

Polypharmacy Project

Beatriz Amaya, BSN Student

Toni Andres, BSN Student

N322 Introduction to Pharmacology

Lakeview College of Nursing

November 8, 2022

Polypharmacy Case 3

Background: Zeb is a 30-year-old male with multiple health conditions. He has a wife and 3 children at home. He is alert and oriented and is employed as a construction worker in New York City. Zeb does not drink alcohol, but does enjoy a cigar once a day after work. He recently underwent gastric banding.

Insurance: Zeb has health insurance, however he is having difficulty covering his medical expenses due to work being slow.

Allergies: NSAIDs, IV contrast dye, Penicillin

Diet: Low carb and low-fat diet – not to exceed 1,000 calories a day

Medical diagnosis: NAFLD, hypertension, GERD, morbid obesity, heart failure

Current medications include the following:

- Vitamin E 800 iu by mouth every day
- Centrum Adults Chewable Multivitamin one tablet by mouth twice a day
- Garlic Powder tablet 300 mg three times a day
- Lotensin 5 mg by mouth twice a day
- Hydrochlorothiazide 25 mg by mouth twice a day
- Norco 5mg /325mg by mouth twice a day
- Aspirin 81 mg by mouth one time a day
- Acetaminophen 500 mg by mouth every four hours as needed
- Calcium Carbonate 600 mg by mouth three times a day

Drug #1	Drug Name (Generic): Vitamin E (alpha tocopherol) Drug Name (Trade): Amino-Opti-E Drug Class: Antioxidant
How is the medication taken: (include dose, route, and frequency)	Vitamin E 800 iu by mouth every day
Specific Directions not included above:	Vitamin E is not administered parenterally, and the dosage is based on the severity of the deficiency, as prescribed (Jones,2021, p.1,216).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	There is a moderate chance of an interactions between the vitamin e and aspirin. Vitamin E may increase the effects of aspirin and cause you to bleed more easily (“Drug interactions between aspirin low strength and vitamin e”, n.d.).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Zeb’s lifestyle does not interact with the use of this medication although it is noted he smokes cigars every day after work.
Does any of the client’s past medical history contradict the use of this medication?	There seem to be no contraindications of the vitamin E supplement only with persons with known allergies to the vitamin or components of the formulation of vitamin E.
What is the indication for use of this medication	Zeb has been diagnosed with non-alcoholic fatty liver disease. A high dose supplementation

<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>of vitamin E has been shown to decrease the progression of nonalcoholic fatty liver disease (Medina & Gupta, n.d.). Long term studies remain necessary to show continued benefits.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. There is a moderate chance of interaction between vitamin E and aspirin that Zeb takes every day. I will advise Zeb to be careful if he cuts himself or if he has a fall and hits his head, because vitamin E can increase bleeding, and aspirin increases the chance of bleeding (“Drug interactions between aspirin low strength and vitamin e”, n.d.).</p> <p>2. Hypervitaminosis E is rare and is known to be the least toxic of the fat-soluble vitamins but might be a concern if said accidentally took two doses in one day. Zab only takes 800 IU and the upper limit for adults is 1500 to 2200 IU depending on the source (Medina & Gupta, n.d.)</p>
<p>How much would medication cost per month if paying out of pocket?</p>	<p>Vitamin E would cost \$5.25 for a 30-day supply (<i>Drug price search</i>, n.d.).</p>

<p>Drug #2</p>	<p>Drug Name (Generic): Multivitamin</p>
-----------------------	---

