A REVIEW ON HOSPITAL FORMULARY

Take Pallavi Sharad, Prof.Vishal Gaikwad

Student, Assistant Professor
Pratibhatai Pawar College Of Pharmacy Wadala Mahadev, Shrirampur

ABSTRACT:
A broad information about the drugs is assumed in World Health Organization (WHO) formularies. Purpose of the study was to progress a hospital formulary in a tertiary care hospital. The hospital formulary system survived as a list of drugs into the supply chain management procedure in hospital. Systematic promotion of the formulary through new drugs and modern scientific information are main features in the effective operation of formulary activity. The focal reason for developed hospital formulary is to usual standard for greatest practice, encouraging high quality evidence, based recommending the diminish the difference in the level of treatment provide to the patient and regulatory the drug cost. In our study, whole hospital formulary is briefly explained. These review gives completes information about the history, importance, P&T committee, D&T committee, preparation developed, restriction, closed formulary, opened formulary and role of pharmacist in a formulary.

Keywords:
Hospital Formulary, drug cost, pharmacopeia, prescription, guarantors, patient, pharmaceutical and therapeutic committee (P&T), physicians, rational drugs,

INTRODUCTION:

Drug formularies are prescription lists that health guarantors prefer (and will cover) based on highest overall value. They're a health assurance industry stand-in because they minor guarantor and patient costs. Patients and providers trust on formularies along with medical efficacy thoughts for prescribing decisions that are both medically suitable and cost-conscious.[1] During a 3-year period from 1987 to 1989, investigators Rucker and Schiff collected physicians' statements relating to the concept of a formulary during P&T committee discussions. Unhappily, the authors found that these discussions centred fewer on critical evaluations of scientific data and more on the purpose, design, and the necessity for a formulary *per se*. Moderately than discussion the relative advantages of a drug, the formulary concept itself was often subject to examination. In the end, these debates were actually differences about essential expectations about formularies. These battles occurred both within the P&T committee and with staff doctors who supported addition or cancelling a specific drug. After distinct these statements and other published misunderstandings with the basic objectives and operative requirements of an active formulary, the authors classified the observations as common traditions(myths) about formularies.[2]

Medication error is any treatment that might cause or tends to unsuitable medication use or patient injury during the medication is in the control of the health care specialized, patient or customer. Medication errors are the utmost common cause of disease and death.

Factors correlated to medication error are [3]

1. Looks like or sound like drug means the medication include similar name and similar packing.
2. Medicines which is not commonly use or prescribed.
3. Patient is allergic to some medication which commonly used (e.g., NSAID'S, antibiotics)
4. Medication which produce toxicity after the dose increase which require proper testing to ensure its dose.

The complex medication doses which are given to the patient in the ICU, emergency department are having increased risk of adverse drug events. Patient safety is important element of health care where patient is free from unnecessary harm concern with provision of health care.

Patient safety and minimising the medication error required the management includes:

1. Communication with Healthcare professionals.
2.Up to date drug information.
3.Proper direction of use.
4.Adequate patient information and history.
5. Proper knowledge of drug.
6.Necessary safety checks.
7. Evidenced based protocols.
8.Presence of adequate quantity of high-risk drugs.
9. Specially hospitals having 24hr pharmacy support.[3]

Aim & Objectives:

The focal aim and objectives of hospital pharmacopeia is to offer info about the use of drugs. Hence the essential goals of the formulary are to help prescribers in the suitable drug of choice to the appropriate treatment and to make prescribers survey uniform choice of treatments. Hospital formularies firstly started presence in hospitals as group of commonly prescribed pharmaceutical medicaments and formulations, produced mainly for reference purposes. The study was to make hospital drug formulary for the

speciality branches in tertiary care hospital. Hence, developed formulary will be useful for falling the brands obtainable in the hospital which helps in rational drug usage.[20]

The primary objectives of the hospital formulary are to provide the hospital staff with:
1)To provide essential information about the drug which are approved by HTC to physicians and nurses.
2)To update the knowledge/hospital guidelines and procedure to medical staff regarding drugs its use its merits and demerits.
3)To avoid unnecessary use of medicine in hospital during treatment.
4)To reduce the cost burden on the patient.
5)To prevent duplication and wastage of drugs in hospitals.
6)To help the hospital pharmacist in procurement of new drugs.[21]

The hospital formulary is a list of pharmaceutical agents with its important information's which reflects the current clinical views of the medical staff.

