



Patient Care Process
Faculty of Pharmacy and Pharmaceutical Sciences
University of Alberta, Edmonton Alberta
Regional Pharmacy Services, Alberta Health Services

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Table of Contents

Patient Care Process Working Group Members	1
Patient Care Process - Diagram.....	2
Patient Assessment: Create Patient Database.....	3
Patient Assessment: Pharmacotherapy Workup & Care Plan.....	8
Pharmacy Care Plan Worksheet.....	13
Documentation.....	15
References.....	19

Preface:

The Patient Care Process Working Group was formed in July 2010 with pharmacy representation from the Faculty of Pharmacy & Pharmaceutical Sciences at the University of Alberta, Alberta Health Services, community practice, and primary care. The purpose of the Patient Care Process document is to outline a systematic and standardized approach to teach the provision of direct patient care in the practice of pharmacy (for undergraduate students, residents, experiential learners, preceptors and practitioners). In addition, in the undergraduate pharmacy curriculum, a need was identified to help link independent components of patient care in the context of the whole patient care process.

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The patient care process materials were substantively updated (2018).

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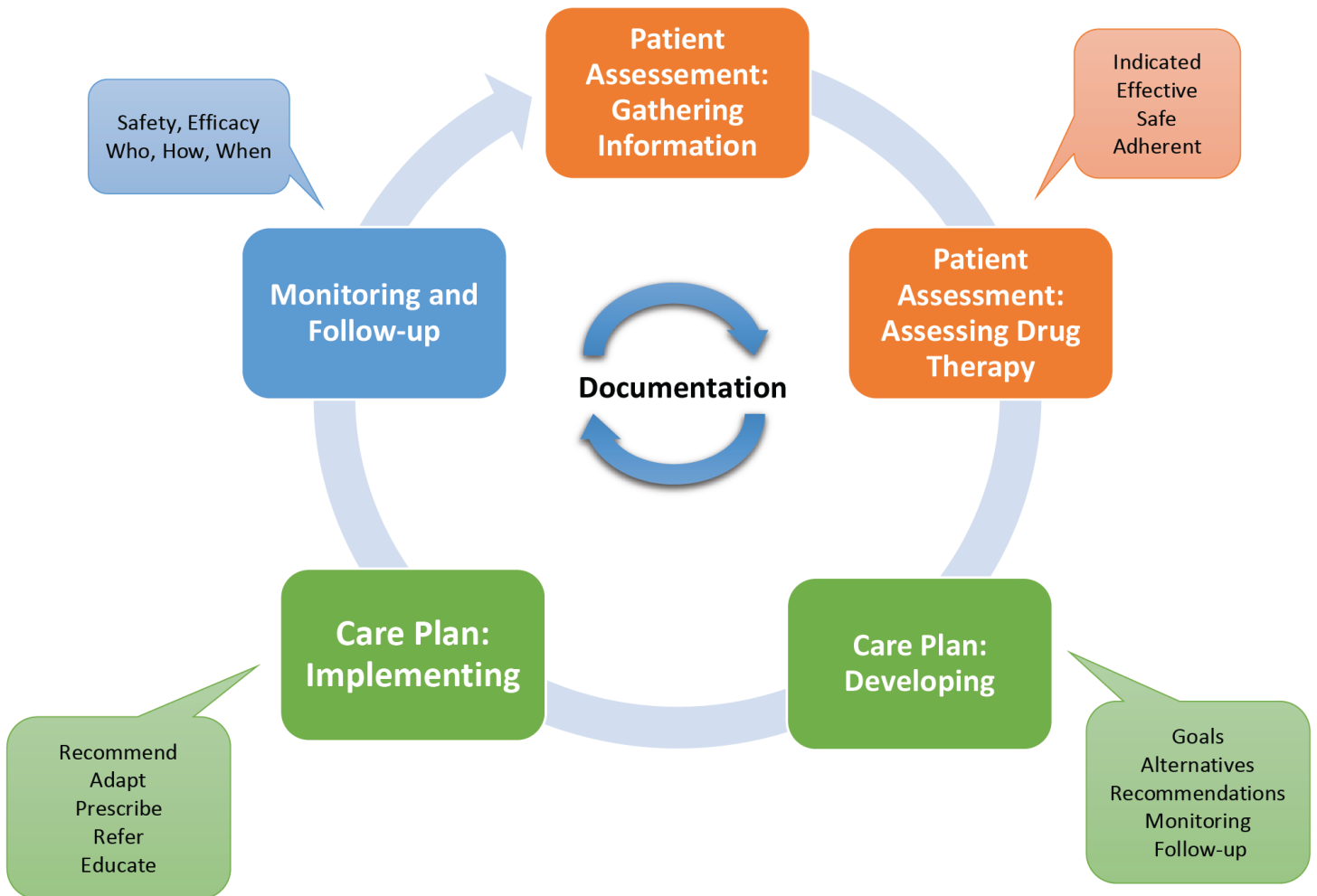
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Patient Care Process - Diagram



