JDJ CONSULTING

COST INQUIRY

2018

DATA COLLECTION:
Spring, 2018

DISTRIBUTED:
June, 2018

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BEFORE REVIEWING THE BENCHMARKING DATA PLEASE HAVE YOUR CENTER'S DATA COLLECTION SHEET AVAILABLE.

DISCLAIMER: The data collection sheet was sent to approximately 250 surgery centers and hospitals. The figures here are representative of data collected in this study, only. These figures are not necessarily representative of national purchase prices or drug trends.

NOTES

Each year we continue to expand our Cost Inquiry Benchmarking Study. This year we added new drugs to the data collection sheet, we asked about pre-filled syringes, and we've even included a recent article I wrote for Outpatient Surgery Magazine.

This year's study collected data from 76 respondents. That's an improvement over last year's 69 respondents and 2016's 53 respondents. With approximately 300 clients nationwide, I hope that next year's participation is even higher!

Participating in external benchmarking studies is vital to improving the patient experience. Sharing data on drug purchase prices allows you to compare your overhead costs to your peers.

Knowing where you stand on drug acquisition costs is more important now than ever. We're all being affected by current drug shortages. Backup suppliers and manufacturers alike are able to adjust drug costs based on supply and demand methodology. Sometimes drug availability and high purchase prices leave us scrambling to stock our shelves. Ultimately, the current climate of drug shortages has forced our attention away from what we do best: care for patients. I hope that this information will help you to make informed purchasing decisions for your organization.

As a thank you for participating, I've included a sample *Critical Drug Shortage* policy and *Drug Shortage Dashboard* in the back of this catalog. Please use these tools at your facility to monitor ongoing shortages.

I hope you enjoy this benchmarking study. Keep an eye out for the data collection tool for our Summer 2018 Benchmarking Study on Antibiotic Stewardship!

Sincerely,
John Karwoski, RPh, MBA
President and Founder
JDJ Consulting, LLC

THANK YOU FOR PARTICIPATING!

LET THE DATA DO THE HEAVY LIFTING

What do these results mean for you?

As you review the results of the 2018 Cost Inquiry Benchmarking Study, consider how this information is going to impact your center. How will you use this information? We recommend you keep these questions in mind while viewing the results catalog:

1. Are you a member of a Group Purchasing Organization? If so, how does yours stack up against other respondents' prices? If not, would it be beneficial to become part of a GPO?
2. Are you tracking data on your average purchase prices of drugs monthly or quarterly?
3. What kind of short term fluctuations do you see in drug purchase prices and are these price fluctuations easily explainable by market demand or shortages?
4. Are you reporting participation in this study up to your board? *You should be!*

Both Joint Commission and AAAHC require participation in Quality Improvement efforts, specifically, external benchmarking activities. As a client of JDJ Consulting, your center receives complimentary participation in all 3 annual benchmarking studies. Why not utilize these results?

Report the results of this study to your center's board, along with your responses and any quality improvement plans derived from your participation. Just documenting those efforts in the board minutes demonstrates that your center strives for continued quality improvement.

Didn't participate in this study? Don't worry, you can still use the included sample data collection sheet to follow along and self-benchmark against the 76 respondents' answers. JDJ Consulting will be conducting another 2 benchmarking studies in 2018. Make sure you're receiving our email messages and newsletters so you never miss an opportunity to participate!

SAMPLE DATA COLLECTION FORM

PART A:

Are you enrolled in a group purchasing organization (GPO)? YES NO

Group Name: _____

Propofol 10ml $ _____ per vial

Propofol 20ml $ _____ per vial

Midazolam 2ml $ _____ per vial

Omnipaque 240 200mL $_____ per vial

Ondansetron 4mg $_____ per vial

Glycopyrrolate 1ml $_____ per vial

Glycopyrrolate 2ml $_____ per vial

Fentanyl 2ml $_____ each

Sevoflurane (Ultane) 250ml $ _____ per unit

Desflurane (Suprane) 250ml $ _____ per unit

Neostigmine (Bloxiverz) 10ml $ _____ per unit

Cefazolin (Ancef) 1gm $ _____ per unit

PART B: EMERGING PHARMACEUTICALS AND TECHNOLOGY

Circle Yes or No.

Is Ketamine on your formulary? YES NO

Is Ofirmev on your formulary? YES NO

Is Exparel on your formulary? YES NO

Is Omidria on your formulary? YES NO

Is Ryanodex on your formulary? YES NO

Is Sugammadex (Bridion) on your formulary? YES NO

Do you purchase compounded medications: YES NO

If so, is the facility a: (circle) 503A or 503B

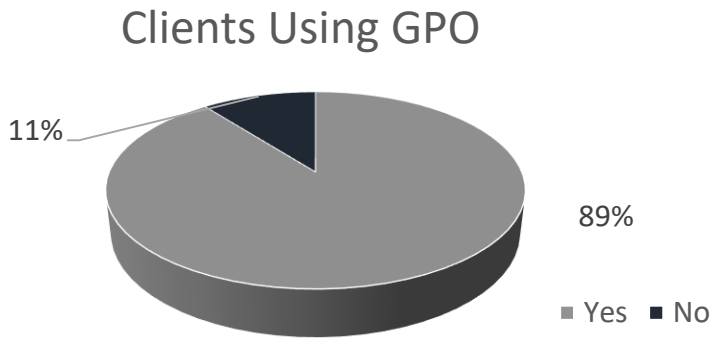
Do you use Intracameral Moxifloxacin in cataract Surgery? YES NO

Do you purchase pre-filled syringes? YES NO

If so, please list which pre-filled syringes you purchase:

SECTION 1: Group Purchasing Organization (GPO)

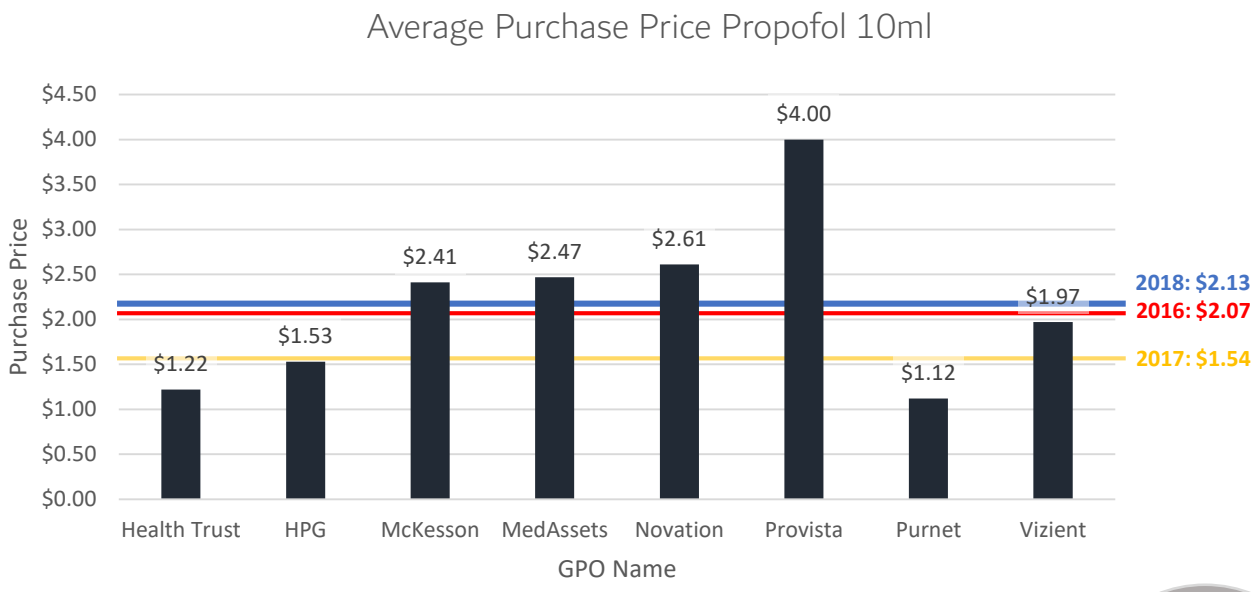
Q1: Are you enrolled (participate with) a group purchasing organization?