	<p>Drug Name (Trade): Centrum Adult Chewable Multivitamin</p> <p>Drug Class: Mineral</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Centrum Adults Chewable Multivitamin one tablet by mouth twice a day.</p>
<p>Specific Directions not included above:</p>	<p>Suggested use on the package is adults take 1 tablet daily with food (“Centrum men multivitamin”, n.d.).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>It does not appear that this medication interacts with any other medications on the list that Zeb takes.</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Zeb’s lifestyle does not interact with the use of this medication although it is noted he smokes cigars every day after work.</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>There is nothing in Zeb’s past medical history to contradict the use of a multivitamin.</p>
<p>What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical</p>	<p>The indication for the use of this multivitamin is to supplement his nutritional intake, to prevent a vitamin deficiency due to his low carb low fat diet with the limitation of 1000</p>

history, please list potential indications for use of the medication in general)	calories a day due to his recent gastric banding.
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<p>1. Zeb would need to be mindful taking a multivitamin bid since he also takes vitamin E in a dose of 800 IU one time a day and calcium in a dose of 600 milligrams three times a day so that he would not be getting too much of either supplement.</p> <p>2. Since Zeb has had gastric banding, and is on a strict low-calorie diet, it can be more difficult for him to get nutrients through whole foods. By taking a multivitamin this would help him increase getting nutrients through a multivitamin supplement.</p>
How much would medication cost per month if paying out of pocket?	Centrum Adults Chewable Multivitamin 30-day supply would cost \$11.40 (“Centrum men multivitamin”, n.d.).
Drug #3	<p>Drug Name (Generic): Garlic</p> <p>Drug Name (Trade): Allium sativum</p> <p>Drug Class: Herb</p>
How is the medication taken: (include dose, route, and frequency)	Garlic Powder tablet 300 mg three times a day

Specific Directions not included above:	There are no other specific directions beyond what is listed for this medication.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Aspirin- Garlic has been known to cause bleeding in rare cases and taking it with other medications such as aspirin that can cause bleeding can increase that risk (<i>Drug Interactions between aspirin low strength and garlic, n.d.</i>).. Garlic has been shown in some studies to have an antithrombotic effect it could decrease platelet aggregation and increase prothrombin time; Garlic powder contains an anti-platelet activity.</p> <p>Benazepril- Although strong evidence is lacking there is evidence that garlic has been found in some studies to lower blood pressure and could possibly increase the effects of hypotensive medications (<i>Benazepril: MedlinePlus drug information, n.d.</i>).</p>
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Zeb's lifestyle does not interact with the use of this medication although it is noted he smokes cigars every day after work.
Does any of the client's past medical history contradict the use of this medication?	There does not seem to be anything in Zeb's past medical history that would 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)	With Zeb's medical history of being morbidly obese, having heart failure, and hypertension, garlic powder would be a good indication for Zeb. According to the website Drugs.com, garlic has been investigated for its effects in cancer, diabetes, dyslipidemia, hypertension, ischemic heart disease, heart failure, liver disease, among other conditions. Garlics antiplatelet effects have also been evaluated. There has been a clinical study of patients with metabolic syndrome who have taken garlic twice daily for four weeks and it's significantly reduced their waist circumference lowered the triglycerides an increased the HDL cholesterol although no significant difference in body mass index was noted ("Garlic", 2022)
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none">1. Since Zeb is working as a construction worker, he does have a chance of falling or hurting himself or hitting his head while at work and since garlic has anti-platelet characteristics and he takes aspirin that can increase him for a bleeding risk he needs to be mindful in case something would happen.2 Educate patient that garlic has been found in some studies to lower blood pressure and could possibly increase the effects of hypotensive medications (<i>Benazepril: MedlinePlus drug information</i>, n.d.).

How much would medication cost per month if paying out of pocket?	The cost for a 30-day supply of garlic would be \$1.20 (“Garlic Powder”,2022).
Drug #4	<p>Drug Name (Generic): Benazepril</p> <p>Drug Name (Trade): Lotensin</p> <p>Drug Class: Angiotensin-converting enzyme (ACE) inhibitor</p> <p>Pharmacologic: Angiotensin-converting enzyme (ACE) inhibitor</p> <p>Therapeutic: Antihypertensive</p>
How is the medication taken: (include dose, route, and frequency)	Lotensin 5 mg by mouth twice a day
Specific Directions not included above:	There are no specific directions listed for this medications other than what is listed above.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Aspirin- May increase the antihypertensive effect of benazepril (Jones,2021, p.121)</p> <p>Hydrochlorothiazide- taking this and benazepril could have effects on possibly causing excessive hypotension (Jones, 2021, p.121).</p> <p>Calcium carbonate- taking benazepril and calcium together could decrease the effectiveness of the ACE inhibitor.</p>

