

Chapter 1 | Community Pharmacy and Management

Topic: Community Pharmacy Practice – Definition, history and development of community pharmacy - International and Indian scenarios

Definition:

A community pharmacy, often referred to as retail pharmacy or retail drug outlets, is places where medicines are stored and dispensed, supplied or sold.

The general population usually calls community pharmacies "medical stores." Pharmacists working in the community practice setting are either diploma pharmacists or graduate pharmacists with D.Pharm & B. Pharm degrees.

Or

Community pharmacy practice means any place under the direct supervision of a pharmacist where the practice of pharmacy occurs or where prescription orders are compounded and dispensed other than a hospital pharmacy or a limited service pharmacy.

History of Pharmacy in India:

- The genesis of community pharmacy practice in India can be traced back to British India, when the profession was only business oriented and the professionals were called as either drug sellers or drug dispensers. Scotch M. Bathgate opened first chemist shop in Kolkata in 1811; the starting point of the pharmacy practice in India. Pharmacy education under British ruled India had first begun in Madras Medical School in December 1860 - a 2 years course.
- In Goa, which was under Portuguese rule, Escola Medico started a combined course in medicine and pharmacy in 1842. The Indian Pharmacopeia was first published in 1868. The official Indian Journal of Pharmacy was first released in 1939.
- The pharmacy practice scenario and especially community pharmacy practice during pre independence era was highly unregulated and there were no restrictions on the practice of pharmacy in India. The standardization of pharmacy education was introduced in 1945.
- The Indian Pharmaceutical Congress Association had its first annual conference in 1948.
- The Pharmaceutical Association was the first pharmaceutical society of India started in 1923 and was renamed as The Pharmaceutical Society of India after 2 years.

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- In 1932, pharmacy education was started at Banaras Hindu University, and introduced a Bachelor's of Pharmaceutical Chemistry and was first university to start a 3-year bachelors program in pharmacy.
- In 2008, Pharm.D (Doctor of Pharmacy) 6 year program has been introduced by PCI (Pharmacy Council of India).
- The minimum qualification required to practice pharmacy is a Diploma in Pharmacy. A pharmacist's presence is legally required during the dispensing and selling of medicines.
- There is no pharmacist licensure pre-reg exam in India. Anyone who has the minimum qualification (D.Pharm) and above can apply for registration as a pharmacist.

Development Of Community Pharmacy Practice:-

1. **Good pharmacy Practice Compliance.**
2. **Skill Development : Pharmacist Assistants**
3. **Availability art and other essentials medication.**
4. **Quality pharmaceutical care.**

The problems faced by community pharmacies are

1. Inadequate incentives and profit margin - Varies 12-20%.
2. Overcrowding of pharmacies in urban and semi urban areas - the overcrowding of community pharmacies in same locality is a reason for unhealthy competition and non-development of professional concepts in the practice area. Whereas in rural areas, the pharmacies are much lesser, or not there.
3. Anyone can open a pharmacy. It is not the exclusive domain of the pharmacist.
4. Professional fee - at present in India, there is no practice of charging professional fee for dispensing prescriptions.
5. Too many "me-too" brands in the market. India has many drugs and FDCs in the market, and more than 1,00,000 brands. Lack of implementation of drug laws -pharmacist is often not present when dispensing takes place, and prescription medicines are also available without a proper prescription.

Role of Indian Pharmaceutical Association

- The public perception of community pharmacy and the pharmacist was very weak.
- The general population considers community pharmacists as drug traders. But gradually the community pharmacy is awakening with the steady efforts of Indian Pharmaceutical Association (IPA) and many other organizations and eminent pharma professionals.

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International And Indian Scenarios:

- India is nearly in the most reduced normal yearly wage of drug specialist in this investigation which is just \$2854, and when we come toward the fulfillment level of drug specialist an examination demonstrates that lone 17.5% of the partook drug specialist were fulfilled in India
- General Pakistan and India needs to accomplish for their kin and hitter wellbeing framework to convey drug store calling to a phase where it can the general population and wellbeing framework in a player way.
- South Africa has 14124 aggregate number of drug specialist, 43% (6073) of which works in community pharmacy. Add up to numbers of community drug store are around 3155. As opposed to the nearness of drug specialist nearness in Pakistani and Indian people

Country Name	Total No Registered of Pharmacist	Number of Community Pharmacist	Number of community Pharmacies/Drug stores	Average annual income of Pharmacist
Pakistan	12000 [50] (8012) [51]	10 % (1200) [2]	(80000) [50] 63000 [51]	655494 RS= \$6264 [52]
India	680482[5] (1 million) [53]	55 % (374265) [53]	750000 [50]	191342 RS = \$2854 [52]
South Africa	14124 [54]	43 % 6073 [50]	3155 [50]	393000 R = \$25268 [52]
Malaysia	13147 [55]	33% (4382) [56]	2330 [50]	64632 RM = \$15797 [52]
Hong Kong	2390 [57]	-----	518 [50] (600 unofficial)	477706 HK\$ = \$61233 [24]

Chapter-2 | Community Pharmacy & Management |

- **Professional responsibilities of community pharmacists Introduction to the concept of Good Pharmacy Practice and SOPs.**

Professional responsibilities of community pharmacists:

The role of the community pharmacist is to provide the medications to patients based on the prescription from their doctor. However, the role of the pharmacist has progressed greatly and is now deeply involved in the number of other health initiatives.

The tasks of a community pharmacist may include:

- **Processing prescriptions:** Examination of the prescription from the doctor and preparing the medication for the patient.
- **Checking for drug interactions:** Making sure that the medications and the doses are appropriate for the patient considering health factors and the other medications.
- **Dispensing medications:** Labeling the medication correctly with the instructions for the patient about how to take the medication.
- **Disposing of medication:** Taking the unneeded medications from the patients and disposing of them safely.
- **Providing advice:** Campaigning the patients to understand their health and the medicines and giving the appropriate advice.
- **Promotion of healthy lifestyle:** Supporting the patients to make healthier choices, such as intake of more nutritious food, exercising more often or stopping smoking.

Good Pharmacy Practice

Introduction

- All practicing pharmacists are obliged to ensure that the service they provide to every patient is of appropriate quality. Good Pharmacy Practice is a means of clarifying and meeting that obligation.
- The vital element is the commitment of the profession, throughout the world, to promote excellence in practice for the benefit of those served.
- The public and other professions will judge the profession on how its members translate that commitment into the practice they observe in the community and hospital settings.
- The necessary base of pharmaceutical sciences there must be ads emphasis on the action and uses of medicines, there should be a reasonable introduction in the pre-initial qualification course to the relevant elements of the social and behave sciences and, at all stages, the development and improvement of communication should be given due emphasis.

Pharmaceutical Standard Operating Procedure (SOPs)

- Pharmaceutical Standard Operating Procedure (SOP) is a tested, verified, approved, and documented way of executing operations that form the pharmaceutical industry's basis.
- It provides step-by-step guidance for the personnel to perform a specific process.
 - SOPs are constantly updated in response to changing process requirements or due to the latest trends.
 - It helps increase the efficiency of a pharmaceutical process in the most beneficial, effective, and proven way.
 - They inspect whether the process or procedure has its SOP and whether the process is executed according to the SOP.
 - They can issue a warning or non-conformance if there is no SOP or there is a deviation between executed process and the approved SOP.

Chapter-3 | Prescription and Prescription Handling | Community Pharmacy and Management

Topic in this Notes:

Prescription and prescription handling

- Definition, parts of prescriptions, legality of prescriptions, prescription handling, labelling of dispensed medications (Main label, ancillary label, pictograms), brief instructions on medication usage
- Dispensing process, Good Dispensing Practices, dispensing errors and strategies to minimize them

PRESCRIPTION

Prescription:-

- A Prescription is an order written by a physician dentist or any other medical practitioner to the pharmacist to compound and dispense a specific medication for individual patient
- Prescription is actually a direct link between physician, Pharmacist and patient.
- It is a silent information regarding the dispensing of prescribed medication.

Part of Prescription:-

- 1. Heading**
 - Date
 - Personal data of patient
- 2. Body**
 - Superscription Inscription Subscription
- 3. Closing:**
 - Signature of Patient
 - Signature of Physician

1. Heading

- **Date:-** It help a pharmacist to find out the date of prescribing and date of Prescription for filling the Prescription.
- **Personal data of patient:-** It included the Name, Sex, Age and Address of Patient.
- **NAME :-** Name and Address of the patient written in the Prescription because it serve to identify the Prescription in case.
- **SEX and AGE:-** Sex and Age of patient specially use in the case children for help the Pharmacist to check the Prescribed dose of medication.

