Quick Summary:

- CARTI accounts for 49.8% of the radiation therapy **claims** made by Garland County patients…
- But only 14% of the **patients** from Garland county receiving radiation therapy are going to CARTI.
- CARTI seems to be retaining the patients that do end up leaving Garland County.

New Numbers:

	Freq. of Z510*	Claim Count	Patient Count	Claims per Patient	Freq of Z510 per Patient
Visit to CARTI	1536**	774	23	33.7	66.8
Visit to provider, not CARTI	1086	780	140	5.57	7.76
Visit to any provider	2622	1554	163	9.53	16.1

Previous Numbers:

	Freq. of Z510*	Claim Count	Patient Count (Primary Diagnosis)	Claims per Patient	Freq of Z510 per Patient
Visit to CARTI	513	513	17	30.2	30.2
Visit to provider, not CARTI	316	316	8	39.5	39.5
Visit to any provider	829	829	25	33.2	33.2

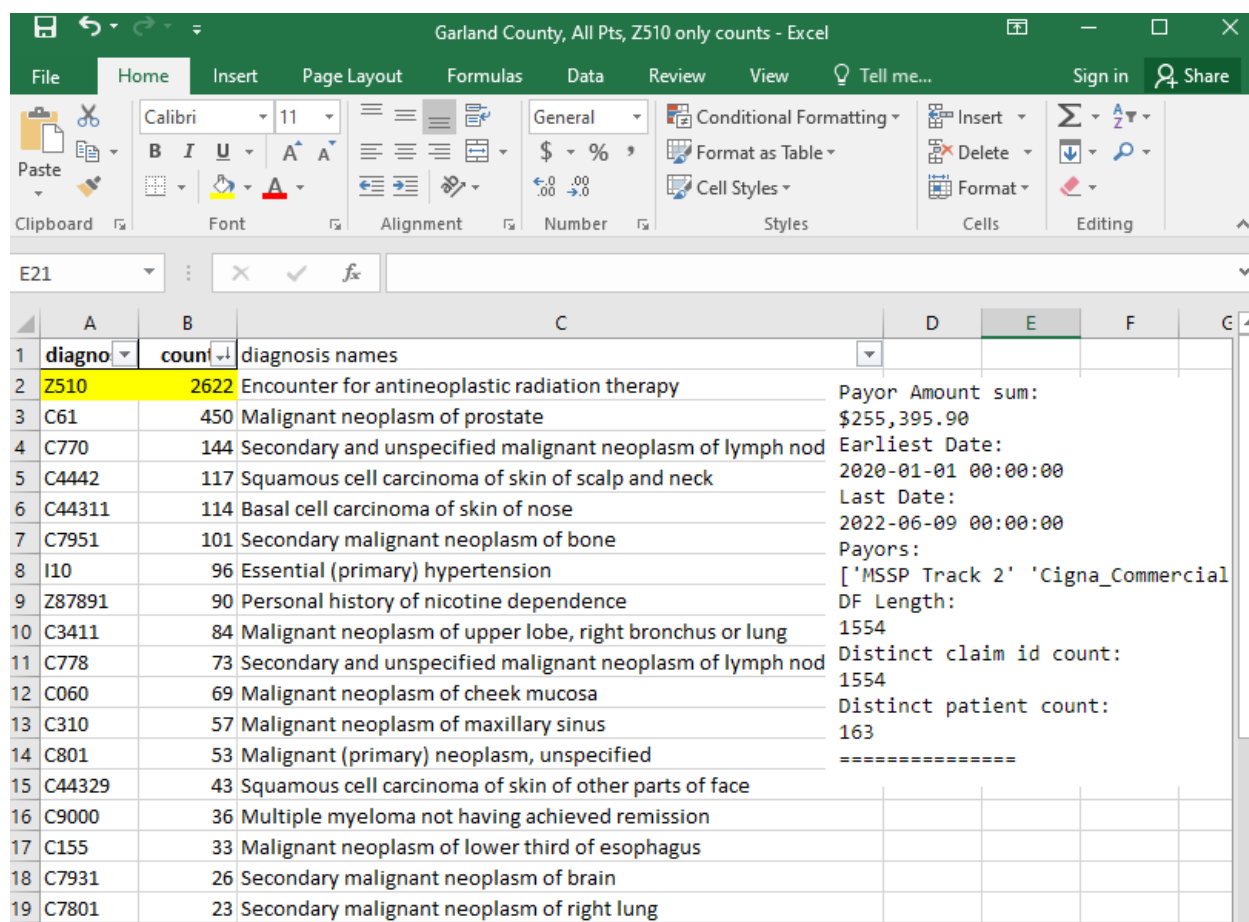***Z510 Diagnosis Code:** Encounter for antineoplastic radiation therapy
**Explanation for frequency and claim count mismatch is below (Fig. 2).
Note: Yellow columns were previously uncalculated due to low numbers of patients.