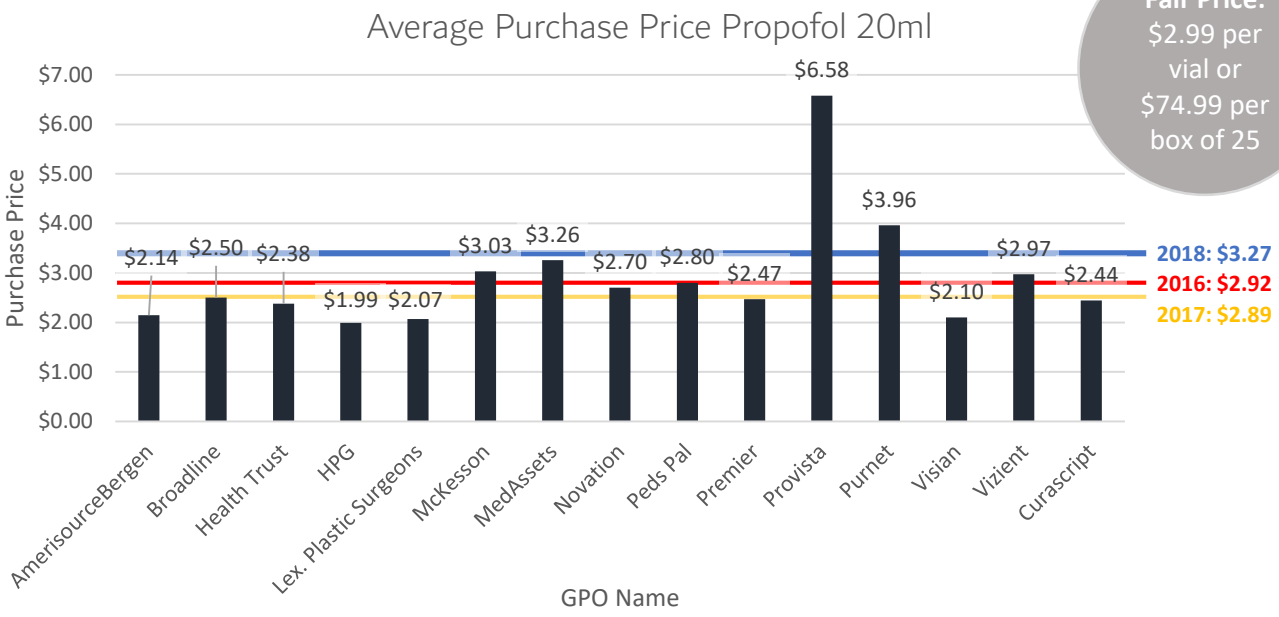


GPO Name	Number of Centers
Provista	12
Curascript	2
Med Assets	11
HPG	9
Vizient	13
Health Trust	3
Broadline	1
Novation	4
Lifeline Pharmaceuticals	1
AmerisourceBergen	1
McKesson	4
Lexington Plastic Surgeons	2
Premier	7
Purnet	1
Peds Pal	1
Alliant	1
Dignity	1

SECTION 2: Purchase Prices

Purchase price of Propofol





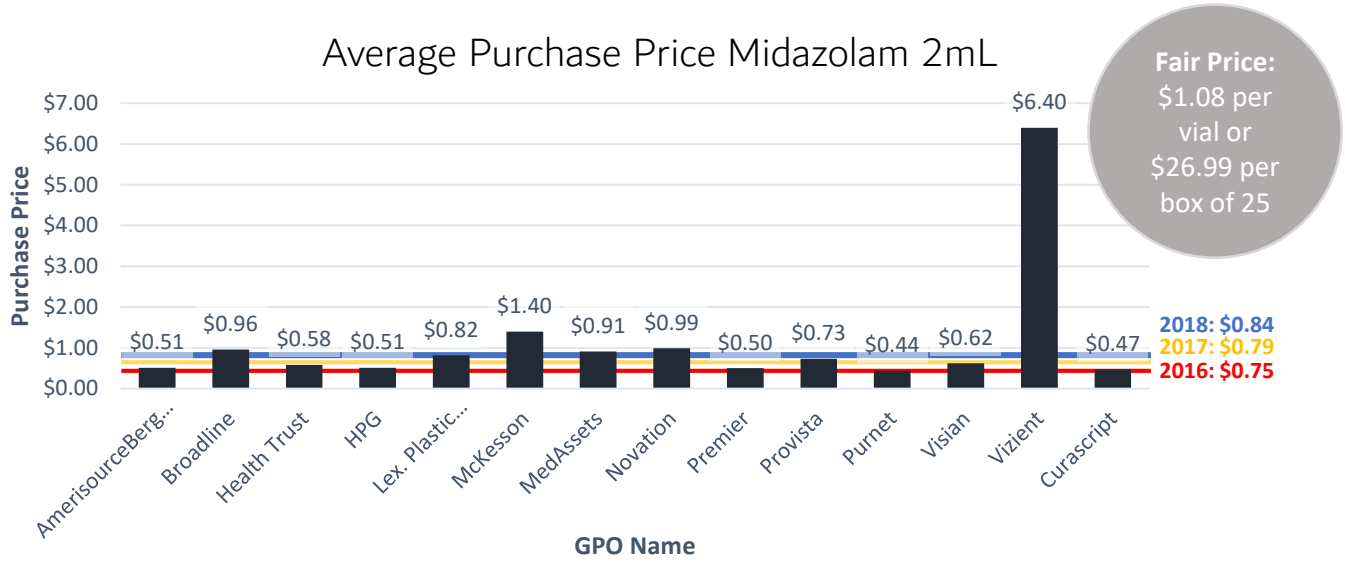
Fair Price: $2.99 per vial or $74.99 per box of 25

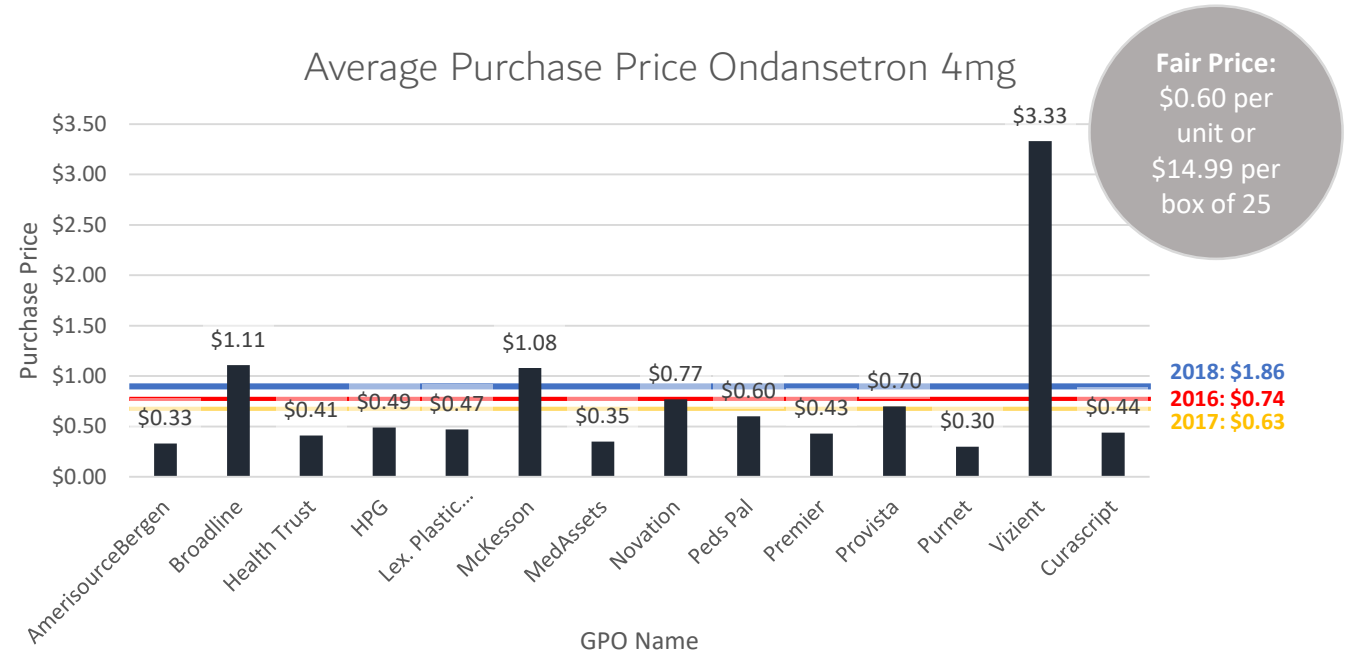
The average purchase price of Propofol is organized by Group Purchasing Organization (GPO). The figures displayed are the averages prices for each GPO, for that product. The BLUE line represents the average purchase price for 2018, including all respondents' data, regardless of whether a GPO was used. The average purchase price for 2016 is shown as a red line and the average purchase price for 2017 is shown as a yellow line.