Patient Assessment: Create Patient Database

- A patient database allows pharmacists to put together available and relevant patient information in order to assess drug therapy
- Use information collected from: patient, family/agent, chart, other medical records, pharmacy records, Netcare, other healthcare providers
- The scope or information gathered depends on practice site, setting of interview, type of assessment, relevance of information, and timeframe
- Information collected that is not in the patient's official medical record needs to be added/documentated

Demographics

- Name, DOB, PHN, gender, address, telephone, marital status, language, health care workers
- Height, weight, ideal body weight (IBW), body mass index (BMI) (if relevant)

Reason for Assessment

- Why is patient seeking care? Describe condition/problem and duration.
- What is the reason for the referral or assessment?
- What is the patient agenda? Negotiate what will be addressed today vs. future visits
- Note: There may not always be a new medical problem or issues with therapy (i.e. routine refill or follow-up)

History of Present Illness (HPI)

- The HPI refers to a more detailed assessment of the patient's presenting symptom(s).
- The table below illustrates the type of questioning required for symptom assessment, using one method called SCHOLAR-E

Symptoms	What is bothering you today? What are the main symptoms?
Characteristics	What is the symptom like? Does it interfere with the patient's lifestyle? Describe it further. What is the severity of the symptom? (mild, moderate, severe)
History	Have you had these symptoms before? Have you tried anything (this time or if you had them in the past)?
Onset	When did it first present? What is the frequency? How long have you had them for? What was the patient doing when the symptom first presented?
Location	Where is the problem located?
Aggravating factors	Are there any aggravating factors? What makes it worse?
Remitting factors	What makes it better?
Explanatory Model	What do you believe is causing this symptom? How does this symptom affect you?

- There are also other tools used to characterize a patient's presenting symptom(s).
 - **SOCRATES**: Site, Onset, Character, Radiation, Associations, Time Course, Exacerbating & Relieving Factors, Severity
 - **OPQRST**: Onset, Provokes or Palliates, Quality, Radiates, Severity, Time
 - **LOCQSMAT**: Location, Onset, Chronology, Quality, Severity, Modifying Factors, Additional Symptoms, Treatment

Past Medical History (PMH)

- List current medical conditions/problems (dates and duration) and relevant previous medication issues
- Hospitalizations, surgeries, accidents, injuries (if relevant)
- Recent specialist visits; other clinics/caregivers

Medication History

- Allergies
 - List medication and food allergies
 - Describe reaction (date, onset, signs/symptoms, management [pharmacologic/non-pharmacologic], and outcome). Assess whether it is a true allergy or an intolerance
 - Any reactions to other medications in the same class?
- Adverse effects
 - Describe adverse effect (date, onset, signs/symptoms, management [pharmacologic/non-pharmacologic], outcome)
 - Tolerability to other medications in the same class?
- Current medications
 - Indication, dosage, schedule, duration, outcome
 - Quantify use of prn medication (check on refills, ask patient)
 - Link current medications with current medical conditions
 - Include: Eye/Ear/Nose products, Inhalers, Patches, Creams, Ointments, Injectables, Medication samples
- Previous Medications
 - List past medications dependent on relevance of medical history and indication for new therapies
 - Indication, dosage, schedule, duration, outcome
 - Why was drug discontinued? Ineffective? Adverse event?
 - Antibiotic use in past 3 months (if relevant to the medical history)

- Non-prescription medications
 - OTC, CAMs, vitamins, minerals, other supplements
 - Consider using prompts to question for specific drugs commonly used in a given patient population (i.e. analgesics, antiemetics, laxatives, sedative, etc.)