Background:

In the first picture, we see the Diagnosis Codes for patients that live in Garland County and some of the surrounding zip codes. This list of Diagnosis Codes pertains only to patients with a diagnosis code of Z510 (the radiation therapy code we are targeting for this request), highlighted below. And these patients saw any provider (re: not only CARTI providers). Also, we have a list of their associated malignancies.

Basically, these are radiation therapy patients with their associated malignancies. But they could have seen anyone, CARTI or otherwise.

	diagnosis	count	diagnosis names			
1	diagno	count	diagnosis names			
2	Z510	2622	Encounter for antineoplastic radiation therapy	Payor Amount sum:		
3	C61	450	Malignant neoplasm of prostate	$255,395.90		
4	C770	144	Secondary and unspecified malignant neoplasm of lymph nod	Earliest Date:		
5	C4442	117	Squamous cell carcinoma of skin of scalp and neck	2020-01-01 00:00:00		
6	C44311	114	Basal cell carcinoma of skin of nose	Last Date:		
7	C7951	101	Secondary malignant neoplasm of bone	2022-06-09 00:00:00		
8	I10	96	Essential (primary) hypertension	Payors:		
9	Z87891	90	Personal history of nicotine dependence	['MSSP Track 2' 'Cigna_Commercial		
10	C3411	84	Malignant neoplasm of upper lobe, right bronchus or lung	DF Length:		
11	C778	73	Secondary and unspecified malignant neoplasm of lymph nod	1554		
12	C060	69	Malignant neoplasm of cheek mucosa	Distinct claim id count:		
13	C310	57	Malignant neoplasm of maxillary sinus	1554		
14	C801	53	Malignant (primary) neoplasm, unspecified	Distinct patient count:		
15	C44329	43	Squamous cell carcinoma of skin of other parts of face	163		
16	C9000	36	Multiple myeloma not having achieved remission	===============		
17	C155	33	Malignant neoplasm of lower third of esophagus			
18	C7931	26	Secondary malignant neoplasm of brain			
19	C7801	23	Secondary malignant neoplasm of right lung			

Fig. 1

From this report, we see from 2020 to Jun of 2022, there were 163 patients, and 1,554 claims (about 9.5 claims per patient). The payor amount here is incorrect, and can be ignored here. The counts column is just the number of times that particular diagnosis appears in the claims data.

The next question is probably, "Why are there 2,622 counts of Z510 but only 1,554 claims?"

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
	ftz	pd	pdcs	pdn	opn	opnpi	atpn	atpnpi	drg	ad1	ad2	ad3
2		Z510	ICD-10	Encounter for antineoplastic radiation therapy						C61		
3		Z510	ICD-10	Encounter for antineoplastic radiation therapy						Z510	C770	C4442
4		Z510	ICD-10	Encounter for antineoplastic radiation therapy						Z510	C770	C4442
5		Z510	ICD-10	Encounter for antineoplastic radiation therapy						Z510	C7951	C770
6		C460	ICD-10	Kaposi's sarcoma of skin						Z510	C460	
7		Z510	ICD-10	Encounter for antineoplastic radiation therapy						Z510	C7951	C770
8		Z510	ICD-10	Encounter for antineoplastic radiation therapy						Z510	C7951	I10
9		Z510	ICD-10	Encounter for antineoplastic radiation therapy						Z510	C7801	C155

Fig. 2

The above picture should clear that up. It (Fig. 2) shows how we get the data from claims. Column AC is where the primary diagnosis is, and then the rest of the columns (AK + 24 more columns) potentially contain other diagnosis codes. These columns were scanned to generate the values for the report above.

