Polypharmacy Project

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N322 Introduction to Pharmacology

Lakeview College of Nursing

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Polypharmacy Case 8

Patient: Jerry is an 88-year-old male who lives with his spouse, Clara, in an independent living facility. They have two children who live nearby, and they assist them as needed. Jerry's dementia has been progressing recently. He frequently forgets what medication he has taken, and his children want him admitted to long-term care, as the assisted living facility he lives in does not provide medication administration services. Jerry refuses to move to an assisted living facility – and has not been deemed incapable of making his own decisions; thus, he will remain in assisted living.

Social history: Both he and his wife have Medicare and Social Security.

Medical history: Dementia, hypertension, chronic kidney disease, hyperlipidemia, chronic anemia, rheumatoid arthritis

Allergies: Lisinopril, Sulfa, latex   Wt. 250 pounds   Ht. 6ft 4in

Medications:

Rivastigmine 6 mg by mouth twice daily

Enalapril 10mg PO BID

Fenofibrate 145mg PO Daily

Oxycodone 2.5mg Q6H PRN

MiraLAX packet 17 G mixed with juice/water every morning

Prednisone 10mg PO every day

Alprazolam 0.5 mg po TID PRN

Aranesp 0.45mcg/kg SUBQ every 4 weeks

Ferrous Sulfate 325mg PO Daily

Paroxetine 20mg PO Daily

Drug #1	Drug Name (Generic): rivastigmine Drug Name (Trade): Exelon Drug Class: Therapeutic: Antidementia; Pharmacological: Cholinesterase inhibitor
How is the medication taken: (include dose, route, and frequency)	6 mg by mouth twice daily
Specific Directions not included above:	This patient is taking the oral solution of this drug. Since this is the case, this medication should be mixed with cold fruit juice, soda, or water before being administered. This medication should also be taken with food, preferably the morning and evening meals (NDH, 2023).
Does this medication interact with any other medication(s) on this list? (see rubric for further instructions)	Rivastigmine, when taken with paroxetine, can decrease the effectiveness of paroxetine.
Lifestyle interactions:	If a patient smokes cigarettes or uses nicotine, use may be contraindicated in these patients. It does not cause a major drug interaction (Drugs.com, 2023).

(Daily tobacco use, alcohol, drugs, etc.)	
Does any of the client's past medical history contradict the use of this medication?	**None of the client's past medical history contraindicates the patient's use of this medication.**
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 is using this medication to help with his dementia. This medication is used to treat mild to moderate Alzheimer's and Dementia (NDH, 2023).**
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	**1. Severe dehydration can occur when taking this medication. Because of this, the patient should contact the provider if vomiting, diarrhea, or excessive sweating occurs (Drugs.com, 2023).** **2. Medication should be stored upright, away from moisture and heat. Also, the medication should not be allowed to freeze (Drugs.com, 2023).**
How much would medication cost per month if paying out of pocket?	**$68.88 (GoodRx.com, 2023).**

Drug #2	Drug Name (Generic): enalapril maleate Drug Name (Trade): Epaned, Vasotec Drug Class: Therapeutic: Antihypertensive, Vasodilator; Pharmacological: Angiotensin-converting enzyme (ACE) inhibitor
How is the medication taken: (include dose, route, and frequency)	10 mg by mouth twice daily
Specific Directions not included above:	Oral tablets should be swallowed whole, not chewed or crushed. Medication should be stored at room temperature and thrown away for 60 days (NDH, 2023).
Does this medication interact with any other medication(s) on this list? (see rubric for further instructions)	● Alprazolam: Enalapril, when taken together with alprazolam, can lower a patient's blood pressure. Patients may have symptoms of headache, dizziness, lightheadedness, and changes in pulse/heart rate (Drugs.com, 2023) ● Oxycodone: Enalapril and oxycodone taken together can also drastically lower a patient's blood pressure. Patients could have symptoms of headache, dizziness, fainting, or changes in pulse/heart rate (Drugs.com, 2023).

	● **Prednisone: Prednisone can reduce the effects of enalapril on blood pressure. Because of this, the patient should inform the provider if they experience any unexplained weight gain, along with swelling of the extremities (hands and/or feet) (Drugs.com, 2023).**
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	**When taking enalapril, patients should avoid high potassium intake. This is because enalapril can increase potassium levels in a person's bloodstream. Also, people taking this medication should avoid salt substitutes because enalapril can have the same potassium-increasing effects (Drugs.com, 2023).**
Does any of the client's past medical history contradict the use of this medication?	**The patient has chronic kidney disease. Enalapril is contraindicated in renal dysfunction. This is because this medication is an ACE inhibitor, and the kidneys primarily excrete these classes of drugs. Because the kidneys are not working well, it can cause accumulation of this drug in the body, leading to decreased glomerular function (Drugs.com, 2023).**
What is the indication for using this medication based on the client's medical history? (If unable to determine an indication based on past medical	**The patient is using this medication because of his hypertension. This medication is used to control hypertension (NDH, 2023).**