•
The hospital formulary is a list of pharmaceutical agents with its important information's which reflects the current clinical views of the medical staff.
•
The hospital formulary is a list of pharmaceutical agents with its important information's which reflects the current clinical views of the medical staff.
•
The hospital formulary is a list of pharmaceutical agents with its important information's which reflects the current clinical views of the medical staff.
•
The hospital formulary is a list of pharmaceutical agents with its important information's which reflects the current clinical views of the medical staff.

Formulary: A index of drugs approved for use inside the hospital or health arrangement by the pharmacy and therapeutics (P&T) committee [4] A drug formulary is a frequently efficient CatLog of protected prescription medications that (Pharmacy Benefit Managers) PBMs develop and keep for their customers. The file contains branded and generic drugs that have been suggested to the PBM by a multidisciplinary Pharmacy and Therapeutics (P&T) committee of doctors, pharmacists, and other healthcare specialists. The P&T committee is accountable for developed, reviewing, and updating the formulary list so that it reproduces the most recent clinical strategies, FDA-approved prescribing protocols, published literature, and clinical trial outcomes. The control of the drug formulary is that it effects which drugs memberships usage. It also regulates out-of-pocket charges. If a plan member is prescribed a drug that is on the drug formulary, the spender covers some, maximum, or all of the cost. If the prescribed medication is not involved on the formulary, the payer will not protect or part the cost. The final formulary list also reproduces the outcomes of PBM efforts to combined purchasing power and lower the drug costs through discussions with pharmaceutical manufacturers and pharmacies.[10] Formulary restrictions and cost-sharing policies such as tiered co-payments can decrease drug charges. These strategies, though, have raised worries among health care providers and consumers concerning reduced devotion to ongoing care and limited admission to new treatments. The American Medical Association (AMA) and others have quizzed the morals of formulary restrictions based exclusively on price. In 2000, the AMA, the National Business Coalition on Health, and added national health care organizations issued Principles of a Sound Drug Formulary System. These principles state that cost features should be measured only after safety, efficacy, and therapeutic essential and that treatments should be estimated in terms of influence on total health care costs. The Academy of Managed Care Pharmacy has future a standard format to describe and evaluate the profits and costs of novel drug treatments.[11] Formularies are the base of the management and governance systems used to stimulus the range of medicines available within health care organizations. [12]

Hospital Formulary system: A structure whereby the medical staff of a hospital or well-being system, at work through the P&T committee, estimates, reviews, and chooses from among the drug products existing those that are measured most useful in-patient care. It is also the background in which medication-use strategies are recognized and realized.[4]

History Of Formulary: The first hospital formulary in India was printed in 1968 by the Department of Pharmacy, Christian Medical College, Vellore. The primary hospital formulary for the progress of government hospital teachings was published in 1997 at Government Medical College, Trivandrum.[13]

[17]

IMG: **Christian Medical College Vellore**

[18]

IMG: Government Medical College, Thiruvananthapuram

Pharmacopeia's have been followed as first as the 1800s. In 1816, the formularies of the New York Hospital registered presented drugs in its hospital drugstore. After there, the formulary's aim shifted to limiting certain medicines for monitoring and clinical reasons, and advanced to falling costs for plans similar Medicaid.

By the 1980s, likely effects, like offsetting short treatment expenditure with more spending somewhere else in the hospital budget, started to concern several shareholders, and the formulary's purpose grown further.

1980s: Various connected brands emerge in numerous prescription-drug groups. For the reason that most brands cost coarsely the same, formularies were used to determine which options guarantors would cover.

1990: The Omnibus Budget Reconciliation Act (OBRA) goes into effect, passing a number of guidelines, together with no longer permitting individual states to keep formularies. Up to this point, 13 states and the District of Columbia had their private formularies.