Row 2 is what we were expecting all of the data to look like, which turned out to be incorrect. Rows 3, 4, and 5 show why there is such a discrepancy between claim counts and diagnosis counts: diagnoses were showing up multiple times per row on some claims. Row 6 shows why we needed to scan all the diagnosis columns, not just the primary one (Z510 is somewhere else on the claim, not as a primary diagnosis).

So now, with that all out of the way, here is the information actually requested: Garland County patient visits to CARTI with regard to radiation therapy.

Results of this analysis:

The following data is patients residing in Garland county and surrounding zips, who had radiation therapy with a provider that is associated with CARTI, and their associated malignancies. I've also laid it out side-by-side with patients seeing any provider, not just CARTI.
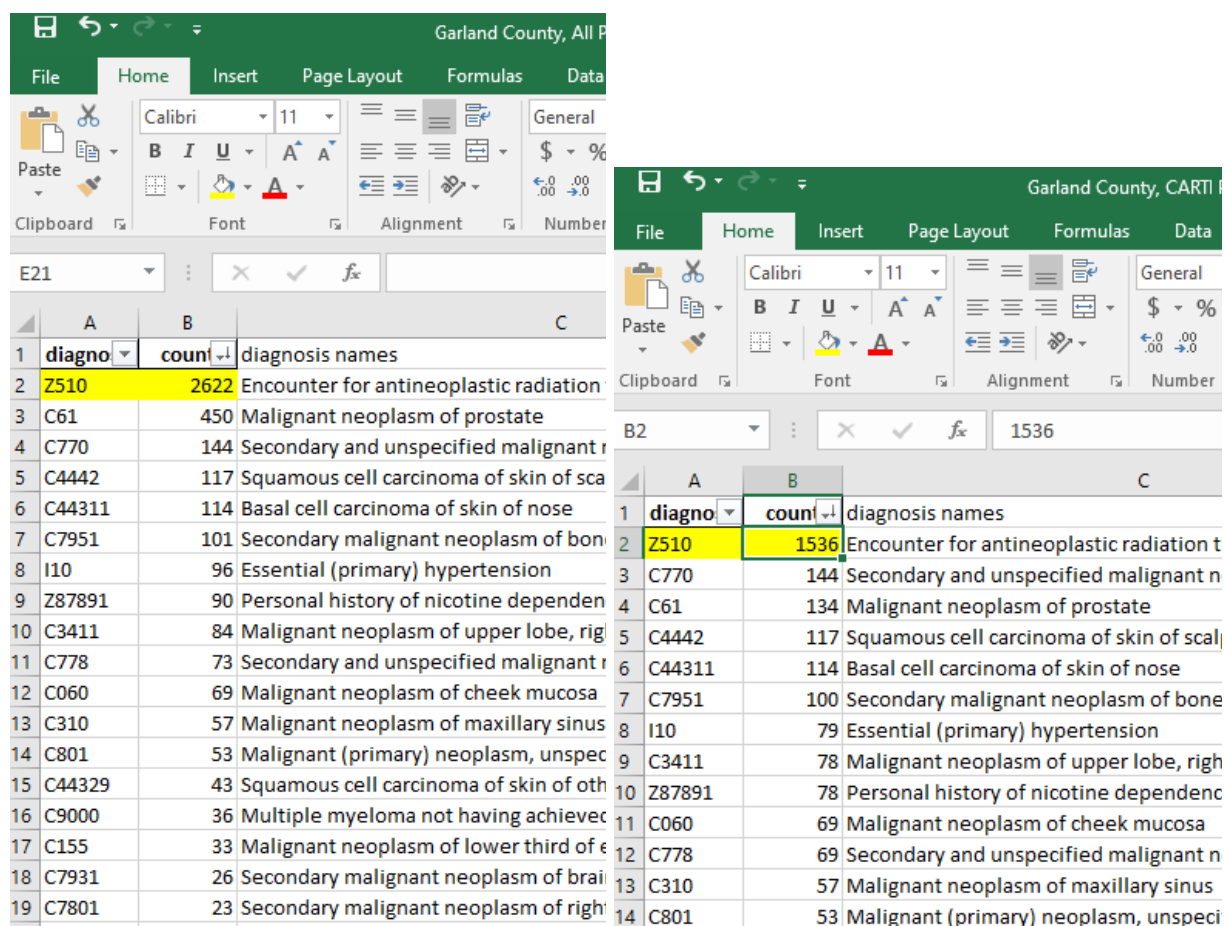
Fig. 3