2. Body

a) Superscription:-

- It is represent by Rx.
- Rx is addreviation for the Latin word “recipere” or “Recipe” which means “Take You”
- The symbol is said to designate or sign of Jupiter. “The God of Healing”
- The symbol was implored by the requesting “god for healing”
- The symbol was implored by the requesting god for the quick recovery of the patient.

b) Inscription:-

- It is main part of Prescription order contain the name and and quantity of ingredient.
- It also contain manner in which medicine should be taken.

c) Subscription :-

- This part contains the prescribers direction to the pharmacist for preparing the Prescription number of dose to be dispense.

3. Closing


a) Signature of Physician:-

- Prescription must be signed with prescribers own hand
- Address and Registration no should be written in case of dangerous drugs.

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Prescription format:-

	<h1>Hospital Name</h1>
Patient name	Date
Address	Sex
Rx	
Dr. Signature	
Dr. name	

Handling of Prescription | Dispensing process :-

- The following steps are to be followed during handling of Prescription.

1. Receiving
2. Reading and Checking
3. Collecting and Weighing the material
4. Compounding, Labeling and Packing

1. Receiving :-

- Pharmacist should himself receive the prescription and reading checking the prescription.

2. Reading the prescription:-

- Prescription should be completely and carefully read from top to bottom.

• Checking of Prescription:-

- Prescription should be checking for any incompatibility.

3. Collecting and Weighing the material

- Before the compounding the prescription all the material required for it should be collected on the left hand side of the balance After weighting the material it should be shifter to RHS of the balance.
- This give a check of ingredient which have been weight while compounding the label of every stock should be read at least 3 time in order to avoid any error.
- When taken from the self or drawer.
- When the content are remove from weighing and measuring.
- When the content are return back to their proper place.

4. Compounding, Labeling and Packing

- Compounding should be carried out in a neat place. All the equipment required are cleaned and dried thoroughly.
- Only one prescription should be compounding at a time
- The size of the label should be proportional to the size of the container.
- Label should contain the required suggestions the patient.

5. Make a final check record the action taken issue medicines to the patient with clear instruction and advice.

Good Dispensing Practice

Good Dispensing Practice ensures that the right medicines of desired quality are delivered correctly to the right patient with the right dose, strength, frequency, dosage form and quantity,

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together with clear instructions, both written and verbal and with appropriate packaging suitable for maintaining the quality and efficacy of the medicine.

A safe, clean and organised working environment provides the basis for good dispensing practice. The dispensing environment includes:

- Qualified / trained staff
- Appropriate physical surroundings
- Adequate shelving and storage areas
- Proper work surfaces
- Suitable equipment
- Necessary packaging materials

Dispensing Errors and Strategies to Minimize Them

There are so many sources of medication error or prescription errors.

Legibility:

- **Checking:**
No one persons are available to recheck the full medications.
- **Too many customers:**
Due to too many customers, the dispenser needs more time to properly handle. But customers have no time to wait that's why errors occur.
- **Lack of concentrations:**
Every dispenser should properly concentrate on prescription if they not. Error occurs.
- **Too many phone calls and social media:**
This is also very important to stay out of mobiles or keep it switched off at the time of working.
- **Lack of experience:**
Experience is very important in this field.

The following is a list of strategies for minimizing dispensing errors:

- **Ensure correct entry of the prescription.**
- **Confirm that the prescription is correct and complete.**
- **Reduce distraction when possible.**
- **Beware of look-alike, soundalike drugs.**
- **Be careful with zeros and abbreviations.**
- **Organize the workplace.**

Chapter-4

Communication skills

- **Definition, types of communication skills,**
- **Interactions with professionals and patients,**
- **Verbal communication skills (one-to-one, over the telephone),**
- **Written communication skills,**
- **Body language,**
- **Patient interview techniques,**

Communication skills

- Communication skills allow you to understand and be understood by others.
- It is also helpful to understand the differences in how to communicate through face-to-face interactions, phone conversations and digital communications like email and social media.
- These can include but are not limited to effectively communicating ideas to others, actively listening in conversations, giving and receiving critical feedback and public speaking.
- Communication skills are the abilities you use when giving and receiving different kinds of information.
- Some examples include communicating new ideas, feelings or even an update on your project. Communication skills involve listening, speaking, observing and empathizing.

Types of communication skills:

There are two types of communication skill:

1. Verbal Communication:
2. Non-verbal Communication:

1. Verbal Communication:

- It is the most basic type of communication skill.
- Verbal communication therefore requires both a speaker (or writer) to transmit the message, and a listener (or reader) to make sense of the message. This page discusses both parts of the process.
- Everyone uses this type to convey their message to other people; even you also use this communication skill.
- Verbal communication is known as the communication which we do with the help of words.

Essential verbal communication skills include the:

- Ability to listen, understand and respond to what people say (active listening)
- Ability to interpret the non-verbal communication and respond in a way that encourages continued interaction (evaluation).

Verbal communication occurs in many different contexts including training sessions, presentations, group meetings, performance appraisals, one-on-one discussions, interviews, disciplinary sessions, sales pitches, and consulting engagements.

Verbal Communications with patients: If a large part of your work involves one-on-one communications with patients, it's helpful to have a "gift of gab. Keep in mind, though, that your conversations need to be focused upon identifying and addressing, Disease, prescription, and other details of your patients' needs; using your verbal talents to encourage consultative dialogues will ensure positive patients relations.

- Anticipating the concerns of others

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- Asking for clarification
- Asking open-ended questions to stimulate dialogue
- Calming an agitated customer by recognizing and responding to their complaints
- Emphasizing benefits of a product, service, or proposal to persuade an individual or group
- Noticing non-verbal cues and responding verbally to verify confusion, defuse anger, etc.

2. Non-verbal Communication:

- It means this is the type of communication skill in which we communicate with other people without words.
- So, now you may wonder, if we are not using words, then how can we communicate?
- In non-verbal communication, we convey our message with the help of facial expressions, eye contact, gestures or postures, etc.

Interactions with professionals and Patients Communication skills:

- Effective communication between pharmacist and physicians, nurses and other pharmacists is essential. Pharmacist-

Interactions with Professionals:

- Be prepared with specific questions or facts and recommendations when initiating a patient care- related conversation with physicians.

Interactions with Patients (Patient interview techniques):

I. Medication history interview: are required for making decisions. The following information is recorded:

- Currently or recently prescribed medicines.

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- OTC medicines purchased.
- Vaccinations
- Alternative or traditional remedies
- Description of reactions and allergies to medicines.
- Medicines found to be ineffective.

Written Communication

- Written communication is one of the types of communication skills.
- In this communication skill, we communicate with other people by writing words. No matter which source we are using to write and send our message, it will be considered as written communication.
- It has a lot of examples, like writing letters, emails or sending messages.
- All these are examples of written communication.

Body language:

- Body language is a type of communication in which physical behaviors, as opposed to words, are used to express or convey information.
- Such behavior includes facial expressions, body posture, gestures, eye movement, touch and the use of space.
- **Face Expression:** An important indicator of emotional state.
- **Body posture:** Message can be conveyed through body posture.
 - Closed body posture: person sitting with his legs and arms crossed in front of their body. This prevents or hinders the free flow of information.
 - Open body posture: A relaxed stance with uncrossed legs and arms. It tends to ease communication.
- **Eye Contact:** It indicates confidence, attention and honesty.
- **Tone Of Voice:** Softer voice etc can also influence the communication.
- **Proximity/Closeness Of Position:** The pharmacist and patient must maintain a minimum distance of 45cm.