31 respondents provided purchase price information for Propofol 10mL and 65 respondents provided purchase price information for Propofol 20mL.

SECTION 2: Purchase Prices

Purchase price of Midazolam and Ondansetron



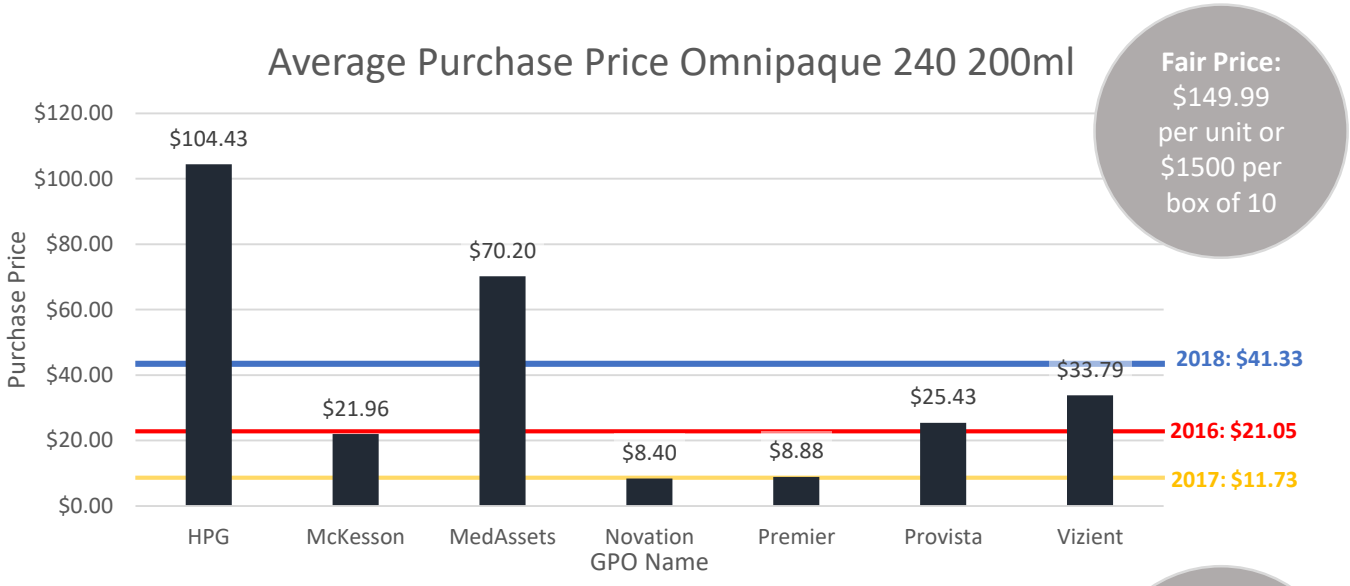


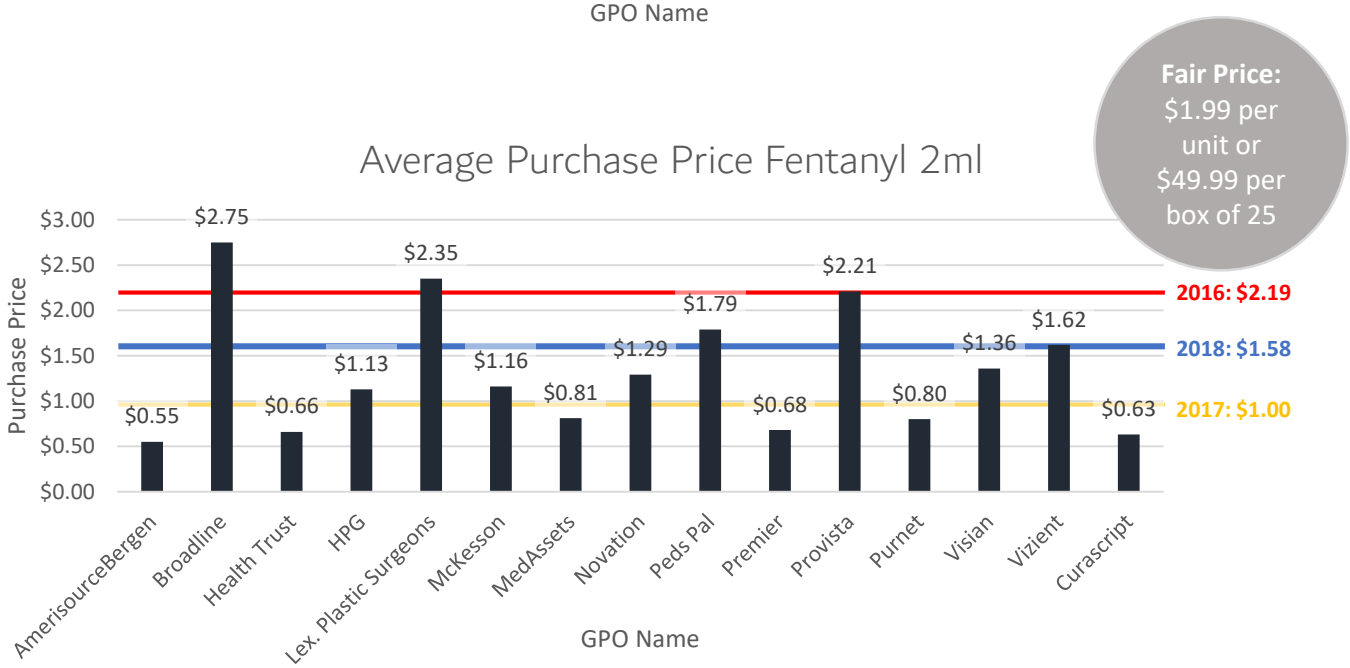
The figures displayed are the averages prices for each GPO, for that product. The BLUE line represents the average purchase price for 2018, including all respondents' data, regardless of whether a GPO was used. The average purchase price for 2016 is shown as a red line and the average purchase price for 2017 is shown as a yellow line.

74 respondents provided purchase price information for Midazolam 2mL and 72 respondents provided purchase price information for Ondansetron 4mg.

