

Polypharmacy Project

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N322 Introduction to Pharmacology

Lakeview College of Nursing

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Honor Code: "I have neither given nor receive, nor will I tolerate others' use of unauthorized aid".

Signature: Justin Pranada Date: 4/28/2020

## Scenario I

Patient: 58 year old female

Social history: Patient lives alone in an apartment. Has no family in the area. Recently has lost her job and insurance. Smokes a pack of cigarettes per day but is trying to quit.

Medical history: Diabetes type 1, Diabetic neuropathy, hypertension, hyperlipidemia, depression, insomnia and gastroesophageal reflux disease.

Allergies: Codeine and latex

Weight: 175 lbs

Height: 5'9"

<b>Drug #1</b>	<b>Drug Name (Generic):</b> regular insulin
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<b>Drug Class:</b> Short-acting insulin	<b>Drug Name (Trade):</b> Novolin R
<b>How is the medication taken: (include dose, route, and frequency)</b>	10 units, subcutaneously, with each meal (TID)
<b>Specific Directions not included above:</b>	Do not use short-acting insulin if it is cloudy, discolored, or unusually viscous. Administer 15 to 30 minutes before a meal or bed time snack.
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Benicar HCT (olmesartan)</b> - may interfere with blood glucose control and reduce the effectiveness of insulin.</p> <p><b>Lisinopril</b> - increases risk of hypoglycemia. (Jones &amp; Barlett, 2019, p. 712)</p> <p><b>Premarin</b> - may interfere with blood glucose control and reduce effectiveness of insulin.</p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1351-1569,1264-2167">https://www.drugs.com/interactions-check.php?drug_list=1351-1569,1264-2167</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1351-1569,2360-381,1341-802">https://www.drugs.com/interactions-check.php?drug_list=1351-1569,2360-381,1341-802</a></p>
<b>Lifestyle interactions:</b>  <b>(Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking</b> has an effect in raising blood glucose levels, which may lead to insulin resistance. This insulin resistance can lead to the rise in triglycerides. Cigarette smoking can lead to the development of Type II Diabetes.

	<a href="https://www.webmd.com/diabetes/nicotine-blood-sugar">https://www.webmd.com/diabetes/nicotine-blood-sugar</a>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>Hyperlipidemia</b> may cause resistance to insulin.
<b>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)</b>	The patient is a Type I Diabetic - the pancreas is not producing insulin.
<b>What would you teach the client about taking this medication?</b>	<ul style="list-style-type: none"> <li>- Take your insulin 15 to 30 minutes before any meal(s) or snack.</li> <li>- Sick day rules (Hinkle &amp; Cheever, 2018) <ul style="list-style-type: none"> <li>- Continue taking your insulin</li> <li>- Try to eat small frequent meals</li> <li>- Drink adequate amount of water</li> <li>- If you are unable to eat, drink your calories instead</li> <li>- Test for ketones if blood glucose is above 240mg/dL</li> </ul> </li> </ul>
<b>How much would medication cost per month if</b>	<b>Novolin R 100 unit/ml vial</b> cost \$73.19 per vial

<b>paying out of pocket?</b>	<ul style="list-style-type: none"> <li>- Patient takes 10 units TID (every meal)</li> <li>- 30 units x 30 days = 900 units per month</li> <li>- 9 vials x \$73.19 = <b>\$658.71 per month</b></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00030">https://www.drugbank.ca/drugs/DB00030</a></p>
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<b>Drug #2</b>	<b>Drug Name (Generic):</b> insulin aspart
<b>Drug Class:</b> Rapid-acting insulin	<b>Drug Name (Trade):</b> Novolog
<b>How is the medication taken: (include dose, route, and frequency)</b>	Sliding scale - the units administered depends on the patient's glucose level, subcutaneously, as needed (PRN).
<b>Specific Directions not included above:</b>	Only mix with intermediate-acting insulin (NPH) if needed ( <b>more stuff</b> )
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Benicar HCT (olmesartan)</b> - may interfere with blood glucose control and reduce the effectiveness of insulin.</p> <p><b>Lisinopril</b> - increases risk of hypoglycemia. (Jones &amp; Barlett, 2019, p. 712).</p> <p><b>Premarin</b> - may interfere with blood glucose control and reduce effectiveness of insulin.</p>

