

Polypharmacy Project

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N322 Introduction to Pharmacology

Lakeview College of Nursing

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Client scenario #5

Patient: Lucy is a 68 year old female, who lives at home with daughter. She smokes 1 pack a day of cigarettes, and has for 36 years. Lucy has anxiety and has been having increased difficulty sleeping lately. She has an extensive past medical history. She was recently hospitalized and diagnosed with community acquired pneumonia.

Medical hx: hypertension, insomnia, sleep apnea (using C-pap but non-compliant), chronic obstructive pulmonary disease, arthritis, uses oxygen @ 2L nasal cannula

Wt 300 pounds Ht 5ft 2in

Allergies: Seasonal

Drug #1	Drug Name (Generic): Hydrochlorothiazide Drug Name (Trade): Microzide Drug Class: Antihypertensive; diuretic
How is the medication taken: (include dose, route, and frequency)	50 mg PO BID
Specific Directions not included above:	Adults should not use more than 50 mg of hydrochlorothiazide per day for hypertension management - daily doses over 25 mg increase the risk for electrolyte imbalance (Vallerand & Sanoski, 2023, p. 462). Medication should be administered in the morning to minimize sleep disruptions (Vallerand et al., 2023). Medication can be given with food or milk to minimize gastrointestinal (GI) irritation. Take medication at the same time every day (Vallerand et al., 2023).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Medication has a potential interaction with zolpidem. Concurrent use of medication with zolpidem can disrupt sleeping patterns due to frequent urination (Vallerand et al., 2023). Medication has a potential interaction with budesonide and prednisone. Concurrent use of medication with corticosteroids increases the risk for hypokalemia (Vallerand et al.,

	<p>2023).</p> <p>Medication has a potential interaction with meloxicam. Concurrent use of hydrochlorothiazide with NSAIDs decreases the medication’s diuretic effect (Vallerand et al., 2023).</p> <p>Medication has a potential interaction with Tylenol #3. Concurrent use of hydrochlorothiazide with Tylenol #3 can decrease the effects of the diuretic (Jones & Bartlett, 2022, p. 311).</p> <p>Medication can interact with albuterol sulfate – concurrent use can cause severe hypokalemia (Jones & Bartlett, 2022, p. 32).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Increased risk for hypotension when used with alcohol (Vallerand et al., 2023).</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>While there are no specific contraindications in the client's past medical history, this medication has the potential for increased effects and/or adverse events when used in older adults.</p> <p>(Frandsen & Pennington, 2020).</p>
<p>What is the indication for use of this medication based on the client’s past medical history? (If unable</p>	<p>One of hydrochlorothiazide’s indications for use is in individuals with hypertension to decrease blood pressure. The client is using the medication for hypertension</p>

<p>to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>management which is listed on her past medical history (Vallerand et al., 2023).</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. It is important for the client to maintain continuous use of this medication, even if signs and symptoms of hypertension improve. This medication is used for hypertension management but is not a cure for hypertension (Vallerand et al., 2023).</p> <p>2. Educate the client on monitoring weight bi-weekly and to notify their provider on any unexpected increases or decreases (Vallerand et al., 2023).</p>
<p>How much would medication cost per month if paying out of pocket?</p>	<p>\$10 for 45-day generic supply</p> <p>Medication would cost \$7.5 for a 30-day supply</p> <p>(Vallerand et al., 2023)</p>

<p>Drug #2</p>	<p>Drug Name (Generic): Simvastatin</p> <p>Drug Name (Trade): Zocor</p>
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	Drug Class: lipid-lowering agents; HMG-CoA reductase inhibitors
How is the medication taken: (include dose, route, and frequency)	40 mg PO HS
Specific Directions not included above:	<p>Medication should be taken once daily in the evening (Vallerand et al., 2023).</p> <p>Medication can be taken with or without food (Vallerand et al., 2023)</p> <p>Grapefruit and/or grapefruit juice should be avoided when using medication (Vallerand et al., 2023).</p>
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Medication does not interact with any other listed medications.
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	<p>Medication interacts with grapefruit and/or grapefruit juice. If the patient is an avid grapefruit consumer, educate on the increased risk for myopathy and rhabdomyolysis (Vallerand & Sanoski, 2023, p. 669).</p> <p>While there are no specific lifestyle interactions, the patient should use this medication in conjunction with healthy lifestyle changes, including tobacco cessation and alcohol use (Vallerand et al., 2023).</p>
Does any of the client's past medical history	No contraindications from client's past medical history.