<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Zeb's lifestyle does not interact with the use of this medication although it is noted he smokes cigars every day after work.</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>Zeb's past medical history does not seem to have any contradictions for the use of this medication.</p>
<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>This medication is to help control hypertension. Zeb has been diagnosed with hypertension. His diagnosis of morbid obesity and heart failure can also contribute to his hypertension.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. Taking benazepril reduces high blood pressure. It is important to take this blood pressure medicine the same time every day they recommend brands benazepril to be taken in the</p>

	<p>morning as it can cover the whole 24-hour time frame.</p> <p>2. Benazepril is an ACE inhibitor an ACE inhibitor works by blocking a substance in the body that causes a blood vessel to tighten the result of this relaxes the blood vessels. This in turn lowers the blood pressure that increases the supply of blood and oxygen to the heart. It is very important that you do not take this medication by accident more than they're prescribed amount. The blood pressure lowering effects are seen within an hour of taking the medication and the peak effect is between two and four hours after the initial dose (<i>Benazepril: MedlinePlus drug information, n.d.</i>).</p>
<p>How much would medication cost per month if paying out of pocket?</p>	<p>The cost for a 30 day supply would be \$10.85 (<i>Drug price search, n.d.</i>).</p>
<p>Drug # 5</p>	<p>Drug Name (Generic): Omeprazole</p> <p>Drug Name (Trade): Prilosec</p> <p>Drug Class: Antiulcer</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Omeprazole 20 mg by mouth once a day.</p>
<p>Specific Directions not included above:</p>	<p>Take drug before eating usually before breakfast follow with a glass of cool water and not to</p>

	keep any leftover mixture (Jones,2021, p.826).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Hydrochlorothiazide - omeprazole is known as a proton pump inhibitor these can sometimes cause hypomagnesemia which is low blood levels of magnesium (“Drug Interactions between hydrochlorothiazide and omeprazole”, n.d.). Taking omeprazole with hydrochlorothiazide can have this effect.
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Zeb’s lifestyle does not interact with the use of this medication although it is noted he smokes cigars every day after work.
Does any of the client’s past medical history contradict the use of this medication?	Zeb’s 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)	Zeb takes this medication to treat his gastroesophageal reflux disease.
What would you teach the client about taking this	1. Teach the patient about taking hydrochlorothiazide and omeprazole increase the chances of

medication? You must prioritize 2 (see rubric)	having hypo-magnesium. 2. Teach patient to take drug before eating usually before breakfast follow with a glass of cool water and not to keep any leftover mixture (Jones,2021, p.826).
How much would medication cost per month if paying out of pocket?	The cost for a 30 day supply would be \$6.50 (<i>Drug price search, n.d.</i>).
Drug # 6	Drug Name (Generic): Aspirin (Acetylsalicylic acid) Drug Name (Trade): Bayer, Aspirin Drug Class: NSAID
How is the medication taken: (include dose, route, and frequency)	Aspirin 81 mg by mouth one time a day
Specific Directions not included above:	Instruct patient to take aspirin with food or after meals because it may cause GI upset if taken on empty stomach (Jones, 2021,p.89).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Possibly decrease diuretic effectiveness (Jones, 2021, p.89) .Zeb takes hydrochlorothiazide as a diuretic and aspirin can decrease it's effectiveness. Garlic & Aspirin- Garlic has been known to cause bleeding in rare cases and taking it with other medications such as aspirin that can cause bleeding can increase that risk. Garlic has been shown in some studies to have an antithrombotic effect it could

