

Polypharmacy Project

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N322 Introduction to Pharmacology

Lakeview College of Nursing

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Background: 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 does not drink, or use illicit drugs. Amy does have a history of smoking cigarettes (26 pack years). She quit 10 years ago, and smokes 1 pack per day for 26 years).

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

Allergies: Sulfa & Pepto-Bismol, **Diet:** Controlled carbohydrates

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

Current medications include the following: Aspirin 81 mg by mouth two times a day, Calcium 500 mg by mouth two times a day, Multivitamin with minerals by mouth one time a day, Docusate Sodium 100 mg by mouth two times a day, Glyburide 10 mg by mouth one time a day, Levemir 15 units SC at HS, Novolog per sliding scale SC AC & HS, Ranibizumab 0.5 mg via intravitreal injection (given at doctor's office) once a month, Gabapentin 300 mg by mouth three times a day, and Ibuprofen 400 mg by mouth every six hours as needed.

Drug #1	<p>Drug Name (Generic): Aspirin</p> <p>Drug Name (Trade): Bayer</p> <p>Drug Class: Therapeutic: antiplatelet agents, antipyretics, nonopioid analgesics; Nonsteroidal antiinflammatory drugs (NSAIDs) (Vallerand & Sanoski, 2023, p.185).</p>
How is the medication taken: (include dose, route, and frequency)	This medication is taken 81 mg PO BID
Specific Directions not included above:	This medication can be a chewable tablet or enterically coated (be sure to instruct the patient to not chew enterically coated medications if this is the case). (Vallerand & Sanoski, 2023, p. 191)
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication interacts with ibuprofen. “may negate the cardioprotective antiplatelet effects of low-dose aspirin... May increase GI irritation with other NSAIDs.” (Vallerand & Sanoski, 2023, p. 190). Salicylates may also reduce the amount of insulin needed to effectively lower blood sugar (Vallerand & Sanoski, 2023, 719). This medication also interacts with glyburide by increasing the hypoglycemics effects of glyburide (Vallerand & Sanoski, 2023, p. 1162).

	This medication also interacts with levemir and novolog by also increasing the hypoglycemic effects of these types of insulin Vallerand & Sanoski, 2023, p. 718, 721).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	This patient does not have any lifestyle interactions that would interfere with the efficacy of this medication. As a positive interaction, aspirin can help lower platelet aggregation seen from those who are smokers; however, this patient has not been an active smoker for 10 years.
Does any of the client's past medical history contradict the use of this medication?	This patient does not have a past medical history that would contraindicate the use of aspirin.
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 indications for aspirin include: inflammatory disorders, moderate pain, fever, and prophylaxis of transient ischemic attacks or MI (Vallerand & Sanoski, 2023, p. 189). The patient's history of smoking could be an indication for prevention of MI.
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. This medication should be used with caution when taking in addition to her PRN prescription for ibuprofen as these medications can both cause gastric distress,

	<p>especially when taken on an empty stomach. NSAIDs can lead to gastric ulcers which can then lead to GI bleeds (Vallerand & Sanoski, 2023, p.190-191).</p> <p>2. “Take this Medication with food or an antacid to minimize gastric irritation... Take this medication with a full glass of water and remain upright for 15 to 30 minutes after ingestion” (Vallerand & Sanoski, 2023, p. 191). This patient also takes calcium which could be taken at the same time as an antacid to help prevent gastric irritation if the medication is not enteric coated.</p>
How much would medication cost per month if paying out of pocket?	\$4.17 (Walmart.com, 2023)

Drug #2	<p>Drug Name (Generic): calcium</p> <p>Drug Name (Trade): Caltrate</p> <p>Drug Class: Therapeutic: mineral and electrolyte replacement/supplements;</p> <p>Pharmacologic: antacid (Vallerand & Sanoski, 2023, p. 274)</p>
How is the medication taken: (include dose, route,	500 mg, oral, BID