Chapter-5

Patient Counselling

- **Definition and benefits of patient counselling**
- **Stages of patient counselling - Introduction, counselling content, counselling process and closing the counselling session**
- **Barriers to effective counseling - Types and strategies to overcome the barriers**
- **Patient counselling points for chronic diseases/disorders - Hypertension, Diabetes, Asthma, Tuberculosis, Chronic obstructive pulmonary disease and AIDS.**
- **Patient Package Inserts - Definition, importance and benefits, Scenarios of PPI use in India and other countries.**
- **Patient Information leaflets - Definition and uses**

Patient counseling:

- Patient counseling is defined to the process of providing information, advice and assistance to help patients use their medications.
- Counseling patients regarding their medications is an important responsibility for pharmacists and an excellent learning opportunity for students.
- Pharmacists are often the only health care providers focusing patient education on medication: how to take it, what to expect, and side effects and drug interactions.
- Many pharmacists have been trained to use a counseling method developed by the Indian Health Service (IHS).

Benefits of patient counselling

- Pharmacist provide effective dose on their patient information.
- The pharmacist has immense responsibility in counseling the patients with chronic illness.
- Drug interactions and adverse drug reactions should be prevented.
- Build a therapeutic alliance with patients to meet mutually understood goals of therapy.
- Patient becomes an informed, efficient and active participant in disease treatment and self-care management.
- The pharmacist should be perceived as a professional who offers pharmaceutical care.

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Stages of patient counselling:

Stage 1: Introduction (Counselling content)

- Introduce your self
- Review patients medication record
- Explain the purpose and importance of the counseling of the counseling
- Obtain medication history interview Eg: allergies previous incidences
- Obtain drug related information such as allergies, use of herbals etc.
- Assess the patients understanding of the reasons for therapy
- Assess any actual and / or potential concerns or problems of importance to the patient.

Stage 2: Present Patient Condition:

Personal assessment:

- Name, Age of patient
- Assess the patients mental ability to understand the current Eg: Black box warnings
- Sensory and physical status
- Cognitive abilities
- Willingness of the patient to use medication.

Clinical assessment:

- How to use the medication
- Attitude towards medication u
- Possible barriers of the
- Patient –Non-adherence
- Willingness of the patient

Stage 3: Closing the counselling session

- Verify the patient's understanding by means of feedback.
- Summarize by emphasizing key points.
- Give an opportunity to the patient to put forward any concerns.
- Help the patient to plain follow-up.

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Barriers to effective counseling - Types and strategies to overcome the barriers

The data was collected by adding a question about the existence and nature of counseling barriers, if they exist, to the standard patient counseling form used by pharmacists.

Type of Barriers to effective counseling

Effective patient counseling in community pharmacy is a difficult task, due to the following barriers.

1. **Pharmacist related barriers**
2. **Patient related barriers**
3. **System related barriers**

1. Pharmacist Related Barriers

- Lack of knowledge about patient
- Lack of knowledge about patient's disease condition
- Lack of confidence or skill
- Attitude and beliefs of pharmacist
- Age difference
- Religious difference

2. Patient Related Barriers

- Lack of trust
- Lack of knowledge of non-verbal communication
- Cultural/religion beliefs
- Poor listening
- Lack of time
- Information overload
- Physical /mental status
- Emotions

3. System Related Barriers

- Lack of pharmacists in a pharmacy.
- Lack of time.
- Pharmacist not having access to the patients full medication history
- Poor communication between pharmacists and physician.

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Strategies to overcome the barriers

Barriers to communication can be overcome by:

- Body language
- Motivate the receiver
- Checking whether it is a good time and place to communicate with the patient
- Being clear and using language that the patient understands
- Communicating one thing at a time
- Respecting a patient's desire to not communicate
- Checking that the patient has understood you correctly
- Communicating in a location that is free of distractions
- Acknowledging any emotional responses the patient has to what you have said.

Patient counselling points for chronic diseases/disorders - Hypertension, Diabetes, Asthma, Tuberculosis, Chronic obstructive pulmonary disease and AIDS.

Hypertension— It is the clinical condition, in which more blood pressure is observed in the blood vessels which leads to hemorrhagic and other disease conditions. During patients' counselling it is managed by the-

- **Pharmacological management.**
- **Non pharmacological management.**

Diabetes— Diabetes mellitus is the group of metabolic disorders sharing the common feature of hyperglycemia. Hyperglycemia in diabetes results from defects in insulin secretion, insulin action or both. The chronic hyperglycemia and attendant metabolic dysregulation may be associated with secondary damage in multiple organ systems, especially the kidney, eyes, nerves, and blood vessels. During patients' counselling it is managed by the-

- **Pharmacological management**— Biphasic insulin, teneligliptin, albiglutide, metformin, voglibose, bromocriptine.
- **Non pharmacological management.**
 - Make the diet plan because, in diabetes condition sugar level maintenance is the major task.
 - Avoid any type of injury.
 - More hunger and thirst is a common condition in diabetes so, availability of things is very important.

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- Exercise and yoga are regular require because it help in the metabolism (BMR) process of the body and maintain the glucose level.
- Try to avoid the stress and depression and visit those places where we feel happy and pleasant.

Asthma—Asthma is a condition in which our airways become narrow, swell up and become more glandular (produce extra mucus). This can make breathing difficult and trigger coughing, a whistling sound (wheezing) when we breathe out and shortness of breath. During patients counselling it is managed by the-

- **Pharmacological management**— Salbutamol, salmeterol, ipratropium, glycopyrrolate bromide and combination of drugs used (albuterol + ipratropium)
- **Non pharmacological management.**
 - Avoid the allergen which is responsible for the allergic condition.
 - Avoid the smoking, drinking, chewing and risks factors which is responsible for other disease manifestations.
 - Regular uses of home remedies and natural products in the daily life.
 - Follow/doing the regular pranayama, yoga, exercise etc. to increase the lung capacity or health.
 - Sometime diets plan also required to manage the disease so, always follow the rules and regulation which are regulated by our government.

Tuberculosis— It is a potentially fatal contagious disease that can affect almost any part of the body but is mainly an infection of the lungs (formation of tubercles or granulomas in the lungs), it is caused by the mycobacterium tuberculosis. During patients counselling it is managed by the-

- **Pharmacological management**— Rifampicin, pyrazinamide, isoniazid, streptomycin, ethambutol, Salbutamol, salmeterol, ipratropium, glycopyrrolate bromide and combination of drugs used (albuterol + ipratropium)
- **Non pharmacological management.**
 - Avoid the allergen which is responsible for the allergic condition.
 - Avoid the smoking, drinking, chewing and risks factors which is responsible for other disease manifestations.
 - Regular uses of home remedies and natural products in the daily life.
 - Follow/doing the regular pranayama, yoga, exercise etc. to increase the lung capacity or health.
 - Sometime diets plan also required to manage the disease so, always follow the rules and regulation which are regulated by our government.

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COPD— COPD (Chronic obstructive pulmonary disease) is a multifactorial entity with a wide range of clinical manifestations and leading cause of morbidity and mortality globally. It is characterized by progressive, partially reversible airflow obstruction and lungs hyperinflation with significant extra pulmonary manifestations and comorbid conditions. During patients counselling it is managed by the-

- **Pharmacological management**— Salbutamol, salmeterol, ipratropium, glycopyrrolate bromide and combination of drugs used (albuterol + ipratropium).
- **Non pharmacological management.**
 - Avoid the allergen which is responsible for the allergic condition.
 - Avoid the smoking, drinking, chewing and risks factors which is responsible for other disease manifestations.
 - Regular uses of home remedies and natural products in the daily life.
 - Follow/doing the regular pranayama, yoga, exercise etc. to increase the lung capacity or health.
 - Sometime diets plan also required to manage the disease so, always follow the rules and regulation which are regulated by our government.

AIDS— HIV (Human deficiency virus) is the virus that is responsible for causing acquired immune deficiency syndrome (AIDS). Virus destroys or impairs cells of the immune system and progressively destroys the body ability to fight against any upcoming or present disease. During patient counselling it is managed by the-

- **Pharmacological management**— Lamivudine, zidovudine, indinavir, efavirenz, nevirapine, stavudine, ritonavir, abacavir, according to the condition combination types of drugs also used as.
- **Non pharmacological management**—
 - Avoid usages of used needle and equipment's.
 - Make the diet chart and take the proper and nutritious food.
 - Practice the regular exercise, yoga and meditation.
 - Uses the contraceptive method (condoms) to avoid the risks of AIDS.
 - Avoid the bad habits like smoking, alcohol etc.
 - Consults the Doctor/RMP regularly and follow their instructions.

Patient Package Inserts - Definition, importance and benefits, Scenarios of PPI use in India and other countries.