- Immunizations
 - In the last 5-10 years

- Medication experience
 - “The medication experience is an individual’s subjective experience of taking a medication in his daily life.” (Shoemaker , 2008)
 - A patient's medication experience may shape the patient's attitudes, preferences about drug therapy, and drug taking behavior.
 - Be attentive to patient’s general attitude to medications, preferences, concerns, understanding, and cultural and ethical beliefs.
 - Often this information is gathered indirectly in the patient interview.

- Medication adherence
 - How is the medication prescribed vs. how does patient actually takes the medication? (consider times, frequency, food; verify refill frequency)
 - How often in a week does patient miss a dose of medication?
 - What is the system used to manage/remember medication (i.e. supports, reminders, calendars, certain cues/times of day, blister packs, dosettes)
 - Reasons for nonadherence/ potential solutions? (i.e. patient preference/beliefs, adverse effects, cost, drug formulation, dosing schedule, health literacy, memory, technique, functional ability)
 - Use open-ended, non-judgmental questions

- Other considerations
 - Medication Payment Plan; concerns with cost of medication?
 - How is the following done?
 - Ordering medication refills, pick-up/delivery
 - Organization & administration (e.g. dosette, ability to self-medicate, given by caregiver)
 - Use/functional ability (e.g. dexterity (opening vials), vision, swallowing, memory)
 - Self-monitoring (e.g. hypertension, blood glucose, laboratory work)
 - Where and how are medications stored?

Family History (FH) (if relevant)

- Illnesses of first degree relatives (status of living and causes of death/age)
- Attention to heart disease, hypertension, hyperlipidemia, diabetes, cancer, osteoporosis, alcoholism, mental illness

Functional History (if relevant- i.e. geriatrics, stroke patient, homeless, new immigrant, etc.)

- Ability to do Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL)
- Describe functional decline (onset, activity impacted); Supports?

Social History (SH) – (if relevant; requires sensitivity and a non-judgmental approach when asking these questions)

- Nutrition, exercise, education, occupation/work history, marital status, living conditions (where and with whom?)
- Substance use (caffeine, alcohol, tobacco, illicit drugs): type, amount, pattern, duration, date/time last intake or history of use
- Tobacco products: type [for a smoker: # ppd and/or pack-years (#ppd x # yrs smoked)]
- Sexual History (if relevant- i.e. functional, pregnancy, STIs) – requires sensitivity in asking

Review of Systems (ROS)

- Identify any further problems (i.e. medical problems, adverse effects); note presence/absence of symptoms
- Head to toe assessment (keep questions relevant and brief; not all systems need to be reviewed)
- As part of the ROS, the following serve as examples to consider for each body system

General	energy levels, weight changes, ailments, pain
Integument	rashes, dryness, pruritus, hair loss, nails
Head/Neurologic	mental status, headache, syncope, seizures, tremor, weakness, vertigo
Eyes	redness, discharge, blurring, vision, pain, glaucoma, cataracts
Ears	hearing loss, tinnitus, earache, discharge
Nose/Sinuses	rhinitis, sinus congestion, discharge
Mouth/Pharynx	dentition, hoarseness, pharyngitis, ulcerations
Neck	swollen lymph nodes/glands, goiter, pain
Chest/Lungs	cough, dyspnea, wheezing, sputum, asthma, bronchitis, pneumonia
Cardiovascular	chest pain, murmurs, palpitations, hypertension, myocardial infarction
Gastrointestinal	dysphagia, odynophagia, reflux, nausea, vomiting, bowel movements, stool
Urinary	pain, frequency, urgency, incontinence, retention, bleeding
Hepatic/Renal	organ function, infection (hepatitis, pyelonephritis)
Reproductive	libido, discharge, infection, menstrual, menopause
Musculoskeletal	stiffness, pain, motion, swelling, redness, deformities
Endocrine	thyroid, diabetes, adrenals, estrogen, testosterone

Adapted with permission from: Longe RL et al. *Physical Assessment- A Guide for Evaluating Drug Therapy*. Baltimore, MD: Lippincott Williams & Wilkins, 1994. Table 1.3, page 1-9 to 1-10.