and frequency)	
Specific Directions not included above:	This medication can come in multiple forms, be sure to educate the patient on how to take the medication whether it be chewable or swallow tablet form (Vallerand & Sanoski, 2023, p. 274).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Although not listed under calcium we know that antacid medication should not be given within two hours of gabapentin because calcium decreases the absorption of gabapentin (Vallerand & Sanoski, 2023, p. 623). Could negatively affect the absorption of iron within the multiple vitamins if taken within 2 hours of each other (Mayo Clinic, 2023). The patient could also be consuming more than the recommended daily dose of calcium between this supplement and her multiple vitamins.
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	For calcium a lifestyle interaction is the drug-food interaction. The patient should be aware that certain cereals, spinach or rhubarb have the potential to decrease the absorption of the calcium supplement (Vallerand & Sanoski, 2023, p. 274).
Does any of the client's past medical history contradict the use of this medication?	This patient does not have a past medical history that would contraindicate the use of calcium.
What is the indication for use of this medication	The indication of use for this medication based on their past medical history is the patient has

<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>a diagnosis of osteoporosis.</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. The patient should be encouraged to consume foods that are rich in vitamin d to help with the absorption of the calcium supplement (Vallerand & Sanoski, 2023, p. 278). 2. The patient should be advised that having a regular exercise program can stop and reverse bone loss in patients with osteoporosis. The patient should also be advised to check with their primary care provider before starting an exercise program to discuss any modifications or limitations (Vallerand & Sanoski, 2023, p. 278).
<p>How much would medication cost per month if paying out of pocket?</p>	<p>\$14.89 (Walmart.com, 2023)</p>
<p>Drug #3</p>	<p>Drug Name (Generic): multivitamin with minerals</p> <p>Drug Name (Trade): Centrum</p> <p>Drug Class: mineral/electrolyte/pH modifier (Vallerand& Sanoski, 2023, p. 78)</p>

How is the medication taken: (include dose, route, and frequency)	1 tablet, oral, daily
Specific Directions not included above:	This medication should be taken with food if possible to improve the absorption of fat soluble vitamins included in the multivitamin. This medication should be chewed if it is chewable and swallowed if a tablet or capsule.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Do not take the multivitamin (if it has iron) at the same time antacids are taken . These medications should not be taken within 2 hours of each other to improve (Mayo Clinic, 2022). If this multivitamin contains large amounts of calcium, it could interact with her standalone calcium supplement and lead to excessive amounts of calcium intake. Chromium which could be found in her multivitamin could produce “additive hypoglycemic effects”, interacting with her Glyburide, Levemir, and Novolog (Vallerand, and Sanoski, 2023, p. 718).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	There are not any lifestyle interactions that would contraindicate the use of a multivitamin.
Does any of the client’s past medical history contradict the use of this medication?	No, the client’s health history does not contraindicate the use of a multivitamin supplement.

<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>The indication of use for this medication based on their past medical history is old age and lack of nutrition. Older adults can have a hard time meeting nutritional needs through food alone, and may need to supplement.</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. This medication should be taken with food in order to reach the maximum effective absorption of fat soluble vitamins. 2. This medication should also be taken more than 2 hours before or after taking an antacid to improve the effective absorption of iron likely contained within the multivitamin.
<p>How much would medication cost per month if paying out of pocket?</p>	<p>\$4.88 (Walmart.com, 2023)</p>
<p>Drug #4</p>	<p>Drug Name (Generic): docusate sodium</p> <p>Drug Name (Trade): Colace</p> <p>Drug Class: Therapeutic: laxative; Pharmacologic: stool softeners (Vallerand &</p>

	Sanoski, 2023, p. 468)
How is the medication taken: (include dose, route, and frequency)	100mg, oral, BID
Specific Directions not included above:	This medication can be given rectally.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	There is no significant drug to drug interactions for this medication (Vallerand & Sanoski, 2023, p. 468).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	This patient does not have any lifestyle interactions that would interfere with the efficacy of this medication.
Does any of the client's past medical history contradict the use of this medication?	Based on the past medical history there are no contraindications for the use of this medication.
What is the indication for use of this medication based on the client's past medical history? (If unable	The indication of use for this medication based on their past medical history is the patient does take calcium supplements which could lead to constipation as well as lack of mobility