contradict the use of this medication?	
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	While the client has not been diagnosed with high cholesterol, this medication is indicated for cholesterol management. This medication has the greatest effect on lowering low-density lipoprotein (LDL) cholesterol and triglycerides. Medication also slightly raises high-density lipoprotein (HDL) cholesterol levels (Vallerand et al., 2023).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<p>1. Educate the patient that cholesterol and triglyceride levels will need to be monitored while taking this medication. The patient will need to have cholesterol and triglyceride labs drawn before medication initiation, four weeks after initiation, and then periodically during medication use (Vallerand et al., 2023).</p> <p>2. Educate the patient on the signs and symptoms of potentially serious muscle issues. The client should alert the provider of any new, unexplained muscle pain or weakness, and if these symptoms are occurring with fatigue and/or fever (Vallerand et al., 2023).</p>
How much would medication cost per month if paying out of pocket?	\$25.32 for 30 day generic supply (Vallerand et al., 2023)
Drug #3	Drug Name (Generic): Prednisone Drug Name (Trade): Sterapred

	Drug Class: Anti-inflammatory (steroidal); immune modifier
How is the medication taken: (include dose, route, and frequency)	10 mg PO daily tapering dose (12 day dose)
Specific Directions not included above:	<p>Medication should be taken with food to decrease risk for GI irritation (Vallerand et al., 2023).</p> <p>If using delayed release tablets, medication should be swallowed whole - do not crush or chew (Vallerand et al., 2023).</p> <p>For daily ordered doses, administer in the morning (Vallerand et al., 2023).</p> <p>Tapered dose schedule:</p> <ul style="list-style-type: none">• Days 1 and 2: take 6 tablets• Days 3 and 4: take 5 tablets• Days 5 and 6: take 4 tablets• Days 7 and 8: take 3 tablets• Days 9 and 10: take 2 tablets

	<ul style="list-style-type: none"> • Days 11 and 12: take 1 tablet
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Medication has a potential interaction with hydrochlorothiazide - concurrent use increases risk of hypokalemia (Vallerand & Sanoski, 2023, p. 374).</p> <p>Medication has a potential interaction with meloxicam - an non-steroidal anti-inflammatory drug (NSAID). Concurrent use of prednisone with NSAIDs increases the risk of adverse GI events and adverse bleeding events (Vallerand & Sanoski, 2023, p. 374).</p> <p>Medication has a potential interaction with the antibiotic ciprofloxacin - a fluoroquinolone. Concurrent use of prednisone with ciprofloxacin may increase risk of tendon rupture (Vallerand & Sanoski, 2023, p. 374).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Alcohol should be avoided while using the medication for clients with known intolerance (Vallerand et al., 2023).</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>The client was recently diagnosed with community-acquired pneumonia, and is currently recovering from the illness. Long-term use of corticosteroids like prednisone causes further immunosuppression and can cause delayed healing from infection (Frandsen & Pennington, 2020).</p>

	<p>A side effect of prednisone is restlessness, and this side effect may exacerbate the client's diagnosed insomnia (Vallerand et al., 2023).</p>
<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>Prednisone has multiple uses, one of which being an anti-inflammatory medication. One indication of use would be to manage acute episodes of arthritis, which is listed on the patient's past medical history (Vallerand et al., 2023).</p> <p>Additionally, new research has shown that corticosteroid use could be useful in improving outcomes in patients with pneumonia, especially when initiated within 48 hours (Mayo Clinic, 2022). Although use should be limited, as continued, long-term use of corticosteroids can cause immunosuppression and delay wound healing (Frandsen & Pennington, 2020).</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<ol style="list-style-type: none"> 1. Educate the patient on the importance of medication adherence and the purpose of tapering doses. Provide rationale to the patient that tapering doses decreases risk of adrenal insufficiency, which can occur if the medication is stopped suddenly (Vallerand et al., 2023). 2. Educate the patient that the medication causes immunosuppression and to take caution when around sick individuals to minimize risk of acquiring an illness.