	<p>decrease platelet aggregation and increase prothrombin time, Garlic powder contains an anti-platelet activity.</p> <p>There is a moderate chance of an interactions between the vitamin e and aspirin. Vitamin E may increase the effects of aspirin and cause you to bleed more easily (“Drug interactions between aspirin low strength and vitamin e”, n.d.).</p> <p>Benazepril-May increase the antihypertensive effect of benazepril (Jones,2021, p.121)</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Zeb’s lifestyle does not interact with the use of this medication although it is noted he smokes cigars every day after work.</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>Zeb is allergic to NSAIDS, also had a recent gastric banding and aspirin should be avoided. Being allergic and having gastric banding procedure recently done will contradict the use of this medication.</p>
<p>What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>Patient takes this medication to prevent a heart attack as this patient has a medical history of heart failure. To reduce the severity of or prevent acute MI or unstable angina (Jones ,2021, p.87).</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 patient that taking garlic powder, vitamin e and aspirin can increase the risk of bleeding (“Garlic”,2017). 2. Teach patient about Possibly decrease diuretic effectiveness (Jones, 2021, p.89) .Zeb takes hydrochlorothiazide as a diuretic and aspirin can decrease it’s effectiveness.
<p>How much would medication cost per month if paying out of pocket?</p>	<p>The cost for a 30-day supply would be \$3.14 (<i>Drug price search</i>, n.d.).</p>
<p>Drug # 7</p>	<p>Drug Name (Generic): Hydrocodone / acetaminophen</p> <p>Drug Name (Trade): Norco</p> <p>Drug Class: Opioid</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Norco 5mg /325mg by mouth twice a day.</p>
<p>Specific Directions not included above:</p>	<p>Take as prescribed do not adjust dosage without speaking to a provider first (Jones, 2021, p.543).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Patient is also prescribed acetaminophen and Norco consist of hydrocodone/ acetaminophen this patient is receiving a double dose of acetaminophen should be important to note this to the doctor causing a potential overdose and use in cautious in patients with hepatic impairment.</p>

	Possible reduction of diuretic effectiveness (Jones, 2021, p.541).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	This patient does not have a lifestyle where it would interact with this medication as he does not drink alcohol or take any recreational drugs. It is important to avoid alcohol usage with this drug due to causes interactions that can lead to death.
Does any of the client's past medical history contradict the use of this medication?	None of the patient past medical history contradicts the use of this medication. Although do avoid alcohol. "Caution patient to avoid ingestion alcohol including medications that contain alcohol as a combination increases the risk of overdose respiratory depression and death as those taking other types of depressants including benzos together with hydrocodone therapy" (Jones 2021, p.543).
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)	Patients takes it due to recent gastric banding procedure, morbid obesity, Gastroesophageal reflux disease, and being a construction working all causing possible chronic pain. To severe pain in patients needing continuous around the clock opioid analgesia for an extended period (Jones, 2021, p.541).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Inform patient that Norco consists of acetaminophen and that their medical records also show a dosage for acetaminophen ordered as well so be cautious in taking this

	<p>medication or talk to the provider and address the concern of lowering the dose to not cause an overdose and take with caution with patients who have hepatic impairments.</p> <p>2. Educate client how taking hydrocodone/acetaminophen can decrease the effectiveness of the diuretic hydrochlorothiazide. (Jones, 2021, p.541).</p>
How much would medication cost per month if paying out of pocket?	The cost for a 30-day supply would be \$19.62 (<i>Drug price search</i> , n.d.).
Drug # 8	<p>Drug Name (Generic): Acetaminophen</p> <p>Drug Name (Trade): Tylenol</p> <p>Drug Class: Non opioid analgesic</p>
How is the medication taken: (include dose, route, and frequency)	500 mg by mouth every four hours as needed
Specific Directions not included above:	No specific directions included.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Patient is also prescribed acetaminophen and Norco consist of hydrocodone/ acetaminophen this patient is receiving a double dose of acetaminophen should be important to note this to the doctor causing a potential overdose and caution in patients with hepatic impairment's (Jones,2021, p.8). Zeb's may progress to hepatic impairment due to his nonalcoholic fatty liver.</p>

<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>This patient does not have a lifestyle where it would interact with this medication as he does not drink alcohol or take any recreational drugs. Although it is important to advise the patient that if he were to progress to have a severe hepatic impairment to avoid acetaminophens.</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>None of the patient past medical history contradicts the use of this medication.</p>
<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>Patients takes it due to recent gastric banding procedure, gastroesophageal reflux disease. and being a construction working all causing pain. To relieve mild to moderate pain (Jones 2021, p.8).</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. Inform patient that Norco consists of acetaminophen and that their medical records also show a dosage for acetaminophen ordered as well so be cautious in taking this medication or talk to the provider and address the concern of lowering the dose to not cause an overdose or hepatic impairment.