SECTION 2: Purchase Prices

Purchase price of Omnipaque and Fentanyl



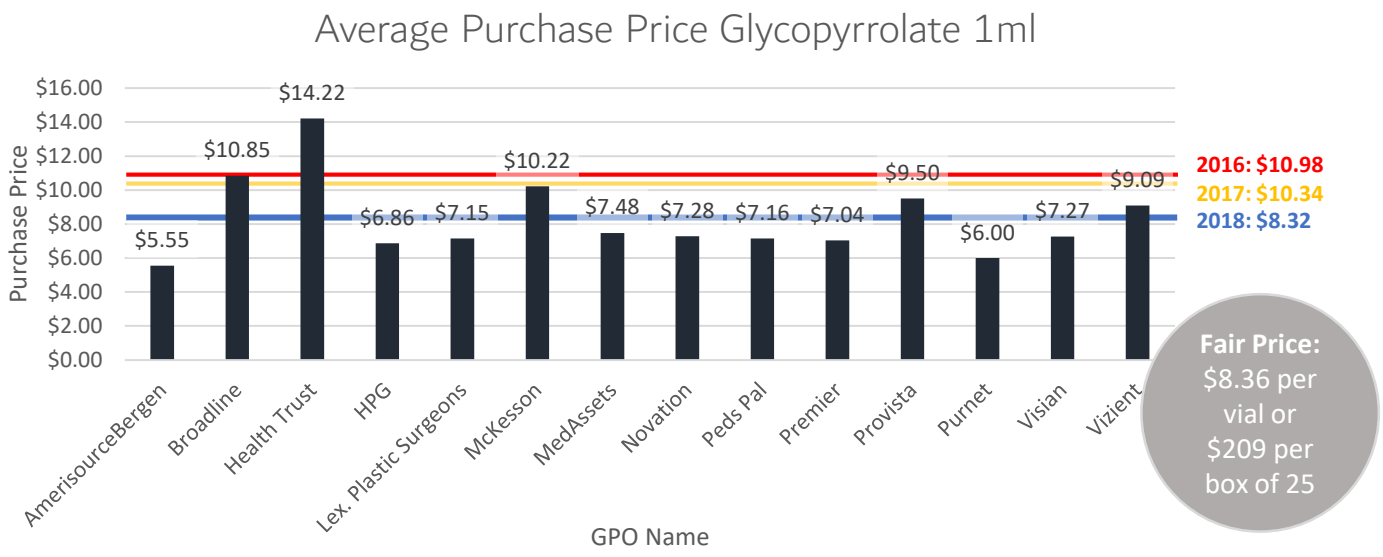


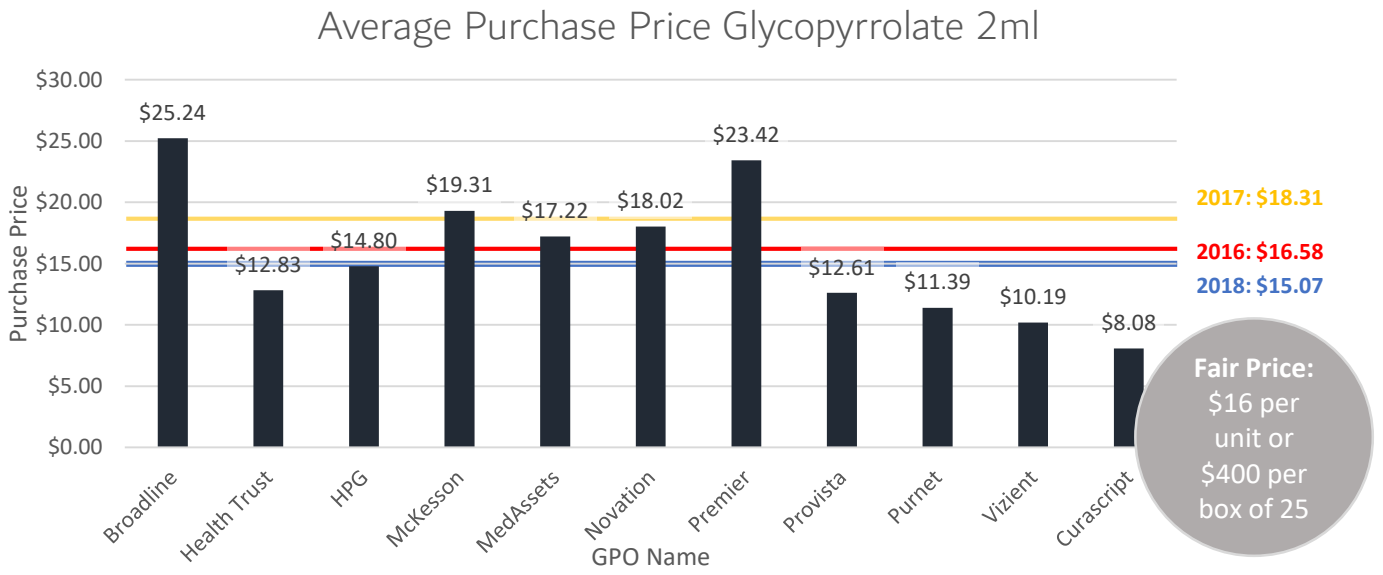
The figures displayed are the averages prices for each GPO, for that product. The BLUE line represents the average purchase price for 2018, including all respondents' data, regardless of whether a GPO was used. The average purchase price for 2016 is shown as a red line and the average purchase price for 2017 is shown as a yellow line.

25 respondents provided purchase price information for Omnipaque 240 200mL and 73 respondents provided purchase price information for Fentanyl 2mL. 4 respondents provided information for the purchase price of varying other sizes of Omnipaque 240, but there was not enough significant data to warrant reporting of those purchase prices.

SECTION 2: Purchase Prices

Purchase price of Glycopyrrolate





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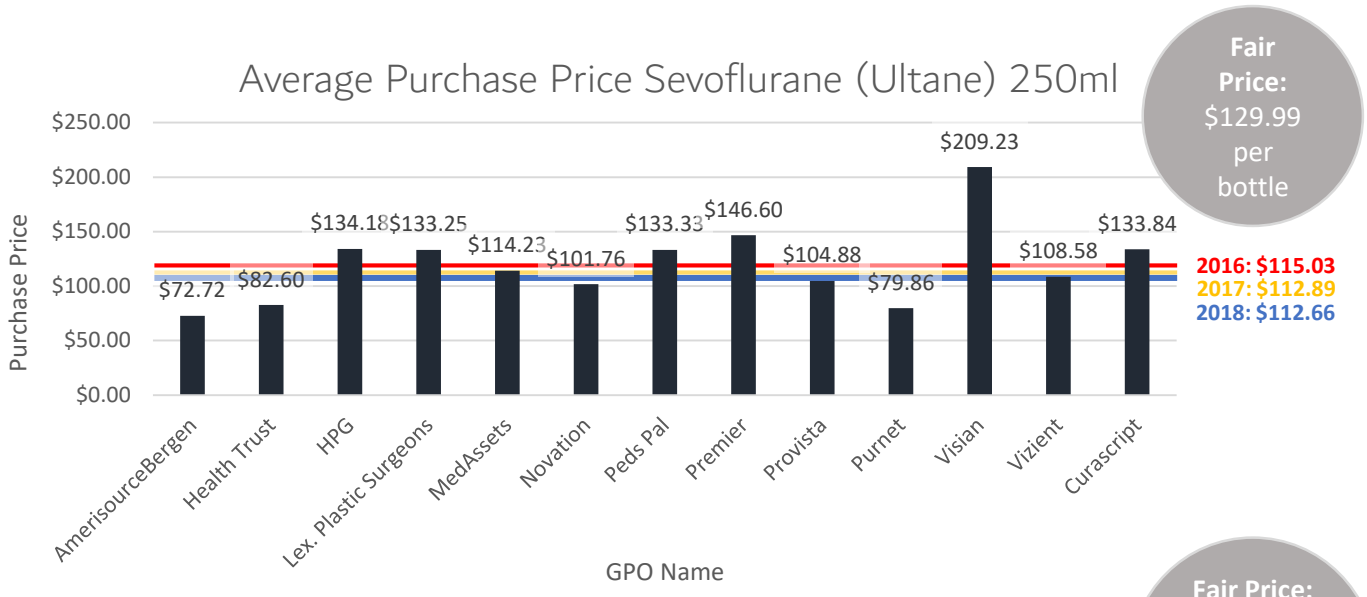
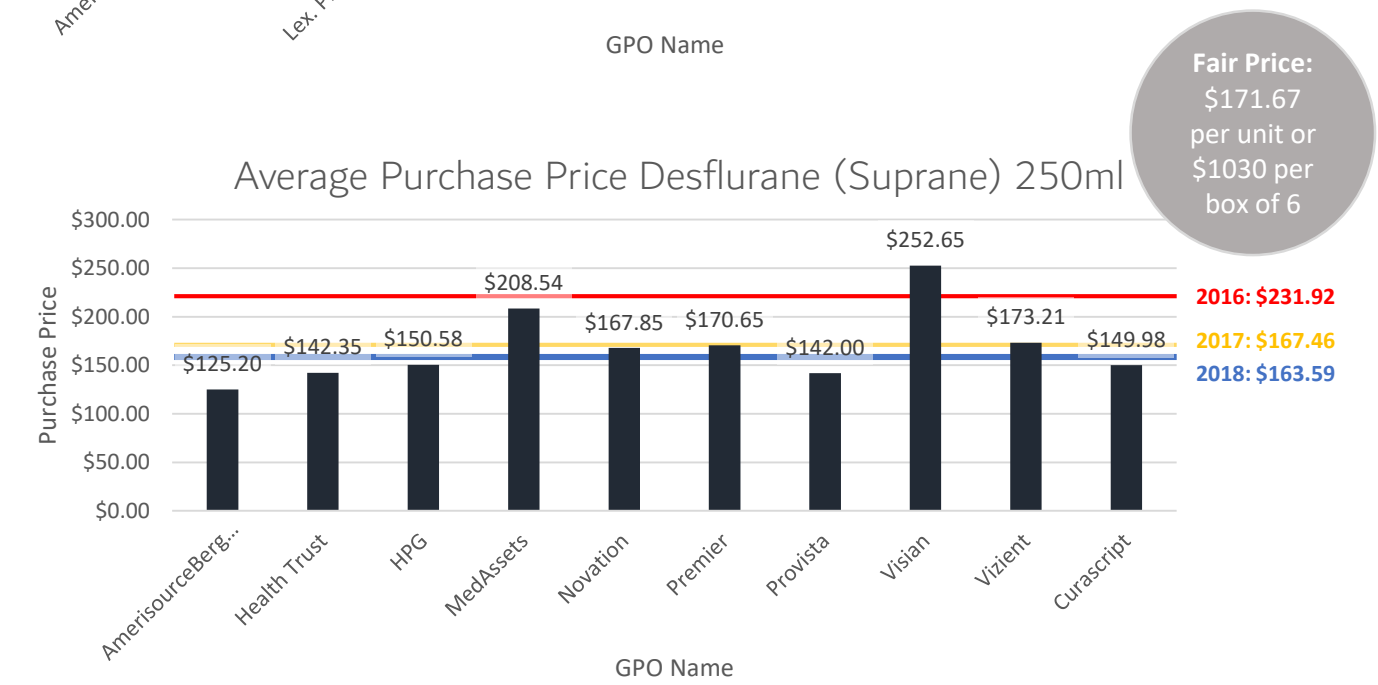
58 respondents provided purchase price information for Glycopyrrolate 1mL and 40 respondents provided purchase price information for Glycopyrrolate 2mL.