- The concept of a Patient-oriented package insert is already in practice in the United States (since 1968; known as the 'Patient Package Insert') and in the European Union (known as 'Patient information leaflets')
- This document is written in a non-technical manner, and contains specific information about the drug, how it should be used and how it works.
- It also contains information regarding any possible safety concerns or precautions necessary when taking the drug.
- A patient package insert or medication guide is a document provided along with a prescription medication to provide additional information about that drug.
- By providing this information to the patient there is an expectation of improved therapeutic outcomes by improving compliance and helping the patient to avoid some potential errors from medication misuse.

Importance and benefits:

- A benefit message in a patient package insert on knowledge about medicines and on subjective benefit/risk perception.
- To provide information for its safe and effective use.
- For providing essential drug information for patients taking over-the-counter as well as prescription-only medications.
- The PPI should increase patient's awareness of medication-related issues, contribute to the safe and correct use of the medication, and help in the success of the treatment plan.

Scenarios of Patient Package Inserts (PPI) use in India and other countries

- The primary source of drug information is a package insert (PI).
- It is a printed leaflet that contains information based on regulatory guidelines for the safe and effective use of a drug.
- It is also known as prescription drug label or prescribing information.
- A good PI contains approved, essential, and accurate information about the drug.
- It is written in a language that is not promotional, false, or misleading.
- In India, the regulatory authority is Ministry of Health and Family Welfare, Government of India. The pharmaceutical companies submit the full prescribing information as a part of the new drug application for marketing. This information should be according to the Section 6.2 and 6.3 of Schedule D, 1940 Act.
- The application is approved by the regulatory authorities, the information is accompanied with the drug in the package.
- United States-Food and Drug Administration and European Medicines Agency amend their regulations governing the content and format of labeling for drug products from time to time.

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Patient Information leaflets - Definition and uses

Definition:

- A patient information leaflet is a technical document included in every medicine package to offer written information about the medication.

Or

- Patient information leaflets (PILs) are leaflets containing specific information about medical conditions, doses, side effects that packed with medicines to give the user information about the product.

Uses:

- Patient medication information leaflet (PMIL) is very important source of information for every patient.
- Little is known whether patients read the PMILs, what are their opinions about PMILs and whether they are satisfied with PMILs in current format.

Chapter-7

Health Screening Services in Community Pharmacy

Health Screening Services in Community Pharmacy

Introduction, scope and importance of various health screening services - for routine monitoring of patients, early detection and referral of undiagnosed cases

Health Screening Services in Community Pharmacy:

- The role of health screening in Community Pharmacies is designed to provide access to screening services to the members of the public, who may not be able to access this intervention through their GP.
- Community pharmacists have access to people who are apparently healthy and who rarely come into contact with GP's or nurses.
- It was the combination of extensive counseling (regarding diet and life style modification) and screening which dramatically increased patient satisfaction and improved health outcomes.
- These services are designed to help individuals monitor their health and identify potential health problems at an early stage. The goal is to promote proactive health management and improve health outcomes.
- Health screening services offered by community pharmacies can include blood pressure checks, blood glucose monitoring, cholesterol testing, body mass index (BMI) calculation, and medication reviews. Some pharmacies also offer more comprehensive screening services, such as screenings for diabetes, cardiovascular disease, and osteoporosis.
- Pharmacy staff are trained to perform these screenings and provide advice on lifestyle changes, such as diet and exercise, to improve health outcomes.
- They can also make referrals to healthcare providers if necessary.

Scope of various health screening services

The scope of various health screening services can vary depending on the specific screening service and the setting in which it is provided. However, some common health screening services and their scope include:

1. **Blood Pressure Checks:** Blood pressure checks are a common health screening service that can be performed quickly and easily in a variety of settings, including community pharmacies, health fairs, and healthcare clinics. Blood pressure checks provide an initial assessment of an individual's blood pressure and can help identify those at risk of high blood pressure.

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2. **Blood Glucose Monitoring:** Blood glucose monitoring is a common screening service for individuals with diabetes or at risk of developing diabetes. Blood glucose monitoring involves measuring the amount of glucose in an individual's blood and can help individuals monitor their glucose levels and adjust their treatment as needed.
3. **Cholesterol Testing:** Cholesterol testing is a common screening service for individuals at risk of developing heart disease. Cholesterol tests measure the levels of different types of cholesterol in an individual's blood and can help individuals determine their risk of developing heart disease and make necessary lifestyle changes.
4. **Body Mass Index (BMI) Calculation:** BMI calculation is a common screening service for individuals at risk of developing obesity and its related health problems. BMI calculation is a simple assessment of an individual's body fat based on their height and weight and can help identify individuals who are overweight or obese.
5. **Medication Reviews:** Medication reviews are a common screening service for individuals taking multiple medications or those who have concerns about their medication regimen. Medication reviews involve reviewing an individual's medications and can help identify potential drug interactions, side effects, and ensure that individuals are taking their medications correctly.
6. **Screenings for diabetes, cardiovascular disease, and osteoporosis:** Comprehensive screenings for these conditions can include a combination of tests and assessments, such as blood glucose tests, cholesterol tests, and bone density tests. These screenings can help detect and manage these conditions early, improving health outcomes and reducing the risk of complications.

Importance of various health screening services:

- Health screening services play a crucial role in maintaining and improving overall health and wellness.
 - **The importance of various health screening services are as follows:**
1. **Early Detection:** Health screening services can help detect potential health problems at an early stage, when they are often more treatable and less likely to cause serious complications. Early detection of conditions such as high blood pressure, diabetes, and high cholesterol can help prevent the development of more serious health problems.
 2. **Improved Health Outcomes:** By identifying potential health problems early, individuals can take action to improve their health outcomes. This can include making lifestyle changes, receiving early treatment, or taking steps to prevent the progression of a condition.
 3. **Increased Awareness:** Health screening services can raise awareness about the importance of preventive health and encourage individuals to take steps to improve their health and wellbeing.
 4. **Cost Savings:** Early detection and treatment of health problems can often result in cost savings by preventing the development of more serious and expensive health problems.

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5. **Increased Access to Care:** Health screening services provided by community pharmacies offer individuals increased access to care, as they can receive these services without having to schedule a separate appointment with a healthcare provider.

Health screening services - for routine monitoring of patients

- Health screening services are an important aspect of routine monitoring of patients.
- These services can help healthcare providers identify potential health problems at an early stage, when they are more treatable and less likely to cause serious complications.

Some examples of health screening services that can be used for routine monitoring of patients include:

1. **Blood Pressure Screening:** Regular blood pressure checks can help identify individuals with high blood pressure, which is a major risk factor for heart disease, stroke, and other health problems. Early detection of high blood pressure can help individuals receive appropriate treatment and make necessary lifestyle changes to reduce their risk of developing serious health problems.
2. **Cholesterol Testing:** Regular cholesterol testing can help individuals identify their risk of developing heart disease and make necessary lifestyle changes to reduce their risk. This is especially important for individuals with a family history of heart disease or who have other risk factors.
3. **Blood Glucose Monitoring:** Regular blood glucose monitoring is important for individuals with diabetes to monitor their glucose levels and adjust their treatment as needed. This can help prevent complications associated with uncontrolled blood sugar levels, such as nerve damage, kidney damage, and eye damage.
4. **Body Mass Index (BMI) Screening:** BMI screening can help individuals identify if they are at a healthy weight or if they are at risk of developing obesity-related health problems. This can help individuals make necessary lifestyle changes to improve their health and reduce their risk of developing chronic diseases.
5. **Immunizations:** Immunizations are an important aspect of preventive health and can help protect individuals from infectious diseases such as influenza, pneumonia, and shingles.

In summary, health screening services are important for routine monitoring of patients and can help identify potential health problems early on, when they are more treatable. Regular screening can help individuals receive appropriate treatment, make necessary lifestyle changes, and improve overall health outcomes.

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Early Detection:

- Health screening services can help detect health problems early on, before symptoms even appear.
- This is especially important for diseases that can be silent, such as high blood pressure or high cholesterol. Early detection can lead to earlier treatment, which can improve outcomes and reduce the risk of complications.

Referral of Undiagnosed Cases:

- Health screening services can help identify individuals who may have undiagnosed health problems and refer them to a healthcare provider for further evaluation.
- **For example**, a pharmacist may perform a blood pressure screening on a patient who has not had their blood pressure checked in some time and discover that the patient has hypertension.
- The pharmacist can then refer the patient to a physician for further evaluation and treatment.