	2. Caution patient do not exceed recommended dosage or take other drugs containing acetaminophen at the same time because of risk of liver damage (Jones 2021, p.10). Do not use if you have severe liver disease.
How much would medication cost per month if paying out of pocket?	The cost for a 30-day supply would be \$8.61 (<i>Drug price search</i> , n.d.).
Drug # 9	Drug Name (Generic): Calcium Carbonate Drug Name (Trade): Liquid-cal 600 Drug Class: Minerals and Electrolytes
How is the medication taken: (include dose, route, and frequency)	Calcium 600 mg by mouth three times a day
Specific Directions not included above:	Drink with the glass of water
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Patient also takes hydrochlorothiazide which is thiazide diuretics possibly cause hypercalcemia (Jones, 2021, p.158).</p> <p>Calcium carbonate- taking benazepril and calcium together could decrease the effectiveness of the ACE inhibitor.</p>
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Smoking may possibly decrease calcium absorption (Jones,2021, p.158).

Does any of the client's past medical history contradict the use of this medication?	None of the patient past medical history contradicts 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)	This medication is being ordered due to the patients recent gastric banding and limited amount of calories intake. He may suffer from insufficient vitamins needed in his daily routine so supplements will be needed to meet the requirements.
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Teach the patient taking hydrochlorothiazide can possibly cause hypercalcemia (Jones, 2021, p.158). 2. Teach the patient taking benazepril and calcium together could decrease the effectiveness of the ACE inhibitor.
How much would medication cost per month if paying out of pocket?	The cost for a 30 day supply would be \$3.52 (<i>Drug price search, n.d.</i>).
Drug # 10	Drug Name (Generic): Hydrochlorothiazide Drug Name (Trade): Microzide Drug Class:

	<p>Pharmacologic: Thiazide diuretic</p> <p>Therapeutic: Diuretic</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>Hydrochlorothiazide 25 mg by mouth twice a day</p>
<p>Specific Directions not included above:</p>	<p>Give hydrochlorothiazide in the morning and early evening to avoid nocturia (Jones,2021, p.548).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Omeprazole- omeprazole is known as a proton pump inhibitor these can sometimes cause hypomagnesemia which is low blood levels of magnesium. Taking this in conjunction with other medications such as hydrochlorothiazide can have this effect.</p> <p>Benazepril - taking this and benazepril could have effects on possibly causing excessive hypotension. (Jones, 2021, p.121).</p> <p>Patient also takes hydrochlorothiazide which is thiazide diuretics possibly cause hypercalcemia (Jones, 2021, p.158).</p>

<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Zeb’s lifestyle does not interact with the use of this medication although it is noted he smokes cigars every day after work.</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>None of the patient past medical history contradicts the use of this medication.</p>
<p>What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>Hydrochlorothiazide is a thiazide diuretic. This is a type of water pill that helps prevent your body from absorbing too much salt which can cause fluid retention or edema in people with congestive heart failure, cirrhosis of the liver, or kidney disorders. Zeb’s history of heart failure would warrant the necessity for hydrochlorothiazide.</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. Teach that Hydrochlorothiazide and benazepril could have effects on possibly causing excessive hypotension. (Jones, 2021, p.121). Give hydrochlorothiazide in the morning and early evening to avoid nocturia” (Jones,2021, p.548). 2. Teach the patient about taking hydrochlorothiazide can cause electrolytes imbalances especially taking hydrochlorothiazide and omeprazole increase the chances of having hypo-magnesium. Also taking hydrochlorothiazide which is thiazide diuretics possibly

	cause hypercalcemia.
How much would medication cost per month if paying out of pocket?	The cost for a 30-day supply of hydrochlorothiazide would be \$4.48 (<i>Drug price search, n.d.</i>).