SECTION 2: Purchase Prices

Purchase price of Sevoflurane (Ultane) and Desflurane (Suprane)



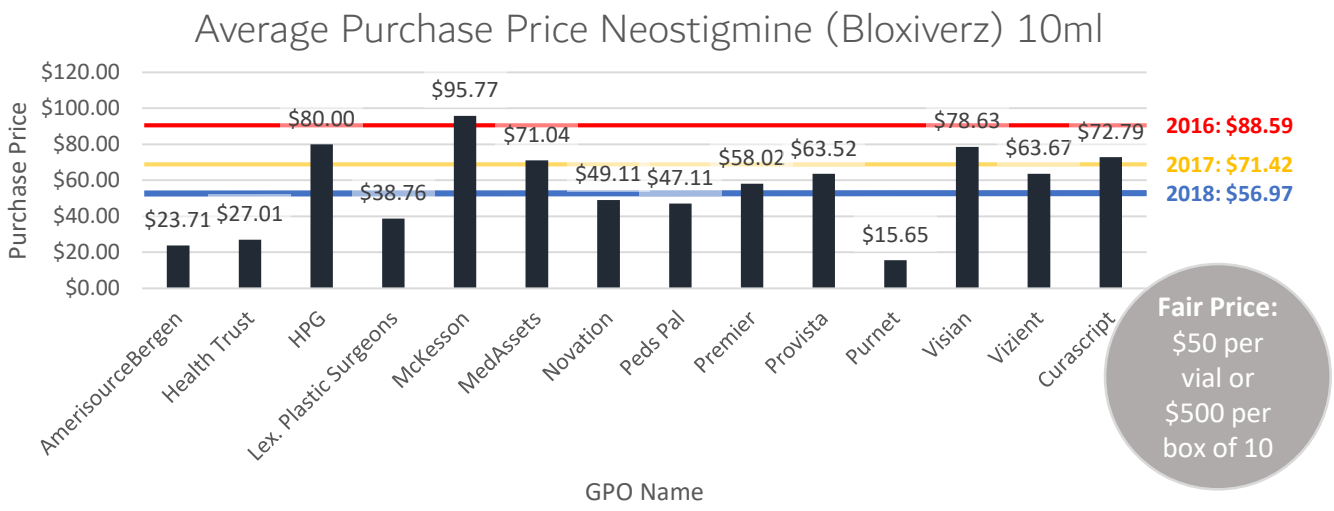


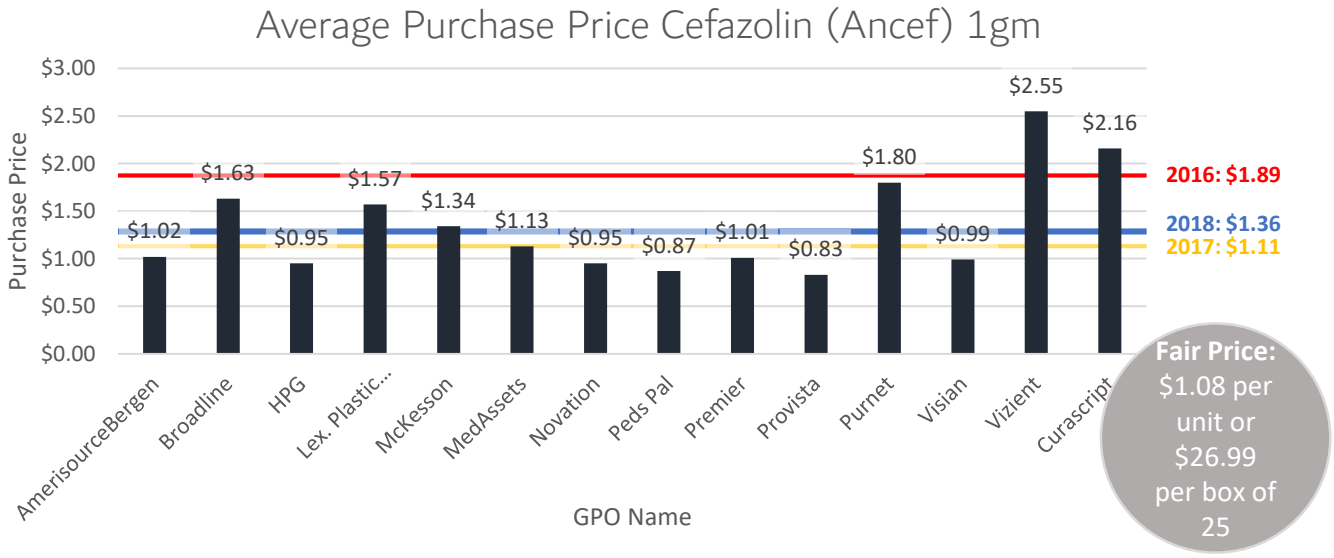
The figures displayed are the averages prices for each GPO, for that product. The BLUE line represents the average purchase price for 2018, including all respondents' data, regardless of whether a GPO was used. The average purchase price for 2016 is shown as a red line and the average purchase price for 2017 is shown as a yellow line.

50 respondents provided purchase price information for Sevoflurane (Ultane) 250mL and 28 respondents provided purchase price information for Desflurane (Suprane) 250mL.