	(Vallerand et al., 2023).
How much would medication cost per month if paying out of pocket?	\$10.40 for 21 dose-12 day supply (Drugs.com, 2023)
Drug #4	Drug Name (Generic): Budesonide Drug Name (Trade): Plumericort Flexhaler Drug Class: Anti-inflammatory (steroidal); corticosteroid
How is the medication taken: (include dose, route, and frequency)	160/4.5 mcg 2 puffs via inhalation BID
Specific Directions not included above:	The patient should wait at least one minute between inhalations of medication. Inhaler should not be shaken and a spacer should not be used. (Vallerand et al., 2023)
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Medication has a potential interaction with hydrochlorothiazide - concurrent use of steroids with hydrochlorothiazide increases risk of hypokalemia (Vallerand et al., 2023). Medication has a potential interaction with meloxicam. Concurrent use of corticosteroids with NSAIDs increases the risk of adverse bleeding events (Vallerand et al., 2023). Medication has a potential interaction with ciprofloxacin. Concurrent use of

	corticosteroids with ciprofloxacin increases risk of tendon rupture (Vallerand et al., 2023).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	While it is not listed as a specific interaction, patients should refrain from smoking as it is a known respiratory irritant (Vallerand et al., 2023).
Does any of the client's past medical history contradict the use of this medication?	The client was recently diagnosed with community-acquired pneumonia, and is currently recovering from the illness. Long-term use of corticosteroids like budesonide causes further immunosuppression and can cause delayed healing from infection (Frandsen & Pennington, 2020). Potential side effects of inhaled corticosteroids include insomnia and restlessness, and these side effects may exacerbate the client's diagnosed insomnia. (Vallerand & Sanoski, 2023, p. 366).
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	This medication is indicated for chronic, persistent asthma. (Vallerand et al., 2023). Due to the medications anti-inflammatory properties, this client is using the medication for management of her chronic obstructive pulmonary disease (COPD). According to Frandsen and Pennington (2020), inhaled oral corticosteroids like budesonide are most helpful in acute exacerbations of COPD, and additionally can help improve pulmonary

	function in some patients (p. 344).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Educate the patient that this medication is not to be used for acute asthma attacks, and does not have acute bronchodilation properties (Vallerand et al., 2023). 2. Educate the patient to rinse mouth with water after using the medication to decrease the risk of oral fungal growth, including candida (Vallerand et al., 2023).
How much would medication cost per month if paying out of pocket?	\$75.95 for 60 mL of budesonide inhalation suspension (Drugs.com)
Drug # 5	Drug Name (Generic): Meloxicam Drug Name (Trade): Mobic Drug Class: Nonopioid analgesic; Non-steroidal anti-inflammatory drug (NSAID)
How is the medication taken: (include dose, route, and frequency)	15 mg PO daily
Specific Directions not included above:	Medication can be administered with or without food (Vallerand et al., 2023) Ensure good hydration to minimize risk for renal impairment (Vallerand et al., 2023).
Does this medication interact with any other medication(s) on this list? (see rubric for further	Medication has a potential interaction with prednisone. Concurrent use of meloxicam with corticosteroids increases the risk of an adverse bleeding event (Vallerand &

<p>instruction)</p>	<p>Sanoski, 2023, p. 834).</p> <p>Medication has a potential interaction with budesonide. Concurrent use of meloxicam with corticosteroids increases the risk of an adverse bleeding event (Vallerand & Sanoski, 2023, p. 834).</p> <p>Medication has a potential interaction with hydrochlorothiazide. Concurrent use of meloxicam with hydrochlorothiazide may decrease the effects of the diuretic. (Vallerand & Sanoski, 2023, p. 834).</p> <p>Medication has a potential interaction with ciprofloxacin. When high doses of ciprofloxacin are combined with meloxicam, there is an increased risk of seizures (Jones & Bartlett, 2022, p. 277).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Alcohol use should be avoided when using meloxicam (Vallerand et al., 2023).</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>Insomnia is a potential adverse effect of meloxicam, and could exacerbate the client’s past medical history of insomnia (Frandsen & Pennington, 2020).</p> <p>While it is not specifically contraindicated, meloxicam should be used cautiously in patients with hypertension (Vallerand et al., 2023).</p>

	Older adults should use meloxicam cautiously due to increased risk for GI bleeding (Vallerand & Sanoski, 2023, p. 834).
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	This medication is indicated for use in patients with arthritis. The anti-inflammatory and pain relieving effects of meloxicam can help address the signs and symptoms of arthritis (Vallerand et al., 2023).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Educate the patient that the medication can cause fluid retention and edema, which can worsen hypertension. The patient should monitor for these side effects and monitor blood pressures periodically while using meloxicam (Vallerand et al., 2023). 2. Educate the patient that pain relieving effect is delayed, and may take two to three hours to reach the desired effect (Vallerand et al., 2023).
How much would medication cost per month if paying out of pocket?	\$2.22 for 30 day generic supply. (Vallerand et al., 2023)
Drug # 6	Drug Name (Generic): Zolpidem Drug Name (Trade): Ambien

