

Polypharmacy Project

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N322 Introduction to Pharmacology

Lakeview College of Nursing

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April 5, 2022

CLIENT SCENARIO:

Amy is an 87-year-old female that lives in an assisted living facility. Part of the living arrangements in the facility is a pharmacy service that delivers their meds in pre-filled medication packages (accu-pacs) every week. These packages are labeled with the date and time of administration. (see example picture attached). Amy is expected to take her medications independently. She has no family nearby to assist her. She is followed by her primary care physician as well as an endocrinologist, whom she currently visits monthly as her diabetes is not well controlled. Amy does not have a driver's license, and is experiencing significant difficulty with her vision r/t diabetic retinopathy. Amy drinks approximately 3 glasses of wine a day. Amy does have a history of smoking cigarettes (26 pack years). She quit 10 years ago, and smoke 1 pack per day for 26 years). She denies illicit drug use.

Insurance: Amy has good health insurance that covers the cost of her prescription medications with little co-pay.

Allergies: Sulfa

Diet: Controlled carbohydrates

Medical diagnosis: Type II Diabetes, diabetic retinopathy, diabetic neuropathy, osteoporosis, depression

Current medications include the following:

Aspirin 81 mg by mouth two times a day

Calcium 500 mg by mouth two times a day

Celexa 40 mg by mouth daily

POLYPHARMACY

Docusate Sodium 100 mg by mouth two times a day

Glyburide 10 mg by mouth one time a day

Levemir 15 units by subcutaneous injection daily at bedtime

Novolog per sliding scale by subcutaneous injection before meals and at bedtime (AC & HS)

- 70-139 = 0 units, 140-180= 2 units, 181-240 = 3 units, 241-300 = 4 units, 301-350 = 6 units, 351 - 400 = 8 units

Ranibizumab 0.5 mg via intravitreal injection (given at doctor's office) once a month

Duloxetine 60 mg by mouth every day

Ibuprofen 400 mg by mouth every six hours as needed

Drug #1	Drug Name (Generic): aspirin Drug Name (Trade): Ecotrin Drug Class:
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	<ul style="list-style-type: none"> • Pharmacological class: Salicylate • Therapeutic class: NSAID
How is the medication taken: (include dose, route, and frequency)	<p>Dose: 81 mg</p> <p>Route: PO (Oral)</p> <p>Frequency: BID (Two times a day)</p>
Specific Directions not included above:	Take with food or after meals to avoid GI upset (Jones, 2021).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Citalopram - increased risk of bleeding (Jones, 2021).</p> <p>Duloxetine - increased risk of bleeding (Jones, 2021).</p> <p>Ibuprofen - can reduce the cardioprotective and stroke preventive effects of aspirin (Jones, 2021).</p>
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Alcohol - increased risk of ulcers (Jones, 2021).

Does any of the client’s past medical history contradict the use of this medication?	No interaction with the patient’s past medical history.
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 patient could be taking aspirin for mild pain management related to her diabetic neuropathy. Since aspirin has antiplatelet effects, the patient could also be taking it to prevent an MI or stroke (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Do not take with alcohol or other NSAIDs (Jones, 2021). 2. Do not exceed 4,000 mg in a day (Jones, 2021).
How much would medication cost per month if paying out of pocket?	<p>Location: Walmart</p> <p>Retail: \$4.48 for 60 tablets, 81 mg/tablet (“Drug price search,” n.d.).</p>

Drug #2	Drug Name (Generic): calcium
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	Drug Name (Trade): Nature Made - calcium Drug Class: supplement
How is the medication taken: (include dose, route, and frequency)	Dose: 500 mg Route: PO (Oral) Frequency: BID (Twice a day)
Specific Directions not included above:	Take with food to increase absorption (“Calcium supplements - oral,” n.d.).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	There are no known medication interactions.
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	There are no known lifestyle interactions.
Does any of the client’s past medical history contradict the use of this medication?	No interaction with the patient’s past medical history.
What is the indication for use of this medication	The patient has osteoporosis in her medical history.