Physical Exam (PE), Vital Signs (VS), Investigations/Diagnostics

- Review relevant findings and group with relevant info
- PE: inspection, auscultation, percussion, and palpation
- VS: BP, HR, RR, temp
- Investigations/Diagnostics: X-rays, CT scans, MRIs, biopsy, ECHO, endoscopy, paracentesis, ultrasound, etc.

Laboratory findings (Labs)

- Review relevant laboratory findings in groupings (CBC, electrolytes, renal function/creatinine clearance, liver function, coagulation tests, microbiology results, etc.)
- Includes assessment of renal function: SeCr, eGFR, calculated CrCl
- Includes assessment of drug levels, as therapeutic drug monitoring, e.g. aminoglycosides, anticonvulsants, transplant medications

Patient Assessment: Pharmacotherapy Workup & Care Plan

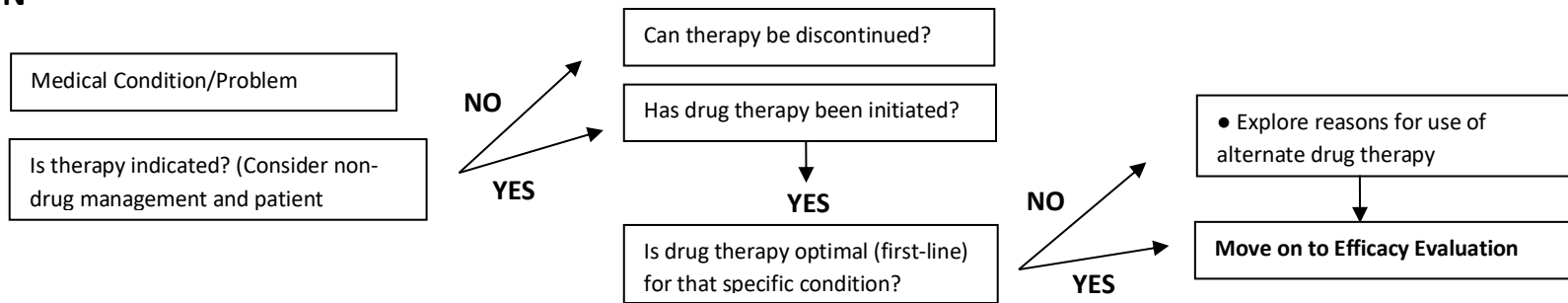
- Assess patient's current drug therapy and medical conditions to determine if there are any drug-related problems
- After determining DRPs, develop a care plan including goals, alternatives, recommendations and monitoring

Types of Drug-Related Problems (DRPs) when assessing drug therapy.

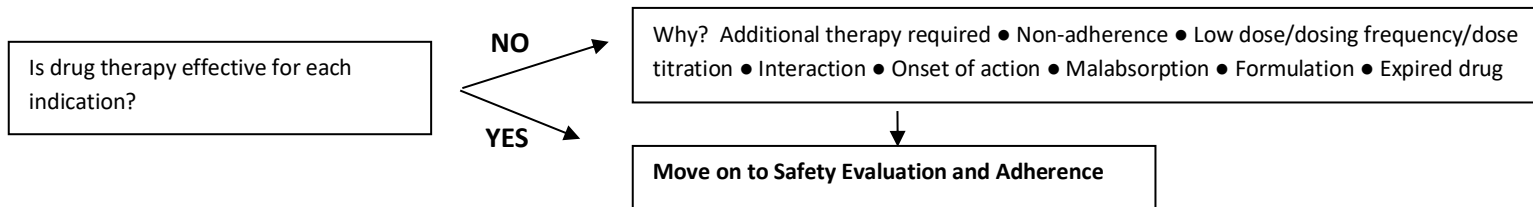
Assessments	Type of DRP
Indication	Unnecessary Drug
	Drug Therapy Required (untreated medical condition)
Efficacy	Ineffective Drug – incorrect drug or drug product
	Dose too Low (correct drug, wrong dose)
Safety	Adverse Drug Reaction
	Dose too High (toxicity)
	Drug Interaction
Adherence	Over-adherence (taking too much drug)
	Non-adherence (taking too little drug)
No DRPs Identified	Drug therapy is appropriate for a specific patient; ongoing monitoring required