1993: OBRA is modernized and converses the strategies around state formularies, again permitting states to maintain formularies as long as they meet certain official requirements. One example is that drugs can only be omitted "if the drug does not have an important, clinically meaningful therapeutic benefit in relations of safety, effectiveness, or clinical results over other drugs involved in the pharmacopeia and nearby is a printed explanation of the basis for the exclusion available to the public."

1995: The Veterans Health Administration (VHA) is the major well-being care system in the U.S. and establishes its own pharmacy benefit manager, the VHA Pharmacy Benefits Management Strategic Healthcare Group (VHA PBM).

1997: The VHA PBM launches a national formulary, which is attributed with completing producer price decreases, reducing drug spend, and inspiring providers to frequently recommend nominated medications.

2003: Congress passes the Medicare Modernization Act of 2003, generating the Medicare Part D retail prescription drug advantage. The involved formulary system makes generic drugs the smallest exclusive, which is expected to rise their consumption.

2005: The Medicare Modernization Act of 2003 is applied.

2006: The Centres for Medicare and Medicaid Services (CMS) start instructing how private plans under Part D function pharmacopeia's, including requiring annual reviews of Part D plan formularies and applying requirements about the Pharmacy and Therapeutics (P&T) Committees that regulate formularies.

2014: The CMS attempts to eliminate protections on 3 of the 6 protected drug classes (anticonvulsants, antidepressants, antineoplastics, antipsychotics, antiretrovirals and immunosuppressants), which would permit formulary management to minor charges, but Congress blocks this and other recommended changes.

Nowadays, health insurers keep that formularies keep prescription drugs reasonable and available for better patient results. That's why P&T committees recurrently meet to discuss clinical trial results, novel drugs, provider approvals and more.[1]

Importance of a Formulary:

When a formulary is used successfully, it turns into the foundation of a formulary system, which can be one of the greatest effective methods of guaranteeing rational drug therapy and monitoring drug cost. Medications which play a vital role in the inhibition and treatment of diseases, when used properly they can offer simple and profitable solutions for man health difficulties. The chief reason for developed hospital pharmacopeia is to set standards for best practice, encouraging high quality, evidence-based prescribing thus decreases the difference in the level of treatment providing to the patients. A formulary can be used as an instrument to rationalize the series of medications used in standard practice. Hospital formulary is the vehicle by which the medicinal and nursing staffs make usage of the scheme; hence it is significant that it should be whole, concise, updated and easy to use. [5]

P&T Committee:

The P&T committee is usually the medical staff committee in charge for managing the formulary system. The P&T committee offers an evaluative, educational, and suggested facility to the medical staff and administrative administration in all matters relating to the use of available medications. The P&T committee should be in authority for supervision guidelines and procedures related to all features of medicine use within an organization. The P&T committee's group and authority should be bordered in the organization's medical staff regulations and other organizational policies, as suitable. The description of organization and authority turn into even more important as health care services combine into larger health systems. Other responsibilities of the P&T committee include medication-use evaluation (MUE), adverse drug event monitoring and reporting, medicine mistake inhibition, medication safety, and growth of medical care plans and medication management creativities (e.g., designation and practice procedures, limitations, rules and clinical pathways. [6]

The P&T committee should have the following organizational components in place to maximize meeting effectiveness:

• Charter

Role of the &Tadministrator and/or formulary director

Committee and subcommittee(s) responsibility and scope

Process to way attendance

Explanation of quorum

Process to permit (or disallow) designation of election

Process to request committee choices

Definite term restrictions for members

Process for recognizing, disclosing, addressing, and broadcasting conflicts of interest (COIs)

Strategy and actions

Approach to voting, including roll call votes to ensure print

Scope of committee charge (e.g., specific site or entire system; inpatient or outpatient sites; medicines, devices, and biologics)

Process for handling minutes, programs, record keeping, and communication of decisions complete.[6]

D&T Committee:

The Drug and Therapeutics Committee (DTC) is at the highest of the order of hospital pharmacy organization. Earlier, its members were mainly pharmacological employees. The Committee's chief purpose was to director the supply and distribution of medications in the hospital according to the total growth plan and strategies of the clinic. This function appropriated the form of establishing regular seminars and discussions. This preparation controlled to the let-down of the medicinal commission to play the complete policymaking function of the medicine management centre, especially the part of encouraging rational drug use and rational use of antibiotics. To well promote rational drug use, six working groups were recognized under the Drug and Therapeutic Committee (DTC). The main responsibilities involved the following: selection of hospital drug diversity, examination and estimation of drug hazards, monitoring and examination of drug use, and estimation of rational drug use and antimicrobial stewardship. Between these sets, the prescription review management group, antimicrobial stewardship group, and rational drug use facility group were in charge for monitoring rational drug use and antimicrobial stewardship (Figure 1).[7]

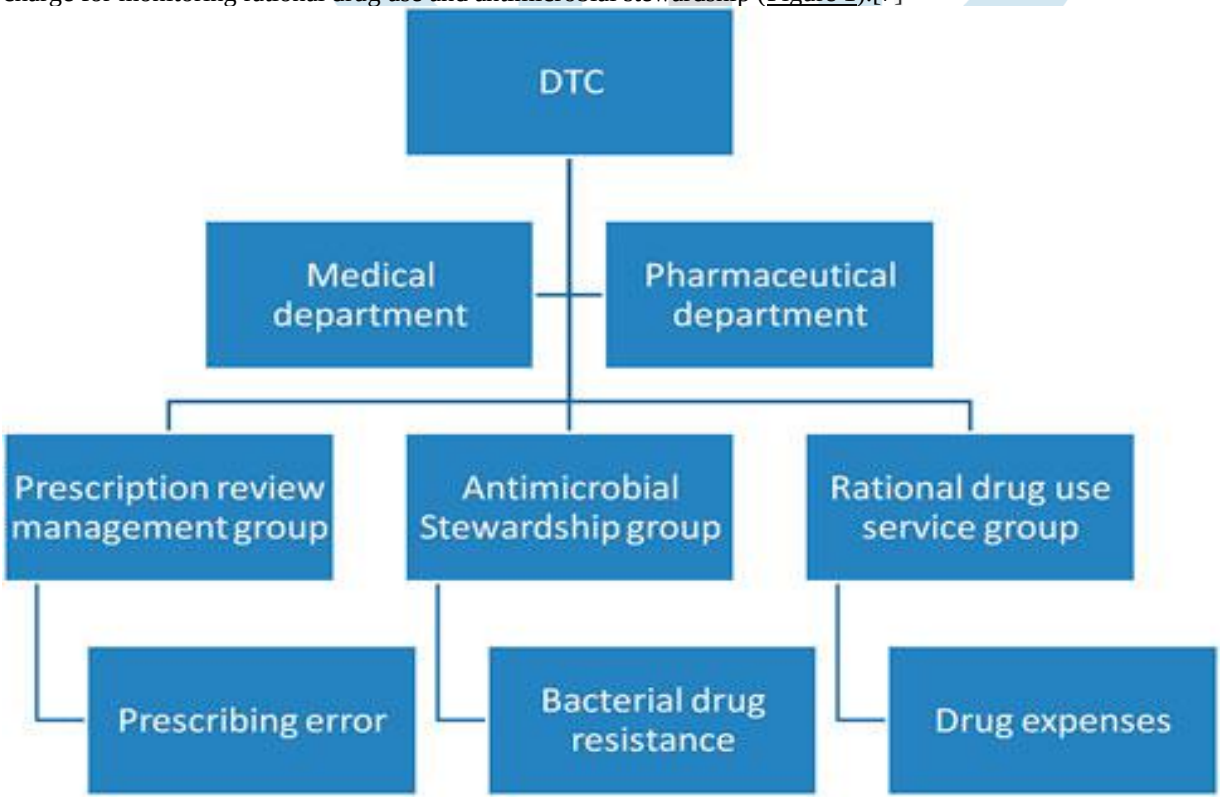


FIGURE 1. Composition of the management team of the DTC.[7]