<p>to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>and the lack of GI motility due to the patients age.</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. “Advise patients that laxatives should be used only for short-term therapy. Long-term therapy may cause electrolyte imbalance and dependance” (Vallerand & Sanoski, 2023, p. 469). 2. The patient should also be encouraged to get on a regular bowel elimination schedule, increasing fluids in their diet as well as foods that are high in fiber that will increase bulk to the stool. They should also try to be as active as they can to promote GI motility (Vallerand & Sanoski, 2023, p. 469).
<p>How much would medication cost per month if paying out of pocket?</p>	<p>\$4.38 (Walmart.com, 2023)</p>
<p>Drug # 5</p>	<p>Drug Name (Generic): glyburide</p> <p>Drug Name (Trade): Diabeta</p>

	Drug Class: Therapeutic: antidiabetics; Pharmacologic: sulfonylureas (Vallerand & Sanoski, 2023, p. 1162)
How is the medication taken: (include dose, route, and frequency)	10 mg, oral, once daily
Specific Directions not included above:	Take glyburide 30 minutes before a meal and at the same same each day for most therapeutic effect (Vallerand & Sanoski, 2023, p. 1162)
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Yes, this medication can interact with NSAIDs, aspirin and ibuprofen. Using these medications together can lead to further hypoglycemic effects than intended (Vallerand & Sanoski, 2023, p. 1161).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	This patient does not have any lifestyle interactions with thi medication.
Does any of the client’s past medical history contradict the use of this medication?	This patient is allergic to “sulfa drugs”, or sulfonamides, and a contraindication listed for glyburide is sulfonamides due to possible cross-sensitivity (Vallerand & Sanoski, 2023, 1162). This medication should be reevaluated by the provider.
What is the indication for use of this medication	The indication of use for this medication based on their past medical history is her history of

<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>type II diabetes melitus (Vallerand & Sanoski, 2023, 1162).</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. The client should be told to carry a form of sugar to manage symptoms of hypoglycemia if they were to arise. Sugar can help to alleviate these symptoms by increasing blood sugar. 2. The client should also closely and regularly monitor her blood sugar. Remind her that she takes multiple medications that can affect blood sugar, and this is the best way to make sure those medications are working for her effectively (Vallerand & Sanoski, 2023, 1162).
<p>How much would medication cost per month if paying out of pocket?</p>	<p>\$4.00 (Walmart.com, 2023)</p>
<p>Drug # 6</p>	<p>Drug Name (Generic): insulin detemir</p> <p>Drug Name (Trade): Levemir</p>

	Drug Class: Therapeutic: antidiabetics, hormones; Pharmacologic: pancreatics (Vallerand & Sanoski, 2023, p. 718)
How is the medication taken: (include dose, route, and frequency)	15 units, subcutaneous, at HS
Specific Directions not included above:	There are no specific directions not included above.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	The patient takes aspirin daily. “Salicylates can decrease insulin requirements” (Vallerand & Sanoski, 2023, p. 718). Also, chromium which could be a mineral found in her multivitamin could “produce additive hypoglycemic effects” (Vallerand & Sanoski, 2023, p. 718).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The patient does not have any lifestyle interactions for Levemir.
Does any of the client’s past medical history contradict the use of this medication?	If she were given vials and syringes for her Levemir could potentially dose her insulin incorrectly. A better option for her might be insulin pens where she can hear the clicks for dosage calculation/administration.
What is the indication for use of this medication based on the client’s past medical history? (If unable	The indication of use for this medication based on their past medical history is the patient has Type II diabetes.

<p>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>	<ol style="list-style-type: none"> 1. Instruct the patient of the signs and symptoms of hyperglycemia and hypoglycemia and also what should be done if either occur. (Vallerand & Sanoski, 2023, p. 721) 2. “Instruct patient on proper techniques of administration. Include types of insulin, equipment, storage and place to discard syringes” (Vallerand & Sanoski, 2023, p. 721).
<p>How much would medication cost per month if paying out of pocket?</p>	<p>\$487.12 (GoodRx, 2023)</p>
<p>Drug # 7</p>	<p>Drug Name (Generic): insulin aspart injection</p> <p>Drug Name (Trade): Novolog</p> <p>Drug Class: Therapeutic: antidiabetics; Pharmacologic: sulfonylureas (Vallerand & Sanoski, 2023, p. 721)</p>
<p>How is the medication taken: (include dose, route,</p>	<p>Sliding scale, subcutaneous, AC and HS</p>