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

In this medication regimen scenario, Zeb takes numerous medications by mouth, but several of them are to be taken multiple times a day. The scenario mentions that Zeb is having difficulty due to work being slow. This being the case on his off days, Zeb would be able to maintain his medication regimen when he is home. When Zeb is at work, it might be more challenging to stop and take medication or even to remember to take the medicines. The patient might have difficulty affording the medications needed as it was informed that Zeb has difficulty covering medical expenses due to work being slow. Social services may help with financial issues and finding pharmacies with good coupons.

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

Making sure to drink plenty of fluids and take the medication with food for those that need food with it to prevent GI upset. Take medications only as prescribed due to opioids being one of the medications, he takes that are at high risk for addiction and misuse. Keeping a log and an alarm of when to take the medication can help since he does have a job and kids it can be easy to forget to take all the medication at the right time so keeping a pill organizer along with a planner and an alarm to get a regimen down and eventually get in the habit of taking the medication when it is scheduled. Also contacting social services with help due to patient having trouble with keeping up with medical expenses due to job being slow.

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)

Zeb is a reasonably young 30-year-old male with multiple health conditions. Zeb has recently undergone gastric banding. In this scenario, it is noted that Zeb's allergies are NSAIDs, IV contrast dye, and penicillin. The medication regimen notes that Zeb is taking Aspirin which, although it helps as a blood thinner due to his heart failure, is allergic to NSAIDs. I might ask the provider if

there is another medication or something different to give Zeb instead of Aspirin, that's not an NSAID. Another question I might ask the provider would be why Zeb is taking Norco twice a day. Is this medication due to his gastric banding or potentially due to his employment as a construction worker?

The Norco is a combination of 5mg of hydrocodone and 325mg of acetaminophen. Zeb is also prescribed acetaminophen 500mg of every four hours as needed. Should Zeb be taking this much acetaminophen? The scenario also notes Zeb takes omeprazole once daily and calcium 600mg three times a day. Although there is no actual direct interaction, the omeprazole might not be able to work as well if calcium is taken along with it. My question to the provider might be, is there something else Zeb could take in place of the omeprazole, or could Zeb take a different dose of calcium at another time when he takes his omeprazole? Assuming he would take the calcium morning, noon, and night and the omeprazole in the morning as is generally recommended.

I would ask the provider to investigate the possibility of having a blood test drawn to check the patient's magnesium eventually due to taking omeprazole and hydrochlorothiazide raising the risk of having a hypo-magnesium level. Also, consult social services since he expressed having a hard time paying for his insurance due to his job being slow recently. Also, check vital signs frequently and keep in mind that Hydrochlorothiazide and benazepril could have effects on possibly causing excessive hypotension. Teach patient taking hydrochlorothiazide which is a thiazide diuretic can possibly cause hypercalcemia.

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

The total cost would be \$74.57.

Reflective Statement of Experience:

My reflective statement of experience project was very positive. It helped me understand the importance of why providers need to know polypharmacy. A patient can have an ailment or a condition, and numerous medications or drugs can treat it, and they could be taking multiple medications or drugs to treat it. As nurses, we must pay close attention to patients' polypharmacy since their medical provider might not be aware of conflicts or interactions among medications prescribed for the same ailment or condition or different ailments or conditions. A patient could also have specialized providers who prescribe certain medicines for specific conditions and don't realize other medications would interact with what they have prescribed. More than likely, they have looked at the patient's medication list, but sometimes things can slip through the cracks. As nurses, we can advocate for the patient and inform the providers of these possible medication interactions. As a nurse, it is also vital that we provide education and information to the patient about what they are taking and why they are taking it. Often individuals will be prescribed medication by a provider. Patients put trust in the provider or could be intimidated by them and will not question them, so they don't ask what the medication is for or why they are taking it. It is important to step into the patients' shoes and see it from their point of view to understand their struggles that's why it is important to be an advocate for them and listen to them. In Zeb's situation, he is having financial struggles with insurance which is where as a caregiver and educators we can step in and educate them on possible places to look for cheaper

medication whether it's by coupons or getting social services to help out. It is crucial that we, as nurses educate and advocate for our patients regarding their polypharmacy and generalized healthcare.