<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>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. Do not take with foods high in calcium or antacids containing aluminum or magnesium (Jones, 2021).</p> <p>2. If taking a chewable form, chew well before swallowing (“Calcium supplements - oral,” n.d.).</p>
<p>How much would medication cost per month if paying out of pocket?</p>	<p>Location: Walmart</p> <p>Retail: \$11.59 for 130 tablets, 500 mg (“Drug price search,” n.d.).</p>
<p>Drug #3</p>	<p>Drug Name (Generic): citalopram</p> <p>Drug Name (Trade): Celexa</p> <p>Drug Class:</p>

	<ul style="list-style-type: none"> • Pharmacologic class: Selective serotonin reuptake inhibitor (SSRI) • Therapeutic class: Antidepressant
How is the medication taken: (include dose, route, and frequency)	<p>Dose: 40 mg</p> <p>Route: PO (Oral)</p> <p>Frequency: Daily</p>
Specific Directions not included above:	<p>Do not take any allergy, cold, or cough medications without consulting with prescriber (Jones, 2021).</p> <p>Do not stop taking abruptly. Full effects may take up to 4 weeks (Jones, 2021).</p> <p>Encourage avoidance of over-the-counter medications such as aspirin, NSAIDs, and remedies like herbal products due to the increased risk of bleeding (Jones, 2021).</p>
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>NSAIDs (ibuprofen) and aspirin - have an increased risk of bleeding (Jones, 2021).</p> <p>Duloxetine - increased risk of life-threatening serotonin syndrome (Jones, 2021).</p>
Lifestyle interactions:	There are no known lifestyle interactions.

(Daily tobacco use, alcohol, drugs, etc.)	
Does any of the client's past medical history contradict the use of this medication?	No interaction with the patient's past medical history.
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 patient's past medical history listed depression. SSRIs block serotonin reuptake. This increases serotonin levels, which helps elevate mood and reduce depression (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Educate patients to report sudden or severe adverse reactions, including suicidal tendencies (Jones, 2021). 2. Do not self-medicate with over-the-counter allergy, cold, or cough medications or NSAIDs (Jones, 2021).
How much would medication cost per month if paying out of pocket?	<p>Location: Walmart</p> <p>Retail: \$380.87 for 30 tablets, 40 mg/tablet ("Drug price search," n.d.).</p>

Drug #4	<p>Drug Name (Generic): docusate sodium</p> <p>Drug Name (Trade): Colace</p> <p>Drug Class:</p> <ul style="list-style-type: none"> • Pharmacological class: Surfactant (Jones, 2021). • Therapeutic class: Laxative, stool softener (Jones, 2021).
How is the medication taken: (include dose, route, and frequency)	<p>Dose: 100 mg</p> <p>Route: PO (Oral)</p> <p>Frequency: BID (Two times a day)</p>
Specific Directions not included above:	<p>Take with a full 8oz or 240 milliliters of water or milk as directed and drink 6-8 glasses of water a day to help prevent constipation (Jones, 2021).</p>
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>There are no medication interactions to any medications on this list.</p>
Lifestyle interactions:	<p>There are no lifestyle interactions to this patient's lifestyle.</p>

(Daily tobacco use, alcohol, drugs, etc.)	
Does any of the client's past medical history contradict the use of this medication?	There are no contraindications to this patient's past medical history.
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)	Indications for use as the first response to try and prevent constipation, including when the individual is straining to pass a bowel movement (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Ensure that you do not take mineral oil in conjunction with this medication as it can cause over absorption of the mineral oil and cause toxicity (Jones, 2021). 2. Prolonged use of docusate sodium can cause laxative syndrome, which can cause constipation (Jones, 2021).
How much would medication cost per month if paying out of pocket?	Location: Walmart

	Retail: \$5.84 for 60 capsules, 100 mg (“Do you have a go-to pharmacy?” n.d.)
Drug # 5	<p>Drug Name (Generic): insulin detemir</p> <p>Drug Name (Trade): Levemir</p> <p>Drug Class: Long-acting insulin (Jones, 2021).</p>
How is the medication taken: (include dose, route, and frequency)	<p>Dose: 15 units</p> <p>Route: Subcutaneous injection</p> <p>Frequency: Daily at bedtime</p>
Specific Directions not included above:	Do not use long-lasting insulin if it contains precipitate that is clumped or granular or that clings to the side of the vials (Jones, 2021). Ensure that the client wears a diabetic identification bracelet or tag if they become incapacitated (Jones, 2021).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	No interactions with other current medications.
Lifestyle interactions:	Ensure that the client sticks to her diabetic diet to help control her diabetes better (Jones,