history, please list potential indications for use of the medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	**1. The patient should take this drug simultaneously every day.** **2. The patient needs to prioritize hydration because this drug can cause a patient to become dehydrated through vomiting, diarrhea, or excessive sweating.**
How much would medication cost per month if paying out of pocket?	**$23.25 (Based on the packaging and the drug's storage life (60 days), one prescription can last about two months before needing a refill.**
Drug #3	**Drug Name (Generic): fenofibrate** **Drug Name (Trade): Antara, Fenoglide, Lipofen, Tricor, Triglide** **Drug Class: Therapeutic: Antilipemic; Pharmacologic: Fibrate**
How is the medication taken: (include dose, route, and frequency)	**145 mg PO daily**
Specific Directions not included above:	**If the patient takes Fenoglide or Lipofen, these drugs should be taken with food. If the patient takes any other form of this drug, it should be taken consistently with or without food. If the patient starts taking this medication without food, they should continue**

	taking it without food, and vice versa (NDH, 2023).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	**No, this medication does not interact with other medications on this list.**
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	**Patients who take fenofibrate need to have their nicotine intake managed. This is because fenofibrate can increase the effects of nicotine on the body.**
Does any of the client's past medical history contradict the use of this medication?	● **Use of this medication is contraindicated in those with high cholesterol. This is important because the patient has hyperlipidemia/high cholesterol. Patients who use this medication while also having high cholesterol can experience severe decreases in HDL cholesterol. Because of this, patients should have their HDL levels checked within the first few months of use of this drug (NDH, 2023).**
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	**This patient is using this medication for his hyperlipidemia. This medication is used to treat hyperlipidemia (NDH, 2023).**

history, please list potential indications for use of the medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	**1. The patient should be educated on the signs of deep vein thrombosis and pulmonary embolisms, as this medication can increase the risk of those disease processes.** **2. This drug can also cause photosensitivity, so the patient should use sunscreen and limit their time in the sun.**
How much would medication cost per month if paying out of pocket?	**The patient would be paying about $24.00/month for this drug. According to bottle size and dosage, one prescription filling would last the patient about 3 months (90 capsules) (Goodrx.com, 2023).**
Drug #4	**Drug Name (Generic): oxycodone** **Drug Name (Trade): Xtampza ER** **Drug Class: Pharmacological: Opioid; Therapeutic Class: Opioid Analgesic**
How is the medication taken: (include dose, route, and frequency)	**2.5 mg every 6 hours by mouth as needed**
Specific Directions not included above:	**This medication should be taken with food. This medication should also be swallowed whole, not crushed or chewed. If a patient has trouble swallowing, the tablet can be**

	opened, and the contents can be sprinkled on food (NDH, 2023).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	● **Alprazolam and oxycodone being used together can cause serious side effects such as respiratory distress, coma, and death (Drugs.com, 2023).** ● **Enalapril: Enalapril and oxycodone taken together can also drastically lower a patient's blood pressure. Patients could have symptoms of headache, dizziness, fainting, or changes in pulse/heart rate (Drugs.com, 2023).**
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	● **Patients taking this medication should not drink alcohol without the doctor's approval. This is because it can lead to dizziness, drowsiness, difficulty concentrating, and impaired motor functioning (Drugs.com, 2023)** ● **Patients should also avoid grapefruit/grapefruit juice. While using oxycodone, grapefruits can significantly increase the levels of oxycodone in the blood. (Drugs.com, 2023).**
Does any of the client's past medical history contradict the use of this medication?	● **The patient has chronic kidney disease. The medication can cause a reaction in patients with renal dysfunction. Even though the liver normally metabolizes**

	opioid drugs, renal issues can cause drug accumulation because the drug is not being released/discarded from the body properly. This can lead to an increased risk of drug toxicity in the body (Drugs.com, 2023). ● **This drug can also cause a reaction in patients with liver disease. This patient does not have liver disease yet, but hyperlipidemia does create a higher risk of the patient developing a fatty liver. If the patient were to develop fatty liver disease, concentrations of the drug could rise rapidly due to the drug not being metabolized in the liver properly (Drugs.com, 2023).**
What is the indication for using this medication based on the client's 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 used to treat pain that cannot be handled by nonopioid analgesics (NDH, 2023). The patient has chronic anemia, chronic kidney disease, and rheumatoid arthritis, all of which are indications for use for this patient. Anemia is characterized by a low number of healthy red blood cells in the body, resulting in weakness. Rheumatoid arthritis and kidney disease can cause chronic pain in the joints and abdominal areas, respectively. All of these are reasons as to why this patient would be taking this medication.**
What would you teach the client about taking this	**1. This drug should be taken with food. The drug should be taken with the same**