Steps involved in the preparation of hospital formulary

Recognize the greatest mutual ailments existence treated in the hospital by checking all medical departments. For each disease, a suitable first choice of treatment should be known using average treatment strategies. A skilful committee can be carried together to identify the proper treatment for each of the common health difficulties. The substitute method is rereading the WHO model list of important medicines might also be used as a preliminary point. The capability of the hospital and its staff to holder specific drugs should not be forgotten throughout the selection procedure. A current of the list must be organized and must be given to each department to statement on the list. The Drugs and Therapeutics Committee must careful on their explanations and provide response. All information should be discussed with evidence-based reviews wherever possible. After the preparation of ending list, monographs for each drug should be prepared and it should contain impartial information [5]

Formulary Development:

The medicines and related products registered on a pharmacopeia are determined by a pharmacy and therapeutics (P&T) committee or a corresponding article. P&T committees are included of principal care and specialty physicians, pharmacists and other specialists in the health care field. Regularly P&T committees also include nurses, authorized experts, and commissioners. P&T committee members are often independent of the advantage plan guarantor and are essential to expose any struggles of awareness. Some achieved care organization selected to save the uniqueness of P&T committee members intimate so that outside stimulus is avoided. The P&T committee is in charge for developed, handling, informing and managing the formulary. The P&T committee also designs and implements formulary system guidelines on operation and access to medicines. Utilization management approaches such as amount restrictions, step therapy and previous authorization conditions may be reviewed and permitted by P&T committees. Admission strategies include medical omission process protocols to permit patients reporting for non-formulary drugs under well-defined surroundings.

P&T committees estimate medications after Food and Drug Administration (FDA) approval. Due to the diversity of medications on the market and the nonstop introduction of new medications, a formulary must be a dynamic and continually revised listing. In order to retain a formulary present, the P&T committee meets frequently to review afresh released drugs and/or modules of drugs. The P&T committee reviews some or all of the following:

- Medical and clinical literature including clinical trials and treatment guidelines, comparative effectiveness reports, pharmacoeconomic studies and outcomes data;
- FDA-approved prescribing information and related FDA information including safety data;
- Relevant information on use of medications by patients and experience with specific medications;
- Current therapeutic use and access guidelines and the need for revised or new guidelines;
- Economic data, such as total health care costs, including drug costs;
- Drug and other health care cost data (not all P&T committees review drug specific economic data) and
- Health care provider recommendations.[8]

Formulary Restriction:

Inside a formulary it is frequently essential to limit the use of a specific medicine to a quantified medical area or group of clinicians. The reasons for doing this may be:

• Highly technical services needing different facilities, skills or training, e.g., chemotherapy, anaesthesia, exhaustive care.

• High-cost medicines where results about usage relaxation with practiced clinicians who decide to act as receptionists, e.g., antibiotic usage external first- and second-line approvals can be controlled to microbiology and communicable diseases medical doctor only.

• Medicines of inadequate value where careful case collection is significant to justify use, e.g., ivabradine limited to consultant cardiologist prescribing.

• Certain types of unrestricted medications. Deficiency of sufficient understanding with a medicine or clinical area, e.g. Many dedicated drugs will be limited to hospital prescribing and management. In some cases, nearby decided shared care procedures have been recognized to support transmission of prescribing to prime care once a patient is calmed. This shared care protocol provides extra complete prescribing and monitoring information and explains locally agreed tasks to enable primary care clinicians to take on clinical responsibility for suggesting, e.g., methotrexate for rheumatoid arthritis, somatostatin analogues for acromegaly. A local committee is well located to recognize when formulary restrictions are required and which facilities and separate clinicians are approved to provide restricted medicines. As skill and evidence changes these restrictions may be altered. For example, a new antiarrhythmic agent may be restricted to beginning by consultant cardiologists individual although its place in treatment is more clearly definite and its safety outline is undefined.[12]

Types of Formularies:

1] Open Formulary

2]Closed Formulary

Open Formulary:

As used in the literature, the clue of an open formulary could be designated as the minimum arranged, least difficult, most particular, and with the highest comfort of listing, where pharmaceuticals are legal principally through the act of script a medication command. Furthermore, an open formulary suggests that no systematic valuation happens for a drug to be authorized, i.e., if permitted by (Food and Drug Administration) FDA, it can be used. An open formulary has been defined as an oxymoron. Tolerant and market-driven, an open formulary denotes an undifferentiating listing of pharmaceuticals by therapeutic class, alphabetical brand name,

and/or alphabetical generic name. An open formulary is, in spirit, a passive process. Medications are acquired and administered on the difficulties of individual prescribers. Subsequently the prescribing process is not well understood, the validation for medication use is regularly left to chance at foulest, and semi-structured purposes at best. Governmentally speaking, an open formulary can indicate to prescribers and industry the "open mindedness" of the P&T function that activates on an everything goes-cavalier-premise. In situation to a formulary, the transformer, "open", has no effective meaning. It does not donate to or elucidate the therapeutic nature of pharmacotherapy. It institutes the world of marketed products.[9]

Closed Formulary:

The opposite side of the formulary spectrum often is termed a closed formulary. Although having the presence of active, objective examination of drug products, the working definition of a closed formulary could be connected with the practical maxim, "our attentions are complete up, do not confuse us by the evidences". Various revelries in the knowledgeable pleasure originating from the declaration that their formulary is closed. By meaning, any formulary is an inadequate listing, but, to approximately, a closed formulary suggests therapeutic inactivity. In the previous, the pharmaceutical industry applied innumerable strategies and policies—including attacks on the statuses of group members—to focus besides operate the results of slightly prearranged calculating procedure as such. Nowadays, manufacturing accepts to the choices of skilful boards, and attempts to direct through the process as a state of contribution in the professional environment. A closed formulary designates a fitted controller of the convenience of pharmaceutical products on the base of therapeutic class. Antibiotics, for occurrence, are estimated and associated for spectrum of exposure, side effects, dose forms, and price. Chosen agents may be known inside subclasses, like aminoglycosides, cephalosporins, fluoroquinolones, and prolonged spectrum penicillin's. Furthermore, therapeutic exchange results might be made for subdivisions inside subclasses, such as the choice of cefotaxime as the 3-generation injectable cephalosporin of choice. All additional possible selections, i.e., ceftriaxone, cetohexazine, and ceftizoxime, are associated by dosage and regularity to the selected agent. In this way, the formulary goes to stimulate value struggle by the principle of interchangeability. Afterwards founding standards for interchangeability, repeatedly, joining relationships are required with producers who part in the work of the hospital, health system, or PBM. In this bright, the conclusion of a formulary happens from a bottom-up otherwise class perspective, slightly than top-down. The clue of closed formularies, in procedure, might be useful if it recognizes those therapeutic classes agreeable to therapeutic exchange. Though, later a term for this process, therapeutic interchange, occurs before now, the addition of "closed" to "formulary", is employed.[9]

Role of pharmacist:

- Pharmacist in the PTC has a main role in evolving strategies and procedures central the hospital pharmacopeia.
- The main pharmacist has the prime duty for the preparation of hospital formulary.
- Pharmacist with the guidance and direction of PTC mean to as certain the amount and cause of source of all drugs, chemicals, biological and pharmaceutical arrangements used for the analysis, and action of patients.
- Pharmacist would guarantee that excellence of drugs is not compromised by financial thoughts.
- He determines valuate several drugs as per the management of PTC. [13]
- Management pharmacy-related facilities and logistics 24/7hr.
- Advising medicines and guaranteeing their security and efficiency
- Formulating all the medicines and changing dosage forms to the applicable condition.
- Broadcasting all the possible DRPs to the SFDA
- Communicating all healthcare benefactor for medication-related problems
- Contributing in clinical rounds route by all healthcare providers then attendance pharmacy-managed clinics
- As long as satisfactory data on medicine intakes
- Handling medicine supplies and preparation for medication resources
- Provided that drug info facilities
- Directing pharmacy-related physical activity for below- and postgraduate student [14]

