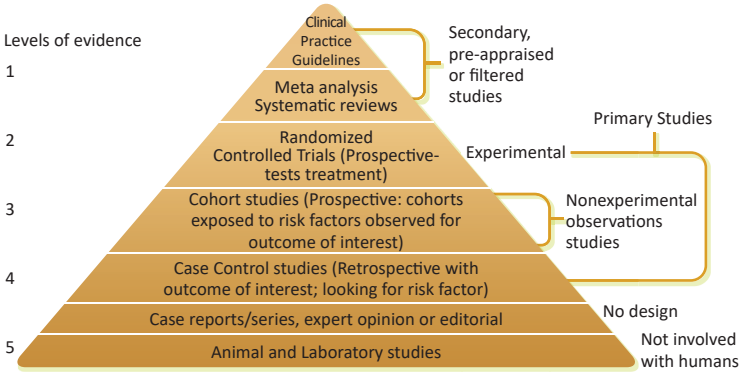
Clinical Pharmacy Key Performance Indicators (KPIs)[4]

KPI	Description
Medication reconciliation[5] on admission, transition point[6]	Proportion of patients who receive documented admission medication reconciliation (as well as resolution of identified discrepancies) performed by a pharmacist completed within 24h/72h
Medication reconciliation at discharge	Proportion of patients who receive documented discharge medication reconciliation and resolution of identified discrepancies by a pharmacist
Pharmaceutical care plan	Proportion of patients for whom pharmacists have developed/initiated a pharmaceutical care plan
Drug therapy problems	Number of drug therapy problems addressed by a pharmacist per admission; Number of medicines information queries completed
Inter-professional patient care or medical rounds	Proportion of patients for whom pharmacists participate in inter-professional patient care rounds to improve medication management
Dispensing errors	Number of actual dispensing errors reported or number of dispensing errors prevented (near misses); percentage of charts with level 2 pharmacy checks carried out; number of complaints
Patient education during hospital stay	Proportion of patients who receive education from a pharmacist about their disease(s) and medications(s) during their hospital stay
Patient education at discharge	Proportion of patients who receive medication education about side effects, precautions, etc. by a pharmacist at discharge
Bundled patient care interventions	Proportion of patients who receive comprehensive direct patient care from a pharmacist working in collaboration with the health care team

III. INFORMATION MANAGEMENT AND THE USE OF EVIDENCE

Medicines can be one of the most cost-effective interventions in health care systems in terms of alleviating pain, suffering and even preventing death. In addition, they can contribute to savings of limited health care resources. However, the marketing practices used by many pharmaceutical companies make it very difficult to identify real improvements in the field of pharmaceuticals. It is, therefore, essential for pharmacists to understand and be able to use the tools of critical appraisal and cost-



Hierarchy of evidence

4 Adapted from Measurement of Clinical Pharmacy Key Performance Indicators to Focus and Improve Your Hospital Pharmacy Practice Elaine Lo, Daniel Rainkie, William M Semchuk, Sean K Gorman, Kent Toombs, Richard S Slavik, David Forbes, Andrea Meade, Olavo Fernandes, and Sean P Spina. CJHP – Vol. 69, , No. 2 – March–April 2016; 149-155.

5 Medication reconciliation is a formal process for creating the most complete and accurate list possible of a patient's current medications and comparing the list to those in the patient record or medication orders.

6 Transition point refers to the various points where a patient moves to, or returns from, a particular physical location or makes contact with a health care professional for the purposes of receiving health care. This includes transitions between home, hospital, residential care settings and consultations with different health care providers in out-patient facilities.

- Defaulter action—the action to be taken when a patient fails to keep a pre-arranged appointment e.g., DOTS clinic.
- Prompts—routine reminders for patients to keep pre-arranged appointments.
- Health education—provision of information about the disease and the need to attend for treatment.
- Incentives and reimbursements—money or cash or in kind to reimburse the expenses of attending the treatment centre, or to improve the attractiveness of visiting the treatment centre.
- Peer assistance—people from the same social group helping someone with the disease such as tuberculosis to return to the health centre by prompting or accompanying him or her.
- Directly observed therapy (DOT)—an identified, trained and supervised agent (health worker, community volunteer or family member) directly monitors patients swallowing their medicines as one of a range of measures to promote adherence e.g., TB treatment.

4. Patient Charters and Patient Responsibilities have been established to accommodate patients' rights. These charters have certain common features concerning the ways in which patients should be treated, however, at the same time, patients also have responsibilities:

Patient's rights

- To receive safe, quality and effective medicines
- To be advised and counselled on the appropriate use of medicines
- To receive the right medicine in the right quantity
- To be treated with dignity
- To be seen by a pharmacist who can be identified by name
- To be assured of confidentiality about their illness and treatment
- To receive pharmaceutical services in a pharmacy which complies with good pharmacy practice standards
- To expect the highest degree of honesty from their pharmacist in dealing with their medical expenses and funding
- To feel able to complain or express a need
- To participate in decision-making on matters affecting their health and their medicine
- To get a second opinion.