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Chapter-8

Over the Counter (OTC) Medications

- **Definition, need and role of Pharmacists in OTC medication dispensing**
- **OTC medications in India, counseling for OTC products**
- **Self-medication and role of pharmacists in promoting the safe practices during self-medication**
- **Responding to symptoms, minor ailments and advice for self-care in conditions such as - Pain management, Cough, Cold, Diarrhea, Constipation, Vomiting, Fever, Sore throat, Skin disorders, Oral health (mouth ulcers, dental pain, gum swelling)**

Over The Counter (OTC) Medications:

- Over-the-counter (OTC) medications are medications that can be purchased without a prescription from a healthcare provider.
- They are available for use by the general public and are typically used to treat common ailments and health conditions.

Some examples of OTC medications:

- Pain relievers
- Antihistamines
- Cold and cough medications
- Digestive aids

Need and role of Pharmacists in OTC medication dispensing:

The pharmacist should advise the consumer to consult doctor for the necessary treatment. The drugs other than OTC medications should not be dispensed without prescription. Pharmacists play a crucial role in the dispensing of over-the-counter (OTC) medications. There are some reasons why:

1. **Expertise in medication:** Pharmacists have extensive knowledge of medications, including OTC medications. They can advise patients on the appropriate use of OTC medications, including dosage, administration, and potential side effects.
2. **Interactions with other medications:** Pharmacists can check for potential interactions between OTC medications and prescription medications that the patient may be taking, and advise on any necessary precautions.



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3. **Patient education:** Pharmacists can provide patient education on the proper use of OTC medications, including how to recognize and manage side effects, and how to monitor symptoms.
4. **Prevention of misuse:** Pharmacists can help prevent the misuse of OTC medications by ensuring that patients are aware of their proper use and potential risks.
5. **Accessibility:** Many OTC medications are available in pharmacies, making them easily accessible to patients. Pharmacists can help patients choose the right medication for their symptoms and advise them on any precautions or warnings.

OTC medications in India:

- In India, over-the-counter (OTC) medications are widely available and commonly used by the general public for self-treatment of minor ailments and health conditions.
- Some examples of OTC medications in India include pain relievers, cough and cold medications, antacids, and anti-allergy medications.
- The regulatory framework for OTC medications in India is overseen by the Central Drugs Standard Control Organization (CDSCO), which is responsible for ensuring the safety, efficacy, and quality of pharmaceuticals in India.
- In addition, pharmacists play an important role in advising patients on the proper use of OTC medications and checking for potential interactions with other medications.

Counseling for OTC products:

Counseling for over-the-counter (OTC) products is an important part of the role of pharmacists and healthcare providers. Here are some key points that may be covered during counseling for OTC products:

1. **Indication and dosage:** The pharmacist or healthcare provider should explain the indication for the product and the recommended dosage based on the patient's age, weight, and medical history.
2. **Potential side effects:** Patients should be informed of potential side effects associated with the product and advised on how to manage them.
3. **Precautions and warnings:** Patients should be advised on any precautions or warnings associated with the product, such as avoiding certain activities or foods while using the product.
4. **Interactions with other medications:** Patients should be advised on potential interactions between the product and other medications they may be taking, including prescription medications, OTC medications, and supplements.
5. **Duration of use:** Patients should be advised on the recommended duration of use for the product, and when to seek medical attention if symptoms persist or worsen.



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6. **Storage and disposal:** Patients should be advised on proper storage and disposal of the product, including keeping it out of reach of children and disposing of it properly according to local regulations.

Self-medication and role of pharmacists in promoting the safe practices during self-medication:

- Self-medication is defined as the selection and use of medicines by individuals (or a member of the individuals' family) to treat self-recognized or self-diagnosed conditions or symptoms.
- Pharmacists play an important role in promoting safe self-medication practices. Here are some ways pharmacists can help:
 1. **Educating patients:** Pharmacists can educate patients about the importance of seeking medical advice before self-medicating. They can also inform patients about the potential risks of self-medication, such as drug interactions and adverse effects.
 2. **Recommending appropriate medications:** Pharmacists can recommend over-the-counter medications for minor ailments such as headaches and colds. They can also advise patients on the appropriate dose and duration of treatment.
 3. **Reviewing medications:** Pharmacists can review a patient's medications to identify potential drug interactions and contraindications before recommending an over-the-counter medication.
 4. **Providing guidance on storage and disposal:** Pharmacists can advise patients on how to store medications safely and how to dispose of them properly.
 5. **Collaborating with healthcare providers:** Pharmacists can work with healthcare providers to ensure that patients receive appropriate care and medication.

Responding to symptoms, minor ailments and advice for self-care in conditions such as - Pain management, Cough, Cold, Diarrhea, Constipation, Vomiting, Fever, Sore throat, Skin disorders, Oral health (mouth ulcers, dental pain, gum swelling)

Pain management:

Pain is a common symptom experienced by many people, and there are several self-care measures that can be taken to manage pain. Here are some tips for managing pain:

1. **Rest:** Rest is an essential part of pain management. It allows your body to heal and recover. However, prolonged rest can also be harmful, so it's important to balance rest with gentle activity.
2. **Heat or cold therapy:** Heat or cold therapy can be helpful for managing pain, depending on the type and location of pain. Applying a heat pack or warm towel to the affected area can help to



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ease muscle tension and increase blood flow. Applying a cold pack or ice pack can help to reduce swelling and inflammation.

3. Pain medications: Over-the-counter pain medications such as acetaminophen, aspirin, and ibuprofen can be helpful for managing pain. It's important to follow the recommended dosage and not to exceed the recommended maximum daily dose.
4. Exercise: Gentle exercise such as walking, swimming, or yoga can help to reduce pain and improve flexibility and mobility. It's important to start slowly and gradually increase the intensity of exercise over time.
5. Massage: Massage can help to reduce muscle tension and improve circulation. It's important to seek the advice of a trained massage therapist and avoid massage if you have any open wounds or injuries.

Cough and cold:

- Cough and cold are common conditions that affect many people, especially during the colder months.
- In most cases, these conditions are caused by viral infections and are self-limiting, meaning they will resolve on their own without specific treatment. However, there are some things you can do to alleviate your symptoms and promote faster healing.

Here are some tips for self-care in conditions such as cough and cold:

1. Stay hydrated: Drink plenty of fluids, such as water, soup, and tea, to help thin out mucus and keep your body hydrated.
2. Rest: Get plenty of rest to help your body fight the infection and promote healing.
3. Use saline nasal drops: Saline drops can help to relieve congestion and dry nasal passages, making it easier to breathe.
4. Use a humidifier: A humidifier can help to keep the air moist, which can ease congestion and coughing.
5. Gargle with salt water: Gargling with warm salt water can help to soothe a sore throat and reduce inflammation.
6. Take over-the-counter medications: Over-the-counter medications such as pain relievers and cough suppressants can help to alleviate symptoms such as fever, pain, and coughing. However, it's important to talk to a pharmacist or healthcare provider before taking any medication, especially if you have underlying medical conditions or are taking other medications.



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7. Practice good hygiene: Wash your hands frequently, cover your mouth and nose when coughing or sneezing, and avoid close contact with others to prevent the spread of infection.

Diarrhea:

- Drink plenty of fluids to prevent dehydration.
- Avoid solid foods for a few hours, but then gradually introduce easy-to-digest foods such as bananas, rice, applesauce, and toast (BRAT diet).
- Avoid milk, caffeine, and alcohol as they can worsen diarrhea.
- Over-the-counter medications like loperamide (Imodium) may be helpful, but it's best to consult a healthcare professional before taking any medication.

Constipation:

- Drink plenty of fluids, especially water.
- Increase fiber intake through fruits, vegetables, and whole grains.
- Engage in regular physical activity, such as walking or exercise.
- Over-the-counter medications like stool softeners or laxatives may be helpful, but it's best to consult a healthcare professional before taking any medication.

Vomiting:

- Drink small amounts of clear liquids such as water or electrolyte solutions to prevent dehydration.
- Avoid solid foods until vomiting subsides.
- Rest and avoid physical activity.
- Over-the-counter medications like antiemetics (such as dimenhydrinate or ondansetron) may be helpful, but it's best to consult a healthcare professional before taking any medication.