Assessment of Drug Therapy

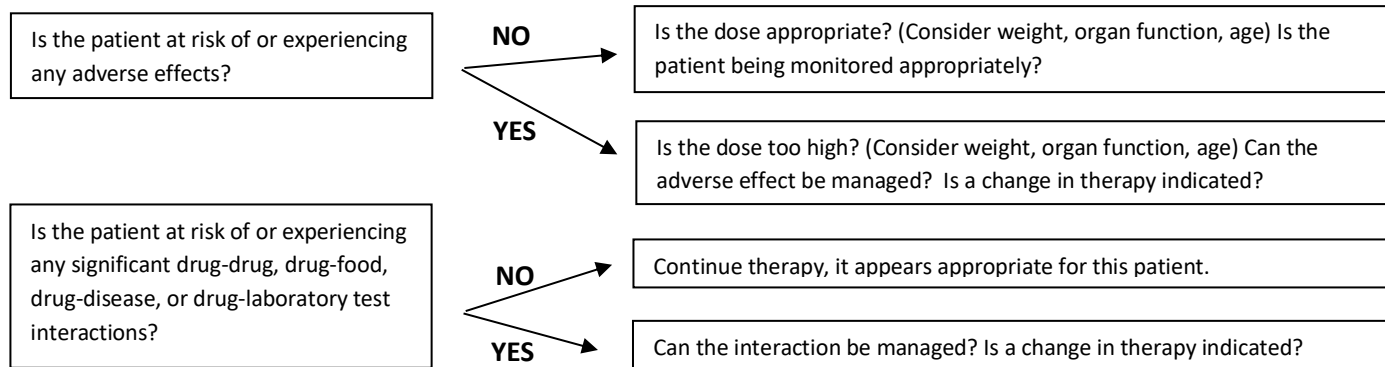
INDICATION



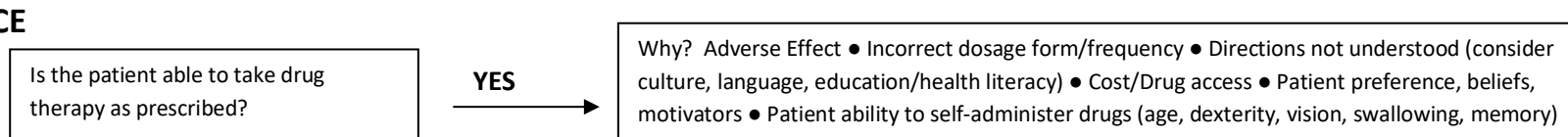
EFFICACY



SAFETY



ADHERENCE



Developed by: Deon Druteika, PharmD, Pharmacy Services AHS; Adapted by: Patient Care Working Group, Faculty of Pharmacy UofA 2011; Copyright © 2011, Patient Care Process Working Group, University of Alberta

Evaluate the following parameters (Indication, Efficacy, Safety and Adherence).

INDICATION

Review	Inquire
<ul style="list-style-type: none"> • Medical History <ul style="list-style-type: none"> ○ Obtain complete list of medical conditions/problems (consider patient symptoms, diseases, laboratory data, physical examination findings, other investigations) ○ Consider patient demographics (i.e. age, gender, ethnicity, height, weight) and organ function (i.e. hepatic, renal function) ○ Consider need for prophylactic/preventative therapies (including immunizations) based on medical history ○ Consider possibility of the medical problem being caused by a drug adverse effect? (review Safety assessment below) • Medication History <ul style="list-style-type: none"> ○ Consider contraindications to therapy, drug allergies, adverse effects when initially assessing for appropriateness • Patient preferences and goals of therapy <ul style="list-style-type: none"> ○ Does the patient even want drug therapy? ○ Are there non-drug measures that can be considered? 	<p>Is drug therapy indicated? NO: If drug therapy is not indicated, can it be discontinued?</p> <p>YES: If drug therapy is indicated, has it been initiated? If drug therapy is indicated, but has not been initiated, why?</p> <ul style="list-style-type: none"> ○ Consider patient factors such as preference, beliefs, lifestyle; unintentional omission; deferred therapy; competing priorities; cost, etc.) <p>Is drug therapy optimal (is it considered the best/first-line therapy for a given condition)? NO: Explore reasons for use of alternate drug therapy (i.e. optimal therapy is contraindicated, patient preference/needs, drug efficacy, drug safety, adherence and cost)</p> <ul style="list-style-type: none"> ○ Consider switching to optimal therapy if appropriate <p>YES: Move on to efficacy evaluation</p>