Fig. 4 & Fig. 5

For this subset of the population (Fig. 3), we see 23 patients with 774 claims. Again, ignore the payor amount here. What's interesting is that the claims per patient are now 33.7.

This is an indication that patients appear to be leaving the network, albeit very slowly (23 to CARTI vs 163 overall across 2 years), but CARTI seems to be retaining them very well (33.7 claims per patient with CARTI vs 9.5 overall).

That said, the associated malignancies are listed there, as well (Figs. 4 & 5). Skin and bone cancer appear to be the main drivers for patients going to CARTI, along with secondary neoplasms. Additionally, CARTI seems to be attracting a large portion of the patients living in Garland county who have been diagnosed with prostate cancer.

As a whole, CARTI does not appear to be the main source of leakage for Garland county patients (by patient count) in regard to radiation therapy.

On the other hand though, as a percentage of claims data, CARTI makes up for a significant portion (58.6% by counts of Z510; 49.8% by percentage of claims) of the radiation therapy that Garland county patients receive.

Freq. of Z510, Claim Count and Patient Count
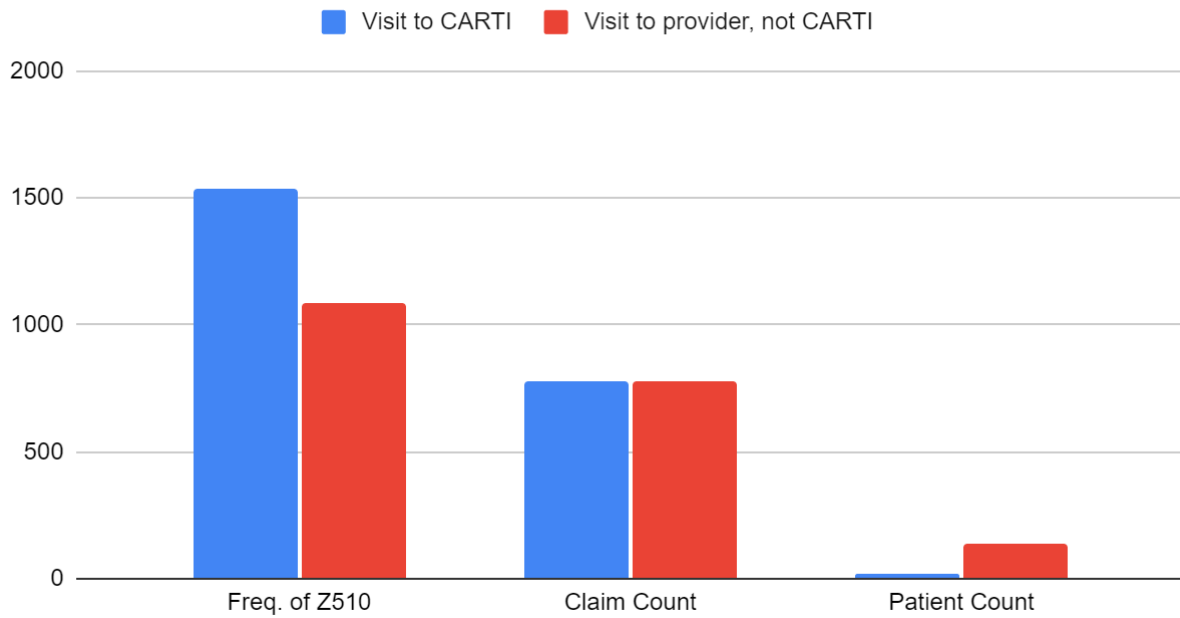
Claims per Patient, Freq of Z510 per Patient and Patient Count