and frequency)	
Specific Directions not included above:	Insulin aspart can be administered via IV under appropriate medical supervision (Vallerand & Sanoski, 2023, p. 723).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	The patient takes aspirin daily. “Salicylates can decrease insulin requirements” (Vallerand & Sanoski, 2023, p. 722). Also, chromium which could be a mineral found in her multivitamin could “produce additive hypoglycemic effects” (Vallerand & Sanoski, 2023, p. 722).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The patient does not have any lifestyle interactions for Novolog.
Does any of the client’s past medical history contradict the use of this medication?	If she were given vials and syringes for her Levemir could potentially dose her insulin incorrectly. A better option for her might be insulin pens where she can hear the clicks for dosage calculation/administration.
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 indication of use for this medication based on their past medical history is the patient has Type II diabetes.

medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Explain to the patient this medication is only used to control hyperglycemia and that it is not a cure for diabetes. This therapy will need to be continued on a long term basis. (Vallerand & Sanoski, 2023, p. 723) 2. “Emphasis the importance of compliance with nutritional guidelines and regular exercise as directed by health care professionals” (Vallerand & Sanoski, 2023, p. 723).
How much would medication cost per month if paying out of pocket?	\$304.70 (GoodRx, 2023)
Drug # 8	<p>Drug Name (Generic): ranibizumab</p> <p>Drug Name (Trade): Lucentis</p> <p>Drug Class: anti-angiogenic ophthalmic agent (Drugs.com, 2022)</p>
How is the medication taken: (include dose, route, and frequency)	0.05 milliliters, intravitreal injection, once monthly
Specific Directions not included above:	Given at doctors office
Does this medication interact with any other	There is no interaction with ranibizumab and the other medications on the patients medication

medication(s) on this list? (see rubric for further instruction)	list.
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The patient does not have any lifestyle interactions with ranibizumab.
Does any of the client's past medical history contradict the use of this medication?	The patient's past medical history does not 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 indication of use for this medication based on their past medical history is diabetic retinopathy.
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Making sure proper transportation methods are made on a regular basis for adherence to the injection regimen. 2. After the injection the patient can expect a feeling of something in their eye, their eye feeling dry as well as seeing floaters. (Drugs.com, 2022).

How much would medication cost per month if paying out of pocket?	\$1242 (Drugs.com, 2022)
Drug # 9	<p>Drug Name (Generic): gabapentin</p> <p>Drug Name (Trade): Neurotin</p> <p>Drug Class: Therapeutic: analgesic adjuncts; Pharmacologic: anticonvulsants, mood stabilizers (Vallerand & Sanoski, 2023, p. 623).</p>
How is the medication taken: (include dose, route, and frequency)	300 mg, oral, three times daily
Specific Directions not included above:	There are no other specific directions not included above.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication interacts with calcium, which is listed in the drug pharmacologic class of antacid. "Antacids may decrease the absorption of gabapentin" (Vallerand & Sanoski, 2023, p. 623).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	This patient does not have any lifestyle interactions that would interfere with the efficacy of this medication.
Does any of the client's past medical history	Due to the patient's age she is considered geriatric and she could be susceptible to developing

contradict the use of this medication?	toxicity as a result of age-related renal impairment (Vallerand & Sanoski, 2023, p. 623).
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 of use for this medication based on their past medical history is diabetic neuropathy (Vallerand & Sanoski, 2023, p. 624).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. "Advise the patient not to take gabapentin within 2 hours of an antacid" (Vallerand & Sanoski, 2023, p. 625). 2. This medication is known to cause dizziness and drowsiness. Given the patient has diabetic neuropathy as well as her age she would be more at risk for fall. So the client would need to be educated about fall prevention.
How much would medication cost per month if paying out of pocket?	\$14.87 (GoodRx, 2023)
Drug # 10	Drug Name (Generic): ibuprofen Drug Name (Trade): Advil