Patient's responsbility

- To be reasonable and courteous
- To assist their pharmacist in complying with legal requirements relating to medicine use
- To use medicine with care
- To report any problems experienced with their medicine.
- It is essential that patients are informed about their options when faced with dealing with their illness. These options can be clarified by the responses to a small number of questions.

B. CONTROLLED DOSAGE SYSTEM

1. Medications should be dispensed in individually-labeled controlled dosage cards/containers.
2. The system should be designed so that each dose is designated for a specific time of administration.
3. The amount of the drug dispensed should be determined by hospital policy.
4. The processing of emergency "stat" orders should be determined through written hospital policy.

The pharmacist should exercise professional judgment at completion of the dispensing procedure to ensure the right drug is dispensed for administration to the right patient, in the right dose, via the right route, at the right time.

III. PATIENT COUNSELLING AND EDUCATION

Patients should consume medicines as prescribed by the doctor and this can only be ensured if the patient is educated and empowered to appropriate use of medicines. It is often seen that patient is neither provided adequate information by the doctor, nor by the pharmacist. Hence, many times patients either consume less medicine or more medicines. Either way it is harmful and unsafe for the patient.

A pharmacist should promote the safe and effective use of medication by educating patients about their drug therapy. *Most dispensing errors can be discovered during patient counseling and corrected before the patient leaves the pharmacy.*

Educating the patients about health:

1. Promotes healthy living
2. Prevents or minimizes disease
3. Increases adherence to treatment
4. Impacts/positive health outcomes

Common causes of non-compliance

1. Inappropriate attitudes and poor communication skills of providers
2. Patients' fear of asking questions
3. Inadequate consulting and dispensing time
4. Lack of access to printed information in simple language- Patient information leaflets (PIL) and adequate labels
5. Inability to pay for prescribed drugs
6. Complexity of drug regimen and long duration of treatment

Dispensing errors caused by poor patient education

1. Failure to adequately educate patients
2. Lack of pharmacist involvement in direct patient education
3. Failure to provide patients with understandable written instructions
4. Lack of involving patients in check systems
5. Not listening to patients when therapy is questioned or concerns are expressed

VI. NARCOTIC AND PSYCHOTROPIC DRUGS (NDP)

To exercise control on the use of NDPS such as opium derivatives, morphine and pethidine with abuse potential Narcotics and Psychotropic Substances Act, 1985 was passed and such substances are entered in Schedule "X" of Drugs and Cosmetic Act, 1940. For details also see section on handling of NDPS. Amendment in 2014 included a notified list of Essential Narcotic Drugs (ENDs) for medical and scientific use for regulation & control under Drugs & Cosmetics Act to improve access to these medicines. The list included morphine, methadone, codeine, hydrocodone, oxycodone and its salts and fentanyl. The ENDs can be stocked by 'Recongnized Medical Institution' (RMIs) authorized by the State Drugs Controller. The authorization is for 3 years and is renewable. Government hospitals are deemed RMIs provided mandated requirements as below are followed:

1. These medicines should be procured from authorized dealers/suppliers only.
2. The ENDs should be prescribed as per Rules and dispensed only to select patients registered with the RMI and record of the dispensing maintained in a format as prescribed under the Rules (Form No. 3E under rule 52H(3)] . This record should be retained for two years from the date of last entry.
3. This record shall be maintained on day-to-day basis and entries should be made for each day before the close of the day for each essential narcotic drug separately in a register with pages serially numbered. Separate record should be maintained for each essential narcotic drug. This record should be retained for two years from the date of last entry. This record should be produced before the concerned authorized officers on inspection/investigation.
4. The ENDs stock with the RMI should not be transferred, loaned or sold to other institutions except with the written permission of the State Drug Controller.

A. DISPENSING ESSENTIAL NARCOTIC DRUGS (ENDs)

1. To dispense ENDs, a pharmacist must know the requirements for a valid prescription which are described below in this section.
2. While maintaining stock of these drugs they should be kept under lock and key and must be accurately received and issued. A separate register should be maintained to record them and a controlled procedure is used to issue or receive these drugs.
3. Medical Superintendent is overall responsible for handling of ENDs. Chief pharmacist procures stores and is responsible for proper dispensing of drugs within the hospital.
4. A prescription must be written in ink or indelible pencil or typewritten and must be manually signed by the practitioner on the date when issued.
5. Only designated registered medical practitioners (RMPs) within appropriate clinic system are authorized to write prescriptions for drugs that fall under their area of expertise. In case of individual RMPs the prescription can be prescribed only by those approved Practitioners who are either registered with Collector of Excise on this behalf and have obtained Registration Certificate in form DD-8 or holding a License in Form DD-5. A registered dentist should give a prescription only for the purpose of dental treatment and shall make if 'for local dental treatment only'. Non-psychiatric consultants may only prescribe psychotropic drugs, if the use of such drugs falls under their area of specialization or patient management. Fellows and residents may write prescriptions for regular drugs when working with consultants in their clinics. However, a consultant must countersign prescriptions for ENDs. The designated RMP is responsible for ensuring the prescription conforms to all requirements of the law and regulations, both federal and state.