medication? You must prioritize 2 (see rubric)	**amount of food in each dose so that blood levels of this drug can remain consistent (NDH, 2023).** **2. Patients should also be instructed only to take the medication as needed and not longer than prescribed. This is because this drug is highly addictive, and prolonged use can lead to drug abuse, overdose, and even death (NDH, 2023).**
How much would medication cost per month if paying out of pocket?	**$14.65 per dose. This package has 90 capsules and should be used AS NEEDED. This means this medication should last the patient for a decent amount of time before another prescription is needed (Goodrx.com, 2023).**
Drug # 5	**Drug Name (Generic): polyethylene glycol 3350** **Drug Name (Trade): MiraLAX** **Drug Class: Osmotic Laxative**
How is the medication taken: (include dose, route, and frequency)	**17 g. Oral. Daily**

Specific Directions not included above:	● **17 g mixed with juice/water every morning.**
	● **Use MiraLAX precisely as directed on the label or as your doctor has prescribed it. Do not use this medicine in larger or smaller amounts or longer than recommended (Drugs.com, 2023).**
	● **To use MiraLAX powder, measure your dose with the medicine cap on the bottle. This cap should contain dose marks on the inside of it. Pour the powder into 4 to 8 ounces of a cold or hot beverage such as water, juice, soda, coffee, or tea. Stir this mixture and drink it right away. Do not save for later use(Drugs.com, 2023).**
	● **MiraLAX should produce a bowel movement within 1 to 3 days of using the medication. Polyethylene glycol 3350 commonly causes loose or watery stools (Drugs.com, 2023).**
	● **Do not use MiraLAX more than once per day. Call your doctor if you are still constipated or irregular after using this medication for 7 days in a row.**

	● **Store at room temperature, away from moisture and heat (Drugs.com, 2023).**
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	**Monitor closely because Prednisone and Sodium Sulfate/Potassium Chloride/Magnesium Sulfate/Polyethylene Glycol/MiraLAX decrease potassium levels in the blood. (WebMD, 2023).**
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	**The only lifestyle interaction affecting this medicine is the combination of Prednisone and MiraLAX because it decreases the potassium levels in the blood. (WebMD, 2023).**
Does any of the client's past medical history contradict the use of this medication?	**The patient has a past medical history of chronic kidney disease, which is a contraindication of usage. (WebMD, 2023).**
What is the indication for using this medication based on the client's 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 of MiraLAX in this case is used for occasional constipation. Based on the medicines taken, it could be taken to offset the adverse effect of oxycodone, making the patient have incontinent bowels (Drugs.com, 2023).**

What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. To make sure this medicine is safe for you, tell your doctor if you have: ● **nausea, vomiting, or severe stomach pain;** ● **ulcerative colitis;** ● **irritable bowel syndrome;** ● **kidney disease; or** ● **if you have had a sudden change in bowel habits that has lasted 2 weeks or longer (Drugs.com, 2023).** 2. **MiraLAX is used as a laxative to treat occasional constipation or irregular bowel movements (Drugs.com, 2023).**
How much would medication cost per month if paying out of pocket?	**MiraLax costs $11.61 at your local Walgreens (GoodRX, 2023).**

Drug # 6	Drug Name (Generic): Prednisone Drug Name (Trade): predniSONE, Intensol, Rayos, Winpred (CAN), Deltasone Drug Class: *Pharmacologic class*: Glucocorticoid *Therapeutic class*: Immunosuppressant
How is the medication taken: (include dose, route, and frequency)	10 mg PO Daily
Specific Directions not included above:	- Delayed-release tablets should be swallowed whole and not broken, chewed or crushed (Jones & Bartlett Learning, 2023). - For oral solution, use a calibrated device to measure dosage. Store at room temperature to protect from light. Discard 90 days after opening the container of oral solutions (Jones & Bartlett Learning, 2023). - Adherence to the prescribed dosage is crucial for the patient's medication regimen. Exceeding the recommended dosage may lead to severe side effects. - The client must not quit taking the medication suddenly (Jones & Bartlett Learning, 2023).

	● **Due to the higher risk of bleeding and GI ulcers, the client is advised not to drink alcohol while in therapy (Jones & Bartlett Learning, 2023).** ● **The immunosuppressive action of Prednisone means that patients using medication are recommended to stay away from those who have infectious diseases. It is recommended that patients promptly inform their physician if they have had chicken pox or measles (Jones & Bartlett Learning, 2023).** ● **Additionally, the patient should not be exposed to those who have just gotten the oral poliovirus vaccine or obtained any other vaccinations (Jones & Bartlett Learning, 2023).** ● **After finishing the medication, the patient should see their primary care physician again to assess its effectiveness and detect any adverse effects (Jones & Bartlett Learning, 2023).**
Does this medication interact with any other medication(s) on this list? (see rubric for further instructions)	**Prednisone will decrease the level or effect of alprazolam by altering drug metabolism, so monitor closely (WebMD, 2023).**