	Drug Class: Therapeutic: antipyretics, antirheumatics, nonopioid analgesics; Nonsteroidal antiinflammatory drugs (NSAIDs) (Vallerand, 2023, p. 688)
How is the medication taken: (include dose, route, and frequency)	400 mg, oral, every 6 hours as needed.
Specific Directions not included above:	Take this medication with food and drink to prevent gastric distress.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication interacts with aspirin. “may negate the cardioprotective antiplatelet effects of low-dose aspirin... May increase GI irritation with other NSAIDs. The use of aspirin may reduce the effectiveness of ibuprofen” (Vallerand & Sanoski, 2023, p. 677). This medication also interacts with glyburide by increasing the hypoglycemics effects of glyburide (Vallerand & Sanoski, 2023, p. 1162).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	This patient does not have any lifestyle factors that would reduce the efficacy of this medication.
Does any of the client’s past medical history contradict the use of this medication?	The client’s past medical history does not contraindicate the use of this medication.
What is the indication for use of this medication	“This medication is used for treatment of mild to moderate pain, inflammatory disorders, and

<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>dysmenorrhea” (Vallerand & Sanoski, 2023, p. 676). It is likely given to the patient for her osteoporosis.</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. This medication should be used with caution when taking in addition to her prescription for aspirin as these medications can both cause gastric distress, especially when taken on an empty stomach. NSAIDs can lead to gastric ulcers which can then lead to GI bleeds (Vallerand & Sanoski, 2023, p.676-678). 2. “Take this Medication with food or an antacid to minimize gastric irritation... Take this medication with a full glass of water and remain upright for 15 to 30 minutes after ingestion” (Vallerand & Sanoski, 2023, p. 678). This patient also takes calcium which could be taken at the same time as an antacid to help prevent gastric irritation if the medication is not enteric coated.
<p>How much would medication cost per month if paying out of pocket?</p>	<p>\$1.98 (Walmart.com, 2023)</p>

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

-The patient is having difficulty with her vision. She could potentially not get the correct dose of insulin drawn up. She could potentially give herself too much or too little.

-As an older adult client, having to remember to take certain medications with food and drink can be difficult especially when older adults typically eat less food and have less meals. It can also be difficult when trying to remember which medications shouldn't be taken together.

-The patient's visual impairment resulted in her not having a driver's license. This means that the patient could have a difficult time making it to her clinical visits to evaluate and monitor her prescription drug use and medical history. This impairment especially impacts her ability to get her monthly ranibizumab intravitreal injections at the doctor's office each month.

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

-Continuing the accu-pacs will be very helpful in keeping her dosages and medications straight. Since she has a visual impairment, having these medications pre counted and ready to go will help to keep her safe from overdosing or underdosing her medications.

- Having a nurse at the assisted living facility help the patient count and take her medications each day would also be very beneficial because the patient has a visual impairment.

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)

-Think about changing ibuprofen with another pain medication such as acetaminophen to prevent the drug to drug interaction between aspirin and ibuprofen.

-She should be on a vitamin D supplement with her calcium to help with the absorption of calcium. Vitamin D also has a wide range of health benefits that could improve the life of this elderly patient.

-The patient is taking Glyburide, Levemir, Novolog, Aspirin, and chromium (a mineral potentially found in her multivitamin), all of which can reduce blood sugar. Regular blood sugar checks should be taken to ensure that the patient does not become hypoglycemic when taking all of these medications each day.

-These nurses would also suggest taking a closer look at the patient's allergy to sulfa drugs and the possible cross-sensitivity to glyburide. This could be negatively affecting the patient's day-to-day life.

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

-The patient's monthly expense for all 10 medications would be approximately \$2,082.99; however, it is stated that she does have good health insurance with a small copay. She likely does not pay a lot for these medications out of pocket.