	<p><a href="https://www.drugs.com/interactions-check.php?drug_list=1351-1569,1264-2167">https://www.drugs.com/interactions-check.php?drug_list=1351-1569,1264-2167</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1351-1569,2360-381,1341-802">https://www.drugs.com/interactions-check.php?drug_list=1351-1569,2360-381,1341-802</a></p>
<p><b>Lifestyle interactions:</b></p> <p><b>(Daily tobacco use, alcohol, drugs, etc.)</b></p>	<p><b>Cigarette smoking</b> has an effect in raising blood glucose levels, which may lead to insulin resistance. This insulin resistance can lead to the rise in triglycerides. Cigarette smoking can lead to the development of Type II Diabetes.</p> <p><a href="https://www.webmd.com/diabetes/nicotine-blood-sugar">https://www.webmd.com/diabetes/nicotine-blood-sugar</a></p>
<p><b>Does any of the client's past medical history contradict the use of this medication?</b></p>	<p><b>Hyperlipidemia</b> may cause resistance to insulin.</p>
<p><b>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)</b></p>	<p>The patient is a Type I Diabetic - her pancreas is not producing insulin.</p>
<p><b>What would you teach the client about taking this medication?</b></p>	<ul style="list-style-type: none"> <li>- Sick day rules (Hinkle &amp; Cheever, 2018)</li> <li style="padding-left: 40px;">- Continue taking your insulin</li> <li style="padding-left: 40px;">- Try to eat small frequent meals</li> </ul>

	<ul style="list-style-type: none"> <li>- Drink adequate amount of water</li> <li>- If you are unable to eat, drink your calories instead</li> <li>- Test for ketones if blood glucose is above 240mg/dL</li> </ul>
<b>How much would medication cost per month if paying out of pocket?</b>	<p><b>Novolog 100 unit/ml cartridge</b> cost \$14.81 USD per cartridge</p> <ul style="list-style-type: none"> <li>- Patient's demands depends on sliding scale</li> <li>- Let's say 10 units a day</li> <li>- 1 cartridge will last 10 days</li> <li>- 3 cartridges x \$14.81 = <b>\$44.43 per month</b></li> </ul>

<b>Drug #3</b>	<b>Drug Name (Generic):</b> gabapentin
<b>Drug Class:</b> Anticonvulsant	<b>Drug Name (Trade):</b> Gralise, Neurontin
<b>How is the medication taken: (include dose, route, and frequency)</b>	400mg, PO, TID
<b>Specific Directions not included above:</b>	Initial: 300mg once daily with evening meal on day 1, 600mg once daily with evening meal on day 2, 900mg once daily with evening meal on days 3 - 6, 1200mg once daily with evening meal on days 7-10, 1500mg once daily with evening meal on days 11 through 14, and 1800mg once daily with evening meal on day 15 and thereafter. (Jones & Bartlett, 2019,

	p. 549).
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Ambien (zolpidem)</b> - may increase side effects such as dizziness and drowsiness.</p> <p><b>Cymbalta (duloxetine)</b> - the risk or severity of adverse effects can be increased when gabapentin is combined with duloxetine.</p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=2333-0,1147-0">https://www.drugs.com/interactions-check.php?drug_list=2333-0,1147-0</a></p> <p><a href="https://www.drugbank.ca/drugs/DB00996">https://www.drugbank.ca/drugs/DB00996</a></p>
<b>Lifestyle interactions:</b> <b>(Daily tobacco use, alcohol, drugs, etc.)</b>	<p>Avoid alcohol because the CNS depressant activity may be potentiated by coadministration with alcohol.</p> <p>Food can slightly alter pharmacokinetics.</p> <p><a href="https://www.drugbank.ca/drugs/DB00996">https://www.drugbank.ca/drugs/DB00996</a></p>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	None of the patient's past medical history contradicts the use of this medication.
<b>What is the indication for use of this medication based on the clients past medical history? (If unable to determine an indication based on past medical</b>	Gabapentin is usually used for treatment of postherpetic neuralgia, partial seizures, and severe primary restless legs syndrome (Jones & Bartlett, 2019, p. 549).