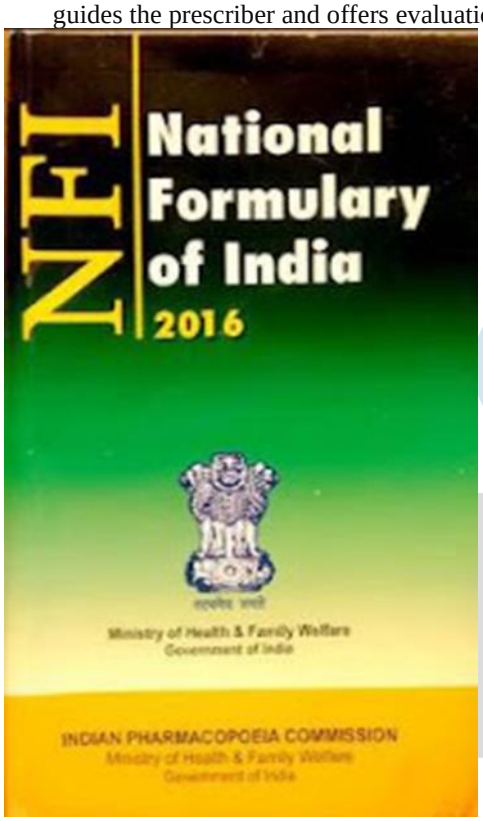
CONTENT OF FORMULARY:

A distinctive formulary must have the following structure;

1) Heading page

2) Names and titles of the members of the PTC
3) Table of contents
4) Info on hospital rules and procedures relating to medicines
   a. The pharmacy and therapeutic committee of hospital
   b. Objective and process of the formulary systems
   c. Hospital guidelines and procedures for prescribing and providing drugs.
   d. Hospital pharmacy facilities and procedures.
   e. How to use the formulary
5) Products believed for use at hospital
   a. Substances added and removed from the earlier publication.
   b. Generic, Brand name cross reference list.
   c. Pharmacologic/therapeutic index by comparative price codes.
   d. Descriptions of formulary drug products by pharmacological therapeutic class.
6) Appendix
   a. Central service apparatus and supply list
   b. Guiding principle for calculating paediatrics dosages
   c. Timetable of standard drug administration.

Preparation of formulary is a conscientious struggle of any hospital to direct its prescribing efforts. The nominated generic drug guides the prescriber and offers evaluation with other drugs.[15]



[15]

Advantages of hospital formulary:

The advantages of hospital formulary are:

1. It offers the physician with permitted and effective drugs to treat ailment of the area or country.

2. Hospital formulary decreases the inventory price of the drugs. It controls the quantity of drugs by improving the obtaining and inventory management.

3. It advances the excellence declaration and easier providing.

4. It gives pressure on medication data and focused on patient's education hard work.

5. It eliminates the unreasonable mixtures of drugs and also progresses adverse drug reaction organization. [16]

6. It is actual convenient for use by the doctor and nursing staff.

7.It helps medical doctor to recognize about the obtainable drugs in the hospital pharmacy and also supports in well inventory controller.

8.Suggestion based treatment strategies.

9.It is whole, short, rationalized and easy to use. Advances clinical practice of health care specialists.

10.Diminishes the difference in the level of action providing to the patients and regulatory drug cost. [19]

Disadvantages of hospital formulary:

1.The hospital formulary system removes the doctor of the correct and right to prescribing and obtained the variety of his choice.

2. The system may from time-to-time certificate the pharmacist to act as the only judge to which the brands of the drugs to be bought and distributed.

3. The system may permit purchasing inferior quality of drugs.

4.The system does not decrease the cost of drug to the patient or the 3-party customer.[19]

Conclusion:

In conclusion, the formulary system is technique by which medical doctor and pharmacist, working through a pharmacy and therapeutic committee(P&T) of the medical staff estimate and select medicine for use in hospital. Hospital formulary decreases the inventory cost of the drug. The primary purpose of the formulary is to inspire the use of safe, effective and most reasonable medication. Furthermore, it also confirms that high quality medication is existing to patients. All these will ultimately main to effective health management and reduction disease load. The DTC recognized a monitoring and long-term management mechanism for the rational used of drugs, advance society's understanding of the destruction of drug abuse and worked tough to keep the health 0f the population. Pharmacists play an important role in hospital formulary.

