventory. By using a step-wise process, the user is able to make a data driven, evidence based decision on the physical inventory best suited for the patients and operations of the hospital. This study evaluated the

physical inventory from a retrospective standpoint. It revealed that while there is an opportunity to optimize certain medications within the formulary, majority of the medications are currently optimized based on usage and inventory available to purchase. These findings highlight two specific insights that are beneficial. First, they reveal that inventory management practices for the assessed items are strong at TCH. Purchase data aligns with the usage data and vial sizes are typically only purchased if they are beneficial to the institution from an operational and clinical perspective. Second, despite a strong inventory management process, the lack of a systematic process can mask the inefficiencies in physical inventory decision making. Making inventory decisions based on a standardized review process and reviewing the physical inventory on a regular basis can lead to a reduction in carrying costs, purchasing costs, and simplify the physical inventory. Institutions should outline a time-frame for regular re-evaluation of medication inventory. Medications added to the backorder list or those in short supply should be re-evaluated based on usage, on-hand supply, and anticipate return to stock dates. Medications receiving an expanded Food and Drug Administration (FDA) indication should also be re-investigated to ensure the on-hand physical inventory provides the appropriate dose for the updated indication.

When using this process to evaluate purchasing practices and overall medication usage, some limitations should be taken into account. Institutions such as TCH that have access to GPO and 340B must decide how to assign purchase price to medications. For the purposes of this evaluation, GPO costs were assigned to each medication and accumulations were not investigated due to the complexity of identifying exact costs for each purchase order. Despite sacrificing exactness, the process provides guidance on where gaps exist and which items to further investigate. Usage should be assessed thoughtfully. Waste must be taken into account when assessing usage of medications that require manipulation. Manipulated preparations typically have a shorter shelf life, expire more often and are typically patient specific preventing the ability for reuse. On average 50% of a dilution preparation is wasted at TCH. This waste factor was applied to any dilutions that did not have complete waste data. Institutions specific waste factors should be considered when using this process. Although lot numbers and expiration dates are compliance requirements and routinely collected, extracting this data for each preparation in a usable format can be a challenge. It is important to understand that even though exact price and usage data can be nearly impossible to obtain, the standardized review process can still be applied to provide a strong estimate of opportunities to optimize the physical inventory. By using this assessment, institutions can further delve into the medications in question and analyze down to the cent or milligram. Another limitation of this standardized review process is its ability to be used prospectively. This work would be an ideal fit during the initial phases of the formulary addition process when the product availability and the operational plan are being developed. When adding a new medication to formulary, historical data is unavailable to guide the decision making process, which makes performing a prospective evaluation challenging. In these scenarios, the majority of the process is still beneficial but approximate usage rates should be discussed with the clinical team. Ultimately, a

standardized inventory review process can be integrated into the formulary addition process providing a prospective assessment of the physical inventory.

Institution specific characteristics should also be taken into consideration when selecting this method of inventory management. Health-systems with multiple hospitals should individually identify the need for such a process. Smaller institutions may have much tighter control over their inventory management, have fewer number of areas where medications can be stocked, and fewer staff reducing variation in preparation practices. Having a more confined space allows for a better representation of the current physical inventory eliminating the need for such an extensive review. Based on the study at an academic medical center, using this type of methodology at large hospitals that provide complex and broad scope of care would be most beneficial.

Conclusion

The development of a standardized review process for medication inventory optimization can identify areas of improvement for an institution's medication inventory. By implementing a standardized process, the tedious task of inventory assessment and management can be streamlined and opportunities for optimization can be revealed.

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Appendix A: Medication Inventory Review Process (MIRP)

Date Reviewed:

Section 1: Responsible Parties

**No data to be collected, refer to Section 2 of VAMS formulary addition form*

Section 2: Basic Pre-review Information

Generic Medication Name:

Brand Name:

Dosage Form:

DEA Controlled Substance Schedule:

Standard Concentration(s):

Section 3: Clinical Review (Clinical Lead)

**For additional clinical information, refer to data collected during formulary addition process*

Current Formulary Alternatives:

Section 4: Product Identification (Inventory Lead)

Inventory Stock Locations:

Physical inventory on shelf (vial sizes):

Label Name	Vial Size	NDC

Reconstitution?

Dilution?

Straight Draw?

Sent as whole vial?

C&R Product?

Vial type:

Single Use Available?

Multi Use Available?

Section 5: Inventory Review

Section 5.1: Purchase Options

NDC	Label Name	Package Size	Vial Size	Distributor	Comments

**list all package sizes that are available for purchase through the contracted vendor.*

Section 5.2: Purchase Price of Products on the shelf

Label Name	Vial Size	GPO Price* ($)	Price per mg

Section 6: Assessment of Current Physical Inventory

Vial Sizes Currently On-hand: *Identify by walking the area(s)*:

Section 6.1: Product Usage (Operations Lead)

Frequency of Use

Vial Size*	Daily use	Weekly use	Monthly use	Yearly use
Total				

***round up to the nearest vial*

Current Usage:

Vial Size*	Dose Range Provided	# of Vials Dispensed*	Percent of Total	AWP Cost (AWP x # Vials)
Total				

**review available data at least 1 calendar year prior to date of assessment*

Section 6.2: Financial Impact (Operations Lead)

Billing Procedure:

Section 6.3: Opportunity to Optimize

Possible combinations

Vial/Package Size Combination	Pros of Combination (free text)	Cons of Combination (free text)	Recommend Cost Analysis? (Y/N)

Cost Analysis of Alternative Combination(s):

Analysis using GPO:

Vial/Package Size Combination	% Change GPO Price*	Opportunity to Optimize*
Currently stocked	0	

Opportunity to Optimize (% Cost Savings)			
No	**Low**	**Medium**	**High**
≤0	0 to ≤10	>10 to ≤20	>20

Section 6.4: Recommended Vial Sizes to Purchase

Recommended Combination:

Appendix B: Medications evaluated using MIRP

Medication	Concentrations	Assessments performed	Opportunity to Optimize?
AcetaZOLAMIDE	2	1	No
Acyclovir (Systemic)	2	1	No
Adenosine	2	1	No
Albumin	3	3	No
Amikacin (Systemic)	2	1	No
Aminocaproic Acid	1	1	No
Aminophylline	1	1	No
Amiodarone	2	1	No
Amphotericin B (Conventional)	2	1	No
Ampicillin	1	1	Yes
Ampicillin and Sulbactam	1	1	Yes
Argatroban	1	1	Yes
Atropine (Systemic)	3	3	No
Aztreonam (Systemic)	1	1	No
Benztropine	1	1	No
Betamethasone (Systemic)	1	1	No
Bivalirudin	2	1	No
Bumetanide	1	1	No
Caffeine	2	1	No
Calcitonin (IU)	1	1	Yes
Calcitriol (mcg)	1	1	No
CeFAZolin	2	1	No
Cefepime	2	1	Yes
CefOXitin	2	1	No
CefTAZidime	2	1	No
CefTRIAXone	2	1	No
CefUROxime	2	1	No
Chloramphenicol (Systemic)	1	1	Yes
Chlorothiazide	2	1	No
ChlorproMAZINE	1	1	Yes
Cidofovir	2	1	No
Cisatracurium	2	1	No
DexaMETHasone (Systemic)	4	2	Yes
DOPamine	3	3	No
Insulin Regular	4	1	No
Lidocaine (Systemic)	3	3	Yes
MethylPREDNISolone succinate	2	1	No