SECTION 2: Purchase Prices

Purchase price of Neostigmine (Bloxiverz) and Cefazolin (Ancef)

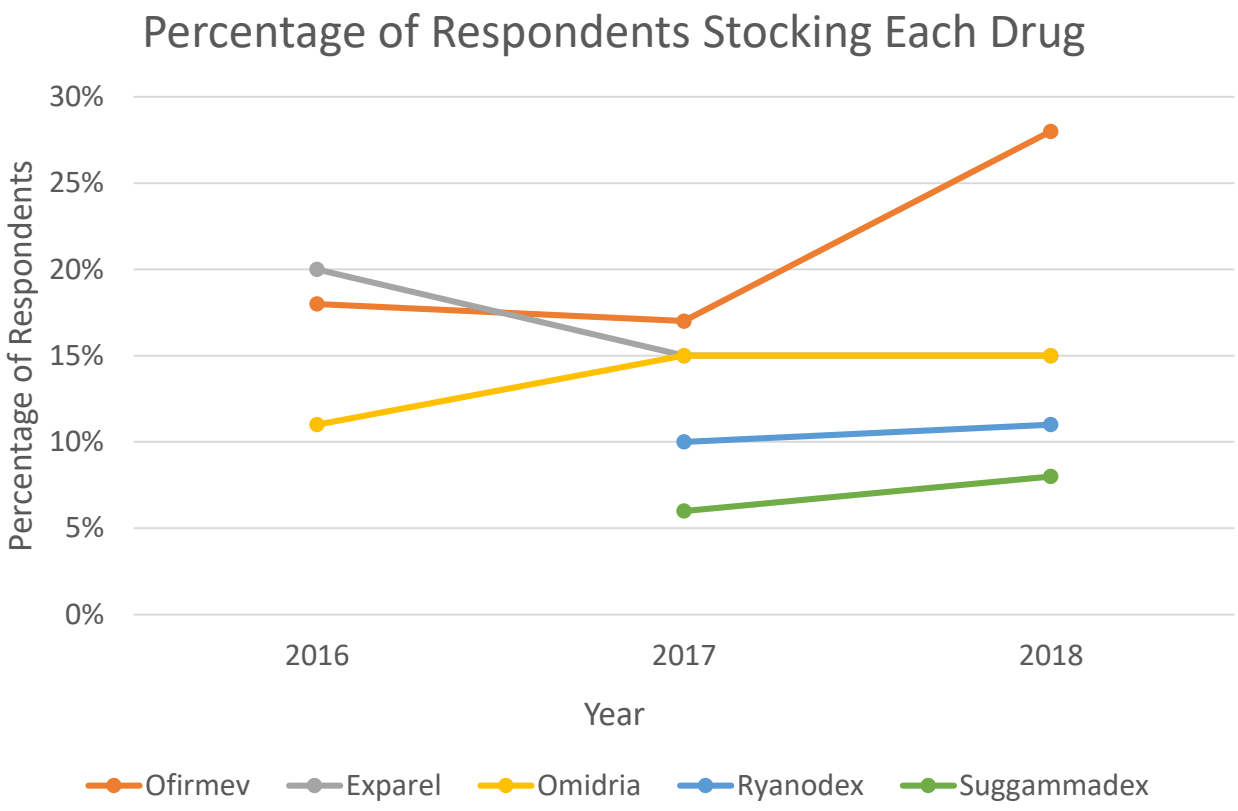




The figures displayed are the averages prices for each GPO, for that product. The BLUE line represents the average purchase price for 2018, including all respondents' data, regardless of whether a GPO was used. The average purchase price for 2016 is shown as a red line and the average purchase price for 2017 is shown as a yellow line.

57 respondents provided purchase price information for Neostigmine (bloxiverz) 10mL and 68 respondents provided purchase price information for Cefazolin (Ancef) 1gm. One response for purchase price of Cefazolin was reported as $12.18 and was omitted so it would not skew the average.

SECTION 3: Drugs on Formulary

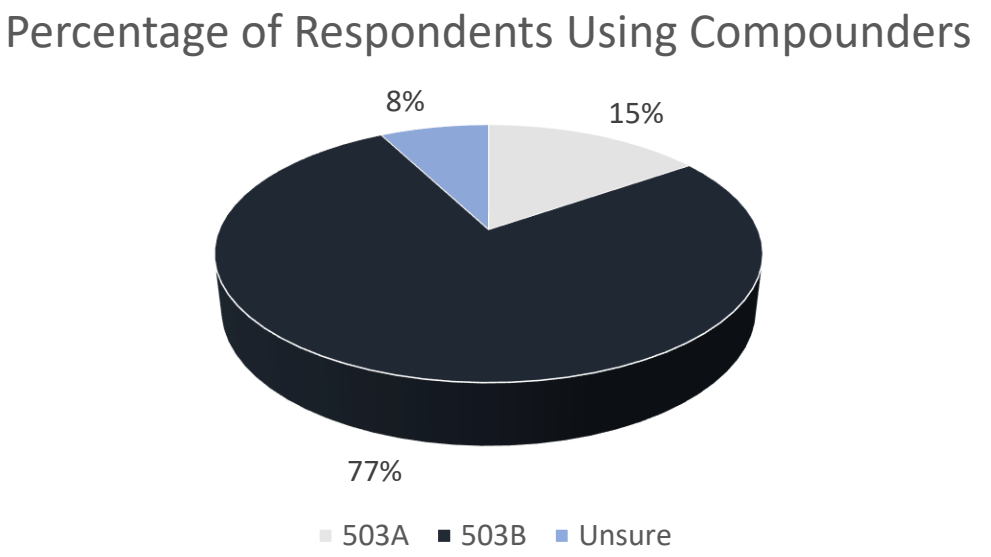


During the 2016 and 2017 annual Cost Inquiry Benchmarking studies, data was not collected for presence of Ketamine on formulary. As reflected in the table below, 65% of respondents reported Ketamine on formulary during the 2018 study.

Percentage of Respondents Reporting Each Drug on Formulary

DRUG NAME	2016	2017	2018
Ketamine	N/A	N/A	65%
Ofirmev	18%	17%	28%
Exparel	20%	15%	15%
Omidria	11%	15%	15%
Ryanodex	N/A	1%	11%
Suggammadex	N/A	6%	8%

SECTION 4: Compounded Medications



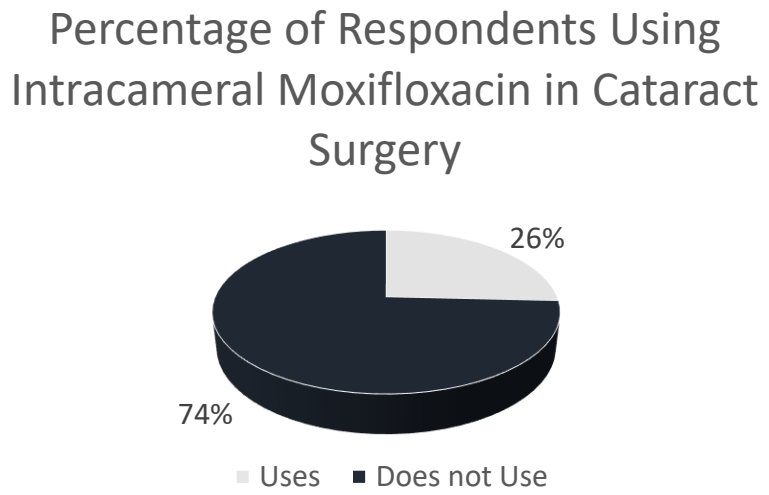
Data was collected about the usage of *compounders*. This type of drug supplier can be described as either a 503A or a 503B compounder. Typically, a 503A is referred to as a compounding pharmacy, and can be thought of as a pharmacy to which you must supply a patient specific prescription in order to have a drug prepared for use at your center. 503B's are also referred to as Outsourcing Facilities, and are permitted by the FDA to sell bulk amounts of drug without needing a patient prescription.

The easiest way to determine whether you're purchasing from a 503A vs a 503B is to simply ask, "Do I need to supply them with a prescription for each item ordered?" If yes, it's a 503A. If no, it's a 503B.