	Monitor closely because Prednisone and Sodium Sulfate/Potassium Chloride/Magnesium Sulfate/Polyethylene Glycol/MiraLAX decrease potassium levels in the blood (WebMD, 2023).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The only contraindication Prednisone would have with this would be to avoid alcohol consumption and eating sodium-containing foods (Jones & Bartlett Learning, 2023).
Does any of the client's past medical history contradict the use of this medication?	Based on the client's past medical history, there would be some concern due to his diagnosis of hypertension. Adverse effects of Prednisone when dealing with cardiovascular systems are hypertension, heart failure, and edema (Jones & Bartlett Learning, 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 medication in general)	This medicine is used to treat adrenal insufficiency and acute and chronic inflammatory and immunosuppressive disorders, which in this case is used to aid in chronic kidney disease and rheumatoid arthritis (Jones & Bartlett Learning, 2023).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. Prednisone should be administered once daily in the morning to match the body's

	regular cortisol secretion schedule (Jones & Bartlett Learning, 2023). **2. Prednisone should be administered with food or milk to minimize GI upset (Jones & Bartlett Learning, 2023).**
How much would medication cost per month if paying out of pocket?	**For 30 tablets of 10mg of Prednisone, the client would spend $5.68 per month at Walgreens (GoodRX, 2023)**
Drug # 7	**Drug Name (Generic): alprazolam** **Drug Name (Trade): Xanax** **Drug Class:** *Pharmacologic class:* **Benzodiazepine** *Therapeutic class:* **Anxiolytic, antipanic,** *Control substance schedule***: IV**
How is the medication taken: (include dose, route, and frequency)	**Alprazolam 0.5mg po TID PRN**
Specific Directions not included above:	● **Warn against stopping the drug abruptly because withdrawal symptoms may occur (Jones & Bartlett Learning, 2023).** ● **Be aware that alprazolam therapy can result in significant dependence even with short-term use and dosages less than 4 mg daily. Monitor the patient closely. A**

	sudden cessation of therapy can result in acute withdrawal reactions. In specific individuals, withdrawal symptoms may last for weeks to up to more than 12 months. Notify the prescriber if physical and psychological dependence is suspected (Jones & Bartlett Learning, 2023). ● **Monitor the patient closely if depression occurs because of the potential for episodes of hypomania, mania, and suicidal ideation (Jones & Bartlett Learning, 2023).**
Does this medication interact with other medicine (s) on this list? (see rubric for further instructions)	**Alprazolam and oxycodone are contraindicated because both increase sedation and drowsiness. The nurse should monitor these two drugs closely (WebMD, 2023).** **Prednisone will decrease the level or effect of alprazolam by altering drug metabolism, so monitor closely (WebMD, 2023).**
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	**Elderly patients are more sensitive to the effects of the drug and may experience ataxia and oversedation (Frandsen et al., 2021, p. 1084).**

	If the patient were to use alcohol, it could cause enhanced adverse CNS effects of alprazolam, increased risk of significant sedation, and somnolence, especially if combined with an opioid (Jones & Bartlett Learning, 2023).
Does any of the client's past medical history contradict the use of this medication?	The patient's past medical history of dementia would be a contraindication of this medicine because one of the adverse effects would be confusion, agitation, and cognitive disorder, which would prove problematic (Jones & Bartlett Learning, 2023).
What is the indication for the use of this medication based on the client's past medical history? (If unable to determine a movement based on past medical history, please list potential signs for use of the medication in general)	Based on the client's medical history, it could be assumed that this medicine is used to treat the symptoms of dementia and not dementia itself (Jones & Bartlett Learning, 2023).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. Warn against stopping the drug abruptly because withdrawal symptoms may occur (Jones & Bartlett Learning, 2023). 2. Instruct the patient to keep the prescribed dose the same because of the risk of dependency (Jones & Bartlett Learning, 2023).
How much would medication cost per month if	For 30 tablets of 0.5 mg of alprazolam, the client would spend $11.79 per month at

paying out of pocket?	Walgreens (GoodRX, 2023)
Drug # 8	Drug Name (Generic): darbepoetin alfa Drug Name (Trade): Aranesp (Jones & Bartlett, 2022) Pharmacological class: Recombinant human erythropoietin (Jones & Bartlett, 2022) Therapeutic class: Anti-anemic (Jones & Bartlett, 2022)
How is the medication taken: (include dose, route, and frequency)	Dose: 0.45mcg/kg Route: Subcutaneous Frequency: every 4 weeks
Specific Directions not included above:	- SubQ injection once every 4 weeks - Protect vials and prefilled syringes from light (Jones & Bartlett, 2022) - Do not administer medication if there appears to be discoloration (Jones & Bartlett, 2022) - Throw away any leftover medication (Jones & Bartlett, 2022) - You do not need to dilute the medication before administration (Jones & Bartlett,