(Daily tobacco use, alcohol, drugs, etc.)	2021).
Does any of the client’s past medical history contradict the use of this medication?	There are no interactions from the client's past medical history.
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 indication for use would be an A1C of 6.5% or higher on the blood draw would be the indications for beginning this medication (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Ensure to take this medication at the recommended time at night as it is long-lasting insulin (Jones, 2021). 2. Levemir is long-lasting insulin released over 24 hours to help manage and control blood sugars related to diabetes (Jones, 2021).
How much would medication cost per month if paying out of pocket?	<p>Location: Walmart</p> <p>Retail: \$568.23 per month for 5 flex pen injectables at 100 units/3 ml (“Do you have a go-to</p>

	pharmacy?," n.d.)
Drug # 6	<p>Drug Name (Generic): glyburide</p> <p>Drug Name (Trade): Glynase</p> <p>Drug Class:</p> <ul style="list-style-type: none"> • Pharmacological class: Sulfonylurea (Jones, 2021). • Therapeutic class: Antidiabetic (Jones, 2021).
How is the medication taken: (include dose, route, and frequency)	<p>Dose: 10 mg</p> <p>Route: PO (Oral)</p> <p>Frequency: Once daily</p>
Specific Directions not included above:	Ensure that the client wears a diabetic identifying bracelet or tag if they ever become incapacitated (Jones, 2021).
Does this medication interact with any other medication(s) on this list? (see rubric for further	This medication does not have any contradictions with other medications on this list.

instruction)	
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	High-fat foods reduce the bioavailability of non micronized glyburide (Jones, 2021). Alcohol use can alter the blood glucose due to this medication, causing hypoglycemia (Jones, 2021).
Does any of the client's past medical history contradict the use of this medication?	This client has a sulfa allergy, and this medication is a sulfonylurea; however, it does not always react to clients with sulfa allergies (Jones, 2021).
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)	Indication for use, the medication is used as an adjunct to control blood glucose levels in type 2 diabetes mellitus (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. This medication makes patients more susceptible to developing hypoglycemia, so the client will need to monitor their blood glucose carefully (Jones, 2021). 2. Ensure to have glycosylated hemoglobin levels every 3 to 6 months or as ordered for long-term glucose control (Jones, 2021).

<p>How much would medication cost per month if paying out of pocket?</p>	<p>Locations: Walmart</p> <p>Retail: \$25.15 for 60 tablets, 5mg (“Glyburide micronized side effects - goodrx,” n.d.)</p>
<p>Drug # 7</p>	<p>Drug Name (Generic): insulin aspart</p> <p>Drug Name (Trade): Novolog Mix 70/30</p> <p>Drug Class:</p> <ul style="list-style-type: none"> ● Pharmacologic class: Insulins ● Therapeutic class: Antidiabetics
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Dose: Per sliding scale</p> <ul style="list-style-type: none"> ● 70-139 = 0 units ● 140-180= 2 units ● 181-240 = 3 units ● 241-300 = 4 units ● 301-350 = 6 units

	<ul style="list-style-type: none"> • 351 - 400 = 8 units <p>Route: Subcutaneous injection</p> <p>Frequency: Daily, before meals and at bedtime (AC & HS)</p>
Specific Directions not included above:	Wear or carry diabetic identification at all times, to aid treatment if needed (Jones, 2021).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	No medication interaction with any other medications on this list.
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	<p>Patient states to drink three glasses of wine daily. Lifestyle interactions such as alcohol use may cause hyperglycemia or hypoglycemia and should be closely monitored (Jones, 2021).</p> <p>Alcohol usage is discouraged (Jones, 2021).</p>
Does any of the client's past medical history contradict the use of this medication?	No interaction with the patient's past medical history.
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	The patient's past medical history indicated she had type 2 diabetes. The indication for the use of insulin aspart is to improve glycemic control in patients with diabetes mellitus (Jones,

history, please list potential indications for use of the medication in general)	2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<p>1. Insulin injection sites should be rotated from within sites from the abdomen to the deltoid, thigh, and hip to promote more consistent blood glucose levels (Jones, 2021). Insulin is absorbed the fastest in the abdomen, and many clinicians recommend rotating injection sites (Jones, 2021).</p> <p>2. A consistent diet, exercise, and medication schedule produce the best control of blood sugar levels and the least risk of complications (Jones, 2021). Exercise helps body tissues use insulin better and decreases the workload of the pancreas, which promotes more normal blood glucose levels (Jones, 2021).</p>
How much would medication cost per month if paying out of pocket?	<p>Location: Walmart</p> <p>Retail: \$151.43 for 1 vial, 100 units (“Do You Have a Go-to Pharmacy?,” n.d.)</p>
Drug # 8	<p>Drug Name (Generic): ranibizumab</p> <p>Drug Name (Trade): Lucentis</p>