<p><b>history, please list potential indications for use of the medication in general)</b></p>	
<p><b>What would you teach the client about taking this medication?</b></p>	<ul style="list-style-type: none"> <li>- Do not take drug within 2 hours after taking an antacid.</li> <li>- Take a missed dose as soon as you remember, if the next dose is within 2 hours, resume with schedule.</li> <li>- Do not stop drug abruptly.</li> <li>- The drug may make you dizzy or drowsy; do not drive or operate machinery until effects subside.</li> <li>- Keep follow-up appointments with the prescriber to check your progress.</li> </ul> <p>(Jones &amp; Bartlett, 2019, p. 550)</p>
<p><b>How much would medication cost per month if paying out of pocket?</b></p>	<p>The 400mg capsules of Neurontin costs \$1.97 per capsule</p> <ul style="list-style-type: none"> <li>- patient takes 3 doses of gabapentin everyday</li> <li>- <math>\\$1.97 \times 3 = \\$5.91</math> per day</li> <li>- <math>\\$5.91 \times 30 \text{ days} = \mathbf{\\$177.30 \text{ a month}}</math></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00996">https://www.drugbank.ca/drugs/DB00996</a></p>

<p><b>Drug #4</b></p> <p><b>Drug Class:</b> Antihypertensive</p>	<p><b>Drug Name (Generic):</b> lisinopril</p> <p><b>Drug Name (Trade):</b> Prinivil</p>
<p><b>How is the medication taken: (include dose, route, and frequency)</b></p>	<p>5mg, daily, PO</p>
<p><b>Specific Directions not included above:</b></p>	<p>Initial: 5mg daily (Jones &amp; Bartlett, 2019, p. 712).</p> <p>Maintenance: 5 to 20mg daily (Jones &amp; Bartlett, 2019, p. 712).</p>
<p><b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b></p>	<p><b>Ambien (zolpidem)</b> - may have additive effects in lowering blood pressure.</p> <p><b>Insulin (Novolin, Novolog)</b> - increases risk of hypoglycemia. (Jones &amp; Bartlett, 2019, p. 712)</p> <p><b>Benicar HCT (olmesartan)</b> - may increase the risk of side effects such as low blood pressure; may increase risk of hyperkalemia.</p> <p><b>Cymbalta (duloxetine)</b> - have additive effects in lowering blood pressure. May experience AE such as headaches and dizziness.</p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=2333-0,1476-0">https://www.drugs.com/interactions-check.php?drug_list=2333-0,1476-0</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1476-0,1264-2167">https://www.drugs.com/interactions-check.php?drug_list=1476-0,1264-2167</a></p>

	<a href="https://www.drugs.com/interactions-check.php?drug_list=1476-0,2333-1544">https://www.drugs.com/interactions-check.php?drug_list=1476-0,2333-1544</a>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>High potassium diet</b> may increase risk of hyperkalemia (Jones & Bartlett, 2019, p. 713).  <b>Alcohol use</b> may increase hypotensive effect (Jones & Bartlett, 2019, p. 713).
<b>Does any of the client's past medical history contradict the use of this medication?</b>	None of the patient's past medical history contradicts the use of this medication.
<b>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)</b>	The patient has hypertension.
<b>What would you teach the client about taking this medication?</b>	<ul style="list-style-type: none"> <li>- <b>Lisinopril</b> helps control, but does not cure hypertension and this is a lifelong therapy.</li> <li>- Take at the same time everyday.</li> <li>- DO NOT stop the drug without consulting your provider first.</li> <li>- Avoid hazardous activities until dizziness or other AE subsides.</li> <li>- Drink adequate amounts of fluids.</li> <li>- DO NOT use salt substitutes that contain potassium.</li> </ul>