Fever:

- Fever is a common symptom of many illnesses, including viral and bacterial infections.
- If you have a fever, it's important to rest and stay hydrated. You can take over-the-counter medications like acetaminophen or ibuprofen to reduce your fever and relieve any associated pain.
- If your fever persists for more than a few days, or if you have other symptoms like severe headache or difficulty breathing, you should seek medical attention.

Sore throat:

- A sore throat can be caused by many different factors, including viral and bacterial infections, allergies, and acid reflux.
- To relieve the symptoms of a sore throat, you can try gargling with warm salt water, drinking warm liquids like tea and soup, and taking over-the-counter medications like acetaminophen or ibuprofen.



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- If your sore throat persists for more than a few days, or if you have other symptoms like fever or difficulty swallowing, you should seek medical attention.

Skin disorders:

- Skin disorders like acne, eczema, and psoriasis can be uncomfortable and sometimes embarrassing.
- To care for your skin, you can try gentle cleansers, moisturizers, and over-the-counter topical medications. It's also important to protect your skin from the sun by wearing protective clothing and using sunscreen.
- If your skin condition is severe or does not improve with self-care, you should seek medical attention.

Oral health:

- Oral health is an essential aspect of overall health and wellbeing. There are several common oral health conditions that individuals may experience, including mouth ulcers, dental pain, and gum swelling.
 - In many cases, these conditions can be managed through self-care practices.
 - Here are some tips for responding to oral health symptoms and minor ailments:
1. **Mouth ulcers:** Mouth ulcers are small, painful sores that can occur on the tongue, gums, or inside of the cheeks. They are often caused by stress, injury, or certain foods. To manage mouth ulcers, individuals can:
 - Rinse their mouth with saltwater or a mouthwash to reduce pain and inflammation.
 - Avoid spicy, acidic, or salty foods that may irritate the ulcer.
 - Apply a numbing gel or cream to the ulcer to reduce pain.
 - Use a soft-bristled toothbrush to avoid further irritation.
 2. **Dental pain:** Dental pain can be caused by a variety of factors, including tooth decay, gum disease, or a dental injury. To manage dental pain, individuals can:
 - Rinse their mouth with warm saltwater to reduce pain and inflammation.
 - Take over-the-counter pain relievers such as ibuprofen or acetaminophen.
 - Apply a cold compress to the affected area to reduce swelling and pain.
 - Avoid chewing on the affected tooth or area.
 3. **Gum swelling:** Gum swelling is often caused by gum disease or an infection. To manage gum swelling, individuals can:
 - Rinse their mouth with warm saltwater to reduce inflammation.
 - Brush and floss regularly to prevent gum disease.
 - Use an antiseptic mouthwash to kill bacteria and reduce inflammation.
 - Apply a cold compress to the affected area to reduce swelling.



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Chapter-9

Community Pharmacy Management

Community Pharmacy Management

- **Legal requirements to set up a community pharmacy**
- **Site selection requirements**
- **Pharmacy designs and interiors**
- **Vendor selection and ordering Procurement, inventory control methods, and inventory management**
- **Financial planning and management**
- **Accountancy in community pharmacy – Day book, Cash book**
- **Introduction to pharmacy operation softwares – usefulness and availability Customer Relation Management (CRM)**
- **Audits in Pharmacies**
- **SOP of Pharmacy Management**
- **Introduction to Digital Health, mHealth and Online pharmacies**

Community Pharmacy Management:

- Community Pharmacy Management refers to the practice of overseeing and coordinating the daily operations of a community pharmacy, including financial management, inventory control, staff management, and customer service.
- Community pharmacy managers are responsible for ensuring that their pharmacy is run efficiently and effectively, and that it meets the needs of its patients and the community it serves.



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Legal requirements to set up a community pharmacy

Community pharmacy requires compliance with legal requirements and regulations set by regulatory bodies such as the Pharmacy Council of India (PCI). The following are some of the legal requirements to set up a community pharmacy in India:

1. **Registration:** Before setting up a community pharmacy, the owner must register the pharmacy with the PCI. The registration process involves filling out an application form and providing documents such as proof of ownership, pharmacy layout plan, and educational qualifications of the pharmacist.
2. **Location:** The pharmacy must be located in an easily accessible area with adequate space for storage, dispensing, and patient counseling. The pharmacy must also be located at least 200 meters away from another registered pharmacy.
3. **Infrastructure:** The pharmacy must have proper infrastructure and equipment such as air conditioning, refrigeration, computer, and software to manage inventory and patient records.
4. **Pharmacist:** A qualified registered pharmacist must be present in the pharmacy at all times during working hours. The pharmacist must have a D.Pharm or B.Pharm degree from a recognized institution and a license to practice.
5. **Drug Storage:** The pharmacy must have proper storage facilities for drugs and other products. The storage area should be clean, well-lit, and well-ventilated.
6. **Dispensing:** Drugs should be dispensed only on the prescription of a registered medical practitioner. The pharmacist must ensure that the drugs dispensed are of the correct dosage and formulation.
7. **Record Keeping:** The pharmacy must maintain accurate and up-to-date records of drugs dispensed, drugs received, and inventory management.
8. **Adherence to Regulations:** The pharmacy must comply with all regulatory requirements set by the PCI and other regulatory bodies, such as the Drugs and Cosmetics Act.

Site selection requirements:

The site selection is one of the most important success parts of any business. Numbers of factors are required to consider during the site selection. Following factors are considered for the selection of proper site for drug store.



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1. Hospital/Nursing Homes:

- Near by hospital, drug store location is quite good because maximum patients are moving toward the hospital for treatment and also multi-facilities are available near to the hospitals.

2. Drug Store market:

- It was found that in good cities one is the common place known as “Daba Bazar”. This is one of the most suitable location for drug store if potential is very high and dedication for business.
- It is true if more retail drug stores at one place, people always stop to purchase drugs because they think availability of all types medicines are only in this place.

3. Flow of Traffic:

- The best way is to select left hand side or right hand side of road where suitable parking place is available. Identify the purchasing power of particular side and select the location accordingly.
- In the way of people’s office site is good location for drug store. One way traffic should be avoided, location near traffic signals have to face the parking problems.

4. Near by Amenities:

- Enough parking, toilets, small play ground etc., are always advisable particularly when you are selecting the location in the market.

5. Near by Common Requirements (Hotel, School, Cinema, Play Ground etc.):

- Near all these point from morning to evening all people are going because of any reason. These points are found most suitable for drug store business.

6. Business Locality:

- Number of people coming to such locality is very high and if the shop is made with modern and high-tech, many people can purchase the drugs simultaneously but required more investment for establishment of the business.

Pharmacy designs and interiors:

- The general design and construction of a hospital pharmacy should consider its functionality. The location and size should accommodate anticipated personnel and inventory movement, work processes, and activities.
- Built-in storage and fixed equipment should be provided for storing documents, bulk supplies, dangerous drugs, psychotropic substances, portable medical gas cylinders, and refrigerated and cold-chain items. Drainage and sewerage system should be present outside the premises



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Structural Design

- 1) **Wall:** The walls should be of non-porous material and plastered on both sides. The indoor wall finishing should be of washable antifungal paint and the outdoor finishing should be of weather-proof paint. The walls for the cold rooms should be of special building material and design to prevent condensation.
- 2) **Floor:** The floor should be of concrete and smoothly plastered. The floor finishing should be of a non-slippery heavy-duty material to withstand heavy loads and traffic. The floor should be non-porous, damp-proof, and resistant to detergent. The floor-to-ceiling height should range from 15 - 30 feet according to the functional area and handling equipment used.
- 3) **Ceiling:** The ceiling should be of fire-retardant, asbestos-free, and non-shedding materials or mineral fibers.
- 4) **Roof:** The roof should be pitched or sloped to prevent heavy rain damage.
- 5) **Door:** The doors should be of fire-retardant material. The doors should have two leaves and should be sufficiently wide to allow free and easy movement of supplies and handling equipment (such as forklifts and stackers). The exit doors should be purposefully located and fitted with luminous emergency exit signage.
- 6) **Window:** The windows should be available at workstation, office, and staff areas, but not in storage areas.

