A patient’s most basic expectation for service at the pharmacy is that their medication is in stock. This is one reason it’s so important to ensure your pharmacy has the medications your patients need, when they need them. Inventory is one of the most frequently performed tasks in a pharmacy. In fact, after dispensing, managing and maintaining inventory is the pharmacy technician’s biggest role. This offers great rewards for a job well done. On the other hand, ignoring inventory poses great risks. Just a glance can reveal pharmacies that have well-managed inventories and those that have neglected this vital job. This PL Technician Training Tutorial reviews the ins and outs of pharmacy inventory.

You’re working on a refill, a 90-day supply of metoprolol extended-release 100 mg tabs for Mary Bingham. Mrs. Bingham called in for this and said she’ll be in tomorrow afternoon to pick it up. You are surprised when the computer alerts you there are only 80 tablets remaining in stock. You check the shelf, and the computer is correct. You’re glad to have caught this issue, because the pharmacy dispenses a lot of this medication. Fortunately, Mrs. Bingham isn’t in the pharmacy waiting for her prescription.

Besides having meds available, for what other reasons are managing and maintaining pharmacy inventory important?

Pharmacy inventory itself is costly. While keeping expensive inventory in stock is a necessary requirement to serve patients, keeping too much in stock can harm the business. Both too little inventory (below the pre-determined “reorder point”) and too much inventory (“reorder quantities” that cause you to exceed desired “stock-on-hand”) are directly related to poor inventory practices.

In addition, there is an actual dollar cost associated with the space for storing inventory in the pharmacy. Plus, space in a pharmacy is a valuable resource. Good work takes place in an orderly environment. A disordered environment can lead to mistakes and a breakdown in efficiency. When vital space such as countertops and shelving are used for long-term storage of inventory, workflow can be impeded.

You wonder if there was somehow a mix-up with the reorder point for the metoprolol tabs, or the reorder quantity needed to maintain the appropriate amount of stock-on-hand. Normally, you keep up to 500 tabs of these tabs on the shelf, and reorder when you drop below 300 tabs. As you are thinking about this short supply of metoprolol in your pharmacy, you notice there are several unopened bottles of tranexamic acid tablets sitting on the counter. You know this med is not frequently dispensed and it’s very expensive, so you make a mental note to mention this to the pharmacist.

How is a pharmacy’s inventory measured?

Most pharmacies count their inventory and its value annually, semiannually, or quarterly. Many operations also have the ability to maintain a floating or perpetual inventory with automated inventory systems. These systems account for inventory and its value as it is received and as it sells. This method gives the pharmacy constant inventory information in real time. However, physical inventory
adjustments are still needed periodically. This physical measurement of inventory requires the actual hands-on counting of bottles, tablets, etc.

Inventory measurement can be contracted or done in-house. There are several companies that specialize in inventory measurement. Some pharmacies choose to use their own crew to do inventory. The method and frequency of inventory measurement is not as important as having a policy that governs how it is done. Following the policy gives the pharmacy a dependable method of knowing its inventory value.

Inventory levels and ratios such as the inventory value as a percentage of annual sales may be somewhat similar in most pharmacies. However, differences in business approaches, work methods, and types of patients will affect these numbers for your pharmacy specifically.

**Where do pharmacies buy their inventory?**
Most pharmacies purchase the majority of their inventory from a supplier such as a wholesaler. Wholesalers are essentially a single source through which pharmacies can purchase drugs from various drug manufacturers. A large number of pharmacies in the U.S. are supplied by a few national wholesalers including McKesson, Amerisource/Bergen, and Cardinal. In Canada, major wholesalers include McKesson and Kohl and Frisch. Pharmacies usually have multiple suppliers, at least a primary and a back-up source. Big pharmacy chains may own their own wholesaler. Some pharmacies use a combination of external wholesalers and their own warehouse. Drugs can also be purchased directly from manufacturers. This is less convenient for pharmacies, but necessary for some drugs that have special requirements such as limited distribution or special storage.

Business agreements govern discount rates, payment agreements, and return privileges between the pharmacy and its supplier.

The wholesaler or warehouse offers an array of services other than supplying merchandise. The most important of these is to take inventory back. The agreement between the supplier and the pharmacy contains a set of rules governing all aspects of returning goods. Pharmacies need a way to sell goods back to the wholesaler when too much stock is delivered, the wrong item is received, medications go out of date, merchandise has stopped selling, etc. This inventory becomes unusable as it begins to expire in the store. (Remember that if only a month and year are designated for the expiration date, the drug expires on the last day of the month.)