	Drug Class: Sedative-Hypnotics
How is the medication taken: (include dose, route, and frequency)	The patient takes 10 mg PO PRN.
Specific Directions not included above:	Take medication directly at bedtime for effective sleep. Take no more than once daily. (Jones & Bartlett, 2022).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Zolpidem can interact with Hydrochlorothiazide since Hydrochlorothiazide can disrupt sleep patterns due to frequent urination (Stewart, 2022).</p> <p>Taking zolpidem with ciprofloxacin can cause, “Increased plasma levels of these drugs and increased risk of serious adverse reactions including toxicity” (Jones & Bartlett, 2022, p. 277).</p> <p>Cheratussin interacts with Zolpidem in which it can cause serious CNS depression leading to respiratory depression, coma, and death (Stewart, 2022).</p>
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	<p>Zolpidem does not have any interactions with the respiratory system for the client’s smoking habit since Zolpidem does not cause respiratory depression (Stewart, 2022).</p> <p>Zolpidem can cause a hypnotic/sedative effect, so the client should not drive or be</p>

	<p>mobile for 6-8 hours after taking (Vallerand et al., 2023).</p> <p>Zolpidem should not be taken with alcohol, as concurrent use can increase the sedative effect of the medication (Vallerand et al., 2023).</p>
Does any of the client's past medical history contradict the use of this medication?	Because the client is 68 years old and a woman, receiving 10mg of Zolpidem is a very large dosage for her (Stewart, 2022).
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	The client has difficulty sleeping and has been diagnosed with insomnia, and this medication is indicated for use as a sleep aid (Jones & Bartlett, 2022).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Take medication exactly as prescribed and do not increase dosage (Jones & Bartlett, 2022, p. 1398). 2. Only take immediately before bedtime (Jones & Bartlett, 2022, p. 1398).
How much would medication cost per month if paying out of pocket?	For a container of six 10mg pills, it is \$14.05. If taken every night, the total monthly cost is around \$70.25 (Stewart, 2022).
Drug # 7	<p>Drug Name (Generic): Ciprofloxacin</p> <p>Drug Name (Trade): Cipro</p>

	Drug Class: Fluoroquinolones
How is the medication taken: (include dose, route, and frequency)	Medication is taken by 750 mg by mouth every 12 hours for the next seven days.
Specific Directions not included above:	Medication can be taken with or without food (Jones & Bartlett, 2022).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Taking ciprofloxacin with zolpidem can cause, “Increased plasma levels of these drugs and increased risk of serious adverse reactions including toxicity” (Jones & Bartlett, 2022, p. 277).</p> <p>Ciprofloxacin has a potential interaction with the corticosteroids prednisone and budesonide. Concurrent use of corticosteroids with ciprofloxacin may increase risk of tendon rupture (Vallerand et al., 2023).</p> <p>In cases where high doses of Ciprofloxacin is combined with Meloxicam, there is an increased risk of seizures (Jones & Bartlett, 2022, p. 277).</p>
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Due to the patient needing to take this medication every 12 hours, it would be difficult for the patient to do this and maintain an effective sleep pattern with Zolpidem.
Does any of the client’s past medical history contradict the use of this medication?	No other past medical history contraindicated the use of this medication.
What is the indication for use of this medication	Patient is on Ciprofloxacin due to her recent diagnosis of community acquired

<p>based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>pneumonia.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. Finish entire medication prescription to prevent antibiotic resistance (Jones & Bartlett, 2022, p. 277).</p> <p>2. Avoid excessive exposure to sunlight (Durbin, 2021).</p>
<p>How much would medication cost per month if paying out of pocket?</p>	<p>For 750 mg, it would cost #39.28 for a quantity of 50 tablets, which is equivalent to a one-month supply (Durbin, 2021).</p>
<p>Drug # 8</p>	<p>Drug Name (Generic): Codeine and Guaifenesin</p> <p>Drug Name (Trade): Cheratussin AC</p> <p>Drug Class: Antitussives</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>1 teaspoon by mouth every four hours as needed.</p>
<p>Specific Directions not included above:</p>	<p>Cheratussin is not scheduled. Only take Cheratussin as needed.</p> <p>Take medication with food to prevent nausea (Jones & Bartlett, 2022, p. 312).</p>