	2022)
Does this medication interact with any other medication(s) on this list? (see rubric for further instructions)	There are no known interactions between this medication and the other medications the patient is currently taking (Drugs.com, 2023).
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	The patient's record does not disclose any social history, but no known interactions were noted (Jones & Bartlett, 2022).
Does any of the client's past medical history contradict the use of this medication?	Do not use this medication in patients with hypertension. This medication may cause blood pressure to rise. The patient's blood pressure should be controlled and monitored during treatment (Jones &Bartlett, 2022). This is a contraindication because the patient has hypertension. This medication is contraindicated in renal-impaired patients (Jones &Bartlett, 2022). This patient has chronic kidney disease. This medication is often given in injection form, and this may be a contraindication depending on the type of needle used due to the patient's latex allergy (Jones & Bartlett, 2022).

What is the indication for using this medication based on the client's medical history? (If unable to determine an expression based on past medical history, please list potential signs for use of the medication in general)	The patient has a medical history of chronic anemia. This medication treats patients' anemia by stimulating and producing red blood cells by interacting with bone marrow (Jones & Bartlett, 2022).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. Educate the patient on properly administering an injection (Jones & Bartlett, 2022). 2. Educate the patient on the importance of compliance and adverse reactions and inform the patient that the risk for seizures is most significant within the first 90 days (about three months) of administering the medication. The patient should also know about the medication interactions listed above (Jones & Bartlett, 2022).
How much would medication cost per month if paying out of pocket?	25 mcg/kg 4 mL: $809.92 (GoodRx, 2019).
Drug # 9	Drug Name (Generic): Iron supplement Drug Name (Trade): Ferrous Sulfate

	Pharmacological class: Hematinic (Jones & Bartlett, 2022). Therapeutic class: Anti anemic, nutritional supplement (Jones & Bartlett, 2022).
How is the medication taken: (include dose, route, and frequency)	Dose: 325mg Route: PO Frequency: once daily
Specific Directions not included above:	-Take by mouth daily -Give medication with a glass of water or juice to assist absorption (Jones & Bartlett, 2022). -Protect medication from heavy light exposure (Jones & Bartlett, 2022).
Does this medication interact with other medicine (s) on this list? (see rubric for further instructions)	There are no known interactions between this medication and the other medications the patient is currently taking (Drugs.com, 2023).
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	No social history was included for this patient, but the patient's diet may be an interaction. Foods such as coffee, eggs, dairy products, and specific tea may interfere with the absorption and effectiveness of the medication (Jones & Bartlett, 2022). Alcohol abuse can also interfere and result in an increased serum iron level (Jones & Bartlett, 2022).

Does any of the client's past medical history contradict the use of this medication?	There are no contraindications to using this medication in the patient's past medical history.
What is the indication for using this medication based on the client's 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 used to prevent low levels of iron in the blood, or in this patient's case, it is used to treat current low levels of iron in the blood (Jones & Bartlett, 2022).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. Educate the patient on adverse effects, contraindications, and the importance of compliance (Jones & Bartlett, 2022). 2. Educate the patient not to take antacids or calcium supplements around ferrous sulfate (Jones & Bartlett, 2022).
How much would medication cost per month if paying out of pocket?	325 mg/ tablet: $16.10 (GoodRx, 2019).
Drug # 10	Drug Name (Generic): Paxil Drug Name (Trade): Paroxetine

	Pharmacological class: Selective serotonin reuptake inhibitor (Jones & Bartlett, 2022). Therapeutic class: Antianxiety, antidepressant (Jones & Bartlett, 2022).
How is the medication taken: (include dose, route, and frequency)	Dose: 20mg Route: PO Frequency: once daily
Specific Directions not included above:	-Take by mouth daily -This medication may be in capsule form, and capsules must be taken whole (Jones & Bartlett, 2022). -Capsules should be given at bedtime, but immediate-release tablets should be administered in the morning (Jones & Bartlett, 2022).
Does this medication interact with other medicine (s) on this list? (see rubric for further instructions)	Drug interactions with other medications on this patient list include: -Rivastigmine: interaction with paroxetine that may decrease the effectiveness of paroxetine (Drugs.com, 2023). -Oxycodone: Negative interaction with paroxetine that may cause a condition called serotonin

	syndrome that causes confusion, hallucinations, and seizures (Drugs.com, 2023).
	-Alprazolam interacts with paroxetine and the side effects experienced. This interaction may increase the intensity of side effects such as dizziness confusion, and may increase CNS or respiratory complications (Drugs.com, 2023). This medication combination is not suggested in the elderly due to the risk of causing impairment in thoughts and judgment (Drugs.com, 2023).
Lifestyle interactions: **(Daily tobacco use, alcohol, drugs, etc.)**	This patient did not have a social history provided. However, alcohol abuse can affect the psychomotor function in addition to this medication and increase specific side effects like drowsiness and dizziness (Jones & Bartlett, 2022).
Does any of the client's past medical history contradict the use of this medication?	This medication is not suggested for those with dementia due to the risk of increasing cognitive decline (Peng-Hui et al., 2020).
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	This medication is given for anxiety, depression, OCD, and panic disorder (Jones & Bartlett, 2022). This patient may be experiencing these conditions during this stressful time with progressive dementia.

medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. Educate the patient on the importance of compliance and do not abruptly stop the medication (Jones & Bartlett, 2022). 2. Educate the patient on the appropriate times to take the medication, and full effects may take several weeks to show full effectiveness (Jones & Bartlett, 2022).
How much would medication cost per month if paying out of pocket?	20 mg/tablet: $4.00 (GoodRx, 2019).

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

  This medication regimen scenario may be challenging for patients to maintain full compliance. In this scenario, our patient has dementia and has admitted to being unable to remember medications. The patient resides in an assisted living facility. Assisted living facilities do not assist in medication administration. The patient is unable to remember medications and, therefore, is more likely to overdose on a medication or not administer a needed medication. The patient also has children who live closely and assist where they can. The concern with the children and spouse assisting is a risk due to many people attempting to organize and administer medications. The risk is increased due to the risk of someone providing too much medication or a double dose.

The patient has lisinopril, sulfa, and latex allergies. Some of the medications this patient is taking are contraindicated in this patient. Although we do not know the patient's allergic reaction to these medications, there is an interaction between lisinopril and Oxycodone, Prednisone, and Alprazolam. This interaction may cause additional effects and lower the blood pressure more than intended. The additional effects can include confusion, dizziness, and drowsiness (Drugs.com, 2023). Some medications are contraindicated in this patient, relating to the patient's medical history. For example, Aranesp is contraindicated in patients with hypertension due to the medication raising blood pressure and is not suggested for patients with renal impairment. Paroxetine is contraindicated in patients with dementia due to the risk of increasing cognitive decline (Peng-Hui et al., 2020). The patient is on a different range of medications. Another consideration is price. The patient is retired and living with Medicare and collecting social security. The elderly community is often lower-income households. It can become difficult for the patient to obtain all medications on time and consistently due to a lack of financial support and other environmental factors. These combined aspects can make it difficult for this patient to comply with the medical treatment and continue proper medical care.

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

Complex regimens are standard in the aging population due to the prevalence of multiple comorbidities that consequently increase the need for polypharmacy (Elnaem et al., 2020). One effective tactic to lessen the complexity of a drug regimen is to

simplify it by prescribing fewer medications overall, as achieved by using treatments like fixed-dose combinations. A study showed that the once-daily (OD) dosing frequency is an approach that reduces regimen complexity, with evidence showing a higher adherence rate with OD dosing (Elnaem et al., 2020).

Elnaem et al. showed in a study aimed at simplifying immunosuppressive regimens for kidney transplant patients that OD-simplified regimens were associated with a higher level of self-reported adherence with no risk of treatment failure (Elnaem et al., 2020). A US study that investigated the impact of OD simplification on adherence to hypertensive and anti-diabetic medications reported a positive effect on medicine adherence (Elnaem et al., 2020). For this reason, the student nurses feel that a medicine regimen that is consistent in care and timing would best benefit the patient in maintaining a good medicine regimen.

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)

Creating a regimen complexity to allow a firmer guideline on how and when medicine should be taken will help assist the patient in remembering to not only take his medications daily, but it will help to offset the number of medication errors a patient can make by forgetting to take the correct medicines and dosages. The complexity of the medicine regimen is a significant contributing factor to the incidence of medication non-adherence. When assessing how complex a recommended regimen is, many elements are

often considered, such as the number and timing of daily dosages. Regimen complexity is commonly seen among patients with long-

term therapeutic needs for conditions such as HIV, diabetes, hypertension, and asthma (Elnaem et al., 2020).

The student nurse would ask the provider a few questions about the drugs that the patient is taking. Some of these drugs should not

be taken together, and the student nurse would want to know why they were prescribed together. The provider might have reasons that

the student nurse does not understand. The doctor prescribed oxycodone and alprazolam, which cause a significant drug interaction

between each other. Because of this, the Student would probably ask if there were any possibilities for a dosage adjustment or if they

could prescribe an alternative medication instead of one of the drugs.

Along with that, it seems oxycodone and paroxetine both have some other severe reactions with other medications. Paroxetine and

oxycodone taken together can induce seizures. Paroxetine and alprazolam can increase CNS and respiratory symptoms. Paroxetine is

not indicated for patients with dementia because it could cause an increase in cognitive decline.