	<ul style="list-style-type: none"> <li>- Change positions slowly - this minimizes orthostatic hypotension.</li> <li>- Inform ALL prescribers about your prescribed lisinopril.</li> </ul> <p>(Jones &amp; Bartlett, 2019, p. 714)</p>
<b>How much would medication cost per month if paying out of pocket?</b>	<p>Lisinopril 5mg tablet costs \$0.99 USD</p> <ul style="list-style-type: none"> <li>- 1 tablet x 30 days = <b>~\$30 per month</b></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00722">https://www.drugbank.ca/drugs/DB00722</a></p>

<b>Drug #5</b>	<b>Drug Name (Generic):</b> hydrochlorothiazide/olmesartan
<b>Drug Class:</b> Antihypertensive	<b>Drug Name (Trade):</b> Benicar HCT (hydrochlorothiazide)
<b>How is the medication taken: (include dose, route, and frequency)</b>	20mg/25mg, daily, PO
<b>Specific Directions not included above:</b>	Initial: 20mg daily, increased in 2 weeks to 40mg daily, as needed (Jones & Bartlett, 2019, p. 889).
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Ambien (zolpidem)</b> - may have additive effects in lowering blood pressure. May experience headache, dizziness, and lightheadedness.</p> <p><b>Cymbalta (duloxetine)</b> - may increase risk for hyponatremia, report nausea, vomiting,</p>

	<p>headache, and lethargy.</p> <p><b>Lisinopril</b> - may increase the risk of side effects such as low blood pressure; may increase risk of hyperkalemia.</p> <p><b>Novolin R (regular insulin), Novolog (insulin aspart)</b> - may reduce the effectiveness of insulin regular. Monitor blood glucose levels closely.</p> <p><b>Protonix (pantoprazole)</b> - may increase the risk of hypomagnesemia.</p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1264-2167,2333-1544">https://www.drugs.com/interactions-check.php?drug_list=1264-2167,2333-1544</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1264-2167,949-2273">https://www.drugs.com/interactions-check.php?drug_list=1264-2167,949-2273</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1476-0,1264-2167">https://www.drugs.com/interactions-check.php?drug_list=1476-0,1264-2167</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1264-2167,2360-381,1351-1569">https://www.drugs.com/interactions-check.php?drug_list=1264-2167,2360-381,1351-1569</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1264-2167,1790-0">https://www.drugs.com/interactions-check.php?drug_list=1264-2167,1790-0</a></p>
<p><b>Lifestyle interactions:</b></p> <p><b>(Daily tobacco use, alcohol, drugs, etc.)</b></p>	<p>NSAIDs increased risk of renal dysfunction in elderly patients and patients who are volume-depleted or have pre existing renal dysfunction; increased antihypertensive effect of olmesartan (Jones &amp; Bartlett, 2019, p. 889).</p>
<p><b>Does any of the client's past medical history</b></p>	<p>The client is taking <b>Benicar</b> for hypertension, no medical history contradicts the use of this</p>

<b>contradict the use of this medication?</b>	medication.
<b>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)</b>	The client has hypertension.
<b>What would you teach the client about taking this medication?</b>	<ul style="list-style-type: none"> <li>- Avoid exercise in hot weather and excessive alcohol use to reduce risk of dehydration and hypotension.</li> <li>- Avoid hazardous activities until CNS effects wear off.</li> <li>- Control hypertension with lifestyle changes - diet and exercise.</li> </ul> <p>(Jones &amp; Bartlett, 2019, p. 891)</p>
<b>How much would medication cost per month if paying out of pocket?</b>	<p><b>Benicar 20mg tablets</b> cost \$2.97 USD per tablet</p> <ul style="list-style-type: none"> <li>- Patient is taking 20/25mg per day</li> <li>- \$2.97 x 30 days = <b>\$89.10 per month</b></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00275">https://www.drugbank.ca/drugs/DB00275</a></p>