<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Cheratussin interacts with Zolpidem in which it can cause serious CNS depression leading to respiratory depression, coma, and death (Jones & Bartlett, 2022).</p> <p>Tylenol #3 can interact with Cheratussin since Tylenol #3 also contains codeine.</p> <p>Cheratussin and Tylenol #3 should not be taken together and codeine dosage should be monitored to decrease risk of overdose (Jones & Bartlett, 2022, p. 311).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Though it does not apply directly to the patient, Cheratussin should not be taken with alcohol (Jones & Bartlett, 2022, p. 312).</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>Patient's history of sleep apnea and COPD are contraindicated to Cheratussin due to the respiratory depressant effects of the codeine in Cheratussin.</p> <p>(Jones & Bartlett, 2022).</p>
<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>Client is taking Cheratussin PRN due to recent diagnosis of pneumonia.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. Take Cheratussin exactly as prescribed to decrease risk of adverse effects and</p>

	<p>addiction (Jones & Bartlett, 2022, p. 312).</p> <p>2. Do not take Cheratussin around the time of taking Zolpidem (Jones & Bartlett, 2022, p. 312).</p>
How much would medication cost per month if paying out of pocket?	The patient can purchase a 118mL bottle of Cheratussin for \$14 (Vallerand et al., 2023).
Drug # 9	<p>Drug Name (Generic): Acetaminophen with Codeine</p> <p>Drug Name (Trade): Tylenol #3</p> <p>Drug Class: Narcotic Analgesic</p>
How is the medication taken: (include dose, route, and frequency)	Tylenol #3 is one pill taken by mouth every 4-6 hours as needed for pain management.
Specific Directions not included above:	Tylenol #3 is not a scheduled medication. Take medication as needed for pain. Do not increase dosage (Jones & Bartlett, 2022).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Tylenol #3 interacts with Hydrochlorothiazide in that it makes antidiuretics less effective (Jones & Bartlett, 2022, p. 311).</p> <p>Tylenol #3 can interact with Cheratussin since Cheratussin also contains codeine.</p> <p>Cheratussin and Tylenol #3 should not be taken together and codeine dosage should be monitored to decrease risk of overdose (Jones & Bartlett, 2022, p. 311).</p>

<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>No interactions that apply to the patient.</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>The codeine in the Tylenol #3 can interact with respiratory patterns since codeine is a CNS depressant. Due to the patient's past history of COPD and sleep apnea. Because of this, the patient should refrain from taking Tylenol #3 near bedtime.</p>
<p>What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>Patient most likely takes Tylenol #3 for pain management from arthritis or pain from her recent diagnosis of community-acquired pneumonia.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. Take medication as ordered. Do not increase dosage by any means (Jones & Bartlett, 2022, p. 313).</p> <p>2. Advise patient to be careful and avoid hazardous activities while taking Tylenol #3.</p> <p>Since Tylenol #3 has CNS depressive effects, the patient should be careful getting around (Jones & Bartlett, 2022, p. 313).</p>
<p>How much would medication cost per month if paying out of pocket?</p>	<p>The average price of Tylenol #3 is \$10 for 15 tablets (<i>Tylenol with Codeine #3 prices, coupons, Copay & Patient Assistance, n.d.</i>). If the patient took on average two tablets daily, the price monthly would be \$40.</p>

Drug # 10	Drug Name (Generic): Albuterol Sulfate Drug Name (Trade): ProAir, or AccuNeb Drug Class: Adrenergic, Bronchodilator
How is the medication taken: (include dose, route, and frequency)	Using a nebulizer machine, the patient breathes in 2.5 mg of the nebulized albuterol liquid through their mouth to increase bronchodilation and breathing.
Specific Directions not included above:	Use medications as needed every 4-6 hours (Jones & Bartlett, 2022).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Albuterol sulfate can interact with hydrochlorothiazide in which taking both can cause severe hypokalemia (Jones & Bartlett, 2022, p. 32).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Albuterol Sulfate can interact with caffeine containing products, such as coffee, tea, etc. and increase the stimulant effects of these products (Vallerand et al., 2023).
Does any of the client's past medical history contradict the use of this medication?	While it is not specifically contraindicated, albuterol sulfate should be used cautiously in clients with hypertension, and with use in older adults (Vallerand et al., 2023).
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the	The patient is taking albuterol sulfate due to issues with breathing possibly related to COPD and her recent diagnosis of pneumonia.

medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. Proper use of a nebulizer machine (Jones & Bartlett, 2022, p. 32). 2. Monitoring the signs and symptoms of hypokalemia (Jones & Bartlett, 2022, p. 32).
How much would medication cost per month if paying out of pocket?	The patient would pay on average \$16 for 90mL of albuterol solution (<i>Albuterol prices, coupons, Copay & Patient Assistance, n.d.</i>). The dosage for this prescription is 2.5mg/3mL.

Is there anything about this medication regimen scenario that might indicate a potential difficulty in maintaining compliance with the orders as listed?