The student nurse would also have a conversation with the patient's family about the patient's social history. Since the patient has

dementia, it would be a good idea to talk to a close relative of the patient to get the social history, such as if he smokes or drinks, how

frequently, and what his regular diet is like. This is important because some drugs have contraindications to certain foods/alcohol and

drugs.

What would the patient's monthly out-of-pocket expense be for all 10 medications? (Total Cost for all 10 meds)?

Prior to any insurance copays and discounts, the patient would spend $966.63 per month for the medication regimen he is currently on (GoodRx, 2019).

Reflective Statement of Experience:

Paige:

This project was very eye-opening. This project allowed students to become better educated on the risks and considerations related to polypharmacy. *Polypharmacy* is a very concerning issue that should be addressed with every patient. Polypharmacy is the use of multiple medications (five or more) that may lead to severe adverse effects or medical conditions (Halli-Tierney et al., 2019). Elderly patients are often more at risk for polypharmacy (Halli-Tierney et al., 2019). As soon-to-be nurses, we must know the importance and seriousness of polypharmacy. This project allowed us to see how many medications may interfere with one another, to become better educated on the importance of medical history when administering certain medications, and the importance of knowing your patient's lifestyle. This project also allowed us to become more aware of the price of medications. Patients come from different

incomes and households, and some struggle to find financial support to afford medical care, including medications. Some medications

are expensive, and patients struggle to get them. Nurses are patients' advocates, educators, and caregivers. Nurses should support and

encourage their patients and their health, but more importantly, we are advocating for their safety and right to proper treatment. In this

scenario, the nurse should speak with the provider and express concerns about medication interactions and side effects. The nurse

should also educate the patient and family on proper use and medication compliance. The nurse should provide beneficial resources,

such as having an aid that comes and assists the patient with medications or better educating the patient on the benefits of long-term

care facilities. This project was very informative and beneficial to assist in our understanding of polypharmacy.

Brittney:

The polypharmacy project was informative and brought a new outlook on maintaining a healthy medicine regimen. This

project highlighted the importance of slowing down and sharing that medicines are given for the proper purposes and are not causing

harm to a patient. It highlighted how some medicines were contraindicated and how some medicines work in conjunction to help aid

with the side effects of other medicines. As student nurses, we are learning the importance of not only knowing our medicines but also

educating, advocating for independence, and taking their medicines in a way that is healthy and will not create danger to a patient.

According to a study headed by Kurczewska-Michalak et al., various potentially valuable approaches to polypharmacy management

have been described, ranging from narrow-focused screening tools to comprehensive programs and complex strategies. This large

variety of solutions enables healthcare professionals to adopt polypharmacy-addressing interventions that suit their needs and

preferences, considering the clinical scenario's specificity (Kurczewska-Michalak et al., 2021).

Working with Paige and Opeo allowed the student nurse to see how teamwork could create excellent patient care. When

working as a team, the best outcome in nursing comes from trusting oneself and your peers and coworkers.

Opeo: I think that this project was very informative. It showed me how difficult it is to to care for multiple disease processes

without making another one worse. Providers have to juggle different types of medication for different disease processes, and make

sure that they get it right, because if they don't, that could harm the patient. As nurses, it is our job to catch the mistake and see where

the providers may or may not have messed up. We work as the first, last, and sometimes both, lines of defense in keeping a client

healthy. This project also showed me that drug are not cheap.Especially for those who have to deal with many different disease

processes. It can easily turn into choosing money over health, and for those who don't have the money to invest in health, where

should they turn. As nurses, it is also important to try to get the patient as much help as possible to be healthy. I enjoyed working with

my classmates for the project. They work in a timely manner, and we were able to get things done in a way that all of us were satisfied

with the work that we did. I would definitely work with them again.

References

Frandsen, G., Pennington, S. S., Frandsen, G., & Lynn, P. (2021). *Abrams' clinical drug therapy: Rationales for Nursing Practice*. Wolters Kluwer Health.

GoodRx. (2019). *GoodRx*. Goodrx.com. https://www.goodrx.com/

Elnaem, M. H., Irwan, N. A., Abubakar, U., Syed Sulaiman, S. A., Elrggal, M. E., & Cheema, E. (2020). Impact of Medication Regimen Simplification on Medication Adherence and Clinical Outcomes in Patients with Long-Term Medical Conditions. *Patient Preference and Adherence, 14,* 2135-2145. https://doi.org/10.2147/PPA.S268499

Jones & Bartlett Learning, LLC. (2022). *2022 Nurse's Drug Handbook* (20th ed.).