	<p>Drug Class:</p> <ul style="list-style-type: none"> • Pharmacologic class: Monoclonal antibodies • Therapeutic class: Vascular endothelial growth factor-A inhibitors
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Dose: 0.5 mg</p> <p>Route: Intravitreal injection</p> <p>Frequency: Once a month (given by provider)</p>
<p>Specific Directions not included above:</p>	<p>Do not drive or do anything that could be dangerous until the eye shield is removed after the procedure and vision is restored (Jones, 2021).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>No medication interaction with any other medications on this list.</p>
<p>Lifestyle interactions:</p> <p>(Daily tobacco use, alcohol, drugs, etc.)</p>	<p>No lifestyle interactions with the patient's lifestyle.</p>
<p>Does any of the client's past medical history</p>	<p>There is no interaction with the patient's past medical history.</p>

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)	The patient's past medical history indicated she had diabetic retinopathy and diabetic neuropathy. The indication for the use of ranibizumab is to treat diabetic macular edema and diabetic retinopathy (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Instruct the patient to seek immediate care from the ophthalmologist for eye redness, sensitivity to light, eye pain, or vision changes (Jones, 2021). 2. Patients should be aware of the adverse effects of endophthalmitis (Jones, 2021). Some adverse reactions include headache, peripheral neuropathy, peripheral edema, eye pain, and wound healing complications (Jones, 2021).
How much would medication cost per month if paying out of pocket?	<p>Location: Hospital Pharmacy, Prescription needed</p> <p>Retail: \$1,241.51 for 6 mg/mL, 0.05 mL a month ("Lucentis Prices, Coupons & Patient Assistance Programs," n.d.)</p>
Drug # 9	Drug Name (Generic): duloxetine hydrochloride

	<p>Drug Name (Trade): Cymbalta</p> <p>Drug Class:</p> <ul style="list-style-type: none"> • Pharmacologic class: Selective serotonin and norepinephrine reuptake inhibitor • Therapeutic class: Antidepressant, neuropathic, and musculoskeletal pain reliever
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Dose: 60 mg</p> <p>Route: PO (Oral)</p> <p>Frequency: Daily</p>
<p>Specific Directions not included above:</p>	<p>Take the capsule whole and do not chew, crush, cut, or sprinkle contents on food or liquids (Jones, 2021).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Aspirin - Increased risk of bleeding (Jones, 2021).</p> <p>Ibuprofen - Increased risk of bleeding (Jones, 2021).</p> <p>Citalopram - May increase the risk of life-threatening serotonin syndrome (Jones, 2021).</p>
<p>Lifestyle interactions:</p>	<p>Patient states to drink three glasses of wine daily. Lifestyle interactions such as alcohol use</p>

(Daily tobacco use, alcohol, drugs, etc.)	increase the risk of hepatotoxicity (Jones, 2021).
Does any of the client's past medical history contradict the use of this medication?	There is no interaction with the patient's past medical history.
What is the indication for the 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 patient's past medical history indicated she had depression and diabetic neuropathy. The indication for the use of duloxetine hydrochloride is to treat the major depressive disorder and relieve neuropathic pain associated with diabetic peripheral neuropathy (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Inform the patient that the full effect of duloxetine may take weeks to occur and should be continued to take as directed (Jones, 2021). Duloxetine should not be discontinued abruptly but stopped gradually because of adverse effects such as agitation, anxiety, blurred vision, and jaundice (Jones, 2021). 2. Advise patient to stop excessive alcohol consumption while taking duloxetine because it may increase the risk of hepatic dysfunction (Jones, 2021). The patient should immediately report yellowing of the skin and other persistent adverse effects (Jones, 2021).

<p>How much would medication cost per month if paying out of pocket?</p>	<p>Location: Walmart</p> <p>Retail: \$15.00 for 30 capsules, 60 mg (“Do You Have a Go-to Pharmacy?,” n.d.).</p>
<p>Drug # 10</p>	<p>Drug Name (Generic): ibuprofen</p> <p>Drug Name (Trade): Advil</p> <p>Drug Class:</p> <ul style="list-style-type: none"> ● Pharmacologic class: NSAID ● Therapeutic class: Analgesic, anti-inflammatory, antipyretic
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Dose: 400 mg</p> <p>Route: PO (Oral)</p> <p>Frequency: Q6H PRN</p>
<p>Specific Directions not included above:</p>	<p>Do not exceed 3200 mg in one day (Jones, 2021). The patient should take this medication with food to reduce gastrointestinal upset. (Jones, 2021).</p>
<p>Does this medication interact with any other</p>	<p>Aspirin - Possibly decreased cardioprotective and stroke-preventive effects, increased risk of</p>

medication(s) on this list? (see rubric for further instruction)	bleeding, and adverse gastrointestinal effects (Jones, 2021). Duloxetine hydrochloride - May increase the risk of bleeding (Jones, 2021).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Patient states to drink three glasses of wine daily. Lifestyle interactions such as alcohol use increase the risk of adverse gastrointestinal effects (Jones, 2021).
Does any of the client's past medical history contradict the use of this medication?	There is no interaction with the patient's past medical history.
What is the indication for the 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 patient's past medical history indicated she had osteoporosis. The indication for the use of ibuprofen is to relieve pain in rheumatoid arthritis and osteoporosis (Jones, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. The patient should remember that severe gastrointestinal tract bleeding, perforation, and ulceration can occur without warning signs, and elderly patients are at greater risk (Jones, 2021). To minimize risk, medication should be taken with food and if any distress occurs, notify the provider immediately (Jones, 2021).

	<p>2. The patient should avoid alcohol usage while taking this medication in high dosages because it can increase the risk of ulcers and bleeding (Jones, 2021). Alcohol can irritate the stomach and digestive tract and cause adverse gastrointestinal bleeding, perforation, and hepatic failure (Jones, 2021).</p>
<p>How much would medication cost per month if paying out of pocket?</p>	<p>Location: Walmart</p> <p>Retail: \$24.83 for 240 tablets, 400 mg (“Ibuprofen Prices, Coupons & Savings Tips,” n.d.)</p>

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

A potential difficulty in maintaining compliance with the orders listed can include Amy having no family nearby to help her with her medication regimen. Amy lives in an assisted living facility where the living arrangements have a pharmacy service that delivers the medications in pre-filled medication packages every week. Pre-filled medication packages can be difficult because the patient can forget to take her medications without any reminders since the medication arrives once a week. Without consistent reminders, it could cause the patient to fall behind in treatment and worsen her condition. The patient also struggles with depression, which can make completing activities of daily living, including taking medications, difficult.

Amy also has diabetic retinopathy, which can affect her vision. Since the patient's declining vision may be difficult in maintaining compliance with the orders, she will need more assistance in keeping track of her medication administration schedule and making sure she is taking the right medication. Another potential difficulty in maintaining compliance with the medication regimen is the total cost of all the drugs. The retail price for all the medications is \$2,428.93. Although the patient has good health insurance that covers the cost of her prescription medications with little co-pay, monthly payments for medication can be costly, thus, preventing the patient from taking the prescribed medicine as ordered.

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

According to the scenario, the patient lives in an assisted living facility where the pharmacy service delivers medication in pre-filled packages each week, making medication administration more manageable for the patient to avoid medication errors. Having prefilled medication packages allows the drugs on the regimen to be taken orally, already organizing the medications accordingly to morning or nighttime. These packages will help the client maintain the medication regimen as ordered. The patient is more inclined to continue with the regimen by administering the drugs together. Furthermore, since most of the patient's medication is encouraged to be taken with food to prevent gastrointestinal upset, the patient can include these medications as part of their daily nutrition routine. Medication insurance is also significant in staying consistent with

medication regimens because having reliable health insurance promotes affordability. Since the patient has good health insurance that covers her medications with a low co-pay, this will eliminate a financial barrier and encourage them to keep updated on their medication refills.

3. **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)**

Some suggestions we might make to the prescriber and the client to help this client scenario would be to suggest the client eliminate alcohol from her diet since it interacts with multiple medications that she is currently taking. The patient has currently prescribed drugs such as aspirin, glyburide, insulin aspart, duloxetine hydrochloride, and ibuprofen which can affect the patient's gastrointestinal and liver functions. We believe that monitoring the patient's liver enzymes and blood glucose level may be vital for the patient's well-being. The adverse effects of continual alcohol usage with these medications can include hypoglycemia or hyperglycemia, hepatotoxicity, an increased risk of ulcers, and adverse gastrointestinal effects. Due to the patient's past medical history of type 2 diabetes not being well controlled, the intake of alcohol can be contraindicated to the patient's overall care. We would suggest that the patient monitor her blood glucose level and diet frequently at home to avoid health complications in the future. Also, we would offer to re-educate the patient on diabetes management with a controlled carbohydrates diet and the restrictions that pertain to the diet, including types of foods to embrace and avoid.

Education on keeping a low carbohydrate diet will benefit the patient by controlling her blood glucose levels and preventing further complications to her treatment.

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

The patient's total monthly out-of-pocket retail expense for all ten medications would be \$2428.93. Aspirin retails for \$4.48, Calcium retails for 11.59, Celexa retails for \$380.87, Docusate sodium retails for \$5.84, Glyburide retails for \$568.23, Levemir retails for \$25.15, Novolog retails for \$151.43, Ranibizumab retails for \$1,241.51, Duloxetine hydrochloride retails for \$15.00, Ibuprofen retails for \$24.83 (GoodRx, 2022).

5. Reflective Statement of Experience:

This polypharmacy project was very insightful in getting nursing students familiar with noting and recognizing medication interactions combined with various treatment plans. As nurses, this is part of being a client advocate and advocating for patients' safety. Before prescribing medications to a patient, providers and nurses need to know what drugs the patient is currently taking and future orders to avoid drug-to-drug interactions. It is crucial to keep in mind that just because medications are prescribed, or a patient is taking a particular drug does not mean it is safe or beneficial to the patient's overall care. Specific contraindications, lifestyle interactions, and interactions with the patient's past medical history can help the interpersonal team control the patient's treatment plan and provide holistic care. In this scenario, Amy, an 87-year-old female has a history of type 2 diabetes; thus, she is prescribed insulin aspart (Novolog) and insulin detemir (Levemir) to control her

blood glucose levels. Nurses must consider the patient's medication list and allergies to determine the drug's therapeutic effect and overall effectiveness. Knowing the patient's case can help patients better understand why they are taking specific medications and what to look for relating to the adverse impacts. Nurses are considered educators to the patients; therefore, patients must be compliant with their medication regimen and are aware of potential adverse effects and negative interactions by nurses offering thorough education. Education patients with the necessary knowledge about changes they need to make, including dietary and lifestyle interactions when taking specific medications. Being involved in the patient's care will encourage patients to follow orders and keep them accountable.

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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 is worth one point)	___/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? 	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 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

(before bed, before breakfast, 30 minutes before meals, etc..)				
Criteria	Excellent	Acceptable	Unacceptable	Points Earned
	0 points	16-19	0-15 points	
<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 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>	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 listed this question is worth two points)	___/20

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Criteria	Excellent 5 points	Acceptable 4 points		Unacceptable 0 -3 points	Points Earned
Lifestyle interactions: ● What lifestyle factors counteract with the medications? (tobacco user, ETOH use – 3 beers daily)	Student showed knowledge why lifestyle would counteract with medications	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)	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)		___/5

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, 	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

<p>please list potential indications for use of the medication in general)</p>				
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>
Criteria	Excellent	Acceptable	Unacceptable	Points Earned

	10 points	8-9 points	0-7 points	
<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 medication regimen? <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 why a patient would have difficulty with medication regimen</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 worth one point for each medication)</p>	<p>___/10</p>
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
<p>Is there anything about this medication regimen/ scenario that might assist the client in maintaining the medication regimen as ordered?</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</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</p>	<p>___/10</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>question is worth one point for each medication)</p>	<p>are present that assist with compliance. (This question is worth one point for each medication)</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 were to pay for them out of pocket? (best assessment based off of research) ● What would the client’s monthly out of pocket expense for all 10 medications? 	<p>Student showed research on medication costs</p>	<p>The student provided accurate research 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>Student failed to answer the question OR The student provided accurate research 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>___/15</p>
<p>Criteria</p>	<p>Excellent</p>	<p>Acceptable</p>	<p>Unacceptable</p>	<p>Points Earned</p>

	20 points	16-19 points	0-15 points	
<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 scenario on page 	<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>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</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>

your presentation.				
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: <ul style="list-style-type: none"> -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 	The students provided reflection showed good insight into the project itself, polypharmacy, and the nurses role in client advocacy	The student provided a reflection, however the reflection lacked one of the following <ul style="list-style-type: none"> -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 	Student failed to reflect on their project OR the student addressed only of the topics of reflection	___/10
Total Points				___/200