The downside of too much inventory is not only financial. Issues with clutter or not “moving” merchandise appropriately are also important considerations. The warehouse or wholesale operation can shift merchandise from a location where it is not selling to one where it will sell, but only if the pharmacy returns the product to the warehouse.

Some pharmacy companies choose to use a returned goods company in addition to their principle wholesaler. These companies specialize in returns of “out of date” or “close date” merchandise that the main wholesaler doesn’t accept. The payment from these companies is lower than the usual wholesale value, but they offer an easy way to dispose of product that is no longer saleable. These “one box return” companies also handle Schedule II controlled substances including the required DEA 222 transfer forms (in U.S.).

**What are some tools and strategies for ordering and maintaining inventory?**
While community pharmacies will order medications based on what is purchased in the store, hospital pharmacies will order what is needed from a list of drugs known as the hospital’s “formulary.” The formulary is usually determined by a group of health care professionals and administrators (the Pharmacy
and Therapeutics or “P and T” committee), balancing effectiveness of the medications with factors such as cost and safety.

All staff should know their assignments and work to keep appropriate levels of useful inventory in stock. Fortunately, pharmacies also have good tools to help with this, such as shelf labeling, automated reordering, and automatic substitution.

**Shelf labeling** is a manual technique of inventory management. Labels are used to mark a shelf place for each product. The label provides the name/strength/size of the medication, NDC (U.S.) or DIN (Canada), reorder number, bar code, size, etc. These labels help when it’s time to reorder stock manually, such as when a med drops below its predetermined par-level or reorder point. Generating a reorder in a well-labeled pharmacy can be done easily using a portable data terminal device to scan labels and adjust order quantities. By placing a label on the shelf for all products in the pharmacy, shortages can also be quickly identified. Creating new labels can also be very helpful. If the store has to wait for the warehouse or wholesaler to send labels, much of the impact of labeling is lost. Diligence and patience are required to keep a store well labeled, but the benefit to inventory levels, and ultimately to patients, is well worth the effort.

**Automatic reordering** is a feature most pharmacies already have, though many may not use it. Most computer systems allow reorder points and stock-on-hand values to be set for each medication, which is referred to as a “point of sale” inventory system. Prior to generating an order, the system can list all products that need to be replenished. A purchase order is then created and sent to the supplier. In more advanced systems, the software determines inventory level through usage, then orders the merchandise without any interaction from the pharmacy staff. Even with these automated systems, though, it is a good idea to review each order to make sure the items and quantities are appropriate. If unusually high or low amounts in the order catch your attention, take a look at your target inventory and actual inventory to see if everything makes sense.

Most suppliers offer the option of **automatic substitution** to minimize out of stocks. This feature gives the warehouse permission to send another size or brand if they are out of stock, or if a more economical preparation becomes available. Chain pharmacies often have suppliers provide drugs from the same manufacturer to all stores in the area. This way, patients will receive a familiar-looking medication regardless of the location where they had it filled.

Here is a list of other tasks to help with maintaining and managing inventory:

* Perform inventory tasks each day. Make sure you know the deadline by which an order must be placed in order to be received in the pharmacy by the next delivery day.
* Don’t wait until products are out of stock to maintain your inventory. Pay extra attention to “fast movers,” meds that are very commonly dispensed such as atorvastatin, furosemide, and metoprolol. It can lead to patient dissatisfaction if these are out of stock, and also have significant financial impact for the pharmacy.
* Avoid ordering new and expensive meds until a patient brings in a prescription. Verify the cost with the patient beforehand, and don’t open the container or label it until the patient has paid. This way the drug can be returned to the supplier if necessary.
* Keep reasonable but not excessive amounts of “non-income” products such as bags, labels, and vials in stock. Like excess inventory of drug products, these can tie up cash flow.
* Mark products that are set to expire soon with a colored sticker or some other identifier so they can be used first and removed from the shelves for return to the supplier at the appropriate time.
Fortunately, you are able to manually add metoprolol extended-release 100 mg tabs to your order that will be delivered to your pharmacy tomorrow. The order is usually delivered early and gets checked in right away.

**What should be done when an order is received in the pharmacy?**

When an order is received in the pharmacy, make sure the number of cartons received matches up with the number of cartons shipped and point out any noticeable damage to the shipment before the delivery person leaves. Check the order in as soon as possible after it arrives to make sure all ordered items have been received. Use the packing slip or invoice and mark off items as they are removed from the shipping containers and placed on pharmacy shelves, etc. Contact the wholesaler or supplier immediately for any damaged or shorted items. If the cause of a shorted item is a drug shortage, the pharmacist may need to work with prescribers to find alternatives for patients.