Jones & Bartlett Learning, LLC (2023). *NDH: Nurse's Drug Handbook*.

https://www.Drugs.com. (2023). *Drugs.com | Prescription Drug Information, Interactions & Side Effects*. Drugs.com; Drugs.com. https://www.drugs.com

Peng-Hui Ai, Si Chen, Xian-Dong Liu, Xiao-Na Zhu, Dong-fu Feng, Shengdi Chen, Nan-Jie Xu, Suya Sun. (2020). Paroxetine ameliorates prodromal emotional dysfunction and late-onset memory deficit in Alzheimer's disease mice. *Translational Neurodegeneration, 9*(1), 18. https://doi.org/10.1186/s40035-020-00194-2

Halli-Tierney, A. D., Scarbrough, C., & Carroll, D. (2019). Polypharmacy: Evaluating Risks and Deprescribing. *American Family Physician, 100*(1), 32–38. https://www.aafp.org/pubs/afp/issues/2019/0701/p32.html#:~:text=21-

Heol, Robert William, PharmD, Rph. Giddings, M. Ryan, MD. Takahashi, Paul, MD. (2021). Polypharmacy Management in Older Patients. Mayo Clinic Proceedings, 96(1), 242–256. https://doi.org/10.1016/j.mayocp.2020.06.012

Kurczewska-Michalak, M., Lewek, P., Jankowska-Polańska, B., Giardini, A., Granata, N., Maffoni, M., Costa, E., Midão, L., & Kardas, P. (2021). Polypharmacy Management in the Older Adults: A Scoping Review of Available Interventions. *Frontiers in Pharmacology, 12*. https://doi.org/10.3389/fphar.2021.734045

WebMD. (n.d.). *Drug interaction checker - find interactions between medications*. WebMD. https://www.webmd.com/interaction-checker/default.htm

N322 Polypharmacy Grading Rubric

Criteria	Excellent 40 points	Acceptable 31-39 points	Unacceptable 0-30 points	Points Earned
Each drug should have a completed breakdown within the tables provided, which includes the following: ● 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
Specific Directions not included above: ● Is there any type of	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	Student failed to answer the questions and/or the answers were inaccurate. (For	___/10

		were not addressed and/or were inaccurate. (For each medication, this question is worth one point)	each medication, this question is worth one point)	
medication on the patient list that have specific directions? (before bed, before breakfast, 30 minutes before meals, etc..)				
Criteria	**Excellent** **0 points**	**Acceptable** **16-19**	**Unacceptable** **0-15 points**	**Points Earned**
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? ● Do any of the medications interact with each other? (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	All medications were reviewed, and the 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

know you are thinking about it when considering each medication)				

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
● Does any of the client's past medical history contradict the use of this medication?	The Student knew why the client's medical history would contradict the medication(s) used.	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
● 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	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

general)				
Criteria	**Excellent** **20 points**	**Acceptable** **16-19 points**	**Unacceptable** **0-15 points**	**Points Earned**
What would you teach the client about taking this medication? ● What education is needed for the medication? (For each medication listed, the Student must prioritize two topics for client education) (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)	Student showed the importance of medication education, and appropriate prioritized client education for the scenario provided.	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)	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)	___/20
Criteria	**Excellent** **10 points**	**Acceptable** **8-9 points**	**Unacceptable** **0-7 points**	**Points Earned**
Is there anything about this	Student had knowledge on why a	The Student indicated some	Student failed to answer the	___/10

medication regimen/ scenario that might indicate a potential difficulty in maintaining compliance with the orders as listed? ● Why would the patient have difficulty maintaining the medication regimen? (Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc)	patient would have difficulty with medication regiment	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)	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)	

Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
Is there anything about this medication regimen/ scenario that might assist the client in maintaining the medication regimen as ordered? ● What factors are present to remain compliant?	Student had knowledge on medication compliance	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)	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)	___/10

(Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc.				
Criteria	**Excellent** **15 points**	**Acceptable** **8-9 points**	**Unacceptable** **0 points**	**Points Earned**
● 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**
The Student must appropriately format the paper and include all of the	The document included a title page, the rubric, the client scenario, a reference page which	The document did not meet all of the criteria for formatting/ referencing. See	The document did not meet all of the criteria for formatting/ referencing. See "criteria" to the	___/20

following: ● 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 two of the document (2 points) ● The paper included a minimum of five references which were cited within	included five references that were cited within the document. APA formatting was consistent with the APA manual.	"criteria" to the left for further breakdown.	left for further breakdown.	

the document (each reference with one citation is worth 5 points)				
Criteria	**Excellent** **20 points**	**Acceptable** **16-19 points**	**Unacceptable** **0-15 points**	**Points** **Earned**
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) Elaborate on this, explaining why you feel it should be addressed, why it is a priority, and provide evidence behind your presentation.	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.	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.	The Student failed to answer the question OR the Student answered the question. However, the answer was dangerously inaccurate.	____/20

Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
● Reflective statement of experience should include 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 nurse's role in this scenario as a client advocate/educator/caregiver	The students reflected showed good insight into the project itself, polypharmacy, and the nurse's role in client advocacy	The Student reflected; 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 nurse's role in this scenario as a client advocate/educator/caregiver	Student failed to reflect on their project OR the Student addressed only the topics of reflection	___/10
Total Points				___/200