There are various aspects of this medication regimen that may indicate difficulty in medication adherence for the client. One difficult aspect is the number of medications and routes of administration. On a normal day, this client could be taking approximately ten pills orally, a liquid suspension, and two different inhalers. These medications are also administered at various points throughout the day, and some only as the client needs them. Additionally, the client is on a twelve day tapering dose of prednisone and a seven day dose of ciprofloxacin, both medications which the client needs to ensure she finishes, and maintains strict medication adherence to. Moreover,

cost is also a factor that may impact medication compliance. If this individual was without health insurance with prescription coverage, she would be paying over \$300 monthly for medication. For an older adult patient who was recently released from the hospital, this monthly payment simply may be too much to handle.

Is there anything about this medication regimen scenario that might assist the client in maintaining the medication regimen as ordered?

There are multiple factors that may assist the client in maintaining her medication regimen. One large factor is her recent hospital stay and diagnosis with pneumonia. The recent hospital stay is fresh in the client's mind, and provides a rationale for continuing medications such as the ciprofloxacin and corticosteroids. Another factor that may assist the client with maintaining the medication regimen is the use of multiple medications for respiratory improvement. For clients with COPD, breathing can be difficult. Maintaining medication adherence can provide the client with an easier breathing effort. Lastly, the ordered medication regimen includes multiple medications that provide relatively quick relief to some of the clients conditions. For example, the ordered meloxicam provides pain relief, the ordered zolpidem provides insomnia relief, and the ordered codeine and guaifenesin can provide mucous relief. Adhering to these and other listed medications will provide the client with a noticeable improvement to her symptoms.

What suggestions might you make to the prescriber and/or client (or questions you might ask the prescriber) to help this client scenario? (think about decreasing the potential for interaction(s) through medication reduction, other potential medications, diet changes, lifestyle changes, etc)

There are various suggestions that our group could make to the prescriber and/or the client. For the provider, we would start with substituting the hydrochlorothiazide for another antihypertensive medication. The hydrochlorothiazide interacts with multiple medications in the clients regimen, puts her at risk for electrolyte imbalance, and is being used at too high of a dose – another antihypertensive may help mitigate some of these negatives (Vallerand & Sanoski, 2023). Additionally, our group would suggest that the physician remove one of her steroids until her pneumonia was officially cleared. Ideally we would like the prednisone paused, as the inhaled corticosteroid provides relief to the client’s COPD as well as overall pulmonary function. Our group would also suggest to the provider that the client is put on an antitussive that does not include codeine, due to the increased sedative effects of the drug when combined with other drugs on the medication regimen (Jones & Bartlett, 2022). In general, the provider should also be questioned on the size of the drug regimen, and if there is a potential for simplification.

There are also some suggestions and/or education that may help the client. To start, the client should be encouraged and educated on tobacco cessation. Even though the client has smoked for 36 years and does not show signs of wanting to quit, the client can be educated that quitting smoking would help improve many of her current health conditions. Additionally, dietary changes can be

suggested to the client. A more healthy, lower fat diet would likely help the client decrease the need for some of her current medications, including simvastatin.

What would the patients monthly out of pocket expense for all 10 medications? (Total Cost for all 10 meds)?

In total, the patient would be paying about \$300.92.

Reflective Statement of Experience:

This polypharmacy assignment really showed how so many common medications interact in such a way that can be unsafe or dangerous for the patient. For our patient being elderly, she is at even more risk for toxic and adverse effects - for example, hydrochlorothiazide has greater effects in older adults. Not only do the medications have a physical effect, but can have an impactful financial impact on the patient. As a student nurse and in the future as a professional nurse, it is our duty to advocate for the patient and alert providers to unmanageable medication regimens.

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N322 Polypharmacy Grading Rubric

Criteria	Excellent 40 points	Acceptable 31-39 points	Unacceptable 0-30 points	Points Earned
<p>Each drug should have a completed breakdown within the tables provided, which includes the following:</p> <ul style="list-style-type: none"> • Drug class • Generic name • Trade name • How is the medication taken (include dose, route, frequency) 	All key components were addressed within the paper and were accurate.	The student provided the required information for some of the medications, but not all and/or the answers provided were inaccurate. (Each individual component for each medication is worth one point)	The student failed to address a sufficient number of the listed components within the paper and/or the components were addressed but were inaccurate. (Each individual component for each medication	___/40