References:

Centrum men multivitamin. United States. (n.d.). Retrieved November 6, 2022, from <https://www.centrum.com/products/multivitamins/centrum-men/>

Drug Interactions between aspirin low strength and garlic (n.d.). Retrieved November 7, 2022. <https://www.drugs.com/drug-interactions/aspirin-low-strength-with-garlic-243-3197-1160-0.html#:~:text=Interactions%20between%20your%20drugs&text=Talk%20to%20your%20doctor%20before,aspirin%20may%20increase%20that%20risk.>

Drug Interactions between Aspirin Low Strength and vitamin e. (n.d.). Retrieved November 7, 2022. <https://www.drugs.com/drug-interactions/aspirin-low-strength-with-vitamin-e-243-3197-2306-0.html>

Drug Interactions between hydrochlorothiazide and omeprazole. Retrieved November 7, 2022. <https://www.drugs.com/drug-interactions/hydrochlorothiazide-with-omeprazole-1257-0-1750-0.html#:~:text=hydroCHLOROthiazide%20omeprazole,-Applies%20to%3A%20hydrochlorothiazide&text=Chronic%20use%20of%20drugs%20known,this%20effect%20such%20as%20hydroCHLOROthiazide.>

Garlic powder. (2022) Retrieved November 7, 2022. <https://www.walmart.com/ip/Great-Value-Garlic-Powder-3-4-oz/676979470?athbdg=L1200>

GoodRx. (n.d.). *Drug price search.* Retrieved November 7, 2022, from <https://www.goodrx.com/search>
Jones, D.W. (2021). *Nurse's drug handbook.* (A. Bartlett, Ed.) (19th ed.). Jones & Bartlett Learning.

Medina, J., & Gupta, V. (n.d.). *Vitamin E.* National Center for Biotechnology Information. Retrieved November 6, 2022, from <https://pubmed.ncbi.nlm.nih.gov/32491669/>

U.S. National Library of Medicine. (n.d.). *Benazepril: MedlinePlus drug information.* MedlinePlus. Retrieved November 6, 2022, from <https://medlineplus.gov/druginfo/meds/a692011.html>.

N322 Polypharmacy Grading Rubric

Criteria	Excellent 40 points	Acceptable 31-39 points	Unacceptable 0-30 points	Points Earned
<p>Each drug should have a completed breakdown within the tables provided, which includes the following:</p> <ul style="list-style-type: none"> • Drug class • Generic name • Trade name • How is the medication taken (include dose, route, frequency) 	All key components were addressed within the paper and were accurate.	The student provided the required information for some of the medications, but not all and/or the answers provided were inaccurate. (Each individual component for each medication is worth one point)	The student failed to address a sufficient number of the listed components within the paper and/or the components were addressed but were inaccurate. (Each individual component for each medication is worth one point)	___/40
Criteria	Excellent 10 points	Acceptable 8-10 points	Unacceptable 0 - 7 points	Points Earned
<p>Specific Directions not included above:</p> <ul style="list-style-type: none"> • Is there any type of medication on the patient list that have specific directions? (before bed, before 	All key components were addressed within the paper.	The student did list some of the medications that required specific directions, however some of the medications included specific directions that were not addressed and/or were inaccurate. (For each medication this question if worth one point)	Student failed to answer the questions and/or the answers were inaccurate. (For each medication this question is worth one point)	___/10

