

Physical Management of Health Supplies

The storage and physical management of health items should follow most of the standard basic principles of [warehouse](#) and inventory management. In addition to basic standards, there are a few additional factors to consider when storing health items.

Organising Health Items

The arrangement of health items in a warehouse or a storage room can take multiple forms. In large scale warehouses, or warehouses where cargo items are palletized, traditional methods for arranging cargo will usually be sufficient, provided that temperature, humidity and light exposure requirements are met.

In many cases however, health items are stored loose, or broken down into much smaller accounting units. Due to the relatively small volumes of health items, and to the relatively high number of individual line items, health items are frequently stored on shelves, segregated by individual units. Segregating by individual units also makes it easier to distribute relatively smaller quantities of items that may only be consumed in smaller proportions.

“VEN” Storage

In medium to large sized storage facilities and storerooms used to store medical items, health items can be segregated by the risks associated with being exposed to temperature fluctuations, by the frequency or importance of use, and by the control requirements in place. “VEN” storage is defined as prioritizing storage locations for items based on if they are defined as:

- Vital (V)
- Essential (E)
- Nonessential (N)

Similar to the [zonal strategy of segregating items based on their weight and overall frequency of usage](#), the VEN method helps identify the physical location in a warehouse where cargo items should go by placing cargo in categories that should be co-located together in storage locations. VEN storage analysis will help design the layout of storage facilities, identifying:

- Where the most temperature sensitive cargo should be located.
- Where specialty items, such as narcotics, psychotropics, or other heavily regulated items should be located.
- Where frequently used items should be located.
- Where extremely fragile items should be located.

Product Characteristics

Another method of organising and storing medications and medical relief items is segregating items by product characteristics. Arbitrary segregation is useful for quickly identifying medical items and may be especially useful in warehouses with high numbers of SKUs. In some cases, more than one sorting method can be used at the same time, such as first segregating items based on one characteristic (product) and then segregating those subcategories by another characteristic (alphabetical).

Dosage Form – One of the most frequent methods of organising stock on racks and shelves is segregating items along the physical characteristics of their dosage form. Dosage forms might

include:

- Pills
- Injectables
- Liquid consumables (Example: syrups)
- Topical (Example: creams)

The advantage of segregating by dosage form is that frequently similar dosage forms will have similar handling requirements. As an example, injectables frequently come in glass vials that should be handled as fragile items.

Alphabetical – In environments in which warehouse employees may not have special knowledge of health items, segregating and storing items alphabetically based on their generic names will enable rapid identification of storage locations. Alphabetical storage only works best in storerooms with:

- Limited or no difference in temperature controls for different items in stock.
- Smaller storerooms without large variables in temperature or large volumes of SKUs.
- Storage environments where there is a commonly understood primary language.

Frequency – [Much like zonal storage plans for bulk cargo](#), some planners may want to arrange stock items in a warehouse based on their frequency of use. This would include placing the most frequently used items on shelves or racks closer to doors, and near the front of storage rooms.

Pre-defined Coding – Humanitarian organisations responding to any health emergency may have a variety of methods and reasons for defining their own coding systems. These coding types might include:

- Project or donor – segregating items based on the project for which they were purchased, and for which they must be used.
- Regulation – some local or national authorities might have their own commodity coding system based on prevailing health regulations.
- Inventory Management Systems – If humanitarian organisations already have their own inventory management systems that can assign categorization to many things, including health items.

Secure Storage Areas

Wherever pharmaceuticals are stored and transported, there may be specialty “controlled substances” that require secure storage. Items requiring secure storage might include:

- Items of high value.
- Items that have a high risk of addiction or substance abuse.
- Items that are specifically regulated under local or national laws.

As a general rule, any item that is classified as a narcotic, a psychotropic, or some other form of analgesics drug should be placed in secure storage, with two-step access as preferred option. In many cases National Essential Medicines Lists will outline any drugs that require secure storage under national laws. In some cases, humanitarian organisations may be completely banned from storing certain items.

**Examples
of Common
Controlled
Substances:**

Narcotics: morphine, opium preparations, pethidine, diamorphine, papaveretum, hydrocodone and oxycodone, dipipanone, and tramadol.

Other opioid and strong analgesics: pentazocine, codeine, dihydrocodeine, dextropropoxyphene, dextromoramide, and buprenorphine.

Psychotropic drugs: usually the group of drugs called "benzodiazepines," the more common being diazepam, temazepam, nitrazepam, flunitrazepam, and oxazepam. Clonazepam, used to treat epilepsy, may be found under a different class, and is not always under the same control. Strong tranquilizing medicines, such as chlorpromazine, may also be found under this heading.

Taken from: *JSI Deliver* [Guidelines for the Storage of Essential Medicines](#)

Any item requiring secured storage must be safely and adequately stored in an appropriate location. Depending on the volumes of the controlled substances and the available space in the storage facilities, secure storage might include:

- A room with lockable doors.
- Locking caged shelving or racking.
- A locking safe, securely attached to a permanent surface.

The advantage of a separated room with lockable doors is that it may be regulated to its own temperature when required for the commodity items. In many cases however, controlled substances must be kept in the same open general space as the rest of the commodities in the warehouse. Where controlled substances are kept in the same location as general cargo, organisations may use caged shelving or racking:



Caged racks/shelves should be lockable and should be sturdy enough to avoid being broken

into easily.

General rules for maintaining a secure storage location include:

- Keys should only be assigned to authorized personnel. Ideally, a responsible warehouse manager will control access to the warehouse, while only staff authorized to access the controlled substances storage location within the warehouse will hold keys to the lockable storage location. In some countries, the persons with access to keys to lockable items must undergo a licensing procedure.
- Stock card should be used in all scenarios, including a sign out sheet requiring personnel to sign as items are removed.
- Where available, an alarm system should be used.
- Where available, a camera system with recoding capacity should be installed, especially in scenarios where large volumes of controlled substances are stored.

Other Planned Spaces

In addition to other specific infrastructural requirements for warehousing and storing health commodities in a humanitarian context, logistics planners should also consider planned spaces for key activities.

Receiving/Dispatching – warehouses of sufficiently large sizes ideally should have special demarcated areas specifically for goods that have either just arrived or are being consolidated for dispatch. In many storage facilities, the loading/receiving areas are either right next to loading bays/doors, in an intermediary chamber, or even possibly outside the storage facility. When designing a loading/receiving area, planners must consider the need for temperature-controlled cargo and health items; much like temperature-controlled storage spaces, areas specially designated to for dispatching/receiving should also be temperature-controlled wherever possible. Additionally, dispatching areas may also have space specifically set aside for packing keep cool boxes if required by needs of the project.

Quarantine Area – see section “[Damaged and Expired Health Items](#)”.

Kitting Area – Kitting areas are common in humanitarian warehouses; however, kitting of health items may require special attention. Areas used to kit health items including pharmaceuticals and medical devices may require extra attention; areas used to kit health items should be thoroughly cleaned and may require temperature-controlled work areas to maintain proper conditions for the items. Kitting may take hours or even days depending on the work order, and the kitting area should be as appropriate for storage of health items as the main storage facility.