Criteria	Excellent 10 points	Acceptable 8-10 points	Unacceptable 0 - 7 points	Points Earned
<p>Specific Directions not included above:</p> <ul style="list-style-type: none"> Is there any type of medication on the patient list that have specific directions? <p>(before bed, before breakfast, 30 minutes before meals, etc..)</p>	All key components were addressed within the paper.	The student did list some of the medications that required specific directions, however some of the medications included specific directions that were not addressed and/or were inaccurate. (For each medication this question if worth one point)	is worth one point) Student failed to answer the questions and/or the answers were inaccurate. (For each medication this question is worth one point)	___/10
Criteria	Excellent 0 points	Acceptable 16-19	Unacceptable 0-15 points	Points Earned
<p>Does this medication have any potentially serious interactions with any other medication(s) on this list, and/or potential interactions that should be closely monitored due to co-administration?</p> <ul style="list-style-type: none"> Do any of the medications interact with each other? <p>(Please note: if there is an interaction between two</p>	All medications reviewed and student explained medication interactions.	The student did list some of the potential interactions of the medication(s), but failed to address all potential interactions that are serious and/or need close monitoring. (for each medication listed this question is worth two points)	Student failed to answer question and/or The student did list some of the potential interactions of the medication(s), but failed to address all potential interactions that are serious and/or need close monitoring. (for each medication	___/20

<p>medication, you MUST list that interaction on BOTH medications to receive full credit. You may utilize the same verbiage/wording on each medication, we want to know you are thinking about it when considering each medication)</p>			<p>listed this question is worth two points)</p>	
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Criteria	Excellent 5 points	Acceptable 4 points	Unacceptable 0 -3 points	Points Earned
<p>Lifestyle interactions:</p> <ul style="list-style-type: none"> • What lifestyle factors counteract with the medications? <p>(tobacco user, ETOH use - 3 beers daily)</p>	<p>Student showed knowledge why lifestyle would counteract with medications</p>	<p>The student listed lifestyle interactions for some of the medications, but not all and/or the interactions listed were not priority or were incorrect. (For each medication, this question is worth half a point)</p>	<p>Student failed to answer question or the student listed lifestyle interactions for some of the medications, but not all and/or the interactions listed were not priority or were incorrect. (For each medication, this question is worth half a point)</p>	<p>___/5</p>

Criteria	Excellent 10 points	Average 8-9	Unacceptable 0-7 points	Points Earned
<ul style="list-style-type: none"> Does any of the client's past medical history contradict the use of this medication? 	Student showed knowledge why the client's past medical history would contradict the use of the medication(s).	Student provided answers to the question(s), but failed to answer all the questions and/or the answers provided were inaccurate. (For each medication this question is worth one point)	Student failed to answer question or Student provided answers to the question(s), but failed to answer all the questions and/or the answers provided were inaccurate. (For each medication this question is worth one point)	___/10
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
<ul style="list-style-type: none"> What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general) 	Student showed knowledge of medications and what conditions corresponds with medications	The student provided appropriate indications for some of the medications, but failed to capture all of the appropriate indications for use. (For each medication this question is worth one point)	Student failed to answer the question or The student provided appropriate indications for some of the medications, but failed to capture all of the appropriate indications for use. (For each medication this question is worth one point)	___/10
Criteria	Excellent 20 points	Acceptable 16-19 points	Unacceptable 0-15 points	Points Earned

<p>What would you teach the client about taking this medication?</p> <ul style="list-style-type: none"> • What education is needed for the medication? (For each medication listed the student must prioritize two topics for client education) <p>(You must consider all component(s) of the medication list when answering this question... if there are potential interactions with other medication this may be a priority over general education for this one medication)</p>	<p>Student showed the importance of medication education, and appropriate prioritized client education for the scenario provided.</p>	<p>The student provided some appropriate education for the client, but failed to capture all of the appropriately prioritized education for the client. (Each topic of education is worth one point)</p>	<p>Student failed to answer the question OR The student provided some appropriate education for the client, but failed to capture all of the appropriately prioritized education for the client. (Each topic of education is worth one point)</p>	<p>___/20</p>
<p>Criteria</p>	<p>Excellent 10 points</p>	<p>Acceptable 8-9 points</p>	<p>Unacceptable 0-7 points</p>	<p>Points Earned</p>
<p>Is there anything about this medication regimen/ scenario that might indicate a potential difficulty in maintaining compliance with the orders as listed?</p> <ul style="list-style-type: none"> • Why would the patient have difficulty maintaining the 	<p>Student had knowledge on why a patient would have difficulty with medication regiment</p>	<p>The student indicated some potential reasons that the client may have difficulty, however the student failed to indicate a reason OR an appropriate reason for some of the medications (This question is worth one point for each medication)</p>	<p>Student failed to answer the question OR the student indicated some potential reasons that the client may have difficulty, however the student failed to indicate a reason OR an appropriate reason for some of the medications (This question is</p>	<p>___/10</p>