EFFICACY

Review	Inquire
<ul style="list-style-type: none"> • Goals of therapy and timeframes to achieve these goals for each medical problem • Efficacy Monitoring Parameters for drug therapy <ul style="list-style-type: none"> ○ Consider drug efficacy, subjective/objective parameters; timeframe anticipated to achieve the desired outcome. 	<p>Is drug therapy effective for each indication? NO: Consider additional therapies, non-adherence, low dose/dosing frequency/titration, interaction, onset of action, malabsorption, formulation, expired drug</p> <p>YES: Move on to Safety Evaluation</p>

SAFETY

Review	Inquire
<ul style="list-style-type: none"> • Safety Monitoring Parameters for drug therapy • Signs & symptoms experienced by the patient • Medication History <ul style="list-style-type: none"> ○ Review past and current medication history ○ Review allergy history and past adverse effects to medications • Medical History <ul style="list-style-type: none"> ○ Consider possibility of the medical problem and/or laboratory data abnormality being caused by drug therapy (review likelihood of drug vs. disease- related causes) • Patient factors (diseases, when drugs are taken relative to meals, spacing medications, etc.) • Drug interactions (drug-drug, drug-disease, drug- food, drug-laboratory) 	<p>ADVERSE EFFECTS</p> <p>Is the patient at risk of or experiencing a medical problem/adverse effect that could be caused by drug therapy?</p> <ul style="list-style-type: none"> ○ Consider safety monitoring parameters ○ Consider causality, onset, timeframe, dose, and type of reaction [i.e. dose-related, idiosyncratic, hypersensitivity] <p>NO: Ensure that the dose is appropriate to prevent future adverse effects (consider weight, organ function, age). Ensure the patient is being monitored appropriately.</p> <p>YES:</p> <ul style="list-style-type: none"> • Is the drug dose too high? <ul style="list-style-type: none"> ○ Consider weight, organ function, age, drug kinetics/therapeutic index, duration of therapy • Can the adverse effect be managed? <ul style="list-style-type: none"> ○ Consider dose decrease, patient education, timeframe, need for additional drug therapy, nonpharmacologic intervention ○ If the drug is discontinued, is there another appropriate therapy instead? <p>DRUG INTERACTIONS</p> <p>Is the patient at risk of or experiencing any significant drug interaction?</p> <ul style="list-style-type: none"> ○ Consider drug-drug, drug-food, drug-disease, drug-laboratory test value interactions <p>NO: Continue therapy; it appears appropriate for this patient.</p> <p>YES: Can the drug interaction be managed?</p> <ul style="list-style-type: none"> ○ Consider onset/offset, dosage adjustment, spacing apart, food effect, drug substitution, increased monitoring, therapeutic drug monitoring (TDM) ○ If the drug is discontinued, is there another appropriate therapy instead? <p>MOVE to Adherence</p>

ADHERENCE

Review	Inquire
<ul style="list-style-type: none">• Medication History / Refill History• Medical History• Patient factors	<p>Is the patient able to take drug therapy as prescribed?</p> <p>NO: Consider adverse effects, incorrect dosage form/frequency, directions not understood, cost/drug access, patient preference, beliefs, motivators, ability to self-administer drugs (i.e. age, dexterity, vision, swallowing, and memory).</p> <ul style="list-style-type: none">• Can the medication adherence be improved?<ul style="list-style-type: none">○ Consider medication packaging, caretaker support, drug substitution, motivational interviewing, scheduling, and addressing patient specific barriers <p>YES: Patient seems to managing therapy well.</p>

Development of the Care Plan

- Once the patient and their drug therapy has been assessed, you can move on to developing your care plan
- Care plan consists of: medical conditions and associated drug-relation problems, goals, alternatives, recommendations, monitoring and follow-up
 - If there is a medical condition with no drug-related problem, a monitoring plan is still pertinent to continue to assess indication, efficacy, safety and adherence
- The attached Care Plan Worksheet can be used to assist in this process