<p><b>Drug #6</b></p> <p><b>Drug Class:</b> Antidepressant</p>	<p><b>Drug Name (Generic):</b> duloxetine</p> <p><b>Drug Name (Trade):</b> Cymbalta</p>
<p><b>How is the medication taken: (include dose, route, and frequency)</b></p>	<p>60mg, daily, PO</p>
<p><b>Specific Directions not included above:</b></p>	<p>Initially: 20mg twice daily. Alternatively, 60mg once daily or 30mg twice daily to treat major depressive disorder (Jones &amp; Barlett, 2019, p. 384).</p>
<p><b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b></p>	<p><b>Ambien (zolpidem)</b> - may increase adverse effects such as dizziness and drowsiness.</p> <p><b>Benicar HCT (olmesartan)</b> - may increase risk for hyponatremia, report nausea, vomiting, headache, and lethargy.</p> <p><b>Gabapentin</b> - the risk or severity of adverse effects can be increased when duloxetine is combined with gabapentin.</p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=949-0,2333-1544">https://www.drugs.com/interactions-check.php?drug_list=949-0,2333-1544</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=949-0,1264-2167">https://www.drugs.com/interactions-check.php?drug_list=949-0,1264-2167</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=949-0,1147-0">https://www.drugs.com/interactions-check.php?drug_list=949-0,1147-0</a></p>
<p><b>Lifestyle interactions:</b></p>	<p><b>Alcohol use</b> increases the risk for hepatotoxicity (Jones &amp; Bartlett, 2019, p. 384).</p>

<b>(Daily tobacco use, alcohol, drugs, etc.)</b>	
<b>Does any of the client's past medical history contradict the use of this medication?</b>	None of the client's past medical history contradict the use of this medication.
<b>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)</b>	The client has depression, <b>Cymbalta</b> can also be used for management of diabetic neuropathy.
<b>What would you teach the client about taking this medication?</b>	<ul style="list-style-type: none"> <li>- The full effect of duloxetine may take weeks to occur, continue the drug as directed.</li> <li>- DO NOT stop the drug abruptly because adverse reactions may occur. The drug will be tapered off gradually.</li> <li>- Notify the prescriber if any adverse effects occur.</li> <li>- Avoid hazardous activities until CNS effects are known</li> <li>- Change positions slowly because the drug may increase orthostatic hypotension.</li> </ul> <p>(Jones &amp; Bartlett, 2019, p. 385 - 386)</p>
<b>How much would medication cost per month if</b>	<b>Cymbalta 60mg capsule</b> cost \$5.18 USD per capsule

<b>paying out of pocket?</b>	<ul style="list-style-type: none"> <li>- Patient takes 60mg daily</li> <li>- 1 capsule x 30 days = <b>\$155.40 per month</b></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00476">https://www.drugbank.ca/drugs/DB00476</a></p>
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<b>Drug #7</b>	<b>Drug Name (Generic):</b> zolpidem
<b>Drug Class:</b> Antianxiety, sedative hypnotic	<b>Drug Name (Trade):</b> Ambien CR
<b>How is the medication taken: (include dose, route, and frequency)</b>	12.5mg, PRN, at bedtime (HS)
<b>Specific Directions not included above:</b>	<b>Adult women</b> 6.25 or 12.5mg immediately before bedtime (Jones & Bartlett, 2019, p. 1296)
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Benicar HCT (olmesartan)</b> - may have additive effects in lowering blood pressure. May experience headache and dizziness.</p> <p><b>Cymbalta (duloxetine)</b> - may increase adverse effects such as dizziness and drowsiness.</p> <p><b>Gabapentin</b> - may increase side effects such as dizziness and drowsiness.</p> <p><b>Lisinopril</b> - may have additive effects in lowering blood pressure.</p>