REFERANCE:

1] Dan Kelly, Clinical Pharmacist, A Brief History of Drug Formularies and What to Expect In 2019 December 18, 2018.
2]Matthew Grissinger, RPh, FASCP The Truth about Hospital Formularies, Part 1Rucker TD, Schiff G.Drug formularies: Myths-in-formation *Med Care* 199028928–942.(Reprinted in *Hosp Pharm* 1991; 26:507–514.) [PubMed] [Google Scholar] P T. 2008 Aug; 33(8): 441.
3] Ronda G. Hughes, Mary A. Blegen, An Evidence-Based Handbook for Nurses, Patient Safety and Quality, published April 2008, p.no.3-4
4] William A. Zellmer, Overview of the History of Hospital Pharmacy in the United States
5] Mahendrakumar BJ, Sowmya M, Uma Maheswari D, Hymavathi R, Ramesh S Hospital Formulary: An Overview, Indian Journal of Pharmacy Practice, Volume 6, Issue 1 Jan - Mar, 2013
6]Christy Ciccarello, Molly Billstein Leber, Mandy C. Leonard, ASHP Guidelines on the Pharmacy and Therapeutics Committee and the Formulary System, AM J HEALTH-SYST PHARM | VOLUME 78 | NUMBER 10 | May 15, 2021
7] Jing Yang, Lei Zheng, Yu-Yao Guan3 and Yong-Tao Lv, Drug and therapeutics committee interventions in managing irrational drug use and antimicrobial stewardship in China, Front. Pharmacol., 22 July 2022 Sec. Drugs Outcomes Research and Policies, BRIEF RESEARCH REPORT article
8] Formulary Management, AMCP.org ,Managed Care Pharmacy 101, Concepts in Managed Care Pharmacy
9] Richard H. Parrish, II, What Is a Formulary, Anyway? Part 2 Published online 2018 Jul 23. Journal of Pharmacy Education and Practice.
10] Joe Thomas, The Drug Formulary Formula: What You Need to Know to Choose the Right PBM, July 15, 2021
11] Gregory E. Simon, MD, MPH,1 Bruce M. Psaty, MD, PhD,2 Jennifer Berg Hrachovec, PharmD, MPH,3 Marc Mora, MD3, Principles For Evidence-Based Drug Formulary Policy, publication June 22, 2005, J GEN INTERN MED 2005; 20:964–968.
12]Dr D. John M. Reynolds, Olubunmi Fajemisin2 & Sara Wilds3, Local formularies, British Journal of Clinical Pharmacology, Published Online 15 March 2012, 640-643.
13]https://www.researchgate.net/publication/351343702_6_HOSPITAL_FORMULARY.
14] Ahmad Almeman, Ahmed Al-jedai, HOSPITAL PHARMACIST https://www.sciencedirect.com/topics/nursing-and-health-professions/hospital-pharmacist.

15] PREPARATION OF HOSPITAL FORMULARY, March 10, 2019, https://knowledgeofpharma.blogspot.com/2019/03/preparation-of-hospital-formulary.html
16] Rimple Jeet Kaur 1, Arup Misra2, Sneha R Ambwani2 Hospital Formulary Concept: Is India Ready and How it will Benefit from it? Journal of Basic and Clinical Pharmacy, Vol 8, Issue 4, Sep-Nov, 2017.
17] https://www.wikiwand.com/en/Christian_Medical_College_Vellore
18] https://www.wikiwand.com/en/Government Medical College, Thiruvananthapuram
19] PHOS ACT 5.docx - 1. Advantages and disadvantages of hospital formulary https://www.coursehero.com/file/73264981 pg.no.1-5.
20] Lakshmi Prasanna. K, P. Bhavya, Dr. Balaiah Sandyapakula, Dr. Charan Tej.K, Dr. S.A. Rahaman. DEVELOPMENT AND IMPLEMENTATION OF HOSPITAL FORMULARY FOR PROMOTING RATIONAL USE OF DRUGS IN TERTIARY CARE HOSPITAL IN URBAN AREA OF ANDHRA PRADESH. Indo American Journal of Pharmaceutical Research 2017. Pg.no. 8341-8348.
21] Dr. Sachin V.Tembhurne, Dr. Ashwini R. Madgulkar, Dr. Virendra S. Ligade, A Text Book of PHARMACY PRACTICE, B.Pharmacy 7th semester. NIRALI PRAKASHAN.