breakfast, 30 minutes before meals, etc..)				
Criteria	Excellent 0 points	Acceptable 16-19	Unacceptable 0-15 points	Points Earned
<p>Does this medication have any potentially serious interactions with any other medication(s) on this list, and/or potential interactions that should be closely monitored due to co-administration?</p> <ul style="list-style-type: none"> Do any of the medications interact with each other? <p>(Please note: if there is an interaction between two medication, you MUST list that interaction on BOTH medications to receive full credit. You may utilize the same verbiage/wording on each medication, we want to know you are thinking about it when considering each medication)</p>	All medications reviewed and student explained medication interactions.	The student did list some of the potential interactions of the medication(s), but failed to address all potential interactions that are serious and/or need close monitoring. (for each medication listed this question is worth two points)	Student failed to answer question and/or The student did list some of the potential interactions of the medication(s), but failed to address all potential interactions that are serious and/or need close monitoring. (for each medication listed this question is worth two points)	___/20

Criteria	Excellent	Acceptable	Unacceptable	Points Earned
-----------------	------------------	-------------------	---------------------	----------------------

	5 points	4 points		0 -3 points	
Lifestyle interactions: <ul style="list-style-type: none"> • What lifestyle factors counteract with the medications? (tobacco user, ETOH use - 3 beers daily)	Student showed knowledge why lifestyle would counteract with medications	The student listed lifestyle interactions for some of the medications, but not all and/or the interactions listed were not priority or were incorrect. (For each medication, this question is worth half a point)	Student failed to answer question or the student listed lifestyle interactions for some of the medications, but not all and/or the interactions listed were not priority or were incorrect. (For each medication, this question is worth half a point)		___/5
Criteria	Excellent 10 points	Average 8-9	Unacceptable 0-7 points		Points Earned
<ul style="list-style-type: none"> • Does any of the client's past medical history contradict the use of this medication? 	Student showed knowledge why the client's past medical history would contradict the use of the medication(s).	Student provided answers to the question(s), but failed to answer all the questions and/or the answers provided were inaccurate. (For each medication this question is worth one point)	Student failed to answer question or Student provided answers to the question(s), but failed to answer all the questions and/or the answers provided were inaccurate. (For each medication this question is worth one point)		___/10
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points		Points Earned

<ul style="list-style-type: none"> What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical history, 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> <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</p>	<p>Student showed the importance of medication education, and appropriate prioritized client education for the scenario provided.</p>	<p>The student provided some appropriate education for the client, but failed to capture all of the appropriately prioritized education for the client. (Each topic of education is worth one point)</p>	<p>Student failed to answer the question OR The student provided some appropriate education for the client, but failed to capture all of the appropriately prioritized education for the client. (Each topic of education is worth one point)</p>	<p>___/20</p>

medication this may be a priority over general education for this one medication)				
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
<p>Is there anything about this medication regimen/ scenario that might indicate a potential difficulty in maintaining compliance with the orders as listed?</p> <ul style="list-style-type: none"> Why would the patient have difficulty maintaining the medication regimen? <p>(Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc)</p>	Student had knowledge on why a patient would have difficulty with medication regiment	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)	Student failed to answer the question OR the student indicated some potential reasons that the client may have difficulty, however the student failed to indicate a reason OR an appropriate reason for some of the medications (This question is worth one point for each medication)	___/10
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?	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.	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	___/10

<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>		(This question is worth one point for each medication)	are present that assist with compliance. (This question is worth one point for each medication)	
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 	The document included a title page, the rubric, the client scenario, a reference page which included five references that were cited within the	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>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)</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>document. APA formatting was consistent with the APA manual.</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 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>
<ul style="list-style-type: none"> • 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 	<p>The students provided reflection showed good insight into the project itself, polypharmacy, and the nurses role in client advocacy</p>	<p>The student provided a reflection, however the reflection lacked one of the following -insight into the project itself (a specific example within the project and its implications). -A basic understanding of</p>	<p>Student failed to reflect on their project OR the student addressed only of the topics of reflection</p>	<p>___/10</p>

<p>polypharmacy -A reflection on this student nurses role in this scenario as a client advocate/educator/caregive r</p>		<p>polypharmacy -A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver</p>		
<p>Total Points</p>				<p><u> </u>/200</p>