	<p><a href="https://www.drugs.com/interactions-check.php?drug_list=2333-0,1264-2167">https://www.drugs.com/interactions-check.php?drug_list=2333-0,1264-2167</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=2333-0,949-2273">https://www.drugs.com/interactions-check.php?drug_list=2333-0,949-2273</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=2333-0,1147-0">https://www.drugs.com/interactions-check.php?drug_list=2333-0,1147-0</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=2333-0,1476-0">https://www.drugs.com/interactions-check.php?drug_list=2333-0,1476-0</a></p>
<p><b>Lifestyle interactions:</b></p> <p><b>(Daily tobacco use, alcohol, drugs, etc.)</b></p>	<p><b>Avoid alcohol</b> because alcohol increases CNS depression (Jones &amp; Barlett, 2019, p. 1297)</p> <p><b>Take separate from meals</b> and should not be administered with or immediately after a meal (Jones &amp; Bartlett, 2019, p. 1297).</p>
<p><b>Does any of the client's past medical history contradict the use of this medication?</b></p>	<p>None of the client's past medical history contradicts the use of this medication.</p>
<p><b>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)</b></p>	<p>The drug is indicated for the short-term treatment of insomnia (Jones &amp; Bartlett, 2019, p.1296).</p>
<p><b>What would you teach the client about taking this</b></p>	<ul style="list-style-type: none"> <li>- Take the drug as directed and do not change dosage.</li> </ul>

<b>medication?</b>	<ul style="list-style-type: none"> <li>- Take the drug immediately before bed.</li> <li>- Notify the prescriber if abdominal cramps or discomfort occurs.</li> <li>- STOP taking the drug and seek medical care if she has abnormal swelling, nausea, throat tightness, trouble breathing, or vomiting.</li> </ul> <p>(Jones &amp; Bartlett, 2019, p. 1298)</p>
<b>How much would medication cost per month if paying out of pocket?</b>	<p><b>Ambien CR tablet cost \$6.19 USD</b></p> <ul style="list-style-type: none"> <li>- Patient takes 1 tablet PRN (let's say every other day)</li> <li>- 1 tablet x 15 days = <b>\$92.85 per month</b></li> <li>- 1 tablet x 30 days = <b>\$185.70 per month</b> (taken daily)</li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00425">https://www.drugbank.ca/drugs/DB00425</a></p>

<b>Drug #8</b>	<b>Drug Name (Generic):</b> pantoprazole
<b>Drug Class:</b> Antiulcer (PPI)	<b>Drug Name (Trade):</b> Protonix
<b>How is the medication taken: (include dose, route, and frequency)</b>	40mg, daily, PO
<b>Specific Directions not included above:</b>	40mg daily for up to 8 weeks. Repeated for another 4-8 weeks if healing does not occur

	(Jones & Bartlett, 2019, p. 934).
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Atorvastatin</b> - may increase the blood levels and effects of atorvastatin.</p> <p><b>Benicar HCT (olmesartan)</b> - may increase the risk of hypomagnesemia.</p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=276-0,1790-1152">https://www.drugs.com/interactions-check.php?drug_list=276-0,1790-1152</a></p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=1790-1152,1264-2167">https://www.drugs.com/interactions-check.php?drug_list=1790-1152,1264-2167</a></p>
<b>Lifestyle interactions:</b>  <b>(Daily tobacco use, alcohol, drugs, etc.)</b>	Smoking may increase acid in the stomach. Do not drink alcohol or smoke while taking pantoprazole (Jones & Bartlett, 2019, p. 934).
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Cigarette smoking (1 pack a day).
<b>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)</b>	The patient is using <b>Protonix</b> for the treatment of GERD.
<b>What would you teach the client about taking this</b>	- Expect relief of symptoms within 2 weeks of starting therapy.