Receiving Area

- 1) **Loading and Unloading Area:** This area should be adequately spaced and properly sheltered by taking care of the vehicle height.
- 2) **Receiving Counter:** It should have adequate waiting space and should be equipped with suitable office furniture and equipment.
- 3) **Sorting and Unpacking Area:** This area should be adequately spaced to enable the sorting and checking of goods. The space should be sufficient for the utilization of a forklift.
- 4) **Transit/Holding Area:** The transit/holding area should be adequately spaced for storing:
 - i) Items requiring further clarification/investigation before receiving,
 - ii) Transit items not requiring special storage conditions, and
 - iii) Pallets.
- 5) **Disposal Room:** This room should store discarded items (like, used boxes, wrappers, and plastic covers).



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Storage Area

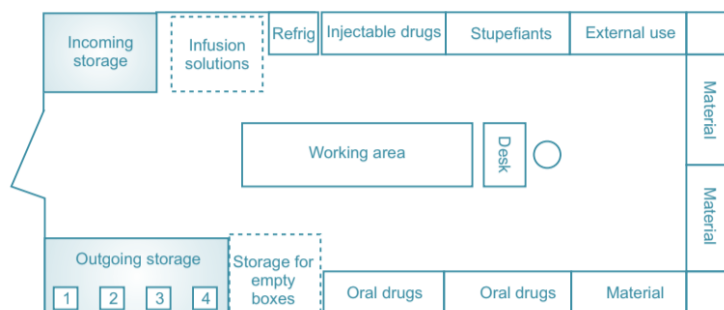
- 1) General Storage Requirement:** The storage area should be provided with air – conditioning facilities for 24 hours. Its temperature should be effectively controlled between 160 -250°C. The electrical supply to refrigerators, freezers, cold rooms, and air conditioning facilities should be linked to the hospital emergency power supply.
A computerized alarm system should be connected to the main electrical control system of the hospital for detecting the electrical failure of cold chain equipment. Adequate space should be provided for forklifts, stackers, and trolleys, and for accommodating IT facilities. The area should have sufficient numbers of pallets, shelves, and racks.
- 2) Drug Store:** It should have adjustable, modular, heavy-duty open racks for storing packages of different sizes. It should have a sufficient storage area for bulk items. It should be equipped with heavy-duty plastic pallets for storing bulk items and larger cartons off the floor. These pallets should be designed to be used with forklifts to move around groups of larger items. The drug store should have a designated area with cautionary signage and a chemo-spill kit for cytotoxic drugs.
- 3) Dangerous Drugs/Psychotropic Substances Store:** This area is meant for storing dangerous drugs/psychotropic substances, thus should be kept under lock and key in a special room/cabinet with an alarm system.
- 4) Cold Room/Pharmaceutical Refrigerator/Freezer Area:** This area should be provided based on the functionality of the hospital. It should be present within the drug store for storing drugs that require low storage temperature (like vaccines, antisera, and other biological products). Every cold room/pharmaceutical refrigerator/freezer should be equipped with a computerized temperature recorder system.
- 5) Intravenous (IV) Fluid Store:** This area should be adequately spaced to accommodate hemodialysis and peritoneal dialysis solution, and intravenous solutions. The space should also be sufficient for using the forklift.
- 6) Surgical Store:** This area is designed for storing bulk surgical/consumable/disposable items /X-ray films. It should have adjustable, modular, and heavy-duty open racks. It should be provided with adequate space to accommodate bulky items.
- 7) Non-Drug Bulk Store:** This area is designed for storing dispensing bottles, containers, labels, and envelopes. It should have adjustable, modular, and heavy-duty open racks. It should be provided with adequate space to allow easy movements.



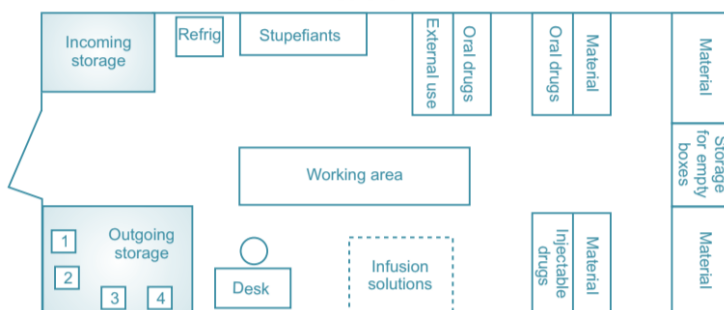
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Pharmacy interiors:



Schema 2



Vendor selection and ordering Procurement:

Vendor selection and ordering procurement in pharmacy involves the process of identifying and evaluating potential suppliers, selecting the best supplier(s) to meet the pharmacy's needs, and placing orders with the chosen vendor(s) for pharmaceutical products, medical supplies, and other related items. Here are some steps involved in the procurement process for pharmacies:

1. **Determine the pharmacy's needs:** The first step in the procurement process is to identify what the pharmacy needs. This includes identifying the types of pharmaceutical products, medical supplies, and other related items required to meet the pharmacy's needs.
2. **Identify potential suppliers:** Once the pharmacy has determined its needs, the next step is to identify potential suppliers. This can be done through research and networking with other pharmacies, industry associations, and trade shows.
3. **Evaluate potential suppliers:** After identifying potential suppliers, the pharmacy should evaluate them based on their reliability, quality, pricing, delivery time, and other factors that are important to the pharmacy.
4. **Select the best suppliers:** Based on the evaluation, the pharmacy should select the best suppliers that meet its needs and requirements.
5. **Negotiate contracts:** Once the pharmacy has selected the suppliers, it should negotiate contracts with them. This involves agreeing on the terms and conditions of the agreement, including pricing, delivery time, payment terms, and any other important details.



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6. **Place orders:** After the contracts have been negotiated, the pharmacy can begin placing orders with the selected suppliers.
7. **Track orders and performance:** The pharmacy should track the orders placed and monitor the performance of the suppliers to ensure that they are meeting the agreed-upon terms and delivering the expected quality of products and services.

Inventory control methods:

Effective inventory control is an essential aspect of managing a pharmacy. Proper inventory control can help reduce costs, minimize waste, and ensure that the pharmacy has the necessary medications and supplies on hand to meet the needs of patients.

Here are some common inventory control methods used in pharmacies:

1. **First-In-First-Out (FIFO) Method:** This method involves using the oldest stock first to minimize expiration or spoilage of medication. It is particularly useful for managing perishable items like vaccines.
2. **Minimum-Maximum Method:** This method sets a minimum and maximum inventory level for each medication or supply. When the inventory level falls below the minimum level, the pharmacy orders more stock to reach the maximum level.
3. **ABC Analysis:** This method involves categorizing items based on their level of importance or usage. Class A items are the most important and highest in usage, while Class C items are the least important and lowest in usage. This helps prioritize inventory control efforts.
4. **Continuous Review Method:** This method involves monitoring inventory levels on a regular basis and placing orders to replenish as needed. It is suitable for managing fast-moving items with a predictable demand.
5. **Barcoding and Scanning:** This method involves using a barcode system to track inventory levels and manage stock. Barcodes are scanned to identify products and monitor their usage, allowing for accurate inventory management and minimizing the risk of errors.
6. **Automated Inventory Management Systems:** This method involves using computerized software to manage inventory levels and automate the ordering process. It helps streamline the inventory management process and ensures accurate stock levels.



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Inventory management:

Inventory management is crucial in the pharmacy setting to ensure that the right medications and medical supplies are available when needed. Proper inventory management can help to reduce the risk of stockouts, minimize waste, and ensure that the pharmacy is able to meet the needs of its customers.

Here are some key strategies for effective inventory management in a pharmacy:

1. **Set par levels:** Determine the minimum and maximum levels of inventory that you need to maintain for each medication or supply. This will help you to order products in a timely manner and avoid running out of stock.
2. **Track expiration dates:** Ensure that you have a system in place to track expiration dates and remove expired products from your inventory. This will help you to avoid dispensing expired medications or supplies, which can be dangerous and lead to legal liability.
3. **Conduct regular inventory checks:** Schedule regular inventory checks to ensure that your actual inventory matches your records. This will help you to identify any discrepancies and take corrective action.
4. **Use a computerized system:** Consider using a computerized inventory management system to help you track inventory levels, order products, and manage expiration dates. This can help you to save time and reduce errors.
5. **Monitor trends:** Monitor trends in medication usage and adjust your inventory levels accordingly. This can help you to avoid overstocking or understocking certain products.
6. **Work with suppliers:** Establish relationships with suppliers and work with them to ensure that you receive timely deliveries and can quickly address any issues that arise.