Pharmacy Care Plan Worksheet

MEDICAL CONDITIONS & MED- RELATED NEEDS: List and prioritize each medical condition first, followed by any DRPs identified for a given condition. Although some medical conditions may not have a DRP, a care plan is still necessary for ongoing patient monitoring.
DRP Categories: unnecessary drug • drug therapy required • ineffective drug • dose too low • adverse drug reaction/interaction • dose too high • nonadherence

GOALS OF THERAPY: For each medical condition and/or DRP state desired goals of therapy/timeframe.
Goals: cure, prevent, slow/stop progression, reduce/eliminate symptoms, normalize a lab value.
Consider realistic goals determined through patient discussion. Goals of therapy are measurable or observable parameters that are used to evaluate the efficacy and safety of therapy.

ALTERNATIVES: Compare relevant drug and non-drug therapies that will produce desired goals. List the pros and cons of each therapy as well as rationale for each being included.
Consider: Indication • Efficacy • Safety • Adherence • Cost/coverage

RECOMMENDATIONS/ PLAN: In collaboration with the patient and other health care providers, select the best alternative and implement the plan. Provide a rationale for the chosen plan relative to the other alternatives considered.
Consider: Drugs: correct drug, formulation, route, dose, frequency, schedule, duration, medication management. Non-drug: non-drug measures, education, patient referral.

MONITORING PLAN

MONITORING PARAMETERS: Determine the parameters for monitoring efficacy and safety for each therapy. Provide rationale for including this and how you expect the parameter to change.

Consider: Clinical & laboratory parameters • The degree of change • The time frame

FOLLOW-UP: Determine who, how and when follow-up will occur.

Adapted with permission from the Division of Pharmacy Practice, Leslie Dan Faculty of Pharmacy, University of Toronto, 2011.

Purpose of Documentation:

- Provide continuity of care
- Legal and professional accountability
 - Patient records include BOTH dispensing info and a **record of care**
- Record of Care
 - Includes: your thought process, your decisions and why you made them
- Reason for patient assessment/consultation

Preparing for Documentation:

- Before documentation, refer to the pharmacy care plan worksheet you have made for your patient. Decide what is necessary and relevant to document. Not all components of a detailed care plan are necessary to document in the patient's medical record. Depending on type of issues identified, the practice site and the recipient(s) of the note, components of documentation may vary.
- It is generally recommended that documentation be structured as a DAP note (includes sections on data, assessment and plan), however it should be noted that the DAP format of documentation is not always amenable to every type of activity that a pharmacist needs to document.
- Avoid irrelevant repetition of information already documented in the patient record. Ensure to include only the relevant and necessary information required to support your recommendations.
- When dealing with multiple problems:
 - Ensure to prioritize problems and list primary issue first
 - Organize notes well
 - Those with inter-related themes may be merged in one DAP segment
 - Avoid repetition of the same data for multiple problems
 - Avoid lengthy notes

Components:

- Date of encounter and title of note (i.e. Pharmacist Note)
- Time written
- Patient identifier (i.e. name, DOB, PHN)
- Purpose for assessment/consultation
- DATA, ASSESSMENT, PLAN
- Pharmacist identifier (i.e. name, signature, contact number)

Documentation Styles:

- Need to be flexible about different types of documentation styles depending on purpose of documentation and practice site. The DAP format should be used at the Faculty unless otherwise specified.
- Unstructured and semi-structured notes- may be appropriate for a clarification, routine follow-up, patient care activities (i.e. education), an intervention (i.e. IV to PO conversion, dosage adjustment for renal /hepatic dysfunction, use of a non-formulary drug, a drug interaction or adverse effect, a contraindication, therapeutic duplication)
- Pre-printed forms (i.e. medication reconciliation, consultation note, clinic visit sheet, history intake form)
- Systematic documentation
 - DAP (data, assessment, plan)
 - Other types you may see in practice: SOAP (subjective, objective, assessment, plan), FARM (findings, assessment, recommendations, monitoring), DRP (drug-related problem, recommendation, plan), DDAP (drug-related problem, data, assessment, plan)

General Considerations:

- Scope
 - Keep notes focused on the problem/purpose of the note
 - Keep documentation notes within the scope of your practice
 - Avoid making unrealistic suggestions- tailor the note to your patient
- Writing
 - Legible, clear, concise, logical, objective, professional
 - Black ink in charts
 - Errors- cross out errors with a single line and initial
 - Avoid rewriting, deleting, or removing any part of the record
 - Avoid leaving blank spaces/lines when possible
 - Clearly indicate if documentation extends to another page
- Professional Tone
 - Appropriate terms: may benefit from, may improve with, may no longer require, suggest, recommend, consider, patient would prefer, patient unlikely to adhere to, patient stated
 - Avoid these terms: wrong, unnecessary, must, should, inappropriate/ not appropriate, patient does not want
 - Avoid being judgmental, criticizing or blaming others for errors in documentation
 - Focus on solutions, not problems
 - If relaying quotes stated by patient, ensure to indicate this clearly with quotation marks
 - Include significant and relevant information only

- Abbreviations- use common or approved abbreviations only
 - Spell out drug names and directions (i.e. spell out IU, U, QD, qd)
 - Zeros: do not include a zero after a decimal point; always put a zero before a decimal point
 - Avoid other dangerous abbreviations – Do Not Use Dangerous Abbreviations, Symbols and Dose Designations
- Generics vs. Brand Names
 - Generic names are preferred whenever possible; consider setting, intent, and recipient of documentation
 - Do not capitalize in the middle of a sentence
 - Use of Brand names only for longer combination products (e.g. triamterene/hydrochlorothiazide- Dyazide®) or to clarify a specific product/dosage form (i.e. Cardizem CD® vs. Tiazac®)
 - If a brand name is used, follow it by ®
- Document in a timely manner (proximate to encounter)

Documentation examples:

1. Structured DAP note from Community Setting

Scenario: New prescription for regular patient who has just been diagnosed with hypertension.

September 1, 2018 9:30am RX #: 680010 New prescription

D: Mr. Smith received new prescription today for hydrochlorothiazide 25mg daily

- Average BP over last 3 visits: 150/82 (May 1, 2018); 153/79 (June 1, 2018); 157/90 (July 1, 2018)
- SeCr 85 mmol/L; CrCl 95mL/min; K+ 4.2mmol/L (as of yesterday)
- No other medications, medical conditions
- Patient nervous about starting a regular medication

A: Hydrochlorothiazide indicated for hypertension with appropriate starting dose

P: Pharmacist to check Cr, K in 1 week

- Pharmacist to assess for safety in 1 month at next refill (dizziness, postural hypotension) and efficacy in 1 month (BP)
- Pharmacist counselled on how to take medication and common side effects; discussed patient's concerns about starting medication and offered suggestions on how to remember to take medications. At follow-up: reinforce lifestyle (exercise, diet)

Jane Doe Pharm.D. (Ph: 780-555-5555)

2. Unstructured documentation note in Hospital setting (note in patient's e-medical record)

Scenario: changing medication from IV to oral

September 1, 2018 3:30pm Pharmacist Note: Step down therapy

Converted ciprofloxacin 400mg IV BID to ciprofloxacin 500mg po BID. Patient now tolerating oral intake and medications. Afebrile x 48 hrs. E. coli sensitive to ciprofloxacin on lab results.

Jane Doe Pharm.D. (Pager: 780-555-5555)

DAP Note Components:

<p>D- DATA (or description of problem)</p>	<ul style="list-style-type: none"> • Patient concerns/goals/preferences • Relevant subjective and objective data about the patient using structured format* for presenting patient data • Includes only pertinent information based on the type of patient assessment being completed
<p>A- ASSESSMENT</p>	<ul style="list-style-type: none"> • Assessment of the data (what is your professional interpretation of the data presented above)? • Were there any drug-related problems/issues identified? If so, they should be listed here with supporting rationale. Are medical conditions optimally managed? What additional information/education does the patient require? • Identification of relevant therapeutic goals/targets/desired outcomes are also appropriate to list in this section • Avoid introducing new data here
<p>P - PLAN</p>	<ul style="list-style-type: none"> • Clearly number items in plan in appropriate order (e.g. priority, temporal sequence or by disease state groupings) • Recommendations (drug and non-drug) • Include drug regimen/product, dose, dosage form, route, duration • Necessary patient education or referrals • Monitoring plan and follow-up (tailor to practice site)

**use the section headings of the Patient Assessment if applicable to the Pharmacotherapy Workup and Care Plan*

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