

## Practical Math – Health Insurance

### Congratulations—you have a new job!

As part of the onboarding/hiring process, the human resources office of your new employer has given you a package that explains your benefit options. In addition to describing what coverage is included, there is a description of costs. You must choose the plan that best fits your situation. Note that the employer pays a portion of the premium cost; the remaining amount of premium, your cost, is shown in the table below.

(Employee Only)	A	B	C
Monthly Premium	\$30	\$140	\$80
Deductible	\$1500	\$250	\$750
Coinsurance	20%	10%	30%
Physician Copay	\$0	\$25	\$30
Prescription Copay	\$0	\$7	\$10
Network Out-of-pocket Limit	\$3900	\$7150	\$3000

Use the benefit summary above to calculate the costs of each scenario.

**Scenario 1:** How much would you pay in premium costs for the year for each plan?

(Employee Only)	A	B	C
Premium	$12 \times \$30 = \$360$	$12 \times \$140 = \$1680$	$12 \times \$80 = \$960$

What is the relationship between premium and deductible?

Premium and deductible have an inverse relationship. As premium increases, the deductible decreases. As deductible increases, premium decreases.

Plan A has the lowest premium; however, it has the highest deductible. How does a deductible work? How would you decide if this deductible and plan are appropriate for you?

A deductible must be paid before the plan pays any benefits; it does not include copays. A consumer must be able to afford the \$1500 deductible in the event of a claim. Each person's risk tolerance and ability to pay the deductible would be different.

Would the annual premiums be your only cost for the year? Why or why not?

Theoretically, if a person uses only included essential care or doesn't receive care during the year, the only cost might be the premium. More likely, there would be additional costs of copays, deductibles and coinsurance when accessing care. It is important to read the fine print of the plan to estimate costs.

**Scenario 2:** Estimate your costs under each plan if you were in an accident with \$5000 in medical expenses. How much coinsurance would you pay for each plan? (Plan A has been started for you.)

(Employee Only)	A	B	C
Medical Expenses in Accident	\$5000	\$5000	\$5000
Deductible	\$1500	\$250	\$750
<i>Difference</i>	\$3500	\$4750	\$4250
Insurer pays	$\$3500 \times 0.8 = \$2800$	$\$4750 \times 0.9 = \$4275$	$\$4250 \times 0.7 = \$2975$
You pay as coinsurance	$\$3500 \times 0.2 = \$700$	$\$4750 \times 0.1 = \$475$	$\$4250 \times 0.3 = \$1275$

**Scenario 3:** David chose Plan B. During that year, he had 4 doctor visits, 2 prescriptions, and, separate from these visits, was in an accident that resulted in \$6000 in medical expenses. What medical costs, including premium, did he incur for the year? Did he exceed the out-of-pocket limit? (Remember that premiums and copays usually do not count towards the deductible.)

<p>Calculation</p> <p>Premium: <math>12 \times \\$140 = \\$1680</math></p> <p>Copays: <math>(4 \times \\$25) + (2 \times \\$7) = \\$114</math></p> <p>Accident expenses: \$250 deductible and \$575 coinsurance</p> <p>OOP: <math>\\$114 + \\$250 + \\$575 = \\$939</math></p> <p>Total costs: <math>\\$1680 + \\$114 + \\$250 + \\$575 = \\$2619</math></p>	<p>Written response</p> <p>David incurred \$2619 on total health costs.</p> <p>He paid \$114 in copays, a \$250 deductible and \$575 coinsurance for a total of \$939. He would not exceed the out-of-pocket limit of \$7150.</p>
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**Scenario 4:** Compare the costs of all plans for David's situation described in scenario 3 above.

(Employee Only)	A	B	C
Premium (for the year)	$12 \times \$30 = \$360$	$12 \times \$140 = \$1680$	$12 \times \$80 = \$960$
Deductible	\$1500	\$250	\$750
Coinsurance	$(\$6000 - \$1500) \times 0.2 = \$900$	$(\$6000 - \$250) \times 0.1 = \$575$	$(\$6000 - \$750) \times 0.3 = \$1575$
Physician Copay(s)	$\$0 \times 4 = \$0$	$\$25 \times 4 = \$100$	$\$30 \times 4 = \$120$
Prescription Copay(s)	$\$0 \times 2 = \$0$	$\$7 \times 2 = \$14$	$\$10 \times 2 = \$20$
aCost for the Year	$\$360 + \$1500 + \$900 = \$2760$	$\$1680 + \$250 + \$575 + \$100 + \$14 = \$2619$	$\$960 + \$750 + \$1575 + \$120 + \$20 = \$3425$

\*Point out the influence of the coinsurance percentage—does it make Plan C more or less attractive?

**Answer the following questions on a separate page.**

- On a separate page, identify a pro and con for each plan. Look at the annual cost of premiums, coinsurance, personal health situations, etc.
- You have found a plan that seems reasonably priced, and it seems too good to be true. Name 5 warning signs you should check before purchasing the plan. Hint: What is not covered?

## 5. Pros and Cons

	Pro	Con
<b>Plan A</b>	At \$30/mo., premiums are least expensive.	At \$1500, this plan has the highest deductible. The consumer must be able to pay this amount before insurance pays a claim.
<b>Plan B</b>	This plan has the lowest deductible and coinsurance. Initial costs of minor treatment may be less.  (The fine print of the plan may have admission fees for ER care etc. READ THE FINE PRINT!)	At \$140/mo., this plan has the highest premium costs.  The out-of-pocket limit is highest. (Think of a major incident or hospital stay.)  A person who requires prescriptions may have higher costs.
<b>Plan C</b>	The premium and deductible are in the middle.  The out-of-pocket limit is the lowest.	At 30%, this plan has the highest coinsurance. Compare the coinsurance calculations of Plans A and C in question 4 above. The consumer must be willing to accept this level of risk.  A person who requires prescriptions may have higher costs.

Choosing a plan is a personal decision based on the consumer's ability to pay additional costs such as deductibles, coinsurance and copays as well as the consumer's risk tolerance and lifestyle. Significant consideration should also be given to the consumer's health condition. Is there a chronic health condition, such as diabetes or asthma, that has ongoing expenses? Does the person require a major surgery next year, such as a knee or shoulder surgery? The decision should reflect the care that will be required.

## 6. Before purchasing a plan, some things to check include:

- Is your doctor in the provider's network?
- Do you have enough options for providers?
- Do you need specific medical care or prescriptions? Does the plan cover these?
- Are dental, vision and prescription included, or will you need to pay out of pocket?
- Will medical emergencies be covered when you travel?
- Is preauthorization required?
- Are there wellness incentives?
- Do the costs beyond the premium work for your financial situation?