Both types of compounders have important roles in the current medication marketplace for outpatient surgical facilities. 503A compounding pharmacies can help surgical centers safely prepare medications under a hood, the way a pharmacist might if a surgery was being performed in a hospital. 503B Outsourcing Facilities offer a variety of products that might not be available from wholesalers, but are still needed to be purchased in large quantities. Furthermore, 503B Outsourcing Facilities are able to help alleviate the stresses felt by manufacturers during times of backorders and/ or shortages.

It's important to note that both types of compounders are registered with and inspected by the FDA. However, 503B Outsourcing Facilities typically produce a far larger quantity of product annually, and are therefore held to more stringent quality standards.

SECTION 5: Intracameral Moxifloxacin



The intracameral injection Triamcinolone-Moxifloxacin (TM) is becoming a popular substitution for pre- and post-operative prophylactic eye drops. This is commonly referred to as “"Dropless Technology"”.*

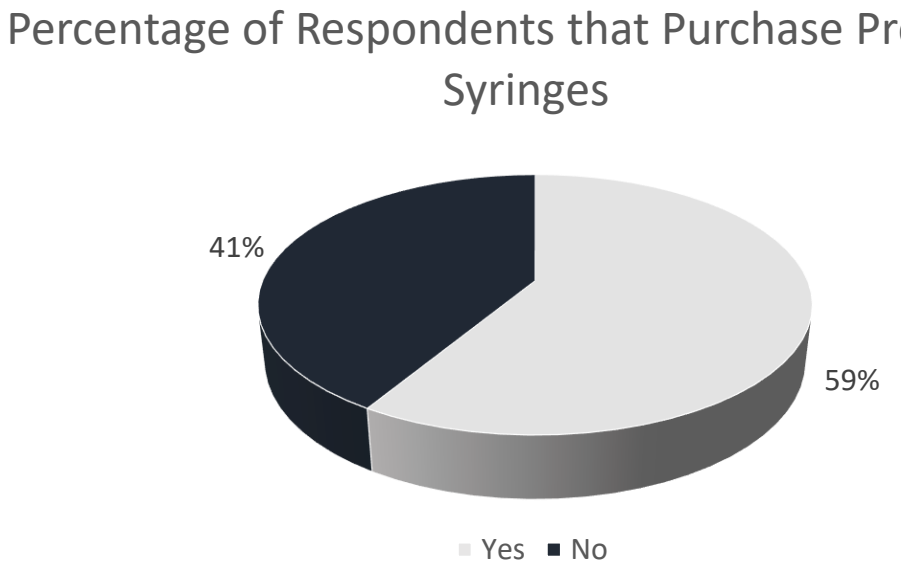
"Dropless Technology" can be an excellent way to reduce the risk of post operative patient error; the post cataract procedure eye drop regimen is notoriously labor intensive for both patients and staff. In most cases, using TM during a procedure may negate the need for post-op drops. However, the decision to go from a traditional eye drop regimen to "Dropless Technology" should be carefully weighed.

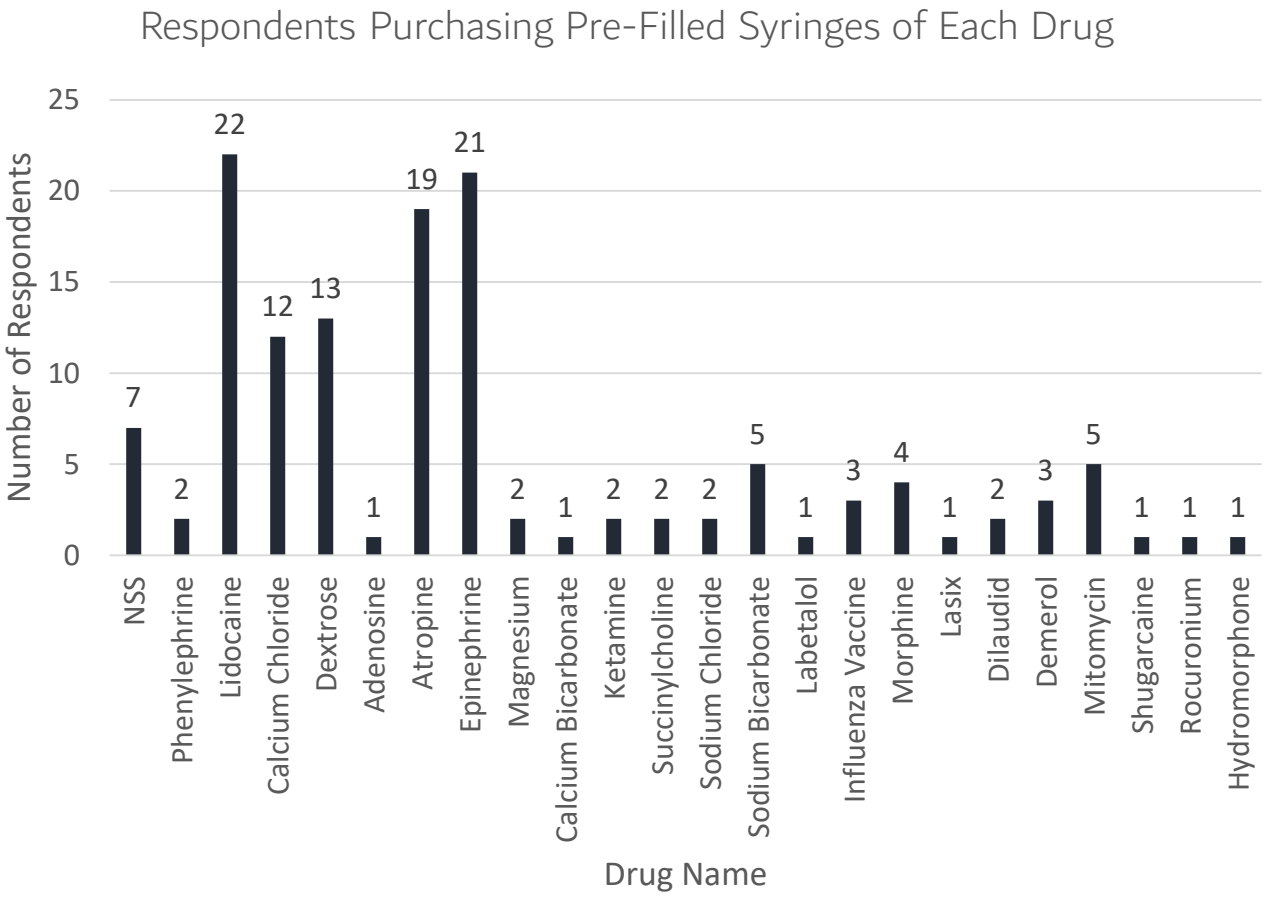
In June of 2018, the FDA issued an alert for TM produced by Guardian Pharmacy Services out of Dallas, TX, a 503A compounding pharmacy. The FDA stated in their alert that 43 patients had reported adverse effects of the injection due to a level of poloxamer 60x higher than the FDA-approved level for ophthalmic products (12% in Guardian Pharmacy’s product vs 0.1-0.2% FDA-approved rate).

To ensure that the product you’re receiving is safe, work with your consultant pharmacist to perform due diligence before purchasing from any new pharmacy. JDJ Consulting can help guide the vetting process and assist with your decision. Before purchasing a new drug from a compounding pharmacy, always ask for sterility and stability testing, request data to support the usage of that formulation as they’re intending for it to be used, and investigate the successful use of that product in your industry.

*The original formulation for "Dropless Technology" contained Vancomycin, now known to cause adverse events when injected intracamerally.

SECTION 6: Pre-filled Syringes





SECTION 6: Pre-filled Syringes

The following article by John Karwoski, RPh, MBA, was published in the May, 2018 issue of Outpatient Surgery Magazine

The biggest roadblock I face when approaching administrators of surgery centers about prefilled syringes is the price point compared to vials. I get it. My clients don't know what goes on behind the scenes at a 503B compounding facility that leads to the upcharge.

It's unlikely they're going to take a day out of their busy schedules to go see how it's all done. But when you compare the cost between two items that serve the same purpose, do you only compare the upfront costs? Of course not. Deciding to make the switch from vials to prefilled syringes is no different.