<b>medication?</b>	<ul style="list-style-type: none"> <li>- Notify your provider if diarrhea occurs.</li> <li>- Notify your prescriber if you notice a decrease in the amount of urine voided or if there is blood in your urine.</li> </ul> <p>(Jones &amp; Bartlett, 2019, p. 937)</p>
<b>How much would medication cost per month if paying out of pocket?</b>	<p><b>Protonix 40mg tablet</b> cost \$8.91 USD per tablet</p> <ul style="list-style-type: none"> <li>- Patient is taking 40mg daily</li> <li>- 1 tablet x 30 days = <b>\$267.30 per month</b></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00213">https://www.drugbank.ca/drugs/DB00213</a></p>

<b>Drug #9</b>	<b>Drug Name (Generic):</b> conjugated g-estrogens
<b>Drug Class:</b> Antiosteoporotic agent, ovarian hormone replacement	<b>Drug Name (Trade):</b> Premarin
<b>How is the medication taken: (include dose, route, and frequency)</b>	0.625mg, daily, PO
<b>Specific Directions not included above:</b>	0.3 to 1.25mg daily or cyclically 25 days on, 5 days off (Premarin only). Dosage increased as needed to control symptoms (Jones & Bartlett, 2019, p. 448)

<p><b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b></p>	<p><b>Novolin R (insulin regular), Novolog (insulin aspart)</b> - may interfere with blood glucose control and reduce effectiveness of insulin.</p> <p><a href="https://www.drugs.com/interactions-check.php?drug_list=2360-381,1351-1569,1341-802">https://www.drugs.com/interactions-check.php?drug_list=2360-381,1351-1569,1341-802</a></p>
<p><b>Lifestyle interactions:</b> <b>(Daily tobacco use, alcohol, drugs, etc.)</b></p>	<p><b>Smoking</b> may increase risk of pulmonary embolism, stroke, thrombophlebitis, and transient ischemic attack (Jones &amp; Bartlett, 2019, p. 449).</p>
<p><b>Does any of the client's past medical history contradict the use of this medication?</b></p>	<p>History of cigarette smoking may increase risk for complications.</p>
<p><b>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)</b></p>	<p><b>Premarin</b> is used to treat moderate to severe vasomotor menopausal symptoms as well as to prevent postmenopausal osteoporosis p. 448</p>
<p><b>What would you teach the client about taking this medication?</b></p>	<ul style="list-style-type: none"> <li>- Report breakthrough bleeding to your provider.</li> <li>- Perform monthly breast self-examination and to comply with all prescribed follow-up</li> </ul>

	<p>examinations.</p> <ul style="list-style-type: none"> <li>- Long-term use may increase the risk of breast or endometrial cancer, dementia, gallbladder disease, heart disease, and stroke.</li> <li>- Notify your prescriber if you see something that resembles a tablet in your stool.</li> </ul> <p>p. 450 - 451</p>
<p><b>How much would medication cost per month if paying out of pocket?</b></p>	<p><b>Premarin 0.625mg tablets</b> cost \$1.42 USD per tablet</p> <ul style="list-style-type: none"> <li>- Patient takes 0.625mg daily</li> <li>- 1 tablet x 30 days = <b>\$42.60 per month</b></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB00286">https://www.drugbank.ca/drugs/DB00286</a></p>

<p><b>Drug #10</b></p> <p><b>Drug Class:</b> Antihyperlipidemic</p>	<p><b>Drug Name (Generic):</b> atorvastatin</p> <p><b>Drug Name (Trade):</b> Lipitor</p>
<p><b>How is the medication taken: (include dose, route, and frequency)</b></p>	<p>20mg, daily, PO</p>
<p><b>Specific Directions not included above:</b></p>	<p>Initial: 10 or 20mg once daily; then increased according to lipid level.</p>

	Maintenance: 10 to 80mg once daily.  p. 107
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<b>Protonix (pantoprazole)</b> - may increase the blood levels and effects of atorvastatin.  <a href="https://www.drugs.com/interactions-check.php?drug_list=276-0,1790-1152">https://www.drugs.com/interactions-check.php?drug_list=276-0,1790-1152</a>
<b>Lifestyle interactions:</b>  <b>(Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Grapefruit juice</b> may increase blood atorvastatin levels (Jones & Bartlett, 2019, p.108).  Avoid <b>smoking</b> (Jones & Bartlett, 2019, p.108).
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Social history of cigarette smoking (1 pack a day).
<b>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)</b>	The patient is taking <b>atorvastatin</b> to treat her hyperlipidemia.
<b>What would you teach the client about taking this medication?</b>	<ul style="list-style-type: none"> <li>- This is not a substitute for a low-cholesterol diet.</li> <li>- Take the drug at the same time each day to maintain its effects.</li> </ul>