<p>medication regimen? (Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc)</p>			<p>worth one point for each medication)</p>	
<p>Criteria</p>	<p>Excellent 10 points</p>	<p>Acceptable 8-9 points</p>	<p>Unacceptable 0-7 points</p>	<p>Points Earned</p>
<p>Is there anything about this medication regimen/ scenario that might assist the client in maintaining the medication regimen as ordered?</p> <ul style="list-style-type: none"> • What factors are present to remain compliant? <p>(Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc.</p>	<p>Student had knowledge on medication compliance</p>	<p>The student answered the question appropriately for some of the medications but failed to indicate all of the factors that are present that assist with compliance. (This question is worth one point for each medication)</p>	<p>Student failed to answer the question OR The student answered the question appropriately for some of the medications but failed to indicate all of the factors that are present that assist with compliance. (This question is worth one point for each medication)</p>	<p>___/10</p>
<p>Criteria</p>	<p>Excellent 10 points</p>	<p>Acceptable 8-9 points</p>	<p>Unacceptable 0 points</p>	<p>Points Earned</p>
<ul style="list-style-type: none"> • How much would this medication cost per month if the patient 	<p>Student showed research on medication costs</p>	<p>The student provided accurate research for some of the medications, but</p>	<p>Student failed to answer the question OR The student provided accurate research</p>	<p>___/15</p>

<p>were to pay for them out of pocket? (best assessment based off of research)</p> <ul style="list-style-type: none"> • What would the client’s monthly out of pocket expense for all 10 medications? 		<p>failed to provided research for all medications (This question is worth one point for each medication, with the total cost being worth 5 points)</p>	<p>for some of the medications, but failed to provided research for all medications (This question is worth one point for each medication, with the total cost being worth 5 points)</p>	
<p>Criteria</p>	<p>Excellent 20 points</p>	<p>Acceptable 16-19 points</p>	<p>Unacceptable 0-15 points</p>	<p>Points Earned</p>
<p>The student must appropriately format the paper and include all of the following:</p> <ul style="list-style-type: none"> • Entire document must include appropriate citations, reference page, title page, page numbers, running head, all with appropriate formatting per APA (10 points - each missing or inaccurate portion per APA is worth one point) • The student provided a rubric attached for grading (3 points) • The student included the provided client 	<p>The document included a title page, the rubric, the client scenario, a reference page which included five references that were cited within the document. APA formatting was consistent with the APA manual.</p>	<p>The document did not meet all of the criteria for formatting/ referencing. See “criteria” to the left for further breakdown.</p>	<p>The document did not meet all of the criteria for formatting/ referencing. See “criteria” to the left for further breakdown.</p>	<p>___/20</p>

<p>scenario on page two of the document (2 points)</p> <ul style="list-style-type: none"> The paper included a minimum of five references which were cited within the document (each reference with one citation is worth 5 points) 				
<p>Criteria</p>	<p>Excellent 20 points</p>	<p>Acceptable 16-19 points</p>	<p>Unacceptable 0-15 points</p>	<p>Points Earned</p>
<p>What suggestions might you make to the prescriber and/or client (or questions you might ask the prescriber) to help this client scenario? (think about decreasing the potential for interaction(s) through medication reduction, other potential medications, diet changes, lifestyle changes, etc)</p> <p>Elaborate on this, explaining why you feel it should be addressed, why it is priority and provide evidence behind your presentation.</p>	<p>The student was able to identify one potential idea or question to present to the prescriber or client. This question showed evidence of good critical thinking.</p>	<p>The student was able to identify one potential idea or question to present to the prescriber or client, however there was a much higher priority question/suggestion/issue within the scenario that should have been addressed.</p>	<p>The student failed to answer the question OR the student answered the question, however the students answer was dangerously inaccurate.</p>	<p>____/20</p>

Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
<ul style="list-style-type: none"> Reflective statement of experience should include the following: <p>-insight into the project itself (a specific example within the project and its implications) -A basic understanding of polypharmacy -A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver</p>	<p>The students provided reflection showed good insight into the project itself, polypharmacy, and the nurses role in client advocacy</p>	<p>The student provided a reflection, however the reflection lacked one of the following -insight into the project itself (a specific example within the project and its implications). -A basic understanding of polypharmacy -A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver</p>	<p>Student failed to reflect on their project OR the student addressed only of the topics of reflection</p>	<p>___/10</p>
<p>Total Points</p>				<p>___/200</p>