Financial planning and management:

Financial planning and management are essential skills for pharmacists who want to run a successful pharmacy business. Here are some key areas to consider:

1. **Budgeting:** Creating a budget is the foundation of financial planning. Pharmacists need to know how much money they have coming in and going out each month. This allows them to allocate resources effectively, set financial goals, and monitor their progress.
2. **Cash flow management:** Managing cash flow is critical for pharmacies, as they need to maintain adequate cash reserves to pay suppliers and cover expenses. By tracking cash inflows and outflows, pharmacists can identify potential cash shortages and take steps to prevent them.
3. **Inventory management:** Managing inventory is crucial for pharmacies, as they need to balance maintaining enough stock to meet demand while avoiding excess stock that ties up cash.



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Implementing an inventory management system can help pharmacists track stock levels, monitor expiration dates, and identify slow-moving items.

4. **Cost control:** Controlling costs is vital for pharmacy businesses. Pharmacists need to be mindful of expenses such as rent, utilities, wages, and supply costs. By keeping a close eye on these costs, they can identify areas where savings can be made and take action to reduce expenses.
5. **Revenue management:** Pharmacists need to monitor revenue closely to ensure that they are earning enough to cover expenses and generate a profit. This requires careful management of pricing, billing, and payment processes, as well as identifying opportunities for new revenue streams.
6. **Financial reporting:** Pharmacists need to be able to generate financial reports that provide an accurate picture of the pharmacy's financial health. This includes generating balance sheets, income statements, and cash flow statements. Regular financial reporting allows pharmacists to track their progress towards financial goals and make informed decisions about future investments.

Accountancy in community pharmacy:

Accountancy is an essential aspect of running any business, including a community pharmacy. In a pharmacy, accountancy involves managing financial transactions, record-keeping, and financial analysis.

Here are some of the key areas where accountancy is important in a community pharmacy:

1. **Financial Management:** Accountancy involves managing the financial operations of the pharmacy, including budgeting, cash flow management, and inventory management.
2. **Record-Keeping:** Proper record-keeping is essential for a pharmacy to ensure compliance with regulatory requirements, track financial transactions, and facilitate analysis.
3. **Tax Compliance:** Pharmacy owners need to keep accurate financial records to comply with tax regulations and minimize tax liabilities.
4. **Financial Analysis:** Accountancy involves analyzing financial statements and performance metrics to make informed decisions about the pharmacy's operations and growth strategies.
5. **Fraud Detection:** Accountancy can help detect and prevent fraud and embezzlement within the pharmacy, protecting the business from financial losses.



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Introduction to pharmacy operation softwares – usefulness and availability Customer Relation Management (CRM)

Introduction to pharmacy operation softwares:

- Pharmacy operation software refers to computer programs designed to help manage various aspects of pharmacy operations, such as inventory management, prescription processing, patient data management, and billing.
- These software systems are intended to streamline workflow and improve the efficiency and accuracy of pharmacy operations.

Here are some key features of pharmacy operation software:

1. **Inventory management:** Pharmacy operation software can help pharmacists manage their inventory by tracking the movement of drugs in and out of the pharmacy. It can help track the expiration dates of medications and ensure that medications are properly stocked.
2. **Prescription processing:** These software systems can facilitate the processing of prescriptions, including capturing prescription information, verifying patient information, and transmitting the prescription to the pharmacy for filling.
3. **Patient data management:** Pharmacy operation software can help pharmacists manage patient data, including medical history, allergies, and current medications. This can help pharmacists identify potential drug interactions and provide more personalized care.
4. **Billing and insurance management:** These software systems can help manage billing and insurance claims processing, including verifying insurance coverage, processing claims, and generating reports for accounting and auditing purposes.
5. **Point-of-sale functionality:** Many pharmacy operation software systems include point-of-sale functionality, allowing pharmacists to accept payments and process transactions quickly and efficiently.



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One of the most useful features of pharmacy operation software is its ability to manage customer relations.

Customer Relationship Management (CRM):

- Customer Relationship Management (CRM) software is designed to help businesses manage their interactions with customers and improve customer satisfaction.
- In the context of pharmacy operations, CRM software can help pharmacies keep track of customer orders, preferences, and history, as well as track customer feedback and complaints.
- CRM software can also help pharmacies improve communication with their customers by providing tools for email marketing, automated messaging, and appointment scheduling.
- This can help increase customer engagement and loyalty, leading to increased revenue and a stronger reputation in the industry.
- Many pharmacy operation software providers offer CRM features as part of their package, making it easy for pharmacies to adopt this technology.
- Some of the most popular pharmacy operation software programs with CRM features include PioneerRx, PrimeRx, and QS/1.

Audits in Pharmacies:

- Audits in pharmacies are an essential part of ensuring that medications are being handled and dispensed safely and accurately.
- Audits help to identify any discrepancies in the pharmacy's processes, policies, and procedures that may affect the quality of patient care.

The purpose of the audit is to identify any issues that may need to be addressed to ensure that the pharmacy is providing safe and effective medication therapy to its patients. These issues may include:

- Errors in prescription processing
- Inaccurate or incomplete medication records
- Problems with medication storage or inventory management
- Noncompliance with state or federal regulations
- Inadequate training or supervision of pharmacy staff

SOP of Pharmacy Management:

- The Standard Operating Procedure (SOP) of Pharmacy Management is a set of guidelines and procedures that should be followed by pharmacy staff to ensure the safe and effective delivery of pharmaceutical care.
- The SOP should be developed in compliance with local regulations and guidelines, and reviewed regularly to ensure its continued relevance and effectiveness.

Below is an outline of the key components of an SOP for Pharmacy Management:

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- **Pharmacy Staffing:** Establishing staffing requirements and ensuring adequate staffing levels to meet patient needs.
- **Medication Procurement:** Defining the process for ordering, receiving, storing, and dispensing medications in compliance with regulations and industry best practices.
- **Medication Storage:** Establishing procedures for the proper storage of medications, including temperature and humidity controls, and ensuring that medications are stored in accordance with manufacturer recommendations.
- **Medication Dispensing:** Defining the process for medication dispensing, including checking for allergies and drug interactions, verifying medication orders, and labeling prescriptions.
- **Medication Administration:** Establishing procedures for medication administration, including proper dosage and administration routes, and monitoring patient response.
- **Medication Errors:** Establishing procedures for identifying, reporting, and preventing medication errors, including training staff on error prevention and root cause analysis.
- **Documentation:** Defining the process for maintaining accurate and complete records of medication orders, dispensing, administration, and patient outcomes.
- **Quality Control:** Establishing procedures for quality control, including regular audits of medication storage and dispensing procedures, and ensuring compliance with regulations and industry best practices.
- **Emergency Preparedness:** Defining procedures for responding to emergency situations, such as medication shortages or natural disasters.
- **Staff Training:** Developing and implementing ongoing training and education programs for pharmacy staff to ensure their continued competence and compliance with regulations and industry best practices.

Introduction to Digital Health:

- Digital health is the use of digital technologies, tools, and platforms to enhance healthcare delivery, patient care, and public health.
- It encompasses a wide range of digital tools and services that enable healthcare providers, patients, and caregivers to access, share, and analyze health information.
- The key topics include Learning Health Systems and Electronic Health Records and various types of digital health technologies to include mobile applications, wearable technologies, health information systems, telehealth, telemedicine, machine learning, artificial intelligence and big data.



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- These technologies are assessed in terms of the key opportunities and challenges to their use and the evidence of their effectiveness in the field of digital health in relation to public health and healthcare globally.
- The use and application of digital health for COVID-19 forms a case study demonstrating the use of different types of digital health technologies to address key aspects of the response to the virus globally.

mHealth and Online pharmacies:

- mHealth (mobile health) refers to the use of mobile devices, such as smartphones and tablets, to support healthcare services and improve health outcomes.
- Online pharmacies, on the other hand, are digital platforms that allow patients to order medications online and have them delivered to their doorstep.
- Both mHealth and online pharmacies have the potential to improve access to healthcare and medication for people who may face barriers to traditional healthcare services.
- For example, people living in rural areas or those with mobility issues may find it difficult to visit a physical pharmacy or healthcare provider. With online pharmacies and mHealth, they can order medication or access healthcare services from the comfort of their own homes.

