

Computer in Community Pharmacy

Automation of the dispensing process in community pharmacy is nothing new. Computer systems for pharmacy management have been on the market for many years, and almost all community pharmacies now use computers to manage the processing of prescriptions.

Although both pharmacists' use of computers and the capability of computer systems themselves have increased dramatically during the past few years, most pharmacies have either failed to utilize their computers to their fullest or have not kept up with the rapidly changing applications that are available.

In the past, community pharmacy computer systems have been developed to support the transaction-processing approach used in dispensing, wherein only information about the prescriptions being dispensed and limited demographics about the patient were entered and retained in the computer system.

Usage of computers in the Community Pharmacy:

- Providing a receipt for the patient
- Record of transaction of money
- Ordering low quantity of products via electronic transitions
- Generation of multiple analysis for day, week, month for number of prescription handles and amounts of cash.
- Estimation of profits and financial rational analysis
- Printing of billing and payment details
- Inventory control purpose

- Whenever the drugs or medicaments are added to the stock or else removed from stock; the position of stock gets updated instantaneously.
- Records of various drug data, i.e., drug data information
- Computers are useful for getting the complete drug information which is used to satisfy the queries by patients about toxicology, adverse drug reactions, and drug-drug and drug-food interactions.
- Drug Bank Data Base gives complete and detailed description of drug (pharmacological and pharmaceutical action) and also involves bioinformatics and cheminformatics.

Computerizing the Prescription Dispensing process:

Prescription processing is invariably one of the main activities going on within a pharmacy on a day-to-day basis, and computers are used to make this process more reliable and efficient. Both the customer service side of pharmacy operation and the dispensing aspect are today carried out through the use of computing systems. Pharmacy computers also handle customer service activities such as sales and cash handling within the retail operation.

Process:

This system is so designed to assist the pharmacist with various tasks. These include receiving prescriptions, dispensing of medicines, checking for accuracy, and payment. This system consists of automated dispensing devices, a tray-transfer line, a reception number indicator screen installed in the waiting room,

and a terminal to provide patients with additional information. The prescription data are instantly transmitted to the respective dispensing positions and the prescriptions are dispensed simultaneously. The trays travel efficiently on the tray-transfer line. The host computer performs such functions as input of information of prescriptions, accounting calculations, integrating prescription audit, and preparation of printing data for medicine bags. The control computer, which receives prescription data from the host computer, sorts and sends instruction data on prescriptions to the automated dispensing machines, outputs instructions on the preparation of medicines in the manual dispensing sector, and controls the tray-transfer line, the turn tables and the reception number indicator screen.

The computerized dispensing system has produced the following results:

- 1) Improvement in the quality of the dispensing work;
- 2) Reduction in the time required for dispensing medicines;
- 3) Improvement in the quality of service to patients;
- 4) Improvement in the efficiency of the clerical work in non-dispensing work;
- 5) Improvement in work efficiency.

🚀 Use of Computers for Pharmaceutical Care in community pharmacy

Pharmaceutical Care is a patient-centered, outcomes oriented pharmacy practice that requires the pharmacist to work in concert with the patient and the patient's other healthcare providers to promote health, to prevent disease, and to assess, monitor, initiate, and modify medication use to assure that drug therapy regimens are safe and effective. The goal of Pharmaceutical Care is to optimize the patient's health-related quality of life, and achieve positive clinical outcomes, within realistic economic expenditures. Computers play a vital role in pharmaceutical care and thereby promoting patient's health.

- Pharmacists must collect and/or generate subjective and objective information regarding the patient's general health and activity status, past medical history, medication history, social history, diet and exercise history, history of present illness, and economic situation (financial and insured status). Computers make this process more easy.
- Computers help in development of an outcomes-oriented drug therapy plan based upon a thorough understanding of the patient and his/her condition or disease and its treatment.
- Patient Counseling: Pharmacist can print counseling handout, prescription label and invoice.
- Computers help in monitoring the patient's progress in achieving the specific outcomes according to strategy developed in the drug therapy plan.

- Patient Profile: Pharmacist can update patient profile whenever a new prescription is filled. Also if the patient might have any symptoms like allergies, it can be added to patient profile.
- Computers help the pharmacist coordinate changes in the plan with the patient and the patient's other healthcare providers as necessary and appropriately to maintain or enhance the safety and/or effectiveness of drug therapy and to help minimize overall healthcare costs.
- Drug-drug interactions: many software vendors offer programs for drug interaction. The pharmacist must check the patient's profile and prescription to determine if there is interaction.
- Patient progress is accurately documented in the pharmacy record and communicated to the patient and to the patient's other healthcare providers as appropriate using the computer database/record management systems.
- Computer assist the pharmacist in sharing information with other healthcare providers as the setting for care changes thus helping assure continuity of care as the patient moves between the community setting, the institutional setting, and the long-term care setting.
- Using computers pharmacist can record the conclusions of the Information evaluation in the medical and/or pharmacy record.

Accounting and General ledger system:

Accounting:

There are three basic accounting methods used by health-care organizations: cash basis, accrual basis, and fund accounting.

1. **Cash based accounting:** Cash-basis accounting recognizes income and expense only when cash is received or disbursed. It is a simple method of accounting that ignores liabilities for purchases made but not yet received, and assets earned but not yet collected. Financial reports generated by cash-basis accounting can be grossly misleading and inaccurate. Cash-basis accounting is typically limited to individuals or small community organizations.
 2. **Accrual basis:** The accrual basis of accounting is used for most businesses. This method seeks to “accrue” revenues and expenses to the proper period in which they are earned. This is a large part of the monthly close process for the controller and staff. For the monthly financial statements to be accurate, the controller and staff must ensure that all transactions for the month are properly recorded, regardless of whether cash has been received or paid.
 3. **Fund accounting:** This is typically used by governmental entities and academic medical centers. Fund accounting establishes specific funds for a variety of uses. Two examples include an equipment replacement fund and the
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general fund. The equipment replacement fund would be used to replace specific equipment in the future. The general fund serves as the operating fund for the entity.

General Ledger

The general ledger uses a set of accounts organized according to their type. The term chart of accounts simply refers to the listing of all available general ledger account numbers. The number of digits varies by the pharmacy, but a typical number is six. The following table demonstrates a typical configuration for organizing the chart of accounts:

Account Range	General Account Category
100.000	Assets
200.000	Liabilities
300.000	Equity or Fund Balance
400.000	Revenues
500.000	Deductions from Revenues
600.000 and 700.000, if needed	Expenses

General ledger accounts are further organized within the category listed above. For example, 100.000 may be used for the general cash account, whereas 120.000 may be used as a patient receivables account. Some hospitals maintain detailed general ledgers using a separate account for tracking specific details. Other pharmacies organize the general ledger in a broader manner and use subsidiary ledgers to provide detail.