	<ul style="list-style-type: none"> <li>- Take missed doses as soon as possible. If it's almost time for the next dose, skip the missed dose.</li> <li>- Notify your provider if you start to develop unexplained muscle pain, tenderness, or weakness especially if it is accompanied by fatigue or fever.</li> <li>- Monitor your blood glucose levels closely.</li> </ul> <p>(Jones &amp; Bartlett, 2019, p. 109)</p>
<p><b>How much would medication cost per month if paying out of pocket?</b></p>	<p><b>Lipitor 20mg tablets</b> cost \$5.00 per tablet</p> <ul style="list-style-type: none"> <li>- Patient takes 20mg daily</li> <li>- 1 tablet x 30 days = <b>\$150.00 per month</b></li> </ul> <p>per <a href="https://www.drugbank.ca/drugs/DB01076">https://www.drugbank.ca/drugs/DB01076</a></p>

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

The patient lost her job and has no insurance. On top of that, she has no support system who lives close by. The cost of this medication regimen adds up quickly and the patient's financial status cannot support it fully while having other responsibilities to pay for.

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

After looking at how much the medications will cost, I am not too sure that she will be able to maintain the medication regimen as ordered because she doesn't have a job, no insurance, and no family living in the area for a temporary support system. Unless she can get a job, magically gets insurance, or someone can help her pay for the medications, I don't know how she will manage to pay for all of the medications.

**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)**

For the prescriber: Are there any cheaper options for the client? Can social work help her pay for the medications? Is medication reduction possible? Are there lifestyle interventions that she could do so she won't have to take so many medications?

For the client: Lifestyle changes can have a huge impact with overall health and the medication regimen. Stop smoking and adopt a better diet will help control her blood pressure and cholesterol. Exercising to promote a better overall well being has a lot of benefits.

Benefits of exercises will help control blood pressure, hyperlipidemia, help with sleep (patient has insomnia), help with depression as well.

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

- Ambien: \$185.70
- Atorvastatin: \$150.00
- Benicar HCT: \$ 89.10
- Cymbalta: \$155.40
- Gabapentin: \$177.30
- Lisinopril: \$30.00
- Novolin R: \$658.71
- Novolog: \$44.43
- Premarin: \$42.60
- Protonix: \$267.30
- **TOTAL: \$1,800.54 per month**

ALL prices were based off of data taken from <https://www.drugbank.ca/>

**Reflective Statement of Experience:**

The project gave me new insight in what the role of a nurse is with taking care of patients with a complex medication regimen. A lot of thought and critical thinking goes into the care and safety of the patients because the more medications they take, the higher the chances that they will have drug-drug interactions and other interactions for that matter. It is important that we educate our clients about the possible complications and the proper way to take the medications as well as what they need to do if something does not look right. This project also gave me the insight that we as a nurse are the middle man for the patients and other members of the medical team. We have a big responsibility not just in providing proper quality care but also in communication and keeping the safety of the patient.

Up until this project, I was **COMPLETELY** clueless on how much medications cost. My first thought was, “okay I think I’m doing something wrong because no way a single tablet would cost \$8,” but then I kept searching and comparing and I was just mind blown. The thing is, that is not even the worst part of it; I have friends who are diabetics and I had some idea on how much insulin costs but this project just blew that idea of mine out of the water. For a month worth of insulin for this particular patient (mind you, this is a consistent 30 units per day), it would cost her \$658.71! That’s insane, just for her to live a normal life, it would cost that much and to make it more shocking for me is that her insulin (Novolin R) takes up  $\frac{1}{3}$  of the total cost of her full medication regimen. This truly makes me appreciate my pancreas a lot more and be thankful that I am healthy and am going to try harder to stay healthy.

## References

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