The price of prefilled syringes is just one variable that should go into your calculation. I tell my clients to first look at all the drugs they buy as single-use vials or ampules and think about what goes into their use. I used to have our pharmacy director look in our trash cans to see what drugs we were throwing out. That’s a good place to start to identify drugs that may be better off purchased in prefilled syringes.

- **Time**: How much time do your nurses spend finding the vial of medication, grabbing the proper needle, drawing it up, labeling it and administering it to the patient? With a prefilled syringe, you just grab the syringe and administer the medication. This could be a huge time-saver, so you need to determine how much your staff's time is worth and include that in your calculation.

SECTION 6: Pre-filled Syringes

- **Waste**: All vials accessed in the OR are single-use and many centers have adopted a policy to treat all of their vials, even multi-dose, as single-use. So you're always throwing away some medication that didn't make it into the syringe you just drew up. You spent $1 on that 10 mL vial of neostigmine, but you threw out 6 mL of it just now. How much did you waste? You paid for the whole vial and used less than half of it. You then have to factor in the costs of properly disposing of the unused medication. Do you buy disposable containers with chemicals that render the medication unusable or do you buy cartridges for a wallmounted disposal system? Switching to prefilled syringes could reduce the number of containers or cartridges you need to purchase..

- **Materials:** There's always the cost of syringes and needles to think about, but if you're drawing up medications from ampules you need to have a filtered needle. These extra materials need to make it into your cost considerations. You also need a dedicated space, away from patient care areas, to draw up the medications. Finding or creating that space takes resources and time that you need to consider.

- **Errors:** Prefilled syringes can reduce the chance that a medication is drawn up incorrectly or not labeled properly and given to the wrong patient. There are many articles and statistics on medication errors and what they can cost your facility. It's definitely worth calculating how much the reduction in medication errors will save you.

- **Shipping costs:** Another reason you need to do this calculation drug-by-drug is to look at your usage patterns so you place your orders strategically. When you buy prefilled syringes, the beyond use date (BUD) may be shorter than the vial form. For example, neostigmine has a BUD after 18 months in vial form but prefilled syringes of the drug need to be used in 60-90 days.

SECTION 6: Pre-filled Syringes

- **(Shipping Costs, Cont'd)** I've gotten plenty of calls from surprised facilities saying "I just got my shipment of neostigmine and the BUD is in 20 days. I'm not gonna be able to use them in that time. They're wasted."

A good compounder can tell you the BUD of the drug you're about to order so you can make an informed decision on the amount and when to buy. They can even tell you how much time they think is left in the BUD once it arrives at your facility. If the BUD is in 2 weeks and you don't have many cases scheduled that require neostigmine, maybe don't order a huge shipment. But be aware: Many 503B compounders set a minimum quantity for pre-filled syringe purchases, and it's typically only larger orders that qualify for free shipping.

Easy to cost-justify

Switching to prefilled syringes will never be significantly cheaper than going with vials or ampules. But what you gain can be accounted for in your calculations of cost and will add to the benefits of making the switch. Considerations for improving safety with tamper-proof caps, or increasing compliance with properly labeled syringes, or saving time with ready to go medications are all added values. Annualizing your costs for each drug, including the considerations above, lets you see whether prefilled syringes will reduce your facility's medication waste or the number of syringes your staff have to fill themselves. If it's only $1,500 more a year to go prefilled, maybe it's a logical way to go for the added safety benefits. After all, the bottom line with prefilled syringes is efficiency, compliance and safety. So you need to do the math to determine how much those benefits are worth to your facility.

SAMPLE CRITICAL DRUG SHORTAGE POLICY

PURPOSE: To continue to provide optimal patient care in times of critical drug shortages/when expired emergency medications are unobtainable. To maximize usage of available quantities of drugs in short supply due to backorders with unknown ship dates, recalls, cessation of production of drug, or any other reasons deemed appropriate by the Medical Director.

POLICY:

1. Drugs deemed to be in a critical shortage situation will be reviewed by the Medical Director, Director of Nursing, Consultant Pharmacist, and Administrator.
2. These shortages will be reported at the Governing Body meetings.
3. A determination will be made by the Medical Director as how to proceed.

PROCEDURE:

1. In the event that a critical drug is about to expire and is unobtainable by the center's normal ordering measures, the nursing staff will inform the Director of Nursing.
    a. The FDA's webpage for extending the expiration dates of certain critical drugs will be checked to see if the drug in question is on the list. https://www.fda.gov/Drugs/DrugSafety/DrugShortages/ucm563360.htm
    b. The consultant pharmacist will be contacted for assistance in obtaining the drug
    c. "Back-up" suppliers will be contacted and the retail pharmacy agreement will be utilized

a. If the critical drug is unavailable after attempting every possible measure to obtain it, the critical drug shortage plan will be put into effect.
    a. The *Critical Drug Shortage/ Expired Emergency Medication Form* will be filled out by the Director of Nursing, or alternative head of nursing staff, and will be presented to the Medical Director.
    b. The Medical Director will make a determination as to whether the center should continue operations during the critical drug shortage/ while the emergency medication is expired.
    c. The Medical Director will sign the policy and approve the use of the critical drug/ expired drug.

b. If the Critical Drug Shortage plan is put into effect, documentation will be kept on file to justify the measures taken.
    a. Documentation kept on file will include
        i. Information used to determine shortage
        ii. Date shortage began
        iii. Measures taken to obtain the drug, documented on a weekly basis, including the ongoing reference to the FDA's expiration date extension webpage
        iv. Date the shortage ended or when it was no longer an issue for the center
        v. Any pertinent patient documentation
    i. Shortages will be evaluated on a weekly basis.

c. Utilize "Manufacturer Backorder" stickers on drugs in critical shortage to prevent accidental disposal. http://shop.gohcl.com/default.aspx?page=item+detail&itemcode=2872&catlist=2794&parent=826

NOTE: Use of this policy does not excuse any medical facility from Federal, State, Local, or Accrediting standards and regulations. This policy and plan are intended to help the nursing and medical staff make an informed decision about usage of unobtainable drugs on critical shortage or unobtainable expired emergency medications, in order to continue to provide services to patients. Identification of an expired emergency medication during a State Department of Health Survey, CMS Survey, or Accrediting Survey will result in citation.

CRITICAL DRUG SHORTAGE/EXPIRED EMERGENCY MEDICATION FORM

1. Name of drug:

2. (a) Date shortage began: _____

   (b) Measures taken to obtain drug:

3. The consultant pharmacist has been contacted in an effort to obtain drug (Y/N)

3. (a) Comparable drug options:

   (b) Measures taken to obtain drug:

3. Any pertinent / additional information:

3. Date shortage ended: _____

The above drug information has been reviewed and is approved as an official critical drug shortage. All committees and governing body have been made aware.

EFFECTIVE DATE:

Signature: _____ Date: _____
(Medical Director)

Signature: _____ Date: _____
(Administrator)

Signature: _____ Date: _____
(Director of Nursing)

NOTE: Use of this policy does not excuse any medical facility from Federal, State, Local, or Accrediting standards and regulations. This policy and plan are intended to help the nursing and medical staff make an informed decision about usage of unobtainable drugs on critical shortage or unobtainable expired emergency medications, in order to continue to provide services to patients. Identification of an expired emergency medication during a State Department of Health Survey, CMS Survey, or Accrediting Survey will result in citation.

MEDICATION SHORTAGE DASHBOARD

DATE:_____

Medication	Strength/ Formulation	Impact	Anticipated Restock Date	Restrictions	Alternative Drug
EXAMPLE: Morphine	• 2mg/ mL • 4mg/ mL	HIGH		Pharmacy is preparing 2 mg/ 2 mL injections with a beyond use date (BUD) of 48 hours	Oral: Morphine, oxycodone IV Push: Fentanyl

IMPACT KEY: Green = LOW (greater than 3 week supply) Yellow = MEDIUM (between 1 to 3 week supply) Red = HIGH (less than 1 week supply)

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