Reflective Statement of Experience:

The polypharmacy project showed these nurses that there are many instances where medications are prescribed without fully understanding or realizing the possible interactions these drugs can have. In the case of aspirin for this client, many of the drugs on her list interact with it in some way. Aspirin seems to be a medication in her list that could potentially be removed or replaced because of the amount of interactions it has. Polypharmacy is not just knowing the interactions between drugs either; it is also ensuring that the patient isn't given medications that she might have allergies to. This can be difficult when the patient is prescribed so many

medications. Glyburide, for example, is a medication that could have cross-sensitivity with sulfa drugs, which this patient is allergic to in some way. Polypharmacy is also understanding that medications can have compounding effects. For this patient, aspirin, glyburide, levemir, novolog, and possibly chromium contained within her multivitamin can all lead to increased hypoglycemic effects. This means the prescriber and all other caregivers involved should pay close attention to the patient's blood sugar or alternative medications should be given to reduce the compounding effects of the polypharmacy. Furthermore, understanding the client's lifestyle factors, age, and overall functioning is important when understanding which medications could affect daily living more than others. Receiving monthly injections at an outside clinic when the client is visually impaired to a degree of which she has no driver's license can be a burden on not only the patient but the family as well. Overall, these nurses had a fulfilling experience understanding this patient's polypharmacy. These nurses feel good about advocating for the client when the client doesn't have the knowledge or resources to advocate for herself. It will be important to remember this when these nurses are hired after nursing school.

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N322 Polypharmacy Grading Rubric

Criteria	Excellent 40 points	Acceptable 31-39 points	Unacceptable 0-30 points	Points Earned
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<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) 	<p>All key components were addressed within the paper and were accurate.</p>	<p>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)</p>	<p>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)</p>	<p>___/40</p>
<p>Criteria</p>	<p>Excellent 10 points</p>	<p>Acceptable 8-10 points</p>	<p>Unacceptable 0 - 7 points</p>	<p>Points Earned</p>
<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>	<p>All key components were addressed within the paper.</p>	<p>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)</p>	<p>Student failed to answer the questions and/or the answers were inaccurate. (For each medication this question is worth one point)</p>	<p>___/10</p>
<p>Criteria</p>	<p>Excellent</p>	<p>Acceptable</p>	<p>Unacceptable</p>	<p>Points Earned</p>

	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>	<p>All medications reviewed and student explained medication interactions.</p>	<p>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)</p>	<p>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)</p>	<p>___/20</p>

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? 	<p>Student showed knowledge why the client's past medical history would contradict the use of the medication(s).</p>	<p>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)</p>	<p>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)</p>	<p>___/10</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>
<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) 	<p>Student showed knowledge of medications and what conditions corresponds with medications</p>	<p>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)</p>	<p>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)</p>	<p>___/10</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>What would you teach the client about taking this medication?</p>	<p>Student showed the importance of medication education, and appropriate prioritized client</p>	<p>The student provided some appropriate education for the client, but failed to</p>	<p>Student failed to answer the question OR The student provided some appropriate</p>	<p>___/20</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>education for the scenario provided.</p>	<p>capture all of the appropriately prioritized education for the client. (Each topic of education is worth one point)</p>	<p>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>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 	<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</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</p>	<p>___/10</p>

<p>difficulty maintaining the medication regimen?</p> <p>(Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc)</p>		<p>for each medication)</p>	<p>medication)</p>	
<p>Criteria</p>	<p>Excellent</p> <p>10 points</p>	<p>Acceptable</p> <p>8-9 points</p>	<p>Unacceptable</p> <p>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>

Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0 points	Points Earned
<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? 	Student showed research on medication costs	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)	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)	___/15
Criteria	Excellent 20 points	Acceptable 16-19 points	Unacceptable 0-15 points	Points Earned
<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, 	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.	The document did not meet all of the criteria for formatting/ referencing. See "criteria" to the left for further breakdown.	The document did not meet all of the criteria for formatting/ referencing. See "criteria" to the left for further breakdown.	___/20

<p>page numbers, running head, all with appropriate formatting per APA (10 points - each missing or inaccurate portion per APA is worth one point)</p> <ul style="list-style-type: none"> ● The student provided a rubric attached for grading (3 points) ● The student included the provided client scenario on page two of the document (2 points) ● 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>
<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>● Reflective statement of experience should include the following:</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</p>	<p>Student failed to reflect on their project OR the student addressed only of the topics of reflection</p>	<p>___/10</p>

<p>-insight into the project itself (a specific example within the project and its implications)</p> <p>-A basic understanding of polypharmacy</p> <p>-A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver</p>		<p>(a specific example within the project and its implications).</p> <p>-A basic understanding of polypharmacy</p> <p>-A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver</p>		
<p>Total Points</p>				<p>___/200</p>