Keep in mind that controlled substances may be delivered in a separate order from noncontrolled substances. These may need to be checked in by the pharmacist and the paperwork must be filed separately from other pharmacy invoices.

Make sure drug products are placed in the appropriate area for storage: shelves, locked cabinet, refrigerator, or freezer. If you are unsure of proper storage, check with the pharmacist or look at the package or product labeling, under the “How Supplied” or “Storage and Stability” section. Make sure refrigerators and freezers are working properly to avoid wasting supplies of drugs that require refrigeration or freezing, such as vaccines. When stocking new meds in the pharmacy, pay attention to the potential for mix-ups to be caused by look-alike sound-alike drug names. Use shelf tags, bins, etc. to separate these products to prevent dispensing errors.

Be sure to rotate stock when unpacking new orders so packages with shortest expiration get used up first. Place new product behind, not in front of, what’s already on the shelf. Also, mark open stock bottles to avoid having multiple open bottles of the same product on the shelf.

**What should be done with regard to returning inventory to the supplier?**

Merchandise to be sent back to the warehouse should be kept in a designated area for returns. Usually drugs that expire within one to three months will be removed from shelves and placed here. A recall is another reason a drug may need to be removed from shelves and placed in a designated area.

The return process should take place at regular intervals. This will ensure there are not huge stacks of unprocessed returns or multiple piles of return goods cluttering up the pharmacy. It is important to process returns on a consistent basis. This ensures the most credit for returns while freeing up inventory dollars to order the most needed items for your patients.

You find out from the pharmacist that the bottles of unopened tranexamic acid tablets sitting on the counter were pulled from the shelves for return to the wholesaler. You place these in the designated area, knowing that returns will be processed within the next couple of days.

**How is the inventory of controlled substances different from inventory for nonscheduled drugs?**

In the U.S., inventory of controlled substances has specific requirements mandated by the Drug Enforcement Agency (DEA). The DEA requires that a controlled substance inventory (Schedule II-V) be done when a pharmacy first opens, then once every two years. This record needs to be kept in an easily accessible place for at least two years, in case of inspection. The record must contain the pharmacy’s name, address, and DEA number and must be signed by the person who does the inventory. State boards
of pharmacy also have requirements for inventory of controlled substances. An example of this would be perpetual inventory of Schedule II-V substances reported to the board of pharmacy twice a month. Both state boards of pharmacy and pharmacy policy may dictate other procedures involving controlled substances, such as the method for filing paperwork associated with the ordering of controlled substances, storage of controlled substances, etc.

In the U.S., remember that the ordering of Schedule II controlled substances requires a special order form (DEA form 222) that is available as either a paper triplicate or electronically. When C-IIIs have passed their expiration date, DEA Form 41 must be completed and destruction of the expired drugs must be witnessed.

Rules regarding inventory of controlled substances are similar in Canada. For example, controlled substances may need to be counted quarterly to make sure there are no major discrepancies. Discrepancies may need to be reported to Health Canada, depending on the drug involved.

**Can medications that patients don’t use be returned to stock?**

In most states and provinces, medications cannot be returned to stock once they have left the pharmacy. It’s impossible to know how the medication was stored or if it’s been altered in some way that might make it dangerous. In the U.S., some states do allow the return of medications if they are in their original container and unopened with the factory seal in place. If a medication is not picked up by a patient and has not left the pharmacy, it may be returned to stock. The drug should not be added back to the stock container unless it’s the same lot number. If not, just keep it in the prescription container. It can then be recounted into a new bottle and labeled for another patient. These rules also apply to pharmacies that deliver medications to patients. If the medication is never delivered and does not leave the possession of the driver, it may be returned to stock. Most states and provinces have specific regulations on what may be returned and what cannot. In the U.S., check with your state board of pharmacy for information on regulations specific to your state. In Canada, check with your provincial or territorial pharmacy regulatory authorities.

*When Ms. Bingham comes in to pick up her metoprolol the next day, she brings with her an unused Z-Pak that was prescribed for her husband about two weeks ago. She asks if it can be returned. You tell her there is a chance, since it is in the original package and has not been used. However, you ask the pharmacist to speak with her and confirm